

14 May 1958.

DRBS 0300-3
(3 ENG-R)

TL 10458/05

Mr. J. R. Douglas,
Contracts Administrator,
Avro Aircraft Limited,
Box 4004, Terminal "A",
Toronto, Ontario.

Dear Mr. Douglas:

Avro VTOL Aircraft

As we recently agreed, I am enclosing a few observations on the Avro Circular Planform series of aircraft. These give some of the more fundamental reasons for our caution in considering possible Canadian support for the project. I should be glad to have from you a statement of the Company views on our comments, as regarding their validity, or the other features of the design which may affect our conclusions.

The favourable ground effect observed statically with this design is of considerable interest to us. If the effect is present in trimmed forward flight the Avro design may have an important alleviating advantage in enabling running takeoffs to be made at weights in excess of that for VTOL. This possibility of STOL operation of course exists with all the competitive types except tail-sitters, but the Avro design may be unique in not requiring ground contact. I should be interested in any reports you may have on the ground effect in forward flight, with particular emphasis on trimmed conditions and the stability of the condition.

I should also like to have a statement of the areas in which you consider further research would be of value, particularly as relating to the unknowns in STOL operation. I believe that it may be of mutual advantage to consider a DRB-sponsored research program to elucidate some of these problems.

I shall be in the Toronto area next week and hope to arrange for discussions with Mr. Frost at that time.

Yours very truly,

ORIGINAL SIGNED BY

J. L. ORR

J. L. Orr,
Director of Engineering Research.

AWRG/b
Encl.