COOLING SYSTEM

Description

The cooling system consists of a radiator matrix 'A', a water pump 'B' – belt driven by the engine crankshaft – and a remote coolant header tank 'C'. Two thermostatic valves 'D', are fitted – one to each cylinder bank – to ensure rapid warm up from cold.

Under cold start conditions (see insets) coolant is forced by the water pump equally through each cylinder block and cylinder head ('E' and 'F') to the thermostatic valve housings. The valves are closed and coolant is therefore returned via the engine cross-pipe 'G', to the water pump inlet.

During this period the radiator is under pump suction and air is bled by jiggle pins 'H', in each thermostatic valve.

NOTE: When fitting a replacement thermostat the thermostat MUST be fitted with the jiggle pin at the top of the housing.

The engine contains air pockets which have to be purged before effective cooling is possible. The air entrained by the coolant rises to the highest point on each side of the engine, the thermostat housings, then through the jiggle pins to the top of the radiator.

During this phase the thermotime switch 'J', the coolant temperature sensor 'K' and the auxiliary air valve 'L' function as an automatic choke and warm up the system.

Full pump suction draws coolant from the base of the radiator and starts the full cooling circuit.

At this time pump suction also appears at the heater matrix 'M' and the remote header tank, purging both the matrix and the radiator via pipes 'N' and 'P'. The remote header tank carries out an air separation function in addition to providing a reservoir of coolant.

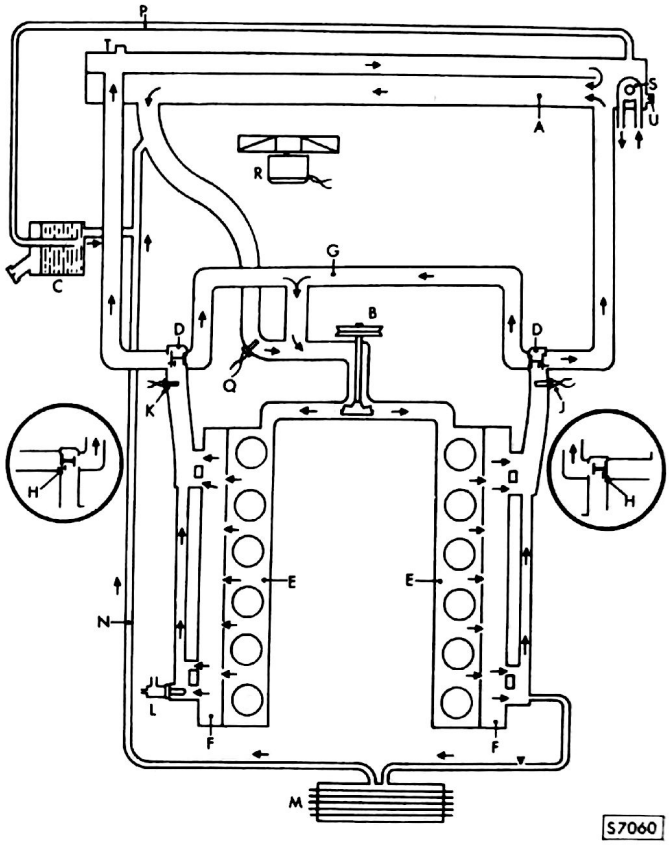
When coolant temperature rises to a predetermined level the thermostatic valves open and allow coolant to flow into the top of the radiator.

A thermostatic switch 'Q' is fitted in the water pump suction inlet elbow. The switch starts the radiator electric cooling fan 'R' should the temperature of the coolant leaving the radiator rise above a predetermined level.

A cooling tube coil 'S' is included in the fabrication of the right-hand end tank of the radiator, and is connected in series with the automatic transmission hydraulic fluid circulation.

The radiator is fitted with a bleed tap 'T' through which, during initial cold fill, the radiator is vented.

A drain tap 'U' is located in the base of the right-hand end tank.



ANTIFREEZE

BP Type H21 or Union Carbide UT 184 (Prestone 2 or Texaco in USA/Canada) must be used at all times. This is a specially formulated anti-freeze which is designed to afford the maximum corrosion protection to all metals normally found in engine cooling systems as well as having the normal frost protection properties necessary during winter months. It should not therefore be mixed with other anti-freezes. In places where Unipart Universal is not available for top-up or replenishment, drain the system, flush and fill with anti-freeze which complies with specification BS.3150.

A solution of recommended antifreeze (40% Great Britain; 55% all other countries) must at all times be used either