

AVON.ANTI-ICING SYSTEM.GENERAL.

This system prevents the formation of ice on the engine intake and the aircraft wings by the circulation of hot air from the engine.

It is controlled manually from the cockpit by means of an ON/OFF switch.

ENGINE INTAKE SYSTEM.Air Supply.

The air supply for this system is obtained from the last stage of the compressor, where the air temperature is approx. 250°C (at max. R.P.M. sea level).

Air passes via drillings immediately after the 12th stage rotor to a manifold formed within the casing surrounding the 10th and 11th stage stator blades. The manifold is of sufficient volume to even out the pressure distribution around its annulus.

The air is tapped from the manifold on the port side and passes into a gate type valve which controls the flow forwards to the engine intake via a large bore external pipe.

An annular manifold surrounds the air intake and feeds the hot air inwards through the hollow inlet swirl vanes and the intake casing webs.

Air from the inlet swirl vanes re-enters the compressor at the inner end of the vanes, and air from the webs passes into a triple skinned fairing surrounding the starter.

On single engine aircraft with twin intakes the heated fairing surrounds the rear half of the starter only, but on installations with direct entry intakes the fairing completely envelopes the starter.

Control Valve.

This consists of a carbon plate, embodying two rectangular ports, which slides across a similarly ported duralumin plate fixed to the valve housing. Surface contact is maintained by light springs and the differential air pressure across the plate.

The motive force to operate the valve is provided by an electric actuator which, via an 8000 : 1 reduction gear, rotates an off-set pin engaging with a vertical slot in the sliding plate.

Engraved markings on the outside of the valve housing indicate the full OPEN and SHUT positions of the valve.

Servicing.

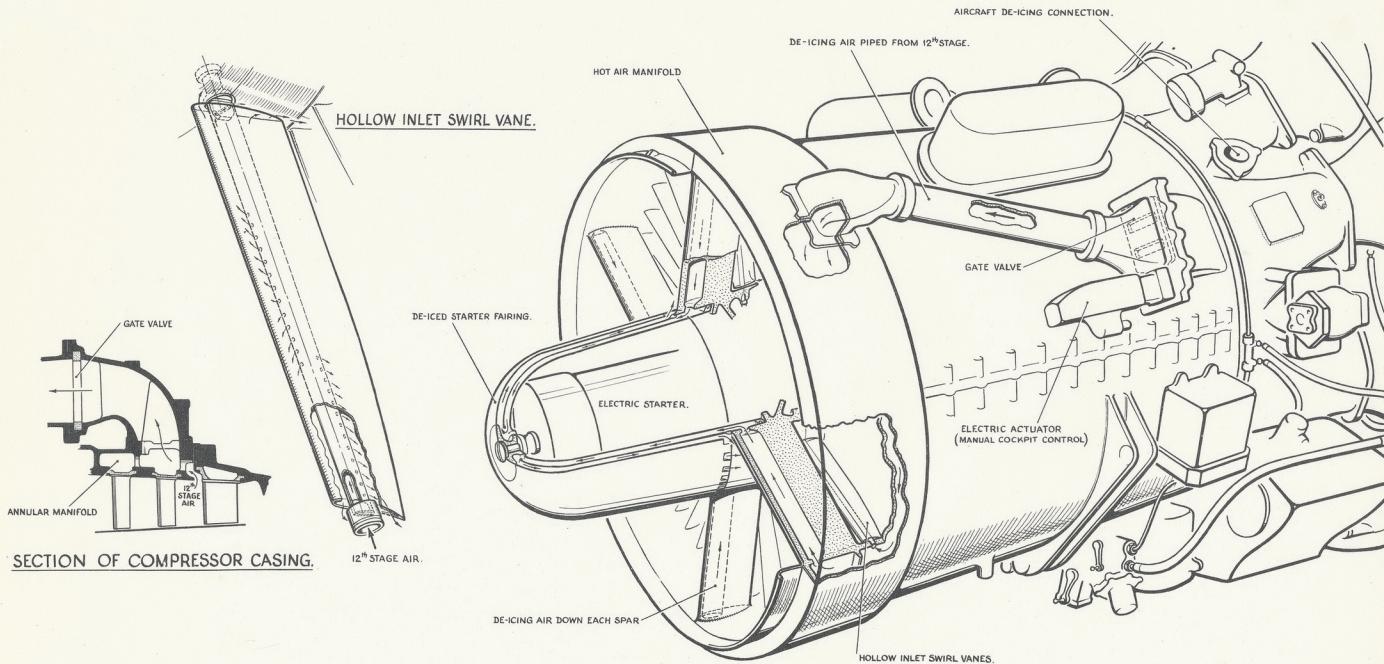
To check the functioning of the system, switch ON anti-icing and check that the control valve moves to the OPEN position. Then switch OFF and ensure that the valve moves back to full SHUT.

As the operation of this system causes a rise in J.P.T. it is important that these checks are not carried out at max. R.P.M. and care should be taken not to exceed the Max. J.P.T. limitation.

AIRCRAFT SYSTEM.

The air supply for this system is obtained from tappings in each compressor outlet elbow, feeding into an internal annular manifold.

Two connections are provided on the compressor outlet casing to pass the hot air to the aircraft systems for anti-icing, cabin heating or pressurising, according to the installation. These systems are controlled by manually operated selector valves.



## ANTI-ICING – AVON

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