
SECTION P

HEATING AND VENTILATION

<u>Section</u>	<u>Description</u>	<u>Page</u>
P.1	GENERAL DESCRIPTION	3
P.2	HEATER CONTROL VALVE	4
P.3	HEATER BOOST FAN	4
P.4	WINDSCREEN DEMISTING	5

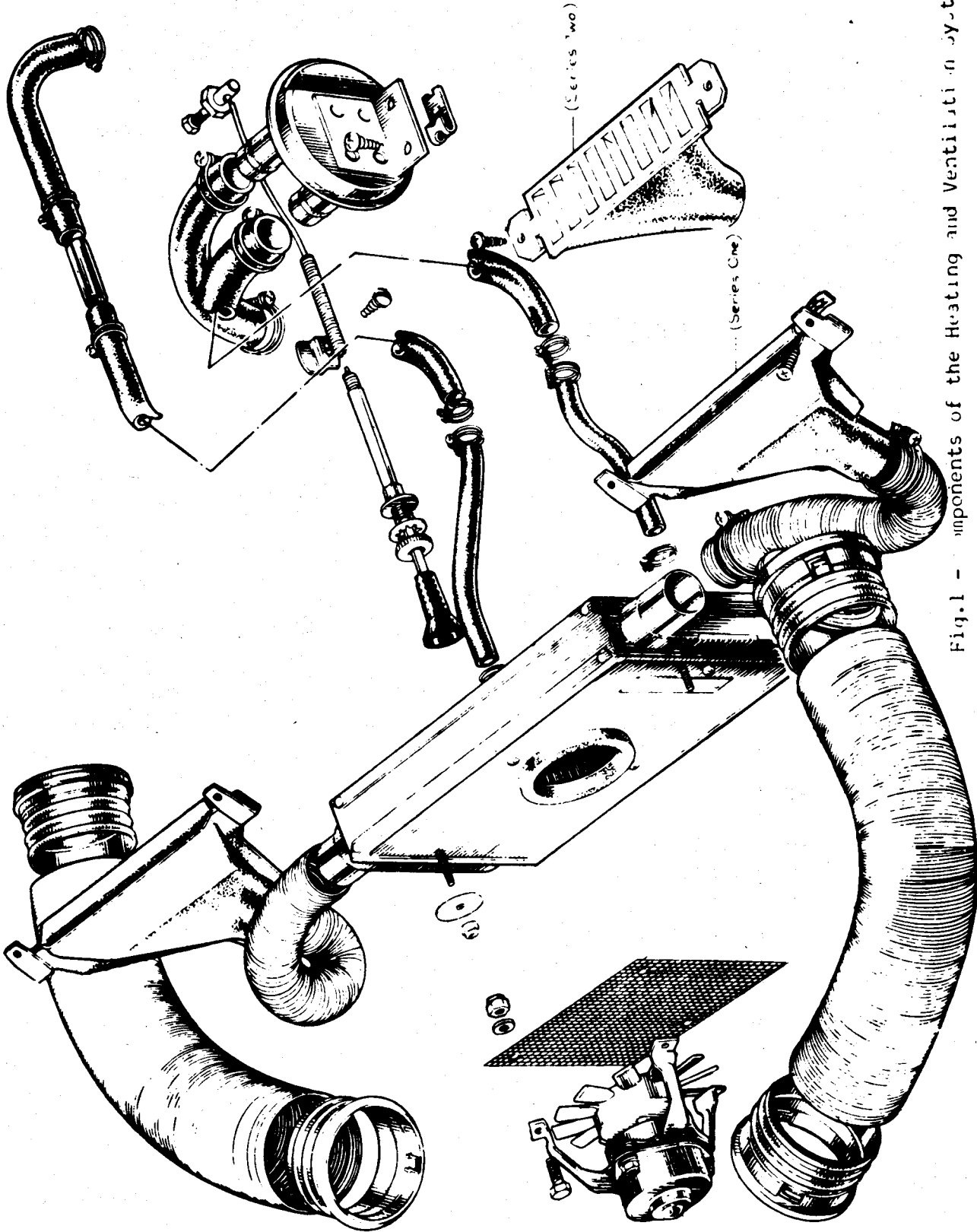


Fig. 1 - Components of the Heating and Ventilation System.

ILLUSTRATIONS

<u>Fig. No.</u>	<u>Description</u>	<u>Page No.</u>
1	Components of the Heating and Ventilation System	2
2	Heater Control Valve	4
3	Demist Nozzle	5

P.1 - GENERAL DESCRIPTION.

The system consists of a motor-fan unit mounted on the front luggage compartment partition, supplying a supplementary flow of air to a heater-radiator unit mounted in the scuttle, and face level ventilation ducts situated on either side of the facia. The front luggage compartment itself forms a plenum chamber or reservoir for the air which is normally filled when the vehicle is moving by a ram effect. Circulation of air, drawn from the plenum chamber is established by a slight depression in the interior of the vehicle. This depression is obtained by means of a series of extractor slots in the body immediately above the rear window. When the vehicle moves forward a low pressure area is generated behind the rear window which extracts the air through the slots from the interior, causing the desired air movement. As this low pressure area is proportional to the speed of the vehicle the fan should be used to boost the flow at low speeds, or when the vehicle has to be brought frequently to a halt (e.g. Town driving conditions).

The windscreen is demisted by air flowing through two ducts at the base of the windscreen. In order to dispel heavy misting, or to defrost the screen, the flaps situated on either side of the heater unit under the facia should be closed. These flaps, actuated manually by white toggles, supply air at any desired quantity (hot or cold) to the foot wells on either side of the tunnel. The face level ventilation system is independant from the normal screen and interior ventilation, though naturally both systems can be used at the same time. If the plenum chamber fan is not operating then the system will operate by means of the ram effect, delivering air at ambient temperature. Direction of the vents is controlled by pushing with the finger and thumb to the desired position. The vents may be opened or closed by also pushing with the finger. The temperature at the heater unit is controlled by a knob situated on the left hand side of the tunnel top (from the cold position when fully in) to the hot in the fully extended position. This control opens or closes a valve which regulates the supply of hot water from the engine to the heater unit.

A fan ("heat") switch, mounted on the instrument panel has three positions. Up - 'off'; Centre - 'plenum chamber fan' ; Lower - 'plenum chamber and radiator fan.

When used in conjunction with the heater controls, the fan will deliver a greater quantity of air to either 'screen' or 'interior' of the vehicle at any temperature between hot and cold. When travelling in heavy traffic, the switch should be pressed to the lower position.

P.2 - HEATER CONTROL VALVE.**To adjust :**

Undo the inner control wire clamping screw on the lever of the control valve (see Fig.2). Undo the outer cable retaining clip and detach the cable. Check the valve lever for ease of movement and full operating arc - i.e. fully open to fully closed positions. If the unit is suspect remove as detailed below.

To remove :

Connect inner control wire to lever and outer cable to the retaining clip. Do not tighten. Push control knob on tunnel top to fully closed position. Pull the lever on the heater valve to its rearmost position (i.e, fully closed) and tighten the clamp screw on the inner wire. Move the lever to its foremost position and tighten the screw on the outer cable retaining clip.

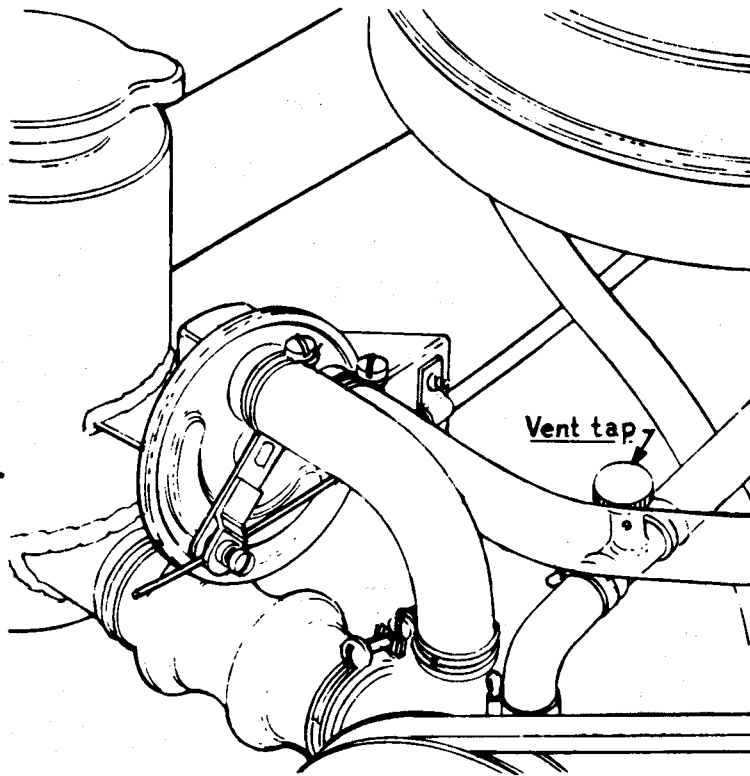


Fig.2 - Heater Control Valve.

To remove :

It is not necessary to drain the cooling system in order to replace the heater control valve. A certain amount of coolant may be lost when disconnecting the pipes (that amount in the header tank and pipes above the level of the valve assembly), and should consequently be topped up after the operation has been completed.

Undo the screw clamping the inner control wire to the operating lever. Undo the screw and clip retaining the outer cable to the bracket on the header tank. Pull the control wire and cable clear. Undo the two clips on the inlet and outlet pipes adjacent to the control valve. Undo the two self tap screws securing the valve to the bracket on the header tank. Remove the control valve.

To replace :

Reverse the procedure outlined above. Adjust control wire (see above) and top up coolant (see section K.2). Open vent tap on manifold pipe (see Fig.2) until coolant flows continuously to ensure system is free of air.

P.3 - HEATER BOOST FAN.**To remove :**

Detach the two leads to the motor unit at their snap connectors on the front luggage compartment partition. Undo the two 'P' clips and tape securing the leads to the partition. Undo the three lock nuts securing the legs of the fan support to the luggage compartment. Remove the unit, taking care to note the position of the spacers and the fan guard.

To replace :

Reverse the procedure outlined above. Operate fan switch to check for the correct rotation of the fan motor, i.e, clockwise from the drivers position. If incorrect reverse the leads at the snap connectors.

Note : The three fixing screws should be fitted with their heads facing into the luggage compartment.

The spacers are fitted between fan support brackets and fan guard.

The fan guard is sandwiched between the spacers and the luggage partition.

Federal Vehicles : Removal and replacement as above. Note one extra bracket on one side of the fan unit has two fixing locations and the other side one. Check that air is being emitted into luggage compartment to ensure correct rotation in this instance.

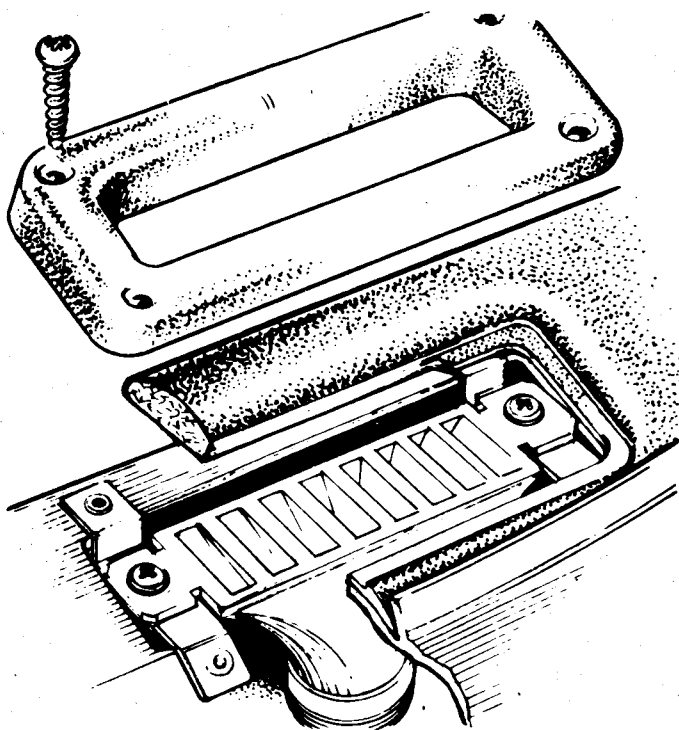
Care should be taken to ensure that the foam sealing strip round the nozzle of the boost fan is replaced correctly.

P.4 - WINDSCREEN DEMISTING.

Federal vehicles manufactured after Jan, 1969 are equipped with modified demisting equipment, to ensure a rapid and effective operation in the more severe climatic conditions encountered overseas.

In addition to a more powerful centrifugal blower motor (heater boost fan), the plenum chamber is sealed and the demist outlet nozzles are modified with special brackets etc. to maintain a specific angle against the screen. Should the demisting hoses and nozzles be removed at any time, care should be taken to ensure that the hoses and nozzles are not kinked and that the outlet assemblies on the fascia top are replaced correctly.

Careful attention should also be given to the adjustment of the front luggage compartment catch (see Section 'B') to ensure a satisfactory clampdown onto the seal against the front partition in the compartment.



To ensure maximum effectiveness a check should be made to see that the hose ends fit snugly into the outlet nozzles with the minimum of air leakage.

Because of air flow consideration, it is important that the tubing protrudes into the nozzles by only 1".

A check should consequently be made to see that the tape round the hose ends are undisturbed. If they show signs of deterioration they should be renewed.

Fig.3 - Demist Nozzle.