

Diagram Fig. 2 assumes the same conditions except that the time of flight is now eight hours.

The load of petrol carried is taken on normal engine b.h.p. As the machine must be capable of carrying sufficient fuel for bad weather conditions it is thought that this is a satisfactory basis.

It is obvious at once from these curves that the importance of saving in weight per b.h.p. either in the engine or by fuel consumption varies very much with the type of machine. Commercial machines appear to be satisfactory with a flying weight of approximately 15lbs. per b.h.p., and apparently this figure cannot be very much exceeded owing to the necessity for a good take off. With long-distance bombing machines greater risks are taken. The curves show very clearly the impossibility of building a machine with high performance and a heavy engine. The usual weight of the power plant in commercial machines to-day (less fuel and tanks) varies between 3 and 5lbs. per b.h.p.

If we assume a machine is to be built to carry 1,000lbs. useful load, that it is a commercial machine, and that the desired performance is represented by a total flying weight of 15lbs. per b.h.p., then if the power plant weighs 3lbs. per b.h.p. and the desired maximum duration of flight is to be four hours, an engine of 218 b.h.p. will be required, and the weight of the aeroplane structure will be 1,046lbs. If the power plant weighs 5lbs. per b.h.p. the b.h.p. required will increase to 374 and the weight of the aeroplane structure to 1,795lbs. It is unnecessary to point out how the loss in efficiency will increase, both the first cost and running costs.

CORRESPONDENCE.

To the Editor of the AERONAUTICAL JOURNAL.

Dayton, Ohio,

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DEAR SIR,—In Colonel Ogilvie's Wilbur Wright Lecture, he expresses regret that the scientific laboratory work of the Wright Brothers back in 1902 and 1903 had not been published.

During my recent visit to Dayton I have had the opportunity of referring to the correspondence of the Wright Brothers at this period and it will, no doubt, be interesting to members of the Society to know that although the tables of the scientific laboratory experiments were not published, they were freely given at that time to several people who were interested in attempts to achieve mechanical flight. Mr. Chanute and Dr. Spratt had both full tables given to them in 1902 and 1903. Professor Marvin, now Chief of the United States Weather Bureau, and Dr. Zahm also received some of the tables at this time. Probably the fact that there were very few persons who were known to be interested in flight at that time, accounts for the comparatively small number of people who received these tables. It was only after the Wright Brothers had spent some thousands of pounds on their experiments, and it became necessary for them to recover this amount out of the invention, that further particulars of the invention were withheld pending negotiations for placing the machine on the market, and obtaining a modest reward for the risk and the work which they had successfully completed.

Very truly yours,

(Signed) GRIFFITH BREWER.