

X-15's 4,534 m.p.h.

A world speed record for winged aircraft is being claimed for the 4,534 m.p.h. achieved by the No 2 X-15, piloted by Maj William Knight of the USAF, in an eight-minute flight on October 3. This was achieved through adding 13,500lb of anhydrous ammonia and liquid oxygen to the aircraft's fuel load, giving it an extra 60 seconds of engine-burn time.

The X-15, flown from a B-52, reached an altitude of 99,000ft. Maj Knight said he only encountered two problems, both of them minor; he had to push a launch button twice before the X-15 was released, and a warning light flashed on indicating that the peroxide engine was overheating.

Sir George Puts the Industry's Case

At the annual luncheon meeting of the Western Section of the Institute of Directors, held at the Council House, Bristol, on October 4, Sir George Edwards, managing director of the British Aircraft Corporation, put in a forceful plea against any contraction in the British aircraft industry.

"The aircraft industry," he said, "seems to live on headlines. It is said that the case for it is often made on emotional grounds. I believe that the solution to our balance of payments problem is vital to the nation's future and transcends all else.

"For that reason, the case for the aircraft industry does not need to be made on emotion, but on hard economic facts. I would hope that, in future reporting of our affairs, conjecture would be identified as such and not presented as fact."

Sir George went on to say that, in his view, the facts and figures proved that the British aerospace industry was one of the most vital national assets we still possessed in our fight for a healthy balance of payments.

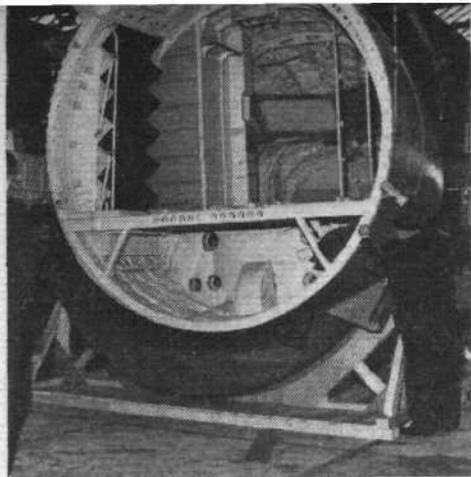
"Since the war, and most of it in the last decade, we have gained £2,000 million in exports and have contributed more than that again in prevented imports.

"Here is a classic case of a nation being fully equipped to make something for which the world demand has not really even started, when we think ahead to what it is going to be in 20 years' time. Designing and building aircraft is uniquely suited to our national skills and abilities because it needs first-class brains and first-class engineers and experience. I have been to most parts of the world, including the Soviet Union, and I can tell you that Britain still has more really first-class men in the acre than any other country, and it is in this country that most of them want to stay.

"We had the men, the resources, and the facilities," he said, and added:—

"Talk of cutting our great assets back, of limiting our effort to sub-contract work, or to unambitious little aeroplanes for our own use, seems to me to be out of tune, when confronted with our desperate balance of payments situation. Last year, this industry did about £250 million in hard cash exports and saved as much again in imports.

"I must talk about BAC, not out of conceit, but because I want to talk facts and these I know. In 1966, BAC exported £90 million in hardware and was Britain's top dollar earner. We had an export backlog of £120 million at the start of 1967, and have improved on that since. In BAC last



First Fellowship front-fuselage section for the F-228 assembly line at the Fairchild Hiller factory at Hagerstown, Md, at Amsterdam before its despatch by sea

year, we earned £2,250 in exports for each and every employee on our books. . . .

"We are often accused, too, of doing whatever we do on government subsidy and getting fat on the proceeds. Still keeping to facts—our civil aircraft in BAC, from Viscount to One-Eleven, have so far gained £290 million in exports and have supplied £225 million's worth of essential home needs. There are all the signs that before they are finished, many more millions will have been added. The government research and development investment in these aircraft was under £31 million—of which they have already got back a sizeable sum in levies. Our private investment was £100 million, a fair bit of which is still unrecovered."

Emphasising his firm belief in European co-operation in aerospace, Sir George said that the shared cost and the greater united markets—especially military projects like the Jaguar—and cheaper production runs were obvious benefits for everybody. He went on:

"But we must not sell Britain short in this just because France is politically in a buyer's market. Britain has greater all-round strength in aerospace than any other European nation and far more experience in major world markets."

Sir George added that there had been talk of Britain just confining herself to building aero-engines.

"This talk is perhaps reinforced by the position France now has in the three co-operative airframe projects. I also know that some 60 per cent of Rolls-Royce's post-war exports were either for engines installed in British airframes, or spares for these engines. Every successful British aero-engine has, in the first instance, been designed for and has been proven in a British aircraft."

Turning to Concorde, Sir George said that there was, rightly, concern at the cost. But there was another side of the ledger.

"This money is a great national investment. For £250 million spent over ten years, Britain could, on a reasonable estimate, get back £1,000 million in exports and France could get the same.

"The sums of money involved in civil aircraft development are high, but on looking at them we should think of the future. Peter Masefield has said that in ten years'

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Certification of the Concorde will be in two stages: (1) In time for service in 1971 with Stage 0 engines and a 20,000lb Paris-New York payload against a 13kt headwind in ISA + 5 degrees and with "equivalent to 2707" FAA fuel reserves; and (2) for service in 1971 with engines up-rated to Stage 1 and with a 25,000lb payload in the same conditions. Uprating of the engine involves development rather than physical changes, and it is possible that the higher thrust may be available before 1973.

Basic Concorde specification will be definite by the end of November and submitted to the airlines as the basis of purchasing negotiations. Main items of discussion are expected to centre on the question of an APU (which is not provided for in the standard aircraft) and the standard of the galley. Most of the American domestic airlines are likely to want an APU. There are basically two Concorde operator groups; BOAC, Air France and Pan American (the "Troika"), and the other group led by Mr W. Mentzer of UAL.

There is no "critical date" by which production financing of the Concorde must be decided. The financing of development and production will proceed in parallel. BAC have been authorised to spend £3½ million so far on Concorde engineering and tooling for production. The City of London is now closely involved in the negotiations between BAC and the Ministry of Technology about the firm's contribution to production financing. The policy of contributions from the two manufacturers, Sud and BAC, is complicated by the fact that Sud is nationalised (and therefore in effect spending public money) and that British government policy to take a major share in BAC.

Hawker Siddeley can now see the sale of 200 HS.748s in prospect, and have committed 198 units to production by mid-1970. The company has already sold 137, including 36 for India, and is reasonably confident that the type will continue in production throughout the seventies beyond 200. The 1968 production rate will be three aircraft per month, with a total of 38 for the whole year. All but a few of these are now bespoken.

The Government's "partnership with industry" policy, whereby financial backing by the State for specific projects will be considered, is now one of the main issues under debate in aircraft industry boardrooms.

Although the Boeing 747 is offered with Category 2 automatic landing capability as standard the airlines are now being offered a full "Cat 3B" (i.e., blind-landing) multiplex system very similar in principle to that of the Trident, representing a significant change in American blind-landing philosophy.