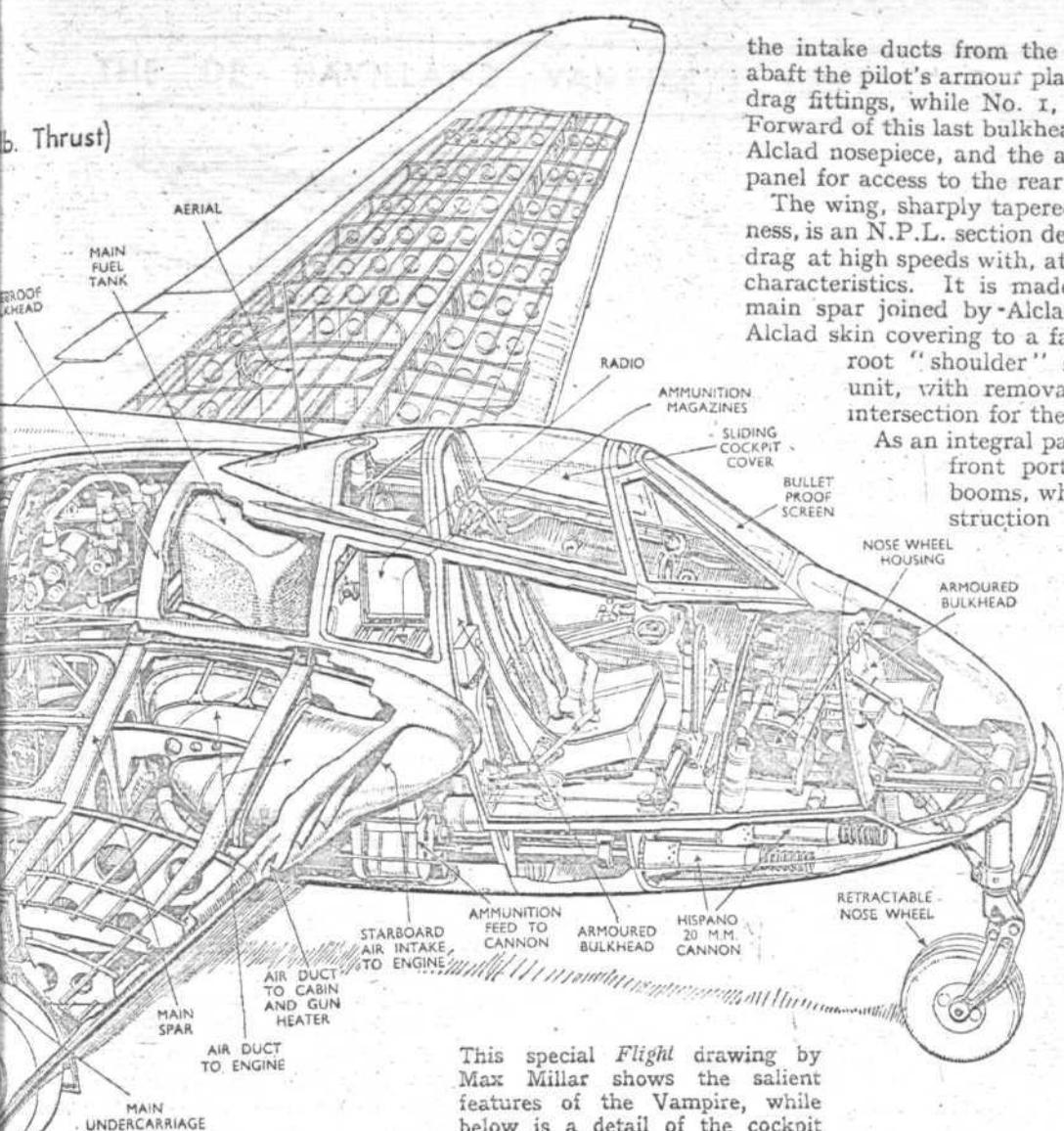


b. Thrust)



the intake ducts from the wing roots. Bulkhead No. 2, abaft the pilot's armour plate, carries the wing-attachment drag fittings, while No. 1, in the nose, is armour-plated. Forward of this last bulkhead there is a quickly detachable Alclad nose-piece, and the armour-plating has a removable panel for access to the rear of the pilot's dashboard.

The wing, sharply tapered both in plan form and thickness, is an N.P.L. section designed to give the least possible drag at high speeds with, at the same time, good low-speed characteristics. It is made up of a single "I" section main spar joined by Alclad ribs and a stringer-stiffened Alclad skin covering to a false rear spar. The intake and root "shoulder" section is made as a separate unit, with removable strips at the wing-nacelle intersection for the inspection of the attachments.

As an integral part of the wing structure are the front portions of the two oval-section booms, which are of semi-monocoque construction with heavy-gauge skin above and below and with stiffening diaphragms. The joint is a straightforward bolted flange. The tail assembly consists simply of a pair of metal-covered fins and rudders between which lie the tailplane and the one-piece elevator.

The centre-section, if so it can be described, is quite sharply deepened in thickness in order to accommodate the intake air ducts. Inboard of these intakes the root shoulder is indented, where the fairing skin meets the nacelle, in order to "separate" the two boundary layers and prevent "spilling" from the fuselage to wing and intake.

The undercarriage is conventional in design and operation. The main wheels retract inwards with half doors, closed by the undercarriage action and locked by Teleflex-operated pins, to cover the wells up to the point where the fixed undercarriage fairings take over. The nose wheel retracts rearwards, with a forward door hinging back to cover the oleo leg and a tyre-operated door closing sideways to cover the wheel housing. It is worth noting that this nose wheel, which is of the castoring and non-steerable type, has no shimmy damper, any tendencies in this direction being dealt with by the Marstrand tyre.

**Lightweight Undercarriage**

The hydraulic system for actuation of the undercarriage is also used to operate the split flaps and the air brakes, and works, through an accumulator, at a cut-out pressure of 2,600 lb./sq. in. There is one engine-driven pump, with an auxiliary hand-operated pump to the left of the pilot's seat. Since there is no airscrew, the undercarriage legs can, of course, be extremely short, and the weight of the three legs is only 3½ per cent. of the aircraft's total weight. The retraction, thanks partly to the low weight

This special *Flight* drawing by Max Millar shows the salient features of the Vampire, while below is a detail of the cockpit layout showing the controls and instruments on the port side.

