

From the London End

# Aircraft Industry Boom Over

THIS year's Farnborough Air Show is of particular interest, coming at a time when redundancy, labour lay-offs and plant closures on an unprecedented scale have hit the aircraft industry. This year's Show will be held against the background of the decision not to hold the Show in 1963. Thus, for the first time since 1948, the unbroken sequence of annual Shows will be broken. This in itself is an acknowledgment that the great days of the British aircraft industry are over.

The British aircraft industry has exported, since the war, more than £1,300 million worth of aircraft, aero-engines and equipment, which is approximately 10 per cent of total exports of the British engineering industry. The decline of Britain's aircraft industry is reflected in the export figures. Over the last three years, the industry's exports have been high £154.1 million in 1958, a peak of £156 million in 1959, £142.3 million in 1960 and £154 million in 1961. But during the first five months of this year exports are running at the substantially lower annual rate of £128 million and there is little likelihood of an improvement until the next generation of airliners reaches the delivery stage.

## Aero-Engines Export Leaders

Aero-engines are providing an increasingly important part of total aero exports. During the late 1950's, for the first time; Britain was asked to provide engines for large American built transport aircraft Boeing 707 and Douglas DC-8. All of Britain's new series of rear-engined airliners, BAC One Eleven; de Havilland Trident and FV-10, have Rolls-Royce engines. Large numbers of British engines have been exported in British combat aircraft and have been manufactured in quantity abroad, under licence. The Bristol Siddcley Orpheus turbojet engines are manufactured under licence in India, Germany and Italy. Total exports of aero-engines rose from £20 million in 1955 to £233.7 million in 1961,

Aero-engine manufacturers have been looking for business during the past few years increasingly to the export market in civil aviation. In 1955, 67 per cent of aero-engine sales by Rolls-Royce went to the British Government and only 33 per cent to commercial customers. In 1961 the position was almost exactly reversed. This is in sharp contrast to what is happening in US. In 1961, 77 per cent of the sales of America's United Aircraft Corporation, of which Pratt and Whitney is the major division, went to the U S Government,

## Critical Period

There is no doubt at all that the British aircraft industry is going through a very critical period indeed. In the past, military requirements had encouraged research in the aircraft industry, but of late Britain has been withdrawing more and more from the role she had taken up in the immediate post-war period. The British aircraft industry concentrated on military development in the Second World War, while the Americans developed civil transport. After the War the Brahazon Committee's civil projects were intended to make up lost ground in airliners, while military developments also went steadily ahead. It was in 1957 when the Defence White Paper was published that it was decided that no further research was to be carried out on supersonic bombers and no new fighters were to be designed. Research work would, however, continue on civil aircraft.

The reduced emphasis on military aircraft and missiles has been reflected in plant rundowns and shut-downs and labour lay-offs as orders placed some years ago have been executed and few new orders have replaced them. This position looks like continuing for some time to come.

The development of rocket engines has made military and civil aviation increasingly separate activities. Whereas military needs once paved the way for development of new civil airliners, the services are now content to pick their

aircraft from among those designed for civil uses; military planners are now primarily interested in what might be called "black box" technology. Their requirements in power plants, metallurgy and instrumentation have increasingly less relevance for the modern commercial airliner.

## Consolidation of Aircraft Industry

In these circumstances, drastic re-organisation of the large number of independent U K aircraft companies became essential, and a large number of mergers took place, both among aircraft and aero-engine manufacturing companies. There are now two large groups — the British Aircraft Corporation, which includes Bristol, English Electric, Hunting and Vickers Armstrong, and the Hawker Siddeley group which includes Avro, Blackburn, de Havilland, Folland, Hawker and Whitworth Gloster. This leaves only two companies outside the main groups — Handley Page whose prospects are uncertain and Short Bros of Belfast who are currently in great difficulty.

In the last fifteen months there has been a further re-grouping within the British aero-engine industry, Rolls-Royce entered into an association with English Electric to form Napier Aero-engines and take over Napier's aero-engine activities. Bristol Siddeley have recently acquired de Havilland and Blackburn companies.

With the cancellation of Bluer Streak and Blue Water, the British industry has now withdrawn from the field of military rockets. With the establishment of the European Launching Development Organisation, it has also withdrawn from advanced space rocketry. There is yet no sign of an independent British space programme. As far as military development is concerned, Britain's main role lies in developing vertical take-off and landing aircraft — a field in which she has been particularly successful.

The Hawker P 1154 supersonic vertical take-off fighter is not only short-listed in the NATO list, but has been selected by the RAF and

the Royal Navy. U K power-plants (of the Bristol Siddeley Vectored thrust principle or the Rolls-Royce jet lift principle) have been selected for virtually all the V/STOL fighters and transport aircraft in NATO. The Hawker Group is also one of the pioneers of project-sharing in Europe and India. Many Hawker Hunters were constructed on the Continent, and the the AVRO 748 and the Tolland Gnat are being produced under licence in India.

The civil aircraft market is going through a bad period coinciding with the petering out of demand for the Viscount and the heavy investment by airlines in the kind of long-range jet airliner that Britain has been unable to supply.

It is against this rather depressing background that British manufacturers are putting on a brave show at Farnborough. Indeed, this year a record number of new British aircraft are to be on view, and these models, both in the air and on the ground, represent the biggest challenge ever made by the industry, for a larger share of world markets.

The plane on which most of Britain's hopes rest is the BAC One Eleven which is already well over a year ahead of any possible competitor and might well become a major success, perhaps matching the Viscount in this respect. This plane is particularly suitable for shorter distances and the short distance market is a particularly big one. The company is congratulating itself on the fact that two U S airlines have already ordered the plane and another order has been received from an undisclosed foreign buyer. All these orders have been placed before the aircraft has flown.

Another plane with prospects in the world market is the de Havilland Trident the successor to the Comet. It is claimed to be the World's fastest short-haul jet. This plane faces competition from a small jet that Boeing have produced from a sealed-down version of their large 707. Two of the Trident planes have been ordered by Kuwait Airways. Certain developments which are under way, including wing modifications and high lift devices, will improve the Trident. take-off and landing per-

formance and improve its range and payload capacities and help it to satisfy the needs of a number of overseas airlines.

Particular interest will also attach to the Anglo-French supersonic aeroplane which is to be produced by the British Aircraft Corporation and Sud Aviation of France. The aim is to get the aircraft flying by 1967-68. This aircraft will be capable of cruising at Mach 2.2 (11,400 m p h) powered by four large turbo-jet engines. It is anticipated that (he aircraft mile costs for such a plane could be lower than those for the best subsonic airliner because of its greater annual carrying capacity which will enable the operators to run a smaller fleet.

Business aircraft will be represented at Farnborough by the new baby jet DH-125 and the bigger Beagle aircraft. Business flying is on the up-grade. This field is dominated by the U S A. In the U S in 1961, business flying accounted for 16.7 million flying hours and 82 million passengers compared with 3.5 million flying hours and 62 million passengers by airlines. In the U K in July 1962, out of a total of 1,562 active civil

aircraft registered, 491 were classed as business and private, and 407 as airline types.

Has the British industry been right to put so much effort into civil projects at a time when competition is intensifying and demand has declined as a result of the severe financial crisis afflicting the majority of the worlds airlines?

In the 1950's, the average annual increase in civil aviation was about 14 per cent but now rates of growth are much slower. The International Civil Aviation Organisation estimates that in 1961 the world's airline industry had a record operating loss of \$ 140 million (£ 50 million) against a profit of \$ 70 million (IV, 25 million) in 1960 a fall in profits of 75 million over twelve months. At the same time, the industry's overall load factor fell by three points to 56 per cent the lowest level since the War. With too many aeroplanes chasing too few passengers, civil airliners, have an excess of big jet airliners and have, therefore, been disinclined to buy more. At the same time, competition to the British aircraft industry has continued to intensify, especially from the V S and French suppliers.

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R Rahul

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