



# Britain Calling

By JOAN BRADBROOKE,  
A.R.Ae.S.

British Correspondent, Aircraft and Airport



Although there are indications of retrenchment in the British Aircraft Industry the export total for 1949 was a record. It amounted to \$105,040,593—three million more than the target for the year. The December total of aero-exports was just about nine million dollars and included 65 aircraft and 126 aero-engines. Altogether since the end of the war British aero-exports totalling over 100 million pounds have been sent abroad, but during the past four years imports of aircraft, accessories and spares have increased. The percentage of imports to exports has risen from 15 per cent in 1947 to 50 per cent in 1949—largely by dollar imports.

Approximately two-thirds of the export total of £34 million in 1949 were direct orders received by the Aircraft Industry with overseas buyers. The balance was sales between the British and foreign Governments but transfer sales from government-to-government have now passed their peak.

A growing source of foreign currency for which the Aircraft Industry is responsible, but which is not included in the export totals, is the money received from the grant of manufacturing licenses. Before the war sixteen countries held licenses to build the piston engines of one British Company alone. Today six countries have acquired manufacturing rights for six different types of British aero-engines, five of them turbo-jets.

Licenses have been granted the U.S.A. to build the Rolls-Royce Nene and Rolls-Royce Tay (the Pratt and Whitney J. series of Turbo-Wasps); the Australian Government also has a license to build the Nene and so has the French Hispano-Suiza Company; Belgium and the Argentine are building Rolls-Royce Derwents; Sweden is building the de Havilland Ghost and Goblin; and the Argentine also has a license to build the

Armstrong Siddeley Cheetah piston engine.

## New Jet Engines

Newest of the five turbo-jets which are being built abroad under license is the Rolls-Royce Tay. Developed from the Nene it makes a more extensive use of lighter materials, notably magnesium, and gives an improved power-to-weight ratio. The output of the Tay was officially stated recently to be 6250 lb. static thrust.

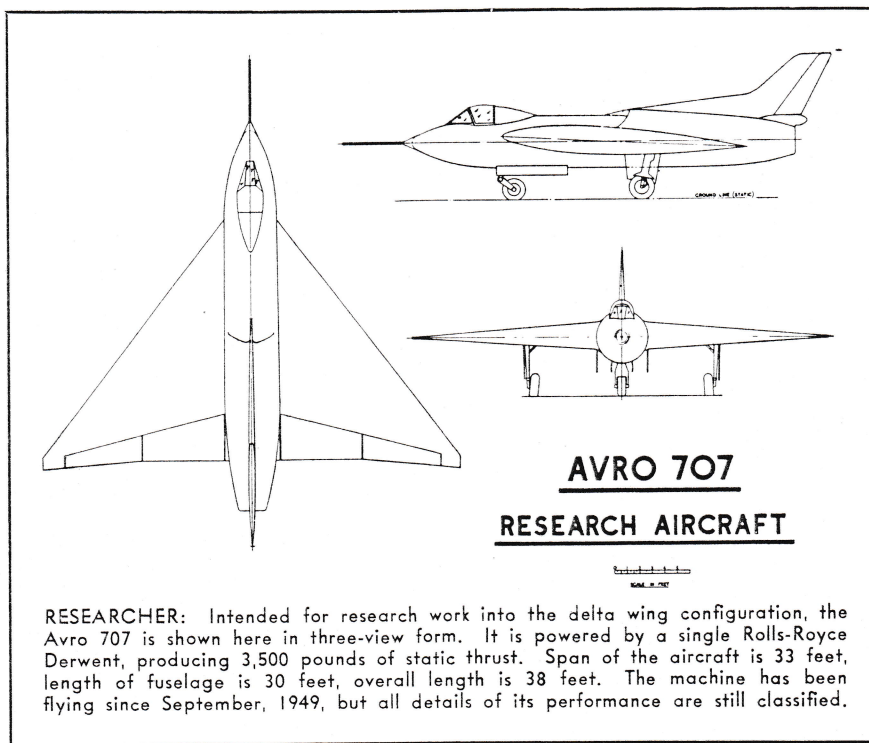
Believed to be among the most

Another of Great Britain's most powerful turbo-jets, the Rolls-Royce Avon, is about to acquire operational status. The Avon also has an axial flow compressor system whereas the Rolls-Royce Tay, Nene and Derwent are centrifugal types. Details of the Avon R. A. 2 are still restricted but official released rating is 6,000 lb. thrust at sea level. It has eight combustion chambers and weighs approximately 2,400 lb.

The Avon is used in the English Electric Canberra bomber and in an experimental version of the Gloster Meteor, as well as in Canada's Avro CF 100, in which great interest is being taken in Great Britain.

## Economies

Government economies and policies are already affecting, to some extent, the Aircraft Industry. The falling-off of orders for flying-boats for example, partly caused by BOAC's decision to concentrate on landplanes on the



**RESEARCHER:** Intended for research work into the delta wing configuration, the Avro 707 is shown here in three-view form. It is powered by a single Rolls-Royce Derwent, producing 3,500 pounds of static thrust. Span of the aircraft is 33 feet, length of fuselage is 30 feet, overall length is 38 feet. The machine has been flying since September, 1949, but all details of its performance are still classified.

powerful turbo-jets in the world, the Armstrong Siddeley Sapphire has now started flying tests. Two have been fitted in a Lancastrian in place of two Merlins, and made their first flight in the middle of January. Originally a Metrovick design the Sapphire, which is believed to be an axial-flow type, is being developed by Armstrong Siddeley Motors, makers of the Mamba and Python turbo-props.

South African and Far Eastern routes, has already caused the dismissal of several hundred employees from Short & Harland. The Ministry of Supply is also reducing its requirements for aero-engines and production of the Bristol Hercules piston-engine is to be reduced. It is believed that the intermediate stage of the Bristol 175 air liner, which was to have been powered by Bristol Centaurus engines,