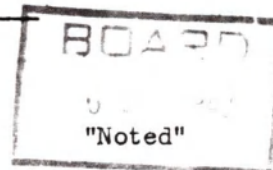


COMMONWEALTH AIRCRAFT CORPORATION PTY. LTD.
MELBOURNE

PLANT REPORT NO. 111
2/7/42



AIRCRAFT FACTORY:

For the first time for some years we have not delivered any aircraft during the period covered by the report, as both our Trainer and Wirraway contracts are completed.

Boomerang deliveries will be commenced during the next fortnight - the second aircraft will be completed next week and the third shortly after.

The first aircraft suffered a mishap a week ago, due to the breaking of an airscrew blade. The damage to the airframe consisted of three broken tubes in the engine mount, and a cracked tail-plane spar. One of the main gears in the engine appears to be cracked. Repairs are almost completed and the aeroplane will fly again next week.

Before the mishap we were able to obtain sufficient data to compile a preliminary report on the performance. It is now certain that, as we had hoped, the performance at 20,000 ft. and above, is much superior to that of any other aircraft in this theatre of war, and makes it certain that the aeroplane will be urgently required.

All efforts are being concentrated on developing fighter production, and although the need for some changes has put our schedule back somewhat, we still plan to deliver 100 Fighters during the next six months.

Two major tasks have developed with the Wirraway in the form of Dive Bombing Flaps and Air-cleaners. These two jobs will absorb a large amount of our productive capacity during the next six months, which is most fortunate, as it will conveniently fill in the gap which must elapse until Bomber production is fully established.

While tooling capacity is still being largely used on Fighters and Dive Bombing Flaps, this work is practically completed and all capacity will soon be concentrated on the Bomber.

Work on American Aircraft is nearly finished and as a temporary expedient to keep the assembling hands employed, we are erecting six Airspeed Oxfords.

When the new hangar is complete in the near future, we will be able to set up a repair and erection section for the Americans without utilising our own floor area, which will shortly be fully devoted to our own programme.

ENGINE FACTORY:

The Fellows Gear Shaper which has been on order for a year, has now arrived and is being put into operation.

We are now planning the future programme for the Engine Factory, and it appears that portion of its capacity will be concentrated on Wasp engine spares for a long time ahead. The section which will run out of work with the completion of the Single Row Wasp Engine contract will be suitably diverted to the production of -

- (1) Turbo Superchargers
- (2) Hubs for Fighter Propellers
- (3) Parts for the De-coupled Nose for
Twin Row Engines
- (4) Parts for Lidcombe

- 2 -

The ultimate effect will be directed towards the production, in conjunction with Lidcombe, of power plant for use in our Fighter and Bomber aircraft.

We are investigating the setting up of an overhaul section for Wright Engines for the U.S. Army. This will mean additional building extensions for the Engine Factory.

FOUNDRY:

All capacity is fully absorbed. A marked increase in the output of cylinder heads will shortly result, following the arrival last week of two new special moulding machines for which we have been waiting six months.

When the Foundry extensions at Highett and Lidcombe are available in three months' time, we shall be in a good position to deal with all demands for castings.

GENERAL:

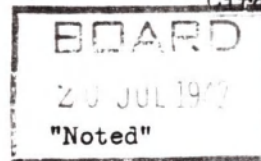
The new office block is now taking shape and it appears from the progress being made that the contract time will be met.

In order to keep within the law regarding brown-out regulations, we have shielded a number of lights adjacent to the windows and this may possibly meet the conditions.

(Sgd.) L. J. Wackett

Manager.

PLANT REPORT NO. 112.
16/7/42.



AIRCRAFT FACTORY:

The first Boomerang has been handed over to the R.A.A.F. for trials and the second aircraft has been flight tested. Wings are ready to be installed on the third aircraft and generally speaking, it can be said that Boomerang production has now begun to flow. A great increase in sub-assembly work on the new jigs has been evident during the last week.

Work on the dive bombing flaps for Wirraways has now assumed large proportions, and seeing that the job involves the conversion of about 500 aircraft, it will be a major part of our production activity for some time. In addition, a decision has now been made by the Air Force to have air cleaners installed on every Wirraway. This is being planned, and represents another major task covering 500 aircraft.

A further batch of bomber jigs is now in progress, and we are moving to get additional sections of bomber production under way.

The prototype bomber commenced firing trials last week. While the remote controlled turrets functioned without any trouble, the Vickers guns proved unsuitable for turret use. Now that Browning guns are available it has been decided to switch to these at once. It appears necessary for the guns used to be capable of being fired electrically for use in remote turrets, and this is so with Browning guns.

When the guns are tilted to steep angles it is difficult to get the Vickers guns to fire without jamming, and during the trials one or other of the guns failed to fire from this cause.

Parallel with Boomerang production there is great activity in arranging for the outside production of large numbers of components for the Bomber.

Our re-arranged factory is beginning to function in production, and it is clearly apparent that when the organisation as now expanded is running smoothly, we will have an output very much greater than we achieved towards the end of last year, when for several months we averaged 10 aircraft per week.

In a very short time we will face the task of installing a 3000-ton press in the aircraft factory, and the foundations will present a problem. This press will have a very big influence on the output of sheetmetal work.

ENGINE FACTORY:

Steady delivery of spare engines has been maintained, and spares production is such that the Air Force informed us that the serviceability of engines is now on the rise, owing to the supply being more than wastage, and that they are able to make progress towards building up the accumulated shortages.

We are just about ready to occupy and operate the reconditioning section, and this will have a marked effect, providing as it does, additional floor space to handle the heavy repair work being returned to the factory.

We are fortunate in being able to obtain from abroad spare parts for many of the machine tools which have been heavily worked, and this will enable many of them to be restored to accuracy.

- 2 -

FOUNDRY:

The arrival of two new cylinder head moulding machines represents a great increase in available capacity for such work, and will ensure that we meet all demands in the near future.

At Highett, where the new Magnesium Foundry is being erected, the whole of the steel work is in place and roofing and flooring are in progress.

It now appears certain that we will have the benefit of this large extension of our foundry work in not more than three months' time.

GENERAL:

Good progress is being made with the new office block.

A new road at the west side of the Aircraft Factory is now open for use and will permit access to a large area which is to be organised for the external storage of materials. Also it will permit access for building operations to join up the flight hangar to the Machine Shop, and so complete the Aircraft Factory extension scheme.

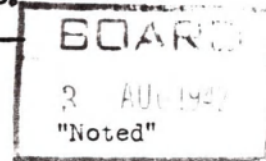
We are in full production with the lockers which are to be provided for every workman, and a quantity will be available for use in two weeks time.

The roof is the only incomplete feature of the American Hangar, but this is being pushed ahead.

(Sgd.) L. J. Wackett
Manager.

COMMONWEALTH AIRCRAFT CORPORATION PTY. LTD.
MELBOURNE

PLANT REPORT NO. 113
30/7/42



AIRCRAFT FACTORY:

The first Boomerang is now back in the Factory after having undergone comparative trials with other Fighter aircraft at the R.A.A.F. Station, Laverton.

The results of the trials are being reported to the Air Board. We understand that the aircraft proved surprisingly good and showed up as a superior Fighter to the other aircraft with which it was compared.

Tests with the second aircraft are suspended following diving tests up to 450 m.p.h., when the plywood fairings began to fail. This matter is now being overcome and the rectification will be extended to all other aircraft of the type.

A few other alterations are being carried out, and next week there will be three serviceable Boomerangs with all modifications up to date. Wings are off the jigs for a total of five aircraft. There are ten engines on hand; we have ample propellers and cannon, and are all set to proceed up to about twelve aircraft without any shortages.

There are still some matters connected with the installation of the guns to be finally settled. All other details have now been released in finalised form, and it remains to concentrate on turning out the aircraft in production. We are a little behind expectations as regards time, but nevertheless, production will have been established in a record period.

Now that we have accurate information as to the performance attainable with a Twin Row Wasp engine in a single seater Fighter, we are investigating the possible improvements which can be made with a radical departure from the Boomerang design. There are two possibilities -

- (1) Installation of Exhaust Driven Supercharger
- (2) Installation of Wright 1700 h.p. Engine.

Replies to our enquiries for Superchargers seem to be "hanging fire", so we are now looking into the alternative of installing the Wright engine. Our latest advice is that ten of the 135 Wright Engines allotted for Fighters, have been shipped.

All other projects in the Aircraft Factory are progressing at the best rate which can be attained in the circumstances.

With Fighter production fully established, more toolmakers become available for Bomber tooling.

We are now about to commence actual building construction of the extension joining the Flight Hangar to the new Machine Shop. Preparatory work such as roadmaking, drains and foundations, have been completed.

The new road now permits of a general tidying up of the externally stored materials and spares, and this is now proceeding.

ENGINE FACTORY:

With the end of the Wasp Engine contract in sight, a few months hence, and still no advice of the Turbo-Supercharger, we are still unable to make definite new plans for the future.

We have already embarked on the manufacture of parts for Twin Row engines to assist Lidcombe, and this can be expanded to the extent to which toolmaking can be provided.

- 2 -

The alternative to the Supercharger, is to embark on the production of the Wright Engine, which would be a big task.

As a step in this direction, approval has been given by the Department of Aircraft Production to set up an overhaul section for the Wright Engine. This, if carried out, would mean that we would become possessed of all the special assembly tools and an engine test house suitable for the Wright engine.

This would be a big contribution towards the equipment needed for production of the engine as a whole.

The matter must remain undecided until further information is received regarding the Turbo-Supercharger.

At the present time the production of engine components is proceeding steadily, and at a better output rate than ever before. Some thought has been given to the matter of designing an aircraft which would give a first line performance using Single Wasp engines, as it may transpire that this would be a solution if other schemes fail.

We hope shortly, to get the new reconditioning section in operation, but this will be on a restricted scale, because certain machine tools are not available.

It is satisfactory to be able to report that the Chrome Molybdenum Cylinder Forgings now being received from Stewarts & Lloyds show a very marked improvement in quality. Rejections from the most recent batches are negligible. It can now be recorded that technical success with the Push Bench production of Cylinders has been achieved.

FOUNDRY:

The trend towards the use of magnesium has led to a reduced demand for aluminium alloy castings and the Aluminium Section therefore, faces a shortage of work. To combat this, we are progressively switching the personnel and facilities on to magnesium. It may shortly be found that castings in Aluminium will be mainly confined to Cylinder Heads.

GENERAL:

Several new projects have been making progress -

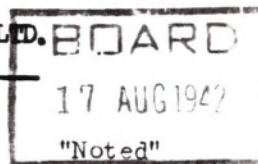
- (1) The Hihett Foundry is roofed.
- (2) The Hihett Store is at the stage when steelwork is being erected.
- (3) The American Hangar has about half the roof covering in place. When this is finished the Hangar will be complete, as all other work is advanced.
- (4) Construction of the Watchman's Cottage is well on the way.
- (5) A new office is nearing completion for the A.I.D. staff.
- (6) The new administrative block has reached the final storey.

(Sgd.) L. J. Wackett

Manager.

COMMONWEALTH AIRCRAFT CORPORATION PTY. LTD. BOARD
MELBOURNE

PLANT REPORT NO. 114
14/8/42



AIRCRAFT FACTORY:

With three Boomerangs flying at the same time on Thursday, 13th August, we registered the best progress to date on Boomerang production. Efforts are concentrated on getting two more into the air in about a weeks time.

Meanwhile, there is large scale development in production of the releases now following on. Most of the new tooling is set up and in operation.

Wings, which were the most difficult items at the start, will very shortly be a matter of routine, in the same manner as Wirraway wings.

Some technical trouble remains to be cleared up in correct operation of the guns, but this is being concentrated upon.

The last remaining assembly to be properly tooled, is the cowling, which has been subject to several changes and must continue to be made largely without complete tooling, at least until after the 20th aircraft.

Almost all the new tooling for the dive bomber flaps is set up in position, and large scale progress will shortly follow.

An investigation has been made during the last week, with the idea of accelerating progress with Bomber tooling. Strong representations were made for additional men and facilities, and in less than a week we have been allotted for immediate delivery, 3 large machine tools and promised 20 toolmakers and 30 fitters, forthwith. It is now revealed that the most urgent requirements is loft work and template making, and it is apparent for the first time that we must make provision to extend this work on an altogether larger basis than ever before attempted. It is therefore necessary to reconsider the matter of adding a mezzanine floor to the new extension at the rear of the Flight Hangar.

The nearing completion of the American Hangar has enabled a move to be made to bring it into use at once. Several new aircraft have arrived for erection.

ENGINE FACTORY:

Good steady progress has been made, and reports from all over the country confirm that the supply of spare engines and spare parts has effected a great increase in the serviceability of aircraft in the R.A.A.F.

A feature of the last week has been the output of Cheetah Cylinders. These are now being delivered in quantity and the whole cylinder production unit is now complete and functioning at its best.

We are investigating several matters connected with the local production of ball bearings and races.

The Engine Factory is taking on a number of jobs to assist the Aircraft Factory tooling programme.

Many of the tools required to overhaul Wright Engines are in hand.

It now seems inevitable that we must switch over to the Wright Engine, particularly as it seems to fit in so well on the new Fighter design, and we are about to give serious consideration to the extensions for this Engine.

- 2 -

FOUNDRY:

A great change will shortly occur in our Foundry organisation, as both Lidcombe and Highett Foundries will come into operation within the next two months. We will be switching large sections of production to these new Foundries, and must provide nucleus staffs and supervision for both places.

We have been allotted 30 moulders by the Manpower Authorities, to assist in building up the staff.

GENERAL:

The new office block is well advanced.

The erection of steelwork for the Flight Hangar extensions will be commenced next week.

A great tidy up of the yard and the bulk storage of heavy spares has resulted following the completion of the new road and the third gate into Lorimer Street,

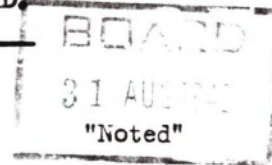
The steelwork of the new bulk store at Highett is now erected.

(Sgd.) L. J. Wackett

Manager.

(Circulated - 27/8/42)

COMMONWEALTH AIRCRAFT CORPORATION PTY. LTD.
MELBOURNE



PLANT REPORT NO. 115
27/8/42

AIRCRAFT FACTORY:

We are now at a stage in Boomerang production where we are having exactly the same experience as before the first batch of Wirraways was handed to the Air Force. There were numerous matters to be finalised to ensure that the machines being handed over were as free from potential troublesome details as possible.

We have struck a number of such potential sources of trouble with the Boomerangs, and have been engaged in eliminating them prior to the handing over to the Air Force of the first 5 aircraft, about the end of next week.

The 6th aircraft of the series, which is the first produced by production methods, as distinct from the experimental methods used for the first 5, will be completed on September 7th, and this signifies the commencement of production flow.

A good deal of effort has been put into surveying the situation now existing in production generally, and we feel certain that if Fighters and Bombers are to be delivered as desired by the Air Force, then we must divest ourselves of all other distracting influences.

At the present time these consist mainly of the legacies of the Wirraway and Trainer and we are exerting every effort to have these activities transferred elsewhere.

We are still hampered by inadequate space, but will be much better off when the Hihett Store is ready in the very near future. Other extension buildings to be erected will make a great difference, and the additional area thus provided is urgently awaited.

Meantime, with the completion of the American Hangar and the transfer to this Hangar of all work for the U.S. Air Force, we are free to utilise most of the Flight Hangar for production development.

We shall shortly be faced with the need to provide some additional building space to house the new 3000-ton Hydraulic Press and 14-ft. Power Brakes. These are the two largest machines of their type used in aircraft production, and previously were used only by such large concerns as the Douglas Co. in U.S.A. The acquisition of these machines will greatly enhance our capacity to produce the Bomber.

There has been a marked improvement all round in the Aircraft Factory as Boomerang production increases, and absorbs personnel on routine work, as distinct from the miscellaneous jobs which many have been engaged on since Wirraway production ceased.

The increase in the order for Boomerangs and the knowledge that a still more advanced Boomerang is to be developed to follow on, will ensure that the general production organisation will be rapidly placed in a satisfactory state and will remain so for a considerable period.

ENGINE FACTORY:

The development of cylinder production has now reached its highest and is practically the best that can be achieved with the plant available. General production in the Engine Factory has now flattened out at a steady 10 engines per week, and it is clear from the graph of output that we are obtaining about as much as can be expected from the plant available.

- 2 -

The great problem is to prevent a slump due to the necessity to ease off on the production of Single Row engines and to take up new work. The continuance of production of a large volume of spare parts for Single Row engines will assist in preventing a marked slump comparable with that which followed the cessation of the production of Wirraway airframes in the Aircraft Factory.

Preparations are in hand to meet the eventuality of the possible need to produce ball and roller bearings for future engine production.

A particularly interesting development now coming into evidence is the new C.A.C. 3-bladed propeller. This propeller, which will use wooden blades (but may also be fitted with metal blades if required) introduces a new feature providing for a blade angle movement of 40°. This is achieved with a simple hydraulic movement of well tried type. Such a large blade movement can only be attained at present by the full feathering Curtiss and Hydromatic types, which, besides being very much heavier (125 lbs.) are much more complicated and expensive. For single seater Fighters of the type in which we are now especially interested, the full feathering feature is quite unnecessary, and it follows therefore, that the new C.A.C. propeller promises to be outstandingly suitable for Fighter use, besides being by far the simplest of all known propellers to produce. We have a trial order for 10 propellers, and are well advanced with them. In principle, they are a development of the principle previously tried out quite successfully as a two-bladed type for the Wirraway.

FOUNDRY:

A strike which is as yet unsettled, has marred production in the Foundry during the last week.

GENERAL:

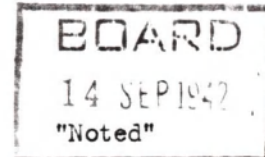
All the new projects now in hand, viz., the Foundry and Store at Highett, the new office block and the Watchman's Cottage, are now in an advanced stage.

(Sgd.) L. J. Wackett

Manager.

COMMONWEALTH AIRCRAFT CORPORATION PTY. LTD.
MELBOURNE

PLANT REPORT NO. 116
10/9/42



AIRCRAFT FACTORY:

We have now finished the armament trials of the Boomerang and all guns are functioning properly. This overcomes the last remaining problem and means that we can freeze the design for the present and start delivering aircraft.

Meantime, sets of wings up to the 9th aircraft are off the jigs, and wing production is now fairly well established. Engines are installed up to the 9th aircraft. The number of personnel now wholly absorbed on Fighter production is rapidly rising, and it will not be long before we will have the type established similar to the way in which the Wirraway was produced.

A start has been made to convert Wirraways to Dive Bombers. A number of aircraft are already being converted, and large scale production of the necessary components is being developed on the jigs which were recently completed. Although we had planned to pass this job on to Sub-contractors, we have been advised that it is very urgent and, therefore, now propose to convert at least 40 aircraft before finally relinquishing the job. To carry out this task we shall be able to utilise the American hangar, because of a lull in the arrival of new American aircraft for erection.

Meanwhile, we have been pursuing enquiries with the object of finding firms to whom large sections of Wirraways and Trainer spares production can be transferred. Some considerable success is promised, and we are now awaiting the decision of the Department of Aircraft Production before finally acting towards achieving this aim.

Erection of the new extension to house the aircraft tooling section, has started. This will be a quick job, as it lies between two other buildings, and has been well prepared. Commencement has been delayed pending completion of the erection of steel-work at Highett. The gangs and erecting gear have now been moved to Fishermen's Bend.

We have submitted to D.A.P., our plans for expansion to enable the simultaneous production of both Fighters and Bombers. This involves increase in personnel by 2,200 and expenditure on buildings and facilities, of £80,000.

With this expansion we reach the limit of possibilities for airframe production at Fishermen's Bend. The only remaining extension will then be on the Engine side, and it appears that the production of the Wright 1700 H.P. engine will cover the possibilities in that direction.

ENGINE FACTORY:

With cylinder production at a maximum, and many other sections turning out record numbers of parts, it is certain that the situation in regard to spares for Wasp engines will be in a very happy position by the end of the year. Production of Wasp engines will be prolonged 3 months by an order, shortly to be placed, for 88 additional engines.

Meanwhile, we are getting deeper into the production of parts for Lidcombe, and must rely on this work to carry us over until the situation is advantageous to start on the Wright engine.

In preparation for the day when the Wright engine must be attempted, a start has been made on the new overhaul section, which will be followed by an addition to the Test House.

- 2 -

FOUNDRY:

A series of strikes has retarded Foundry output over the period, but a good stock in hand has prevented any serious hold up in consequence. We are now ready to produce all the castings for the Bomber, the patterns having been completed.

The supervisory staff is now engaged on plans for setting up operations at the Lidcombe Foundry and at Highett.

GENERAL:

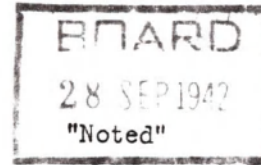
The new offices are being pushed ahead, but the Contractor is hampered by shortage of labour.

The coming of better weather will greatly assist the completion of the numerous minor projects which are under way.

(Sgd.) L. J. Wackett

Manager.

PLANT REPORT NO. 117
24/9/42.



AIRCRAFT FACTORY:

Delivery of Boomerangs to the R.A.A.F. has now commenced. At the time of writing, three aircraft have been handed over and two others are due to be handed over before the week-end.

Preparations are practically complete for the 7th aircraft to be flight tested. Engines are installed in aircraft up to No.12, and wings for the 12th machine are off the final jig. Henceforth, the production of Boomerangs becomes a routine process, although several tooling items have yet to be made available. In the meantime, we are using the temporary tooling which is available.

Our experience to date has shown that a good deal of work is involved in the installation of cannon, but now that we have found what work is entailed, we shall be better able to install cannon in other aircraft.

As it has been decided to install 2 Cannon in the nose of the Bomber, in place of the 4 Machine Guns, we shall benefit by our experience with the Boomerang installation.

Good progress is being made with the prototypes for the High Altitude Boomerang, and the Low Altitude Boomerang with Wright engines.

Attractive as the Supercharger version appears to be, our hopes are not very bright, as it now appears that the U.S.A. Authorities have allotted a low order of priority to the requisition for 100 Superchargers.

It seems inevitable that the Wright engine version will be the one which we must accept as the only way to produce a better version to follow the present model.

The first converted Wirraway Dive Bomber has reached the flying stage. We expect others to follow at the rate of one per day during October.

Teams of men from Ansett Airways and Clyde Engineering Co. are now being taught the process of conversion to Dive Bombers, and manufacture of Wirraway Wings. With the transfer of these activities we shall be considerably relieved of routine work, and so be able to devote a corresponding amount of effort to new production.

Bomber production is developing at an increasing rate. The production version will have quite a number of improvements on the prototype, and all of these have required development. One of the largest tasks is the Self-sealing Petrol Tanks. Our experience with the development of a similar tank for the Boomerang will be invaluable for the much larger units (4 per aircraft), which go into the Bomber. The design changes incidental to the introduction of Self-sealing Tanks, constitute the biggest alteration in the production type when compared with the prototype, but the change will also lead to much greater ease of production.

Sub-contractors for Bomber Components are being continuously contacted and good progress is being made. Richards Industries of Adelaide are producing the tail plane, elevators, fin, rudder, aileron and flaps, and this will relieve us of the need for a lot of equipment, tooling and man power.

As with the Wirraway, we have sub-contracted the wheels and brakes, the oleo undercarriage leg and all the hydraulic jacks. We will eventually sub-let the Self-sealing Tanks to Dunlops, and the cockpit enclosure to Myttons.

The result is that we are left with the basic structure of body and wings only, plus the engine installation and all the interior equipment. Fortunately, most of the engine installation is already in production, having been adopted from the Beaufort tooling.

Whilst much remains to be done, a great deal has already been planned and released for production.

The building extension joining the Flight Hangar to the new Machine Shop is now being erected.

Lay-out plans for the new 60,000 ft. extension have been prepared. The first move will be the foundation for the 3,000-ton Press which is due in 3 weeks time.

ENGINE FACTORY:

The development of overhaul work for the 1700 h.p. Wright engine is now being pushed ahead in order that some progress may be made before the new building is ready. Personnel are being trained, and tools are being produced in preparation.

The cessation of complete Wasp engine production about the end of the year will mean that only a portion of the existing plant will be needed for spares production, and it is necessary to plan in advance to fill up these sections of the factory which will be short of suitable work for the particular machines located therein. Items for Lidcombe are most suitable, but some of those which would be ideal, involve a lot of tooling. The list of items being produced for Lidcombe increases daily.

In regard to the 2000 cubic inch engines under development at Lidcombe, as a conversion of the 1830 cubic inch standard Twin Row engine, it can be reported that the new cylinder head castings have been produced in our foundry. The machine shop has produced the new cylinder barrels.

During an inspection at Lidcombe, it was noted that some crankcases had been altered to accommodate the larger cylinders, and it was stated that the larger size piston forgings had been delivered.

It was anticipated that the erection of the first of the new type engines would be started within a month.

The hubs of the new three-bladed propeller for Fighter use have reached the finishing stage.

The output of Wasp spare parts is being maintained at full pressure, and it can now be said that all demands are being met.

FOUNDRY:

The move to Highett is now commencing. Every day progress is being made with the installation of equipment, fitting out of departments, and preparations for the commencement of operations.

A very great job is ahead of us in consolidating and organising the storage of raw materials at the new Highett Store. At present this material is scattered in many places temporarily acquired to cope with the influx over the last six months, and it must now be collected and arranged so as to be accessible when demanded for production.

(Sgd.) L. J. Wackett

Melbourne

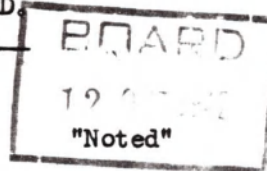
LJW:BS

Manager.

(circulated 9/10/42).

COMMONWEALTH AIRCRAFT CORPORATION PTY. LTD.
MELBOURNE.

PLANT REPORT NO. 118
9/10/42.



AIRCRAFT FACTORY:

The progress of Boomerang production can be gauged from the following summary:-

1st Aircraft - being held for experimental flying, and investigation of methods to improve cooling, so as to prepare for the installation of the 2,000 cubic inch engine. The increased power output of this larger engine will certainly give us a cooling problem, because in the present installation we have nothing to spare.

2nd to 6th Aircraft - completed and delivered to R.A.A.F.

7th & 8th Aircraft - just about ready for first test flight.

9th, 10th and 11th Aircraft - have wings on and engines installed, and are being finalised in detail.

12th to 15th Aircraft - have engines installed - wings for these are off the jigs but have yet to be finalised.

16th to 24th Aircraft - on the assembly line in progressively earlier stages. Centre section planes are ready for all these.

Up to 50 fuselage frames are welded up. All components are now in full production and progress from now on will be rapid.

Five (5) Wirraway Dive Bombers have been completed, and converted centre planes have been installed on 5 more. Detailed work is in full sway.

One set of wing jigs has been sent to Clyde Engineering Co., Sydney, and a sample set of converted wings is being despatched during the week-end. Large quantities of components are now in transit to Sydney. Some of our engineers are going to Sydney next week to get this job going at Clyde.

The coming week will see the first production Bomber fuselage on the assembly line, and several more will reach this stage before the end of October.

We now have the benefit of the detail reports on the trials of this aircraft. Several minor matters need rectification to satisfy the wishes of the Air Force. Only one major task requires to be carried out to finalise this design for production, and this item will not affect the work under way or the structural work generally. The item referred to is the arrangement for controlling the rear guns. The rear turrets behind the engines with their synchronising gear and interrupters have proved excellent, and it is only necessary to improve the gunner's comfort and means of control to make the remotely controlled system satisfactory.

It is now planned to install a small turret in the top of the fuselage in which the gunner can be seated and have both the control and sight move with him in conformity with the movement of the guns. A scheme has been devised to achieve the desired objective.

Good progress is being made with the new building joining the Flight Hangar to the new Machine Shop. It should be possible to move the whole of the Toolmaking Section into this new location by the end of the year.

ENGINE FACTORY:

While the main work is still the production of Wasp Engines, we will shortly reduce the output of completed Engines to 3 per week, and deliver the balance of parts as spares.

The completion of a large number of overhaul tools now enables us to start the overhaul of 2600 type Wright Engines. This will fit in well with the reduced activities of the Assembly Section on Wasps, and means that this section will keep going at full rate by taking on an increasing amount of Wright overhaul work. When the new Wright Overhaul Section (buildings for which are now under way) is available, the overhaul of Wright Engines will become a major activity on the Engine Factory side.

Cheetah Cylinders are now in progress in large numbers. Wasp Cylinders are in a very good position in consequence of the concentration on this item, and it will shortly be found that the position with Cheetah Cylinders will start to improve.

The facilities to enable us to commence the employment of women are now ready, and from now on we shall be building up a staff of women workers on the Engine side.

The production of lockers has advanced to a stage when the maintenance section, the new Women's section, and a portion of the Engine Factory (800 in all) have been fitted out. 4,800 are in the process of manufacture, and when completed we should have a very great improvement in this respect.

FOUNDRY:

With the starting of Highett in a few weeks time, we shall commence to reduce congestion in the Foundries. For fully a year we have been squeezing out more work than is reasonable for the floor space available. Now that the Cylinder Head Foundry at Lidcombe has started, the situation will show improvement.

GENERAL:

The new offices are reaching completion, and their occupation will be a great relief to the congestion which has existed for a long time.

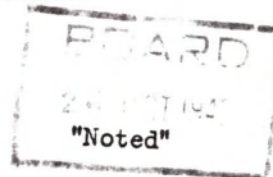
We are at the early stages in the plans to make the recently approved large expansion of the Aircraft Factory, but from indications which have been given, this will eventuate in toto by Easter next year, when production should be at a high level.

(Sgd.) L. J. Wackett,
Manager.

LJW/F.

COMMONWEALTH AIRCRAFT CORPORATION PTY. LTD.
MELBOURNE

PLANT REPORT NO. 119
23/10/42



AIRCRAFT FACTORY:

Boomerang No. 8 has been delivered to the R.A.A.F., and engines have been installed up to the 18th aircraft.

There have been hitches in details during the past two weeks, but they have all been successfully overcome. The intensity of work on Boomerangs is increasing daily, and we are well on the way to realisation of the output we hope to attain.

Ten Wirraways have been converted to Dive Bombers and delivered. There are 30 more to be done and these should all be completed in about one month.

With the transfer of the work elsewhere we shall be better able to concentrate on Boomerangs.

The first Douglas DC3 has arrived for conversion into a Cargo Carrier. The aircraft was very seriously damaged by enemy action, necessitating an extensive repair job before the conversion could start.

In a very few weeks we shall move into the new building for the Aircraft Tool Section, and will also have vacated part of the Bulk Store by transfer to Highett. The space made available will immediately be taken into use for Bomber production. Increased activity on Bomber Tooling is evident every day, and the extra space will be available just in time to accommodate some of the large jigs which have been made.

Some fine new machine tools have been allotted to build up the Aircraft Tool Department. The situation in regard to Bomber Tooling, which looked depressing a month ago, is now much brighter, and it is quite apparent that we shall progress as expected.

ENGINE FACTORY:

A marked change in outlook results from the decision of the Americans not to go ahead with the scheme to overhaul 2600 Wright Engines. We are to hand over all the tools we have made to enable them to build up their overhaul shop in Brisbane. Instead, they wish us to build up a section to manufacture Wright Cylinders and Spares in the new building which is being erected and was intended for overhaul work.

Actually, this arrangement is a better one from our point of view, and there is certainly a strong argument in favour of letting C.A.C. do the manufacturing, and locating the overhaul as far north as possible.

The Americans felt that, with the fine tools which have been manufactured by C.A.C., they could set up overhaul work in Brisbane on a good basis.

We are now preparing a strong case to take on the manufacture of the 2800 I. & W. engine of 1850 H.P. to follow on the Single Row Wasp. There is good support for the proposal to build a new Fighter with a high powered engine, and we are investigating a design to use the 1850 H.P. Engine as an alternative to the 1700 Wright originally proposed.

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The immediate improvement of the Boomerang by the installation of a 2000 cubic inch engine will necessitate fan cooling. We have now drawn up a design of a geared fan for this purpose.

The installation of the fan will permit of high power being taken from the engine continuously. The resultant increase in performance will be marked and probably sufficient to obtain an extension of the Boomerang order.

FOUNDRY:

With the commencement of production of the new foundries at Highett and Lidcombe, it will be possible to reduce activities at Fishermen's Bend. It is thought that it would be best to consider a new and more suitable building for a foundry at Fishermen's Bend, and to use the present area as an extension of the Engine Factory to accommodate the large number of machine tools which will come from the Twin Row expansion.

GENERAL:

Good progress is being made with all the building projects. The new offices will be ready for the New Year.

Both buildings at Highett are in the final stages, and a start will shortly be made on the newest expansion of the Aircraft Factory.

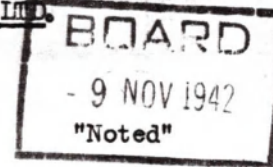
Work is in progress on both the second American Hangar and the Bellman Hangar.

(Sgd.) L. J. Wackett
Manager.

Melbourne
LJW/BS.

COMMONWEALTH AIRCRAFT CORPORATION PTY. LTD.
MELBOURNE

PLANT REPORT NO. 120
5/11/42



AIRCRAFT FACTORY:

Eleven Boomerangs are now flying. Nos. 12 and 13 are in final inspection, and engines are installed up to No. 20. Production continues to accelerate in all sections.

Conversion of about 14 Wirraway Dive Bombers has been completed, and many other Wirraways are in process of conversion. Until we finish this job by completing 40 conversions, we cannot divert the manpower or space to Boomerangs. Meanwhile, the job is developing, and every effort is being made to complete it.

The conversion of the Douglas Transport is now well advanced; meanwhile, another Douglas has arrived for conversion.

The building for the Aircraft Toolmaking Section will be completed within a week. It will be finished just in time to enable the tool section to be moved and to release space now needed for Bomber jigs.

A large number of Bomber jigs is assuming shape, and very shortly, all those required for the outer wings will be in position. Bomber tooling is now spread over a large part of the shop.

In order to attain 10 Boomerangs per week, we have had to produce some elaborate tooling, and many of these units are being delivered, or are nearly complete. Production up to the present has been built up largely on temporary tooling.

We have been investigating the design of the new Fighter to follow the Boomerang, and are now able to put forward a complete scheme.

ENGINE FACTORY:

We are now urgently in need of a decision which will define the engine policy for the future. Manufacture of complete Single Row engines will finish by the end of the year and the Engine Factory will be engaged only on spare parts, odd jobs and overhaul work. We are pressing for a decision to build the 2800 type P. & W. engine as the most promising scheme, but the choice of a new engine is involved with the choice of new aircraft, and efforts are being made to obtain something definite as quickly as possible.

We are now receiving a few of the new machine tools allotted to us under the contemplated expansion of engine production. The only policy decision for their use at present is to assist in building up Twin Row production.

At present we are producing a large number of parts for Liaqombe.

FOUNDRY:

As soon as Highett is ready for occupation - which will be during November - we propose to transfer most of the Magnesium Section, and to set up production on the work now in hand. This will ease the congestion in the present Foundry, and enable a revision of the whole lay out.

GENERAL:

There are a large number of jobs in hand at present.

- (a) The new office block has reached the finishing

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stages. It should be fully in use before the end of the year.

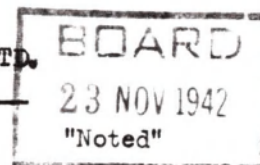
- (b) The Watchman's cottage is nearing completion.
- (c) The extension of the Engine Factory is being roofed.
- (d) Erection of the two Hangars on the east side of the site is about to commence.
- (e) The extension of the Flight hangar to join the new machine shop is nearly complete and being occupied.
- (f) Preliminary work has started on foundations, filling and drains for the large new extension of the Aircraft Factory. This will not be completed until near Easter next.

(Sgd.) L. J. Wackett

Manager.

(Circulated - 19/11/42)

COMMONWEALTH AIRCRAFT CORPORATION PTY. LTD.
MELBOURNE



PLANT REPORT NO. 121
19/11/42

AIRCRAFT FACTORY:

Fifteen (15) Boomerangs are now flying, and engines are installed up to No. 25. Production is building up at an increasing rate.

Progress with the prototype with Turbo-supercharger is now well advanced, and the aircraft is expected to be flying by the end of the year. Other contemplated improvements are the installation of the 2000 cubic inch engine, the use of the new C.A.C. 40 degree propeller, and the geared cooling fan. It is expected that with the improvement of the Boomerang by a combination of some or all of these devices, a considerable extension of the existing order for 200 may be obtained. This will give time for the development of the 2000 h.p. Fighter.

We have been asked to develop the Boomerang to carry Bombs and for Dive Bombing, but it will not be possible to introduce the latter feature until after the 100th, or possibly the 150th aircraft.

Eighteen (18) Wirraways have been converted to Dive Bombers, and 6 others are in process of conversion.

The first Douglas to be repaired and converted for cargo carrying is now ready, and another machine is under way.

The removal of the Aircraft Factory Toolmaking Section to the new building has freed space for Bomber jigs, and as a consequence, there has been considerable progress in setting out and erecting the jigs for the Bomber.

The output of parts from the Aircraft Factory Machine Shop is now at its highest level, and this unit is functioning with high efficiency.

Work in the Sheetmetal Fabricating Department, which was so severely affected by the curtailment of Wirraway production, is now at full efficiency again.

A hitch occurred in the transfer of Wirraway wings to Ansett Airways, and it has now been decided to send the job to Richards in South Australia. The delay has been serious in that we are still unable to use the floor space occupied by Wirraway jigs.

Erection of the additional American and the Bellman Hangars has commenced. This accommodation will solve the problem of space in which to store the Wirraway jigs and stores still on hand.

ENGINE FACTORY:

We are urgently in need of a decision for the future programme, and are pressing for the 2800 type Pratt & Whitney. Meanwhile, there is ample work on hand to keep all departments going for a couple of months. It will take 12 months to change to a new engine, and production during next year will have to be divided between the following:-

- (1) Spare parts for Single Row Engines.
- (2) Components for Twin Row Engines for Lidcombe.
- (3) Components for the new C.A.C. 40 degree propeller for Fighter use.
- ✓ (4) Manufacture of geared cooling fan.
- ↳ (5) Manufacture of an experimental spur gear for the 2000 engine.

- 2 -

✓
Items (3) and (4) which are new developments entirely our own, are likely to be major items, and to have a great influence on the success of our Fighter designs. Such developments would be quite impossible had we not built up a strong engineering staff capable of such tasks. While we are able to do such developmental work, we shall always be able to provide a solution to the question of suitable work for production, and it is regrettable that we were not able to reach the present standard fully a year sooner.

FOUNDRY:

A start has been made at Highett. A few men are now employed there, and most of the staff of the Magnesium Foundry will be located there in the near future. It will shortly be possible to consider the reorganisation of the Fishermen's Bend Foundries in the light of experience we have gained in the past. It is considered that the present building now used for foundry work should be absorbed as an expansion of the engine factory, and the reorganised foundries set up in a new and more suitable building.

GENERAL:

The preparation of the site for the large new expansion of the Aircraft Factory is in progress.

The lower storey of the new office block has been occupied.

The expansions now in progress should permit operations during 1943 to be conducted on a basis which would be virtually twice as great as at any previous time.

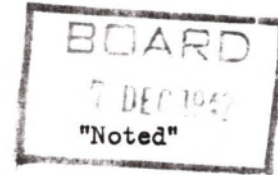
(Sgd.) L. J. Wackett

Manager.

Melbourne
LJW/BS.

(Circulated -
3/12/42)

COMMONWEALTH AIRCRAFT CORPORATION PTY. LTD.
MELBOURNE



PLANT REPORT NO. 122
3/12/42

AIRCRAFT FACTORY:

Twenty (20) Boomerangs have reached the test flight stage, and the production line continues to develop.

Production to date has been carried out using a limited amount of tooling. It is only now that many important items of tooling are being released to the shops. The duplication of the tooling for production of wings is well advanced, and this will be necessary to produce 10 sets of wings per week.

Some progress was made during the last 2 weeks with moving the Wirraway wing jigs which are being sent to Richards Industries. The floor space so freed is being immediately taken into use for setting up the duplicate wing jigs.

We find evidence of marked advances every time an area of floor space becomes available, and hope for much additional floor space when the Wirraway Dive Bomber job finishes. Some twenty (20) aircraft have been delivered, and others are progressing. The imposition of this job at the time we were trying to get Fighter production under way was a great handicap.

We continue to show substantial progress with Bomber tooling, which is now occupying a large floor area. As soon as an entire section can be completed we can get production of the wings under way. The production of fuselages can be accelerated as soon as the necessary tooling is available.

The Turbo-Supercharged Boomerang is advancing to the test flight stage. All components are manufactured and assembly work and testing remains to be completed.

ENGINE FACTORY:

With several jobs nearing completion, we are faced with the need for ensuring continuity in production departments. As tooling is completed so it is possible to develop production of parts for Twin Row engines. This policy is being continually pushed. However, the availability of tooling controls this progress. It is with much satisfaction, therefore, that we welcome the possibility of the order to convert 320 imported Single Row engines to geared engines, for use in Transport aircraft. With all tooling and technique available for this job, it becomes ideal to maintain many departments.

The lack of a decision on the next engine to be produced will eventually have severe repercussions on the Engine Factory.

We are now awaiting tests on the 40 degree Propeller, the prototype of which is completed. This job will doubtless be put into production, and the scheme at present is to hand the major portion of the hub to De Havillands to produce, and assist production by supplying the gears and some other small parts.

The production of the experimental geared fan has commenced. This will be an essential accessory to the Turbo-Supercharger and the 2000 cubic inch engine.

- 2 -

FOUNDRIES:

Small production of castings is now in progress, both at Lidcombe and at Highett. Every effort will be made to build up output at these two points so as to relieve the congestion in the Fishermen's Bend foundries.

Preliminary thought is being given to the re-organisation of the Fishermen's Bend foundries to take advantage of the experience which we have gained in developing foundry work. The benefit of this experience is now built into the new foundries at Lidcombe and Highett, while we labour under serious difficulties because of piecemeal growth from small beginnings. A great advantage would result from re-installation of the existing equipment in a more suitable building.

GENERAL:

The new office block has been occupied and advantage has been taken of the space now available to accommodate the engineering departments to better advantage.

The cottage for the Head Watchman is now ready for occupation.

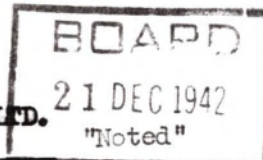
A start has been made with the foundations for the new extension of the Aircraft Factory.

The erection of the two hangars is in progress.

(Sgd.) L. J. Wackett

Manager.

Melbourne.
LJW/BS.



PLANT REPORT NO. 122 ~
17/12/42

AIRCRAFT FACTORY:

Boomerang production has developed well, and 24 Boomerangs are now flying - these are sufficient for a full Squadron with reserves. It is likely that 30 will be delivered within 12 months from the day when the scheme was first conceived.

The production plan now aims at 200 by June 1st, 1943, and failing a further order for Boomerangs, we will be well into Bomber production by that time, and it is, therefore, apparent that we are likely to have a fairly continuous production programme through 1943.

A disturbance of the Bomber production scheme at this stage would be disastrous, because it is inevitable that a change must be made to a better fighter as soon as possible involving more tooling, and while this is in progress there must be a big production job in hand to keep the staff fully engaged.

The Turbo-Supercharged Prototype is approaching the flying stage. The best we can hope for is 100 of these, as Superchargers in excess of this number will be difficult to procure. In fact, we have yet to learn that we are sure to obtain even 100 Superchargers.

About 30 Wirraways have been converted to Dive Bombers and the whole job will be cleaned up in 3 weeks' time.

Two Douglas DC.3 planes have been converted for Cargo carrying and delivered, and two others are under way.

Bomber toolmaking is now advancing very well indeed, and statistics show that 80% of the drawing office are concentrated on the finalisation of the production drawings.

The Aircraft Factory Machine Shop is functioning very well indeed, and whereas formerly the output of machined parts was a serious bottleneck, we are now in a position when this department will meet all expectations.

The new Toolmaking Shop has settled down to work and it is obvious that there will shortly be a marked improvement following the recent re-organisations.

The large new extension is now making visible progress. Parts of the 3000 ton press have been received, and the foundation (17 ft. deep) is well advanced.

We continue to re-adjust our factory to suit the additional space continuously becoming available.

ENGINE FACTORY:

Latest indications are that the Engine Factory must progressively swing to production of Twin Row parts to compensate for the falling off in Single Row production owing to completion of the contract.

There will always be a heavy demand for spare parts for Single Row engines which will keep about half the Engine Factory going. On the other hand, we can now expect the continuous receipt of additional machine tools for the expansion of Twin Row production.

Large numbers of machine tools will be installed at Lidcombe during the next six months, and it will take a great effort to increase the present output from barely 24 per month to 48 per month. Fishermen's Bend is expected to continue the expansion beyond this figure and can do so in the form of production of parts to reinforce Lidcombe. A great deal of tooling is involved, and must be progressively produced, care being taken to select those components which will be needed first, and also to select the simpler parts needing less tooling so as to keep production in full swing pending the manufacture of the more elaborate tooling.

In addition, we have a number of developmental projects of great promise:-

1. We have produced in its entirety the 40° Propeller and will shortly be able to try it out in the Test House and in the air.
2. The 2000 cubic inch Engine will be ready for test in a week or two.
3. The geared fan is now being manufactured.

The combination of these features will give a power unit suitable for both Boomerang and Bomber with considerably enhanced performance, and the success of their development more or less determines the future possibilities of continuing production of these aircraft.

During the next 3 months, we must embark on preparation for Thompson valve production, as most of the tools and tooling will arrive during the early part of 1943.

FOUNDRIES:

Both at Lidcombe and Highett, the new foundries are building up and the conditions in the Fishermen's Bend Foundries will benefit in consequence.

When stable conditions are attained, it will be appropriate to consider the re-organisation of the Foundries at Fishermen's Bend, as these have grown up in a series of expansions and should now be re-arranged more conveniently.

(Sgd.) L. J. Wackett

Manager.