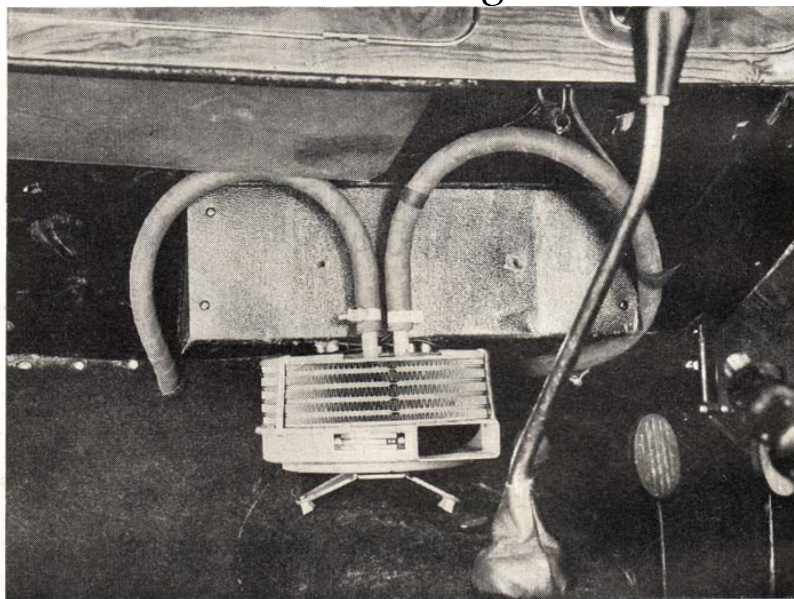


With winter looming ahead — now is the time to fit



The heater unit is mounted horizontally beneath the battery box. No connection is made to the demister take-off, since the fitting of discharge nozzles to the screen lower rail would necessitate considerable structural modification.

MORE and more car owners are beginning to appreciate the advantages and comforts offered by the fitting of an interior heater. The XPAG engine as fitted to the one and a quarter litre model does not incorporate in its standard form the necessary attachments for the installation thereof. The heater recommended for this model has been specially designed by Smiths Motor Accessories Ltd., Cricklewood Works, London, N.W.2. It is a recirculation type of heater, the flow of hot air being controlled by a rheostat switch.

The kit, which is supplied with all parts required, even to the last nut and bolt, can be obtained direct from the Service Department, The M.G. Car Company Ltd., or through the Distributor/Dealer organization of the M.G. Car Company Ltd., under M.G. Part No. 500665. The intention of this article is to give all those likely to undertake fitting full details of the task.

With the recirculation type, air from the car is drawn in through the periphery of the heater radiator by an axial flow fan driven by an electric motor and distributed through the end grille of the unit onto the toeboards of the car.

Heat Supply

The heat supply is drawn from the engine cooling system, by the circulation of hot water from the engine through the car heater radiator, from the engine water pump. The electric motor, which is positioned centrally within the car heater radiator, is controlled by a rheostat switch fitted on the instrument panel.

Remove the battery box lid and disconnect the positive and negative leads to the battery. Open the drain taps in the base of the radiator and in the off side of the cylinder block and drain the cooling

system. Slacken the clips securing the top water hose and remove the water hose.

Remove the nuts securing the thermostat housing to the cast water outlet pipe and withdraw the thermostat. Slacken the clips securing the bottom water hose and remove it. Remove the air cleaner and branch pipe, disconnect the controls and petrol pipes to the carburetter, withdraw the carburetter float-chamber overflow pipe from the securing clip and remove the carburetter from the manifold. Lift the battery from the battery box and remove the battery base mat.

Marking Out

The heater is located centrally inside the car and is mounted horizontally (that is, the heater front grille faces the floor) beneath the battery box base.

Working from the inside of the battery box, scribe a centre line from front to back and mark off a point along this line $2\frac{5}{16}$ in. from the rear of the box. Using this point as a centre, describe a circle $3\frac{3}{8}$ in. in diameter and then mark on the circle three equally spaced points, one point being on the centre line $\frac{1}{2}$ in. from the rear face of the battery box. From the three points so marked drill three $\frac{9}{32}$ in. diameter holes.

It is also necessary to drill two holes in the front of the battery box. Mark off the hole centres 1 in. from the off-side edge of the box and $1\frac{1}{2}$ in. and $3\frac{1}{4}$ in. respectively above the base of the box and drill the two $\frac{5}{8}$ in. diameter holes on these centres, and similarly drill two further holes the same size through the rear of the battery box (from inside the car) to line up as nearly as possible with the holes in the front of the box.

The heater unit can now be mounted in position. Hold the unit beneath the battery box base and pass the $\frac{1}{4}$ in. B.S.F. hexagon

The Smiths INTERIOR HEATER for the M.G. $1\frac{1}{4}$ litre Saloon

suggests

W. E. BLOWER

bolts through the base of the box so that they pick up with the corresponding tapped holes of the metal ring on the back of the heater unit, and then securely tighten the bolts.

Pass the two shaped copper pipes through the holes cut in the front and rear of the battery box and connect up the heater unit, using the two short pieces of water hose supplied, and secure in position with the hose clips, also supplied. Where the pipes pass through the holes in the front and rear walls of the box it is necessary to fit the four rubber grommets over the pipes and locate these in the $\frac{5}{8}$ in. diameter holes.

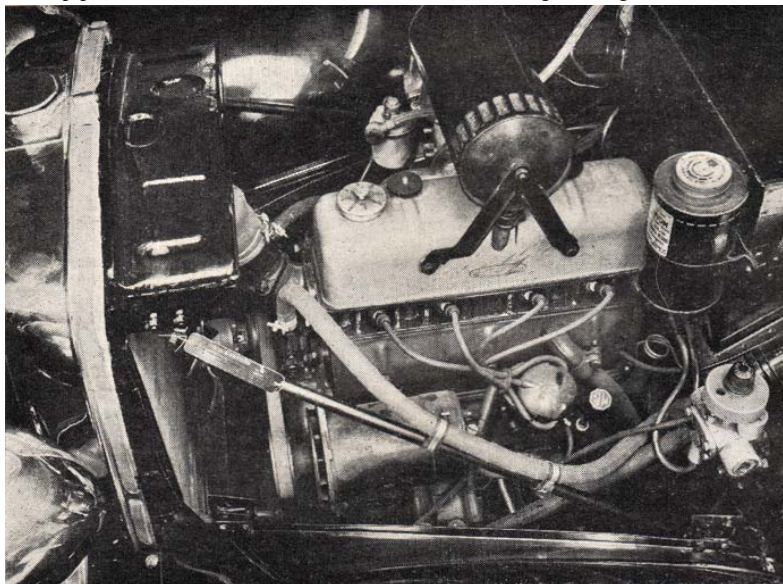
Remove the existing thermostat mounting studs from the cast water outlet elbow on the front face of the cylinder head and replace with the longer studs supplied in the kit. Also supplied is a water take-off casting for locating beneath the thermostat body. Place the water take-off casting in position on the water outlet elbow, with the tapped boss on the casting towards the off side of the engine and pointing rearwards at approximately 45° . Use the two new gaskets supplied, replace the thermostat and securing nuts, and tighten in position.

Hose Connections

To allow for the modified height of the thermostat, cut off approximately $\frac{1}{4}$ in. from each end of the top water hose, replace the hose and secure with its existing clips. With the hose cutter supplied cut a hole centrally in the bottom water hose and attach the universal hose connection by placing the screwed hose clamp member through this hole from the inside, and placing the external clamp over the flats on the inner member.

Tighten up by screwing in the brass adaptor together with the fibre washer, and then insert the angled union and screw up tightly to a position such that when the hose is replaced on the car the hose connector will point rearwards. Replace the bottom water hose in position and secure with the existing clips.

Screw the water control valve into the water take-off casting beneath the thermostat and tighten up to a position so that the hose connector on the side of the water valve points in a downwards direction. The water circuit for the heater is then completed by connecting up the water valve to one of the heater water pipes projecting from the battery box (with the longer length of water hose) and the other heater pipe to the bottom water connection.



All the above hose connections can be secured in position with the hose clips supplied, with the exception of the bottom water connection, which should be temporarily left loose pending the possible removal of an air lock after the system is in operation.

Replace the carburetter, air cleaner and branch pipe. Prior to replacing the battery base mat cut three holes to clear the heater mounting bolt leads. Place the battery base mat in position, replace the battery, connect up the positive and negative leads and replace the battery box lid. Close the water drain taps on the radiator and in the cylinder block and refill the cooling system.

Bleeding the Circuit

Occasionally it happens that it is necessary to bleed the heater water circuit to ensure that all air is expelled. To achieve this, start up the engine and allow it to run at a fast tick-over, then pull off the return water hose where it has been left loose on the bottom connector. Place the thumb over the connector to prevent the pump sucking air, and directly a full-bore flow of water issues from the return hose all air will have been expelled from the circuit. Switch off

the engine, replace the hose immediately and secure it by tightening up the hose clip.

The rheostat switch should be mounted on the bracket supplied, the bracket being located behind the off-side dash support screws. One lead from the car heater unit should be connected to the rheostat by using the 18 in. electric cable and tube connector, whilst the other terminal of the rheostat switch should be connected by means of the 12 in. cable to the terminal A4 on the regulator box.

The remaining connection is to earth the second motor lead, which should be connected to some convenient point on the car. By making the connections in this manner the car heater electric motor is wired through the ignition circuit, which

direction progressively reduces the speed of the motor, with a consequent reduction in heat output.

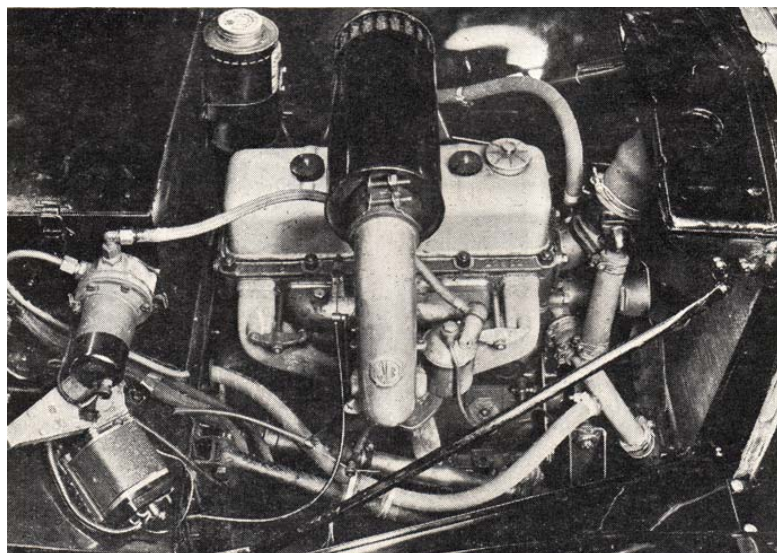
After the installation has been carried out as outlined the heater unit is switched on by means of the rheostat switch. It should be very clearly understood that the water control valve which is fitted beneath the thermostat on the engine cylinder head is intended only for seasonal operation. During the winter period of the year the control valve should be turned on to the fully "opened" position, allowing hot water from the engine cooling system to pass through the car heater radiator.

During the warmer period of the year, when no heating is required, the water control valve should be screwed right down to the "off" position. During the inter-mediate season conditions, when no actual heating is required in the car, the water control valve can be left in the "open" position, with the rheostat switch in the "off" position. Any heat then in the car interior will, in these circumstances, be by radiation only and this is not appreciable.

Anti-Freeze Essential

Special attention is drawn to the fact that it is not possible to drain the heater radiator when emptying the cooling system by means of the usual drain taps in the car radiator and cylinder block. To avoid the risk of damage to the heater radiator by freezing during severe winter conditions, the use of "Bluecol" anti-freeze in the cooling system is to be recommended.

It will be noted that the heater kit does not include demister equipment. To introduce this equipment would entail considerable modification to the lower windscreen capping rail, and as this already houses the windscreen wiper mechanism there is always the possibility that the demister tubes would contact and damage the mechanism. The fitting of electric demisters is, therefore, the better course if this equipment is required.



Top: The left-hand side of the engine, showing the connection to the cylinder head outlet.
Bottom: On the right-hand side the connection is made to the bottom water pipe or hose. In this illustration an adaptor has been brazed into the metal pipe, but current practice is as described in the text, the connection being made into the bottom hose, thus simplifying the work of assembly.