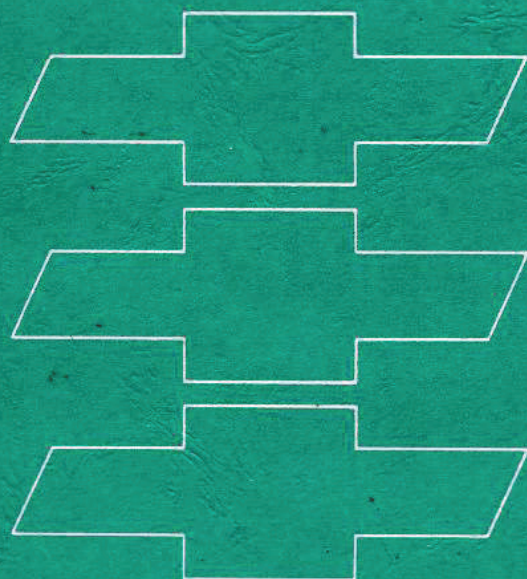


CORVAIR



**CHASSIS
SHOP
MANUAL**

1965 CHEVROLET CORVAIR CHASSIS SHOP MANUAL

FOREWORD

This manual is designed to provide complete information on the maintenance and repair of various units, except the Body, of the 1965 Chevrolet Corvair Passenger Vehicles. Service information for 1965 body items for these vehicles is contained in the 1965 Body Service Manual. For service information on the 1965 Corvair Greenbrier refer to the 1961 Corvair Shop Manual and the 1964 Corvair Shop Manual Supplement.

An effort has been made to produce a manual that will serve as a ready reference book for the experienced service man and also cover step by step procedure for the guidance of the less experienced man.

The Section Index on this page enables the user to quickly locate any desired section. At the beginning of each section, a Table of Contents gives the page number on which major subjects begin. An Index is placed at the beginning of each major subject within the section.

Summaries of Special Tools, when required, are found at the end of major sections, while Specifications covering vehicle components are presented at the rear of the manual.

This manual should be kept in a handy place for ready reference. If properly used, it will enable the technician to better serve the owners of Chevrolet Corvair vehicles.

All information, illustrations and specifications contained in this literature are based on the latest product information available at the time of publication approval. The right is reserved to make changes at any time without notice.

CHEVROLET MOTOR DIVISION

General Motors Corporation
DETROIT, MICHIGAN

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SECTION 15

HEATER AND ACCESSORIES

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DIRECT AIR HEATER

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GENERAL DESCRIPTION

The 1965 Corvair Direct Air Heater, utilizing the engine heat rejection principle, is a refinement of the direct air heater used in past years. Extremely fast and even heating is provided through heater outlets in the front and rear seat areas. The system also includes defroster outlets at the windshield. In operation, this system makes use of the engine cooling air normally ducted out the rear of the engine after performing its cooling function. This air is instead routed through two flexible hoses and into the heater inlet assembly. (This assembly contains deflector doors necessary for temperature control and for shutting off the air flow to the passenger compartment when desired.) The heated air is mixed in the air inlet assembly with cooler air drawn through a single flexible hose from the upper engine shroud. The cooler, or tempering, air will maintain a temperature of about 110°F. during normal vehicle operation while the heated air entering the inlet case may reach 160°F.

The air, thus tempered, now flows through a flexible hose to the rear duct assembly, and through this duct to the front duct and valve assembly. The position of the

diverter door in the valve assembly determines whether the air flow will enter the front compartment at this point or will continue on through the defroster ducts for defroster operation. Figures 1 and 2 illustrates the air flow through the various components of the system.

Heater Odors

Because of the inherent characteristics of the heater, objectionable fumes in the engine compartment may be drawn into the passenger compartment and result in owner complaints. These complaints can be reduced in number by cautioning the owner on the importance of maintaining a clean engine. Oil spilled or dripped on the engine shrouding may result in some passenger discomfort, and care should be taken to see that such drips and spills are thoroughly cleaned up immediately. However, complaints of objectionable odors in the passenger compartment, whether the heater is on or off, should be traced immediately and promptly corrected. Procedures and possible locations to check for faulty engine gaskets or seals are covered under "Maintenance and Adjustments" of Section 6.

SERVICE OPERATIONS

BLOWER AND HOUSING

Removal

1. From beneath the vehicle, remove the large diameter heated air hose from the right side of the air inlet assembly.
2. Remove the blower motor wire at the connector.
3. Remove the blower mounting plate screws attaching the blower to the blower housing.
4. Work the motor and mounting plate down and out of the housing.
5. If it is necessary to remove the blower housing, proceed as follows:

Remove the two screws attaching the blower outlet adapter to the blower and, if clearance is still needed, remove the adapter to rear duct assembly hose at the rear duct assembly and take the hose and adapter as a unit from the car.

6. Reach up into the blower housing and remove the housing to inlet assembly attaching screws and remove the housing.

Installation

1. Remove the blower drum from the old blower motor and replace on a new motor.
2. Replace the blower housing, if it was previously removed.

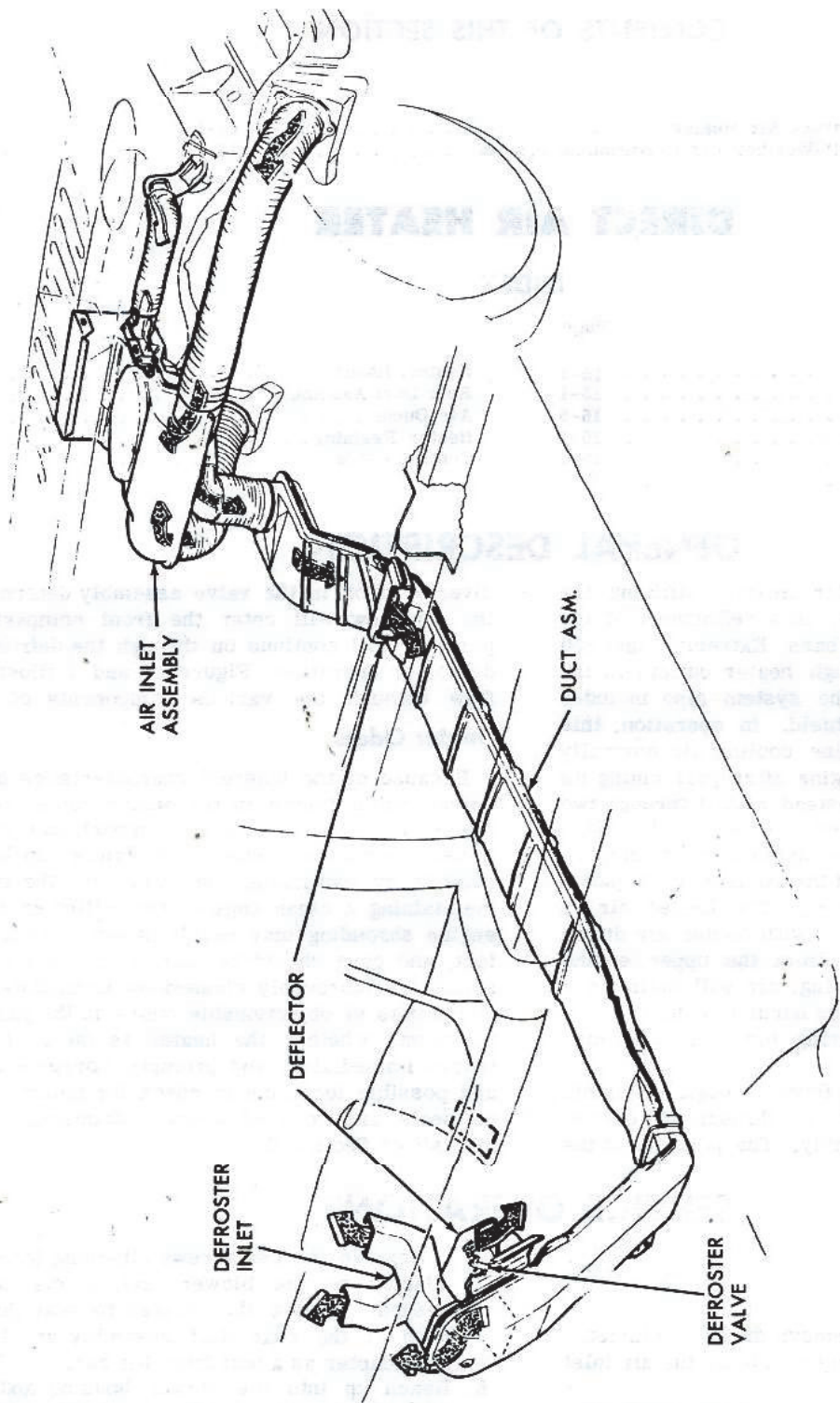


Fig. 1—Direct Air Heater Airflow

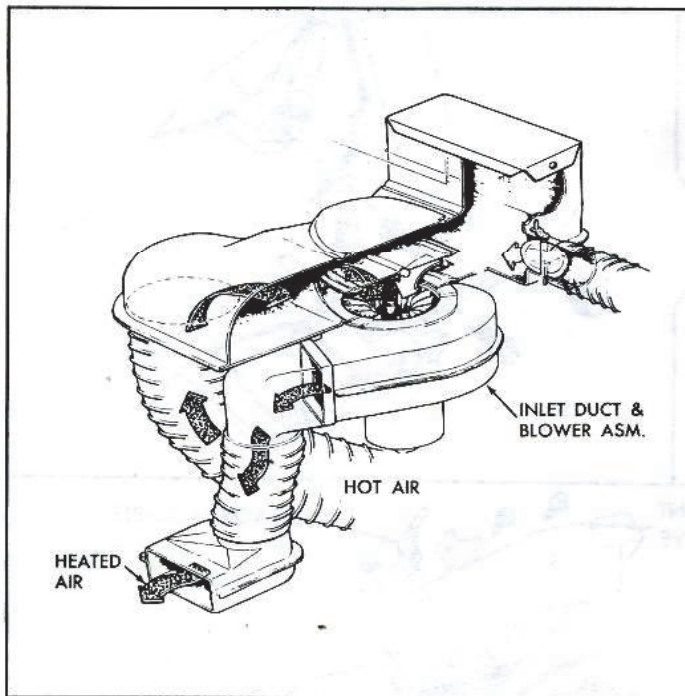


Fig. 2—Heater Inlet Duct and Blower Assembly

3. Replace the motor and blower assembly in the housing and install the attaching screws.
4. Plug in the wiring connector.
5. Replace the blower outlet adapter and the heater air hoses, if previously removed.
6. Reach up into the blower housing and remove the housing to inlet assembly attaching screws and remove the housing.

AIR INLET ASSEMBLY

Normally the only disassembly procedure necessary

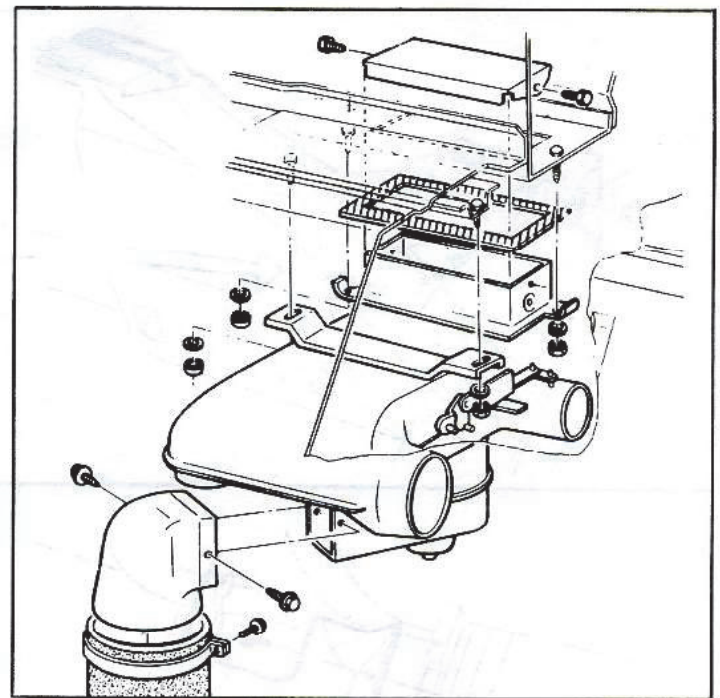


Fig. 3—Heater Blower and Air Inlet Assembly

on the direct air heater air inlet assembly will be the replacement of a malfunctioning blower motor. Removal of the air inlet assembly should seldom be necessary unless the diverter doors are bent or inoperative, resulting in warm air entering the passenger compartment even with the controls in the OFF position. This condition is unlikely except in collision damage.

Removal

1. Remove the blower motor as previously described.
2. Remove the outlet adapter and hose and the blower housing as previously described.

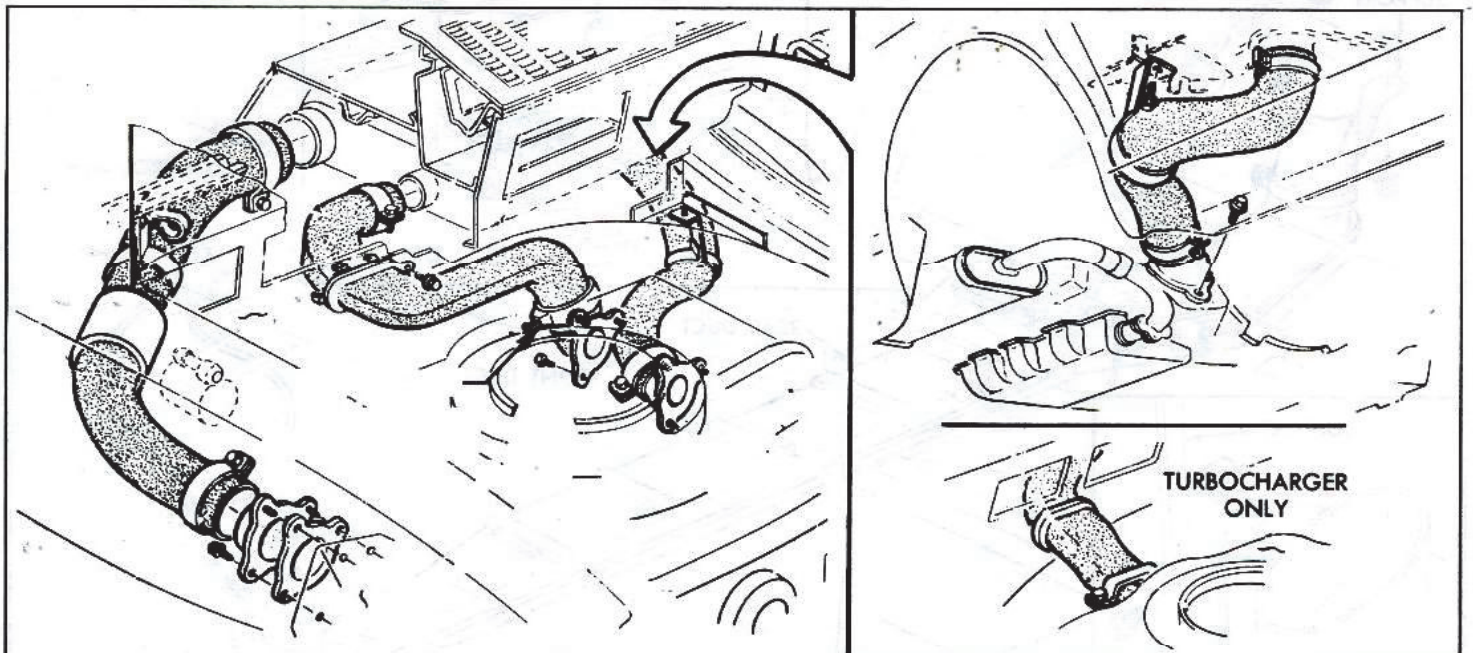


Fig. 4—Heater Hoses

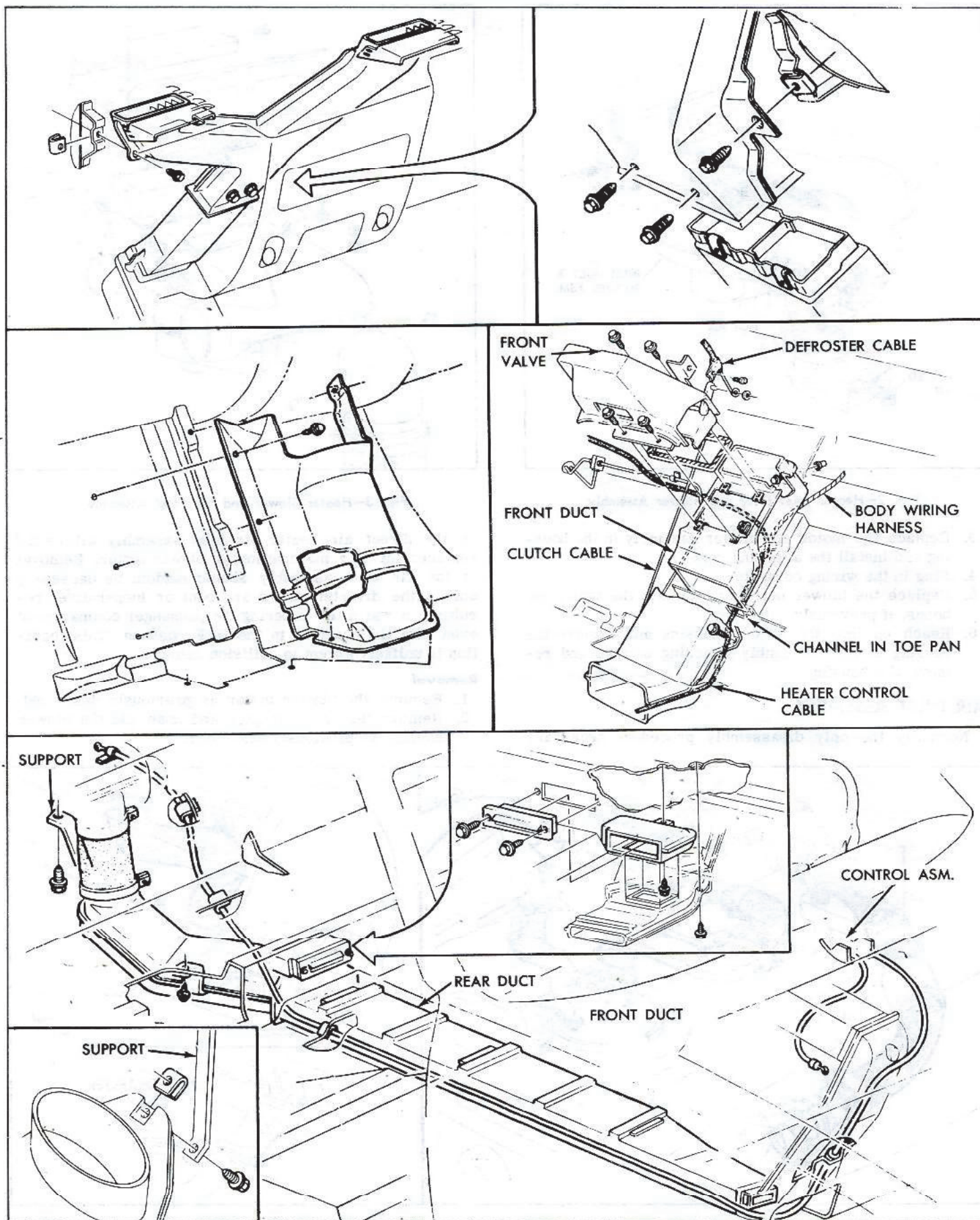


Fig. 5—Heater Air Ducts

3. Remove both flexible hoses from the left side and the single flexible hose from the right side of the air inlet assembly.
4. Remove the bowden control cable from the air inlet assembly.
5. Remove the four nuts and washers attaching the air inlet assembly to the underbody studs, lower the assembly and carefully remove. (See Figure 3).

Installation

1. Hold the inlet assembly in position and install the four attaching nuts and washers.
2. Install the control cable and the air ducts on the left side.
3. Replace the blower housing and motor.
4. Replace remaining air ducts.

HEATER HOSES

Figure 4 illustrates the three engine to air inlet assembly hoses and their attachment.

REAR DUCT ASSEMBLY

Removal (Fig. 5)

1. From beneath the car, remove rear duct support at the air inlet end as well as the rear duct end.
2. Remove the air inlet to rear duct hose at the rear duct.
3. Remove the front and rear underbody shields.
4. Remove the duct to underbody attaching screw and lower the duct, disconnecting the clips attaching the control cable along the right side of the duct.
5. Carefully pull the duct rearward and away from the front heat duct assembly.

Installation

1. Slip the rear duct into the front duct assembly and install the rear duct attaching screws.
2. Carefully install the control cable and clips along the right side of the rear duct.
3. Replace the duct to air inlet support and the inlet to duct hose at the inlet.

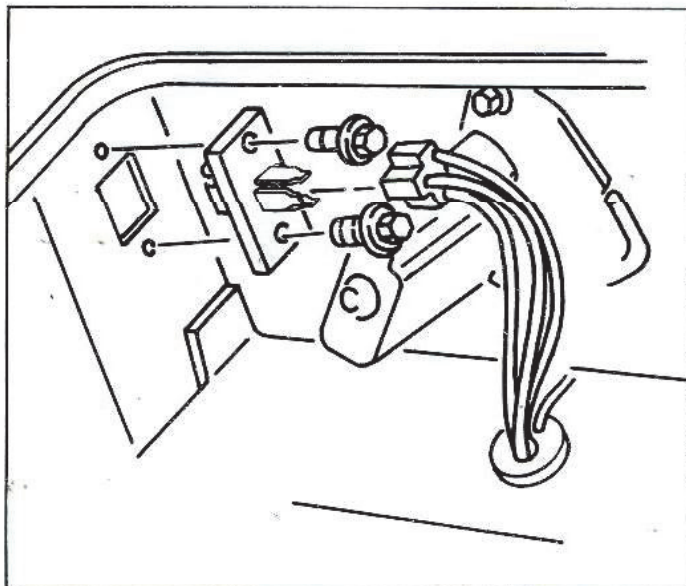


Fig. 6—Resistor Installation

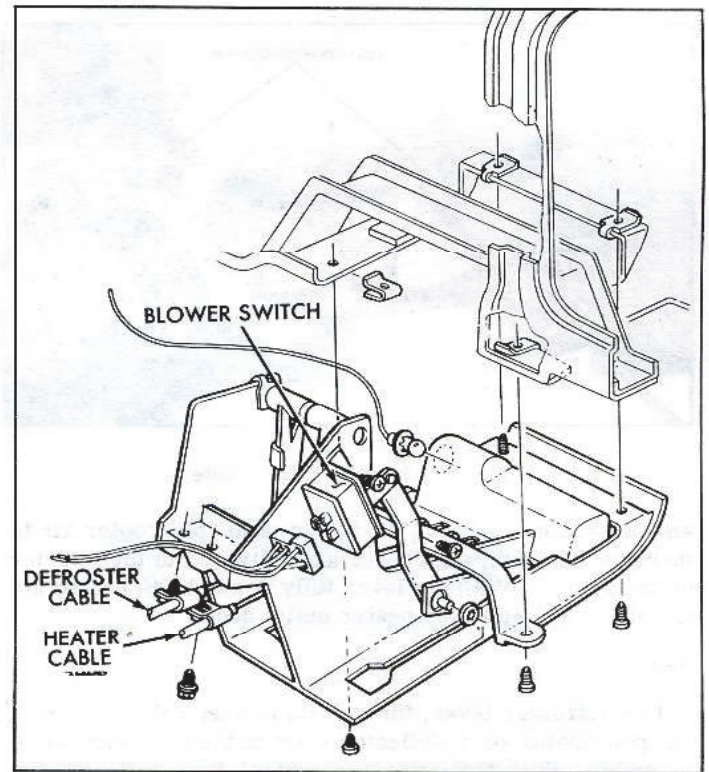


Fig. 7—Heater Control Panel Installation

4. Replace the front and rear underbody shields. (See Section 11—Chassis Sheet Metal).

AIR DUCTS

All air ducts and attachment parts are illustrated in Figure 5.

HEATER RESISTOR

The heater resistor location is at the right rear of the luggage compartment, just to the right of the windshield wiper motor as shown in Figure 6.

CONTROLS

The Direct Air Heater is controlled by means of a 3-lever control panel mounted in the lower portion of the dash panel to the right of the steering column (Figure 7 illustrates control installation). Operation of these levers is as follows:

Fan

The fan lever controls the 3-speed blower motor. Fully down position of this lever will result in highest blower speed.

Heat

This lever controls, through diverter doors in the air inlet assembly, the proportion of heated and cooler air entering the mixing chamber of the assembly. In its full "up" position this lever will allow no air to flow into the car. As the lever is moved down air from within the engine shroud above the engine cylinders is passed into the mixing chamber, through the blower and on into the car. As the lever is moved further down, heated air which has already passed through the cylinders and performed its

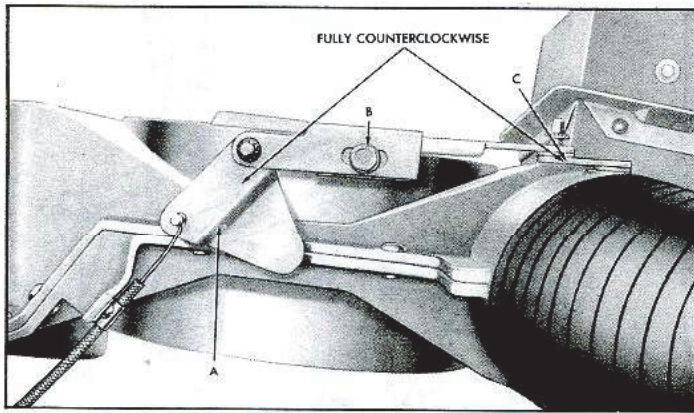


Fig. 8—"Heat" Control Cable

engine cooling function, is mixed with this cooler air to increase the temperature of air delivered to the interior of the vehicle. With the lever fully down, 100% heated air is being supplied to the heater outlet ducts.

Def

The defroster lever, through its bowden cable, controls the positioning of a deflector door in the defroster valve assembly. With the defroster control fully "up" heated air is allowed to flow into the passenger compartment through the heater outlet. In the full "down" position of the lever, the entire air flow will pass up through the defroster duct to the defroster outlets on the top of the

instrument panel. Intermediate positioning of this lever will allow an almost unlimited number of settings. Thus, part of the airflow may be directed to the defrosters while the remainder will continue to flow into the passenger compartment.

Off Positions

To completely shut off the heater, all three levers should be in the fully up position.

HEAT CONTROL CABLE

Adjustment

Figure 8 illustrates the HEAT control cable attachment at the Air Inlet Assembly. Cable length may be adjusted, by means of an elongated slot in the cable to Air Inlet Assembly attaching clip, so that when the dash control lever is fully "up" lever A is rotated fully counter-clockwise. (Accomplish this setting by inserting a 1/8" diameter rod through the holes in the control panel frame to hold all control levers fully "up"; then loosen the HEAT control cable attachment at the Air Inlet Assembly, and, while pulling firmly on the cable, retighten the cable attaching screw.) With lever A so adjusted, loosen nut B, rotate lever C fully counter-clockwise, then tighten nut B. Remove the 1/8" diameter rod from the control panel frame.

NOTE: The damper door controlled by lever C is designed to shut fully only when the lever is in its counter-clockwise position.