

23 September, 1957

W/C E. P. Bridgland,
Officer Commanding,
Technical Services Detachment,
R. C. A. F.,
Avro Aircraft Limited,
MALTON, Ontario.

Subject: Arrow Performance

Dear Wing Commander Bridgland :-

Further to our discussion of September 20, this is to confirm the following points :-

1. Performance Report No. 10 covered the performance of the CP-105 Mk 2 with the production Iroquois engine with a re-matched compressor optimized towards the higher speed conditions (ref. letter from J.C. Floyd to A/V/H Hendrick, dated December 18, 1956). As stated in this letter, Report No. 10 was based on preliminary estimates of rear fuselage and nozzle weight, nozzle performance, and engine performance.
2. Since publication of Performance Report No. 10, new information affecting the aircraft performance has become available, as follows :-
 - (a) Revised engine performance
 - (b) Revised aircraft weight estimate
 - (c) Nozzle test data from tests at Nobel
3. We are presently engaged in a complete re-estimation of the aircraft performance, making full use of the new

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data available. This estimate will not be available prior to the end of October.

4. It is our considered opinion that the airplane performance, which will be predicted as a result of the re-estimate, will not differ significantly from that published in Report No. 10, with the exception of some reduction in subsonic ceiling. Minor changes will result from the change in aircraft weight through this period, and may be summarized as follows :-

(a) Combat load factor at $M = 1.5$ at 50,000 ft. reduced from 1.63 'g' to 1.61 'g'

(b) Combat ceiling reduced from 63,300 ft. to 63,000 feet.

(c) Take-off and landing distance tabulated figures modified to reflect revised weights.

(d) Maneuverability against altitude curves reduced 300 ft.

(e) Combat radius of action mission fuel increased on cruise out from 3703 to 3785 lb., and cruise back from 2030 to 2126 lb. (total increased from 15,672 to 15,800 lb.).

We trust that the information contained herein will meet your immediate requirements. We are making every effort to expedite the re-estimate of performance, and this will be transmitted to you at the earliest opportunity.

Yours very truly,

JCF-kas
cc's Messrs
JAMorley
RNLindley

(bc: FTSaye)

J. C. Floyd,
VICE-PRESIDENT, ENGINEERING