

THE DE HAVILLAND VAMPIRE I (D.H.100)

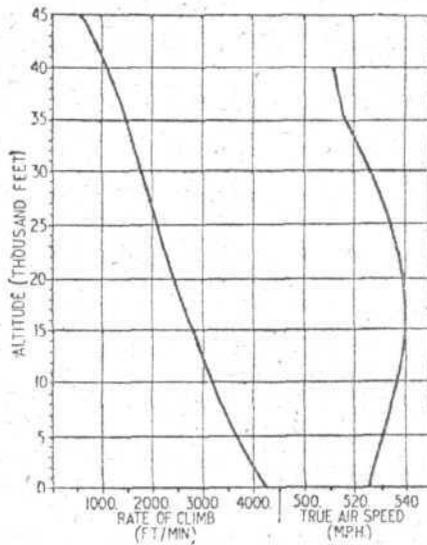
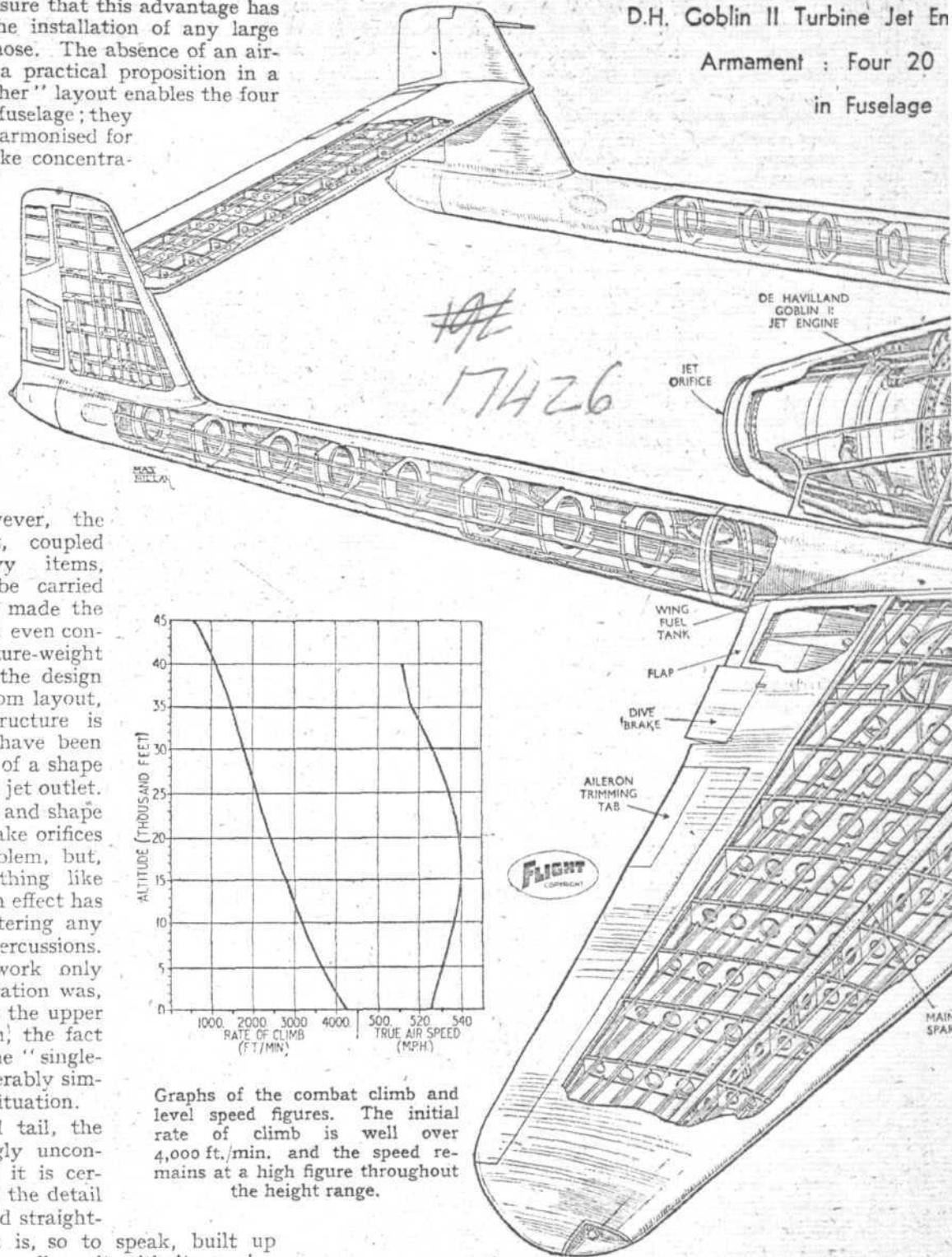
and care has been taken to ensure that this advantage has not been partially lost by the installation of any large amount of equipment in the nose. The absence of an airscrew makes the nose wheel a practical proposition in a single-seat fighter, while "pusher" layout enables the four cannons to be mounted in the fuselage; they do not, therefore, need to be harmonised for a particular point of shell-strike concentration. Finally, the use of the jet power unit means that no time need be wasted in warming-up prior to take-off.

Without investigation, it might have been imagined that a "pusher" layout would have involved the designers in the solution of difficult c.g. problems, and, in fact, such a layout could hardly have been conveniently and compactly arranged with a normal piston engine and airscrew. However, the low weight of a jet unit, coupled with the fact that heavy items, such as the cannons, can be carried well forward of the c.g., has made the design not only practicable but even congenial. No particular structure-weight difficulties have been met in the design and manufacture of a twin-boom layout, and the total "fuselage" structure is certainly lighter than would have been any more conventional layout of a shape and size necessary to provide a jet outlet.

The planning of the location and shape of the necessarily large air intake orifices must have been no easy problem, but, with the layout used, something like 90-95 per cent. of available ram effect has been utilised without encountering any specially difficult airflow repercussions. During initial development work only one slight "sharpening" alteration was, we believe, found necessary to the upper lip of the intake. Here again, the fact that the Goblin blower is of the "single-sided" type must have considerably simplified the intake positioning situation.

Although, with its boomed tail, the Vampire may appear strikingly unconventional in appearance (and it is certainly ingenious in conception) the detail construction is quite simple and straightforward. The entire aircraft is, so to speak, built up around an extremely simple nacelle unit with its engine mounting and wing attachments and its intake duct system. The nacelle itself is constructed, on familiar Mosquito lines, of balsa wood sandwiched between plywood sheet, and is made in two half-shells with joints along the top and bottom centre lines. In this carapace unit are

D.H. Goblin II Turbine Jet Engine
Armament : Four 20
in Fuselage



Graphs of the combat climb and level speed figures. The initial rate of climb is well over 4,000 ft./min. and the speed remains at a high figure throughout the height range.

three primary bulkheads. That at the rear (No. 3), which is fireproofed, consists of the tubular engine mounting on the two crucial transverse members which take the main wing attachment bolts. Through this bulkhead pass

