

Secretary

FROM: AIRCRAFT SUPERINTENDENT

2nd October, 1942.

TO: MANAGER

CA-15 WRIGHT FIGHTER AIRCRAFT.

1) Conditional on labour requirements being met we have recently established a programme for the manufacture of Bomber and Bomberang aircraft throughout 1943, reference Table (4) and Fig. (4) of "Production Analysis".

It is now desirable to co-ordinate engineering and tooling programmes with the production schedule in order to plan for the introduction of the Fighter with Wright 2600 engines at the earliest possible time.

2) A diagram has been extracted from the Production Analysis showing:-

- (a) Fighter fabrication absorbing labour at a known rate, and
- (b) Bomber fabrication absorbing labour at an estimated rate.

The Bomber production is governed mainly by the progress of the restricted tooling to which this project is now being held.

(a) and (b) have been combined on a basis of alternatively 300, 400, or 500 P. & W. Fighters, in order to demonstrate the employment of direct labour hours in any month.

3) Because of our limited tooling capacities it is vitally essential to concentrate all our tooling resources on the Bomber for the next six months, and therefore no tooling for the Wright Fighter can be contemplated before April 1943, even to a limited extent.

It is also considered essential that, having commenced delivery of combat aircraft, continuity of deliveries must be maintained. The P. & W. Fighter, (with or without turbo supercharger) must, therefore, continue until tooling for the Wright Fighter is sufficiently advanced to enable a transfer of production hours to this project.

Curtailement of tooling on the Wright project by restricting redesign as now planned would not improve the above date for the commencement of new tooling. It would only advance the peak production of this type by some weeks. Furthermore, the specialised sections in the Drawing Office could not commence the issue of drawings for production until the end of December of this year.

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4) It is concluded, therefore, that:-

- (a) We should contemplate making a total of about 500 Boomerang Fighters before they can be superceded in quantity by the model with Wright engines. Turbo superchargers can, if desired, be introduced at approximately aircraft No.251.
- (b) Because the tooling development on the Bomber is the governing factor the Engineering Department have (inevitably) eight months to design the Wright Fighter.

It is not the primary object in these notes to make out a case for more extensive redesign of the Boomerang than hitherto agreed upon; nevertheless the time factor emerging from the surveys now made indicate that substantial improvements can be incorporated in the time available without postponing tooling or production.

- (c) There is nothing gained by severely limiting these improvements. Such a policy would not result in earlier introduction of the model, and since we are concentrating on "hand building" the first batch of Bombers it is not desirable to force a small batch of Wright Fighters and thus jeopardise the early delivery of Bombers.

In particular, the impossibility of commencing new tooling before next April nullifies the advantage of retaining the Boomerang outer wing and redesigned centre section. Continuity of Fighter deliveries and provision of spares will absorb the capacity of the jigs already built.

It is submitted, therefore, that rather than duplicate present jigging, the extra tooling should incorporate specific changes which will improve the overall design. This may, moreover, be a vital factor if at a later date it is desired to incorporate turbo superchargers with the Wright engines.

- (d) Before the end of November 1942, we will require the extension of the present Boomerang Contracts (with turbo supercharger introduced possibly at No.251) in order to ensure continuity in many Factory Departments.

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- 5) The two alternatives before us at the moment for the GA-15 Wright Fighter are, therefore, summarised as follows:-

Alternative "A".

Essential Alterations.

1. Engine installation with suitable cooling and cooling arrangements.
2. Longer landing gear and larger wheels and brakes.
3. New front and rear fuselage.
4. Modification of Centre Section and Tank Door Assembly.

Alternative "B".

Essential Alterations.

1. As "A".
2. As "A".
3. As "A".
4. New Outer Wing in 2 sections to eliminate centre section.

Desirable Alterations, applicable to both alternatives.

5. Addition of diving brakes.
6. Retractable tail wheel.
7. Monocoque rear fuselage.

The alternatives suggested mainly involve the production of new wings in place of a new centre section, but it is stressed that a new wing would incorporate the same geometry around the armament installation, and that all details already in production for the Boomerang would be used in the new design.

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