



Britain Calling

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Almost as many definite and diverging opinions are held about the respective possibilities of turbo-prop and turbo-jet air liners as used to be expressed (and still are at times) about the merits of landplanes and flying boats. Opinion generally in this country has been that the turbo-prop will be most suitable for the shorter and medium range routes and the turbo-jet for the longer ranges.

A little more uncertainty in the average person's mind has been added by the Fifth British Commonwealth and Empire Lecture of the Royal Aeronautical Society, which was given by E. H. Atkin, Chief Designer for Avro Canada. In his lecture entitled "Inter-City Transport Developments on the Commonwealth Routes", Mr. Atkin analyzed the application of turbo-jets to intercity routes in Europe, South Africa, India, Australia and Canada.

Not unnaturally, in view of his Avro C-102 Jetliner, Mr. Atkin is an advocate of the turbo-jet rather than the turbo-prop. However, had there been a discussion after the paper, the turbo-prop would have had many advocates.

Great Britain and Canada are the only two countries with turbo-jet transports flying; Great Britain also has the only turbo-prop transports flying and a selection of them, with the Hermes V, Mamba-Marathon, Apollo, and Viscount.

The Viscount has added to its laurels by being granted a normal British category C of A. It is the first turbine-engined airplane in the world to be granted such a certificate and in addition, is the first British transport to be granted a C of A under the new ICAO standards. It is also the second transport in the world to receive a certificate complying with the new ICAO regulations — the Constellation being the first.

Since its first flight on July 16, 1948,

the Viscount has flown for more than 290 hours, during which some 320 take-offs and landings have been made. Vickers now have orders for about 40 Viscount 700's, which should be coming off the production line in 1952. Range on the production model has been increased to 1,800 miles with a 4,000 pound payload, fuel reserves for 230 miles to an alternate aerodrome, and .45 minutes' stand-off. All-up weight has been increased from 48,000 pounds to 50,000 pounds.

The Armstrong Whitworth Apollo, with four Mamba turbo-props, has also aroused much interest among foreign air lines and since the SBAC Display a number of air line executives abroad have flown in the Apollo.

One of the most interesting applications of the turbo-prop, which has great possibilities, is the fitting of two Mambas in a Dakota. The Mambas

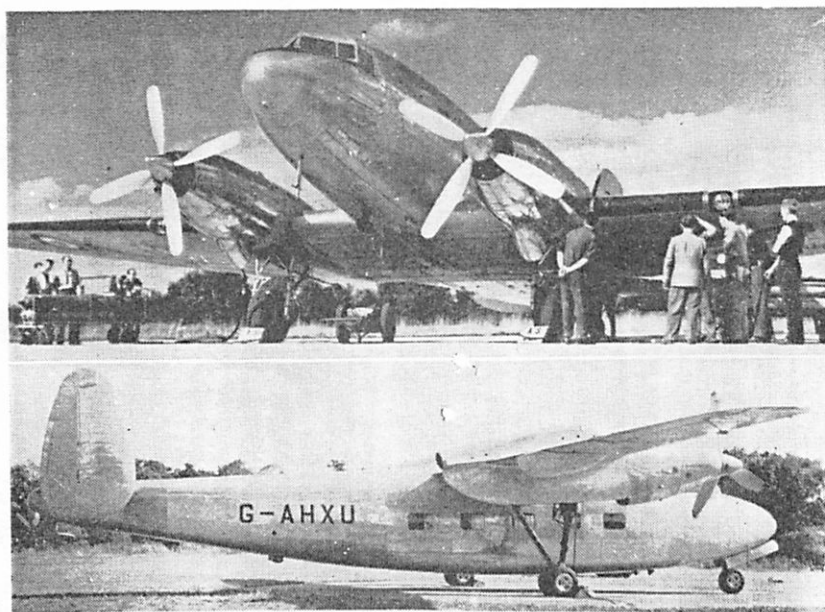
are installed with their longitudinal axes in the same position as the Twin Wasps, so as not to affect the thrust line. The planes of rotation of the propellers have been moved forward for C. G. reasons, which brings the propeller opposite the pilot's position, but this will be avoided in future conversions.

This application of the Mamba is particularly interesting because with the Mambas, the Dakotas would be able to meet the straight ICAO safety requirements which come into force in 1953. Cost of this conversion is considerably less than any new propeller-turbine transport, and less than the new Super DC-3.

Rolls-Royce is understood to have a similar project using two Dart turbo-props in a Dakota.

The Mamba has a total of over 8,000 development running hours and two versions of it have passed the official 150-hour Civil and Military Type Test. One has also completed the 500 hour endurance test to the official schedule, with only fifteen man hours of maintenance throughout the test.

A new version of the Mamba has also been announced by Armstrong Siddeley. Known as the Adder, it is a 1,600 pound thrust turbo-jet version of the Mamba 2. It has a 10-stage axial flow compressor, six A.S. vaporizing combustion chambers and a sin-



MIGHTY MAMBA: At top is the Armstrong Siddeley conversion of a Douglas DC-3 powered by two Mamba turbo-props in place of its conventional engines. Power plants bring aircraft up to new ICAO minimum performance standards. The lower photo is of the Marathon II, described as the world's first turbo-prop feeder-line transport. It has a high cruising speed of 256 mph at 10,000 ft. and max. range of 900 miles.