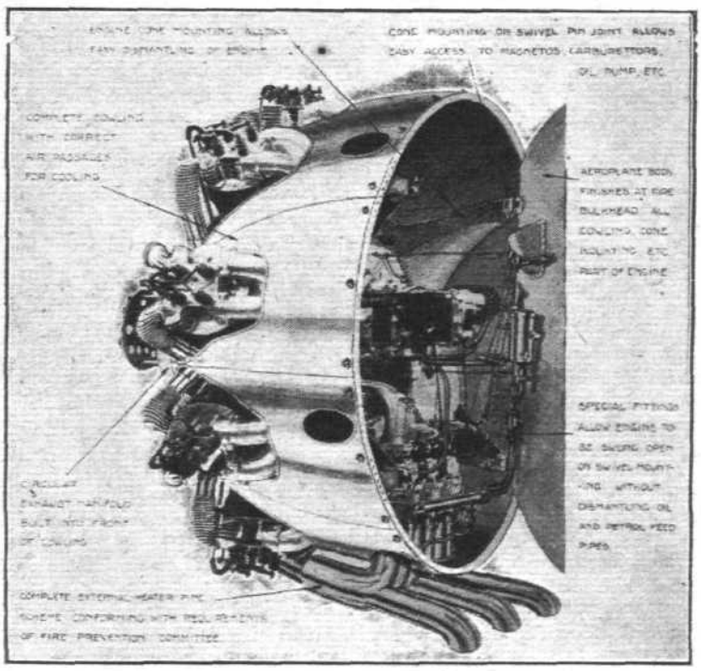
FIRST STANDARDISED AERO ENGINE MOUNTING

Swivelling Mount for Bristol "Jupiter"

ONE of the most serious items in the economical running of an air line is the question of the accessibility of the engine. The power plant, and especially its accessories, is the part of a machine requiring most attention, and it is usually the part most difficult to get at. An exception is the rotary overhung engine, but as this is a type now relatively rarely seen on commercial machines, it scarcely need be considered in a general review of air-line conditions. During the last year or two a serious effort has been made to remedy this state of affairs by introducing the unit method of construction, in which the engine and its radiator (if any) are mounted on a framework forming a separate unit. Thus it has become possible to make provision for interchanging the engine units in a fairly short space of time. There remains still, however, the question of standardisation. It is probably true to say that a considerable amount of the trouble with engine installation has been due to a lack of co-operation between the engine builder and the aeroplane constructor. The latter designed the engine mounting to suit his own tastes, and it is to be feared that these did not always give the engine maker a fair chance. Obviously the maker of the engines should know better than anybody else can the type of mounting and installation which suits his engine best. He alone knows the stresses set up and the particular anti-vibration precautions necessary to get the best results. Generally it has been thought inadvisible to provide a standardised mounting for any given engine, as this might hamper progress in aeroplane design. While we admit that there is a good deal of reason in this claim, we do think that too much has been made of it, and that an unnecessary multiplicity of mountings and installations has prevailed. It is therefore with satisfaction that we are able to record this week the first step towards standardisation of mounting for at any rate one engine.



Bristol "Jupiter" Engine Mounting.

The Bristol Aeroplane Co., Ltd., who are the makers of the "Jupiter" radial engines, have designed a standardised mounting for this type of engine. Not only so, but they have gone one step farther, and have produced a swivelling mounting which allows of access to the rear of the engine with magnetos, etc. As will be seen from the accompanying illustration, the engine is enclosed in a cone-shaped cowling, the engine plate being attached to the *fuselage* by four taper bolts. If it is desired to get at the back of the engine, the whole engine can be swung out, using the bolts on one side as pivots, and having undone the two bolts on the opposite side. The fuel and oil pipes are so arranged that they do not require disconnecting in order to swing out the engine. The engine can be removed from the machine and a fresh one substituted in less than three hours.

The cowl itself is secured to the crank-case of the engine, and the special shape of the air passages are the results of extensive experimental wind tunnel tests, so as to ensure the maximum of cooling with the minimum of resistance. The circular exhaust manifold is built into the front of the cowling, with pipes leading to the exhaust ports. A completely external heater pipe arrangement is provided for heating the incoming air to the carburettors. This arrangement complies with the requirements of the Fire Prevention Committee, and every precaution has been taken to render it impossible for an engine fire to spread. The general arrangement of the mounting is indicated in the illustration, which is, we think, self-explanatory.

THE LONDON-CONTINENTAL SERVICES

FLIGHTS BETWEEN OCTOBER 2 AND OCTOBER 8, INCLUSIVE

Route‡	No. of flights*	No. of passengers	No. of flights carrying: Mails	No. of flights carrying: Goods	No. of journeys completed†	Average flying time	Fastest time made by	Type and (in brackets) Number of each type flying
						h. m.		
Croydon-Paris	32	118	11	22	30	2 46	D.H.4 G-EAWH (2h. 13m.)	B. (3), D.H.4 (1), D.H.18 (2), G. (5), H.P. (4), Sp. (5), V. (1).
Paris-Croydon	31	109	11	27	28	2 50	D.H.18 G-EAWO (2h. 7m.)	B. (3), D.H.18 (2), G. (4), H.P. (4), Sp. (5), V. (1).
Croydon-Amsterdam ...	6	4	6	6	5	3 46	Fokker H-NABJ (2h. 55m.)	F. (4).
Amsterdam-Croydon ...	6	7	5	5	6	4 1	Fokker H-NABJ (3h. 50m.)	F. (4).
Totals for week ...	75	238	33	60	69			

* Not including "private" flights. † Including certain journeys when stops were made *en route*.
‡ Including certain diverted journeys.

Av. = Avro. B. = Breguet. Br. = Bristol. Bt. = B.A.T. D.H.4 = De Havilland 4, D.H.9 (etc.).
F. = Fokker. Fa. = Farman F.50. G. = Goliath Farman. H.P. = Handley Page. M. = Martinsyde. N. = Nieuport.
P. = Potez. R. = Rumpler. Sa. = Salmson. Se. = S.E.5. Sp. = Spad. V. = Vickers Vimy. W. = Westland.

The following is a list of firms running services between London and Paris, Brussels, etc., etc.:—Co. des Grandes Expresses Aériennes; Handley Page Transport, Ltd.; Instone Air Line; Koninklijkie Luchtvaart Maatschappij; Messageries Aériennes; Syndicat National pour l'Étude des Transports Aériens; Co. Transaérienne.