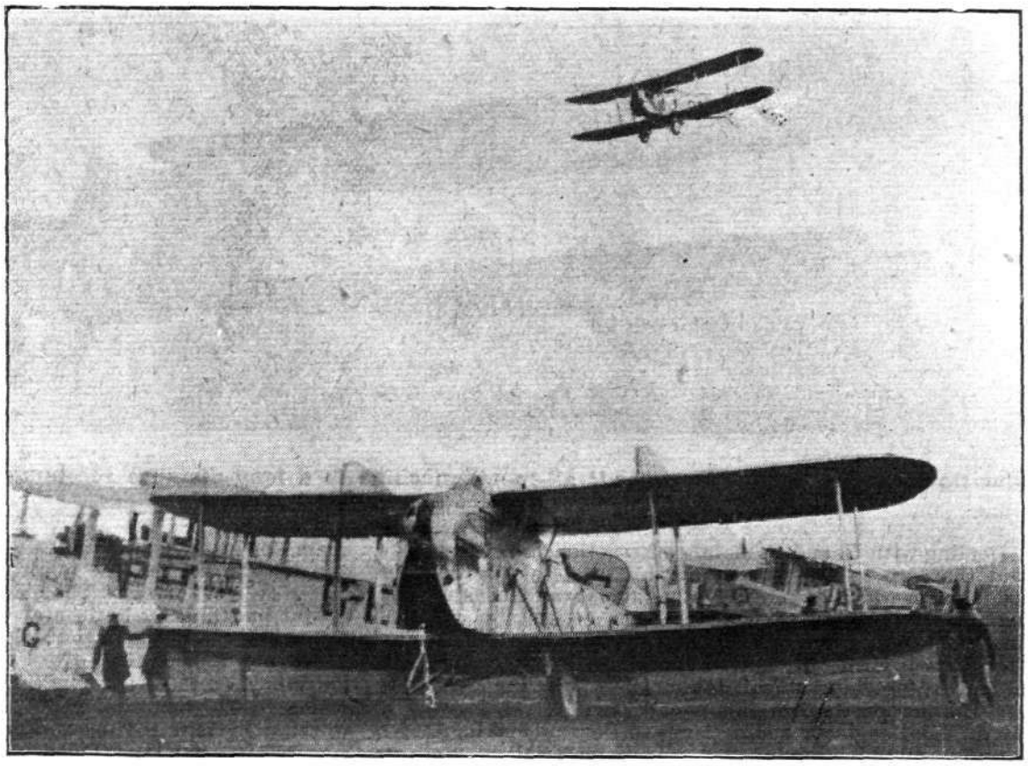


A Blackburn "Dart" flying over a Blackburn "Blackburn."

"Swift" torpedo 'plane, of which many specimens have been sold to various foreign governments.

The somewhat unusual lines of the Blackburn "Swift" are the result of the special requirements of a machine to be capable of taking off from and alighting on the deck of an aeroplane carrier, requirements to which there is no parallel in aeroplanes operating from a land station. To begin with, the machine must be capable of rapid acceleration in order to gain sufficient speed by the time it has reached the somewhat short run available on an aircraft carrier. For much the same reason it must come to a stop after a very short run. If impracticably light wing loading is to be avoided, this means that these difficult manœuvres must be carried out at or near the stalling speed. Consequently the manœuvrability must be good at the angle of maximum lift, a feature by no means easy of attainment. The pilot's view must be good, as he has not the same margin as in the case of a machine landing on an aerodrome.

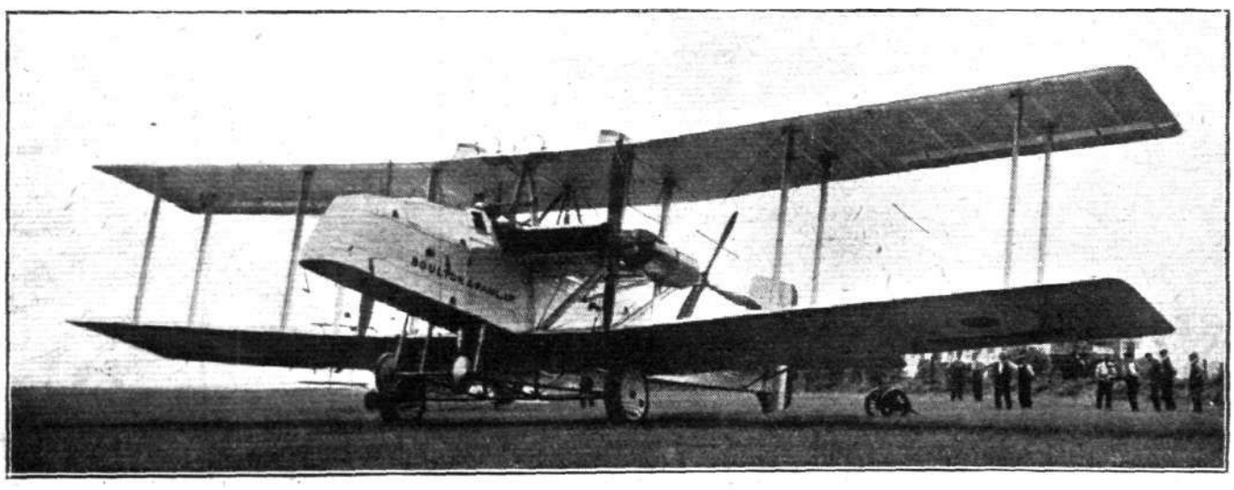
In the "Swift" a high-lift wing section is employed so as to give low landing speed with fairly heavy wing loading. The wings are set at a large angle to the fuselage, so that on alighting the angle of maximum lift is exceeded when the tail skid touches the deck, thus helping to pull the machine up quickly. The pilot's cockpit is well raised, and the forward fairing over the top of the fuselage falls away at a steep angle so as to enable the pilot to look over the top of the engine.

The divided undercarriage allows room for the torpedo to be launched, and apart from the wide wheel track resulting, the chassis is perfectly triangulated, without the use of bent steel tubes. The shock absorbing medium is in the form of rubber blocks working in compression, which have been found to be very satisfactory in use, and to require but infrequent renewal.

The "Swift" is designed to carry an 18-in. (45 cm.) torpedo, and the total load carried, including the pilot, torpedo and gear, instruments, fuel and oil, is 2,876 lb. (1,300 kgs.). The maximum speed of the "Swift" is about 95 knots (175 km/h.), and the rate of climb at sea level is 650 ft./min. (3·30 m/sec.). The ceiling is 15,000 ft. (4,570 m.), and the run required to get off against a 20-knot (37 km/h.) relative wind is about 150 ft. (46 m.)

BOULTON AND PAUL, LTD.

IT is a somewhat unfortunate fact from the point of view of an aviation journal, that in writing about the activities of a firm like Boulton and Paul, Ltd., one is debarred from making any detail reference to the latest machines designed and built by this firm. This is due to the fact that all the machines constructed at the Norwich works have been built to the order of the British Air Ministry, and that, therefore, the more recent ones at any rate are "secret." Some of the older types, however, are now no longer considered to fall into this class, and our remarks must of necessity be confined to such, and to the special form of metal construction of which Boulton and Paul have made a speciality during the last four or five years.



The Boulton and Paul "Bodmin" is an all-metal machine, with two Napier "Lion" engines placed in the fuselage and driving four airscrews *via* gearing.