



The side view on the left shows the great size of the Mystère IV N fuselage, and also suggests that the tiny nosewheel must bear a load out of all proportion to the tyre size. The lower view emphasizes the similarity to the F-86D, which even extends to the details of the nose undercarriage and doors.

ALL-WEATHER MYSTÈRE . . .

this being either British (Elliott Brothers) or of French origin (S.F.E.N.A.). Control in the pitching plane is provided by an all-flying tail, and it is probable that production IV Ns will have a one-piece tailplane of the "slab" type (i.e., no separate elevators). Spring tabs are not fitted, these being—in the opinion of most engineers—undesirable devices for modern fighters.

Although the Mystère IV B has reached the speed of sound in level flight, this achievement has not so far been realized by the larger IV N. At the present time, it appears that the IV N has a limiting Mach number of about 1.21, reached in a 20 deg dive, and the maximum level Mach number is probably about 0.97. Several important calculated performance figures will be found in the table below. The actual realized figures, although not yet released, should not differ greatly.

The prototype Mystère IV N first flew on July 19th last year and has now completed about 50 flights totalling considerably more than 50 hours. It finished its trials at the Centre d'Essais en Vol at Brétigny (roughly equivalent to our Boscombe Down) last month and has now returned to the Dassault flight-test establishment at Melun-Villaroche. In intervals between serious testing, a number of distinguished passengers have been carried, and an account of a ride given to the French Air Minister, M. Catroux, was published in our issue for November 12th last.

Taking an overall view of the aircraft, the Mystère IV N appears an unusually interesting solution to a difficult problem. It is, of course, only natural that Dassault, having a sound and well-tried basic design, should try to "stretch" it to the utmost. Time will show whether or not the IV N is a good and usable all-weather machine.

Throughout the history of the development of Dassault fighters the influence of North American Aviation can be seen in each succeeding prototype. North American's all-weather Sabre, the F-86D, is a single seater. This was made possible largely through the adoption of an immense array of automatic control systems; even so, navigation of the F-86D remains a slight problem. The French designers seem to agree with our own that an all-weather fighter requires a second crew-member; it does appear, however, that the IV N is about as far as anyone would care to go in "stretching" the Mystère design, short of incorporating a wholly new wing (the latter is, in fact, being done). A glance at the photographs indicates that the tyre pressure must be high.

Even allowing for the valuable emergency thrust of the Avon



and afterburner, the weight of the Mystère seems to have risen in greater proportion than has the power. The fuel tankage, for example, has increased until, in this latest machine, it totals no less than 1,100 Imp. gals. The overall impression that the aircraft gives is, therefore, that it would be a better aircraft with rather more wing, although it should not be any more difficult to handle than other fighters of comparable performance.

The best feature of the aircraft is that nearly all its equipment has been tried and fully proved. If it were ordered there seems to be no reason why squadrons should not be formed within a year. The final answer is probably provided by the recent off-shore purchase of the Gloster Javelin—a machine designed for a similar task, but tailored to the job from the outset.

DASSAULT MYSTÈRE IV N

(Rolls-Royce Avon RA.7R (9,500 lb thrust) or, later, S.N.E.C.M.A. Atar 101 G-21 or a later model of Avon)

Span, 36ft 5in; length, 48ft 7in; height, 15ft 3in; gross wing area, 344.5 sq ft; quarter-chord sweep, 38 deg; thickness/chord ratio, 7.5 per cent; dihedral, — 1 deg 30 min; track, 10.6ft; empty weight, 15,400 lb; all-up weight without underwing load, 23,060 lb; wing loading, 67 lb/sq ft.

Performance: Maximum level Mach number, 0.97; limiting Mach number, 1.21; maximum speed at sea level, 630 m.p.h. (547 knots); maximum speed at 12,000m (39,370ft), 569 m.p.h. (494 knots); landing speed, 144 m.p.h. (124 knots); take-off over 50ft, 3,180ft; landing over 50ft, 5,250ft; climb to 39,370ft, 5 min 20 sec (with afterburner); normal duration, 1 hr 45 min (max. duration 3 hours with 1,100 gals).

CAPT. PRITCHARD'S AMERICAN TOUR

IT is learned from the Royal Aeronautical Society that Capt. J. Laurence Pritchard, a member of its council, is to give a series of lectures to engineering students and graduates at a number of American universities, and to sections of the Institute of the Aeronautical Sciences.

He will lecture on the history of the R.Ae.S. and its relationship with American individuals and organizations during the last 80 years; on *The Wright Brothers from the British Point of View*; and on *The History of British Aviation between 1804 and 1954*.

Capt. Pritchard's schedule includes attendance at the Conference on High-Speed Aeronautics, the celebration of the centenary of the Polytechnic Institute of Brooklyn, the Honors Night Dinner of the Institute of the Aeronautical Sciences, and lectures at the universities of Johns Hopkins, Princeton, Cornell, Michigan, Purdue, Illinois, Colorado and California; at the Massachusetts Institute of Technology, the Polytechnic Institute of Brooklyn, the State Colleges of Iowa and Mississippi; and at the California Institute of Technology.

He is also expected to give the opening lecture in Vancouver on the occasion of the founding of a branch of the Canadian Aero-

nautical Institute, and to spend a week in the Library of Congress at Washington, to study correspondence of the Wright Brothers with members of the Royal Aeronautical Society.

Capt. Pritchard is to sail on January 10th, and expects to be back in England in the middle of April.

GANNET TROPICAL TRIALS

COMPREHENSIVE hot-weather trials of the Fairey Gannet, at Khartoum, were recently completed in less than a month. The object was to test the Double Mamba engine under operating conditions for any part of the Mediterranean area, and two identical engines were used, in order that results could be cross-checked.

On the return flight from Khartoum, deck-landing trials took place in the Mediterranean on the light fleet carrier H.M.S. *Albion*. This is the first time an angled deck carrier of this class has been available for comprehensive deck tests by the Gannet, and trouble-free landings and take-offs were reported.

Service flying with the Gannet, and deliveries of production aircraft to the Royal Navy, have been fully resumed following modifications to the Double Mamba.