

Ballistic Missile Development

THE head of the U.S. Air Force ballistic development programme, Major B. Schriever, has said that development of an intercontinental missile is being carried on "as fast as possible." In a statement made to the U.S. Senate airpower sub-committee, and released only after heavy censorship, Maj. Schriever said that despite the complicated development programme he believed the missile would be produced "on time."

In the statement as released, there was no indication of how long the missile would take to develop, but Mr. Charles Wilson, U.S. Secretary of Defence, has predicted that it may be another five years.

Major Schriever said he did not think that the entry of the U.S. Army and Navy into the guided missiles field [late last year they were ordered by the State Department to embark on separate projects to develop a ballistic missile with 1,500-mile range] had interfered with the Air Force's development programme.

India's Gnats

FROM New Delhi comes a report that negotiations between India and Folland Aircraft, Ltd., for the manufacture of the Gnat are expected to be completed "very soon." This was stated in Parliament last weekend by the Minister for Defence Organization, Mr. Mahavir Tyagi.

He said that no new company would be formed to manufacture the aircraft. The airframes will be made by Hindustan Aircraft, Ltd., at Bangalore and "a new factory is to be set up for the manufacture of the engines."

External Combustion

THE time and place of an apparently successful U.S. experiment in the direction of nuclear-powered aircraft were disclosed recently by Mr. Lewis Strauss, chairman of the U.S. atomic energy commission.

In evidence just made public, Mr. Strauss told the House of Representatives' appropriations sub-committee: "In January, a turbojet engine was for the first time powered exclusively by heat from an experimental reactor operating on the ground at our testing station in Idaho. More ambitious tests will follow."

The Waterton Book

NOT unexpectedly, certain passages in S/L. W. A. Waterton's book *The Quick and the Dead* (reviewed on page 203 of this issue) brought quick repercussions. The Gloster Aircraft Co., Ltd., last week issued a long statement taking exception to their former chief test pilot's "grave allegations of negligence and incompetence . . . not substantiated by the facts."

After referring to the circumstances in which Waterton left the company in March 1954—it is alleged that he "showed a marked disinclination to continue the necessary research flight testing of the Javelin"—the statement goes on to say:—

"In view of the damage which could be done to national as well as the company's interests by S/L. Waterton's reference to the Javelin, it must be made clear that the aircraft with which he was familiar were vastly different from the aircraft now being delivered for R.A.F. service. Practically all the test flying of direct value to the aircraft now in service and most of their modifications have been carried out since his dismissal. With the first representative Mark 1 prototype, WT 830, he made only 17 flights totalling 13 hours. The major development on the Javelin at high Mach numbers and supersonic flight investigation, stalling and spinning, has been done by other pilots. The flight development work on the Javelin had totalled over 1,000 hours by April this year.

"The company feel compelled to refute in detail only one of S/L. Waterton's specific allegations . . . This is his interpretation of the circumstances in which their test pilot, Peter Lawrence, met his death, and the company's subsequent actions concerning Javelin modifications.

"Some time before Peter Lawrence's accident S/L. Waterton reported a change of trim which occurred with the aircraft using flaps on landing approach. This was also reported by other equally experienced pilots, none of whom however considered it excessive or dangerous as the aircraft could be easily controlled in these circumstances. The urgent testing work in hand at this early stage of the aircraft's development was therefore carried on while a modification to the flaps was put in hand. Such a procedure is normal and practical in the development of any new aircraft.

"The characteristics reported by S/L. Waterton, however, had nothing to do with the accident to Peter Lawrence. He was detailed to test the low-speed flying characteristics of the aircraft at an altitude of 20,000 feet with flaps both up and down. He did this in the morning without experiencing any unusual occurrence or difficulty. In the afternoon he set out to repeat the test. Salvaged records showed that he had lowered his flaps at considerably lower speed and altitude than in the morning. Peter Lawrence, in fact, was exploring the unknown and fell into an extreme condition which had not been discovered by S/L. Waterton. There was nothing which S/L. Waterton had discovered in flight or that had been indicated by wind tunnel tests at that time which could have predicted the condition in which Peter Lawrence found himself. It is therefore quite untrue that S/L. Waterton's observations on the Javelin before this time pointed to the set of circumstances which caused the accident.

"Subsequent to the accident an official and detailed investigation of



DOUBLE TURBOPROP STRETCH: By a pleasing coincidence the first members of both new Viscount and Britannia families came up for flight-test at about the same time. B.E.A.'s first Viscount 802 is seen on its maiden flight from Hurn last Friday. It is 3ft 10in longer than the 700 ahead of the wing (9ft 3in internally), and accommodates about 70 tourist passengers compared with about 50. (Below) The crimson-and-white Britannia 301, the first flight of which is imminent. Compared with the Britannia 100, it is 10ft 3in longer (6ft 10in ahead of the wing), and seats about 130, compared with 90.

this previously unencountered condition was carried out, not only for the Javelin but also for other modern aircraft. It was during the course of these investigations that, quite incidentally, it was confirmed that the trim condition noted by S/L. Waterton and others could be alleviated by a certain modification to the flaps already put in hand. This was incorporated to improve the aircraft's approach characteristics, but it must be emphasised that this modification had no bearing whatsoever on the condition which caused Peter Lawrence's accident and would not have prevented it. . . ."

Another statement came from Mr. Eric Greenwood, Gloster chief test pilot from 1944 to 1947. It says, in part:—

"It may be that the British aircraft industry and its aeroplanes—to which many of us have been proud to devote our lives—needs vigorous and honest critics. S/L. Waterton, although he has chosen the rôle of critic, has failed irrevocably to inspire our respect. He used his knowledge of aviation affairs, gained in positions of highest trust, to pursue his grudges in the Press for more than two years. Until today we have felt it best to keep silent. . . . Only one of his irresponsible inaccuracies has ever been answered. When Waterton declared, in an accusing article, that the Javelin was not flying faster than sound, he and millions of others heard 'the bang that shook London.' That Javelin bang may have been accidental, but it was the kind of reply I believe that I and my colleagues past and present will always applaud. . . ."

Commenting on the Gloster statement, S/L. Waterton said that it left unanswered his criticisms of British aircraft quality and quantity. Reports on all his test flights, as well as those of other pilots, went to the firm and the M.O.S.—"they should still be available and I feel they would speak for themselves." S/L. Waterton also claimed that the reference to his leaving the company was inaccurate. "I had previously resigned and was persuaded to stay," he said. "Eleven days before we parted company I presented my statement of my dissatisfaction with the then current state of affairs. As a result of this, and only after it, I was dismissed."

Flight has also received a letter from S/L. R. F. Martin, the company's present chief test pilot, who says: "No modification suggested by Waterton or anyone else at the time would have prevented the accident. Lawrence was the first pilot to explore the particular flight conditions which led to it, and considerable further investigation had to be done both in the air and on the ground before the answer was understood."

In the Commons on Monday, Mr. Frank Beswick asked the Minister of Supply a number of questions arising from the allegations in the book. Mr. Maudling said that the Javelin accident, after official investigation, was attributed to a condition known as "stabilized super-stall," not previously experienced; and that he was satisfied that aircraft firms, and Glosters in particular, provided his department with full reports from pilots on test flights.