

Ricardo's original volume dealt with general principles the amount of revision necessary has actually been very little. Such revision and additions which have been made are in a sense the gilding of the lily, for Mr. Ricardo's monumental work has become a standard and will remain so.

In the chapter on the High-Speed Diesel, Mr. Ricardo gives full credit to the Royal Aircraft Establishment for the excellent work which they carried out on the development of this engine, and he points out, despite the intense development work in other countries, the results obtained by the Air Ministry eight years ago have yet to be surpassed. It is a pity Mr. Ricardo does not give more fully an account of his own pioneer work which he has been carrying out so brilliantly during the past few years for the Air Ministry.

### *High-Speed Diesel Engines*

A. H. Goldingham. E. and F. N. Spon, Ltd. 10/6 net.

The development of the heavy oil engine is one which appears to hold out very definite hopes in various directions. That these hopes will all be fulfilled, that the compression ignition engine will be the only engine used in aircraft in the not very distant future, is unlikely. But the development of the C.I. engine to the state in which it can compete with the present day petrol engine is one which cannot but be followed with the greatest interest.

The greater part of the book describes various types of engines which have been developed and in this respect it is useful as placing on record what has and is being done. A very full discussion is given of the various fuel injection systems which are so important in this type of engine.

### *The Aircraft Mechanic's Handbook*

Lieut. I. W. Miller. McGrand Hill Publishing Co., Ltd. 10/- net.

Although "The Aircraft Mechanic's Handbook" is American in much of its matter, it contains so much excellent advice and so many good tips to the ground engineer and air mechanic that it will be found of very great use. The information given by Lieut. Miller is given in a highly concentrated form and the book is one which well deserves a place in the all too scant literature for the air mechanic.

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## CORRESPONDENCE

### *Jet Propulsion for Aircraft*

P.O. Box 159,  
Shanghai.

February 9th, 1931.

Dear Sir,—With reference to Mr. Richardson's article on the above subject in the January issue of the JOURNAL, may I add to his references Oberth's "Raumschiffahrt," which is much more reliable than Valier's writings.

Incidentally, Mr. Richardson's formulæ (1) and (2) are not correct for rocket propulsion as the change of momentum is  $u - (u - v) = v$ ; I give the form for (2) in my letter on p. 74 of the same JOURNAL. There are some very nasty tricks in rocket theory.

Regarding the use of liquid gases, Goddard is, I believe, trying them, and Oberth tells me that he is experimenting with liquid air. His scheme is to cool the tanks, cover them with insulation till ready to fire, fill, and then strip off the insulation and fire.

Yours faithfully,  
HERBERT CHATLEY.