



**THE D.H.50—SOME CONSTRUCTIONAL DETAILS:** 1 shows the steerable tail skid, with its rubber compression block springing. In 2 are shown the details of the tail trimming gear. 3 shows the deflector mounted outside the open starboard window. 4 streamline fairing over end of elevator layshaft.

One can also envisage its usefulness in opening out new air routes where, at first, the number of passengers, or the amount of goods, cannot be expected to be sufficient to fill machines with larger capacity. For all such work the D.H.50 should be particularly suitable, not only on account of its economy, but also because of its good performance. As already mentioned, the makers have not yet completed their tests, and do not, therefore, wish performance figures to be quoted, but that both the maximum speed and the speed range are greater than those of the D.H.9 has already been definitely established. It seems safe to state that the cruising speed of the machine will be somewhere very close to the 100 m.p.h. figure. The fuel economy at this speed, owing to the high value of the L/D of the whole machine, should be very good indeed, and the criticism that the machine is using, on a basis of full power, close upon 60 h.p. per paying passenger, is met by calling attention to the fact that the "power-required" curve is very far below the "power-available" curve at cruising speed, and that consequently there is a large excess of power, which means that the machine has an ample reserve of power for emergencies, while at the same time the engine can be run normally at only 60 per cent. or so of its maximum, thus ensuring not only a long life but also good reliability.

The general lines of the D.H.50 are well shown in the accompanying general arrangement drawings and photographs. The "clean" lines and absence of projections should be noted. The fuselage is of usual de Havilland construction, *i.e.*, it is a ply-wood covered structure without wire bracing. The sides and bottom are flat, for ease and cheapness of construction, while the cabin top, roof of engine housing, and deck fairing aft of the cabin are cambered.

The 240 h.p. Siddeley "Puma" engine is very accessibly mounted, but there is no separate engine mounting unit such as that fitted in some of the larger machines. Nor is this probably necessary in this case. There is ample space left around the engine, and all parts and accessories likely to need attention are easily accessible, either through inspection doors or through the large openings left on each side of the upper part of the engine. Although the top of the engine housing is covered by a cambered roof, and the fuselage floor under the engine by a sheet beaten up to form a rounded belly, the space

from the top longerons to the "eaves" of the roof is left entirely open, with the exception of curved deflectors near the back, serving to send the air which has passed through the radiator and into the engine house clear of the cabin sides. A special arrangement has been adopted for dealing with oil leak problems, with the consequence that the D.H.50 should be exceptionally clean and free from oil thrown back over the walls of the cabin. This feature is of importance not only because of the general cleanliness of the machine, but also, and even more so, on account of the smaller amount of work required to keep the machine spick and span. By leaving the sides of the engine-house open a considerable amount of heat is carried off by the air direct from the water jacket walls, and a smaller nose radiator can be employed, with consequent gain to the appearance of the machine. At the same time the upper portions of the cylinders, with sparking plugs and high tension cables, are immediately accessible, without inspection doors to undo. Needless to say, a fireproof bulkhead separates the engine from the cabin space, which follows immediately aft of the engine.

The cabin, although its size has been kept down to a minimum, is not at all cramped. In fact, on sitting down inside one is surprised at the amount of leg-room and the general airy impression which the cabin gives. Seating accommodation is provided for four passengers, all facing forward. The front seat is of the hammock type, the two cross bars for which rest in trunnions on the sides of the cabin. The after seat is fixed, and is of three-ply construction, but provided with a comfortable back-rest and air cushions. An air-speed indicator and an altimeter are mounted on the front wall of the cabin, and a map of England, Northern France, north-western portion of Germany, and the Scandinavian countries was provided on the machine which we had an opportunity of inspecting at Stag Lane the other day. This was because the machine was that evening flying to Rotterdam in connection with the Rotterdam-Copenhagen-Gothenburg "Arrival Competition." The machine was piloted by Mr. Alan Cobham, who carried as passengers Mrs. Cobham, Admiral Mark Kerr, and Mr. C. C. Walker, chief engineer and a director of the de Havilland Aircraft Company.

By so arranging the seats that they can be easily unshipped