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| RADAR INSTRUCTIONAL PRODUCTION SECTION | SUBJECT: AIR CONDITIONING EQUIPMENT FOR TYPE 275 NACELLES<br>SOURCE: RG4 | Ref: RIPS/T83M<br>No. of sheets: FOUR<br>Date: 8/10/45 |

1 GENERAL DESCRIPTION

The Transmitting and Receiving Nacelles are mounted on the H.D.T and, in such an exposed position, are subject to temperature extremes. The components could reach the extremes of -25°F to 220°F if no precautions were taken. The air conditioning system is designed to maintain the nacelle temperature within the limits 32°F to 160°F.

The circulating air is in a closed air system (Fig.38) and may be cooled or heated in the Cooling and Heating unit. The stages of control are:

1 Heating by elements situated in the air duct after the water tower.
2 Cooling by drawing a stream of colder air over the brass pipes carrying the circulating air up through the water tower.
3 Greater cooling by spraying evaporating water over the brass tubes of the water tower.

In stages 2 and 3 the heater elements will not be functioning.

The functioning of the whole system is controlled by the three thermostats situated in the Transmitter nacelle, an air pressure switch, a safety cut out switch and the Modulator D.C. Switch.

The main components of the system are:-

Main Blower (Fan 1)
Cooling and Heating Unit (Fan 2)
Auxiliary Blower
Water Pump and Tank
Control Board
and Silica-Gel Dryers.

The Control Board contains the Starters, Relays and Isolating switch for the system.

The air in the closed air system is circulated by the Main Blower which is a two stage fan and motor and deals with 300 c.f.m. against a water gauge of 14 inches. From this blower the air passes up through the cooling tower brass tubes, through the duct containing the heater elements and is then distributed to the two nacelles.