

COMMONWEALTH AIRCRAFT CORPORATION PTY. LTD.

422 Little Collins Street, Melbourne.

7th September, 1937.

The Chairman,
Board of Directors.

Dear Sir:

Manager's Report

The following report aims at summarising the events of my visit abroad in logical sequence. All the principal matters have been the subject of cables and letters, but it will be more complete for record purposes to attempt to write an account of the whole of the business transacted, viewed in retrospect.

North American Aviation Inc.:

Upon arrival at Los Angeles I immediately contacted this firm and endeavoured to get the licence negotiations moving. I found that they were in a state of confusion, having attempted too much during the last few months, and the worry and overwork had reduced everyone to a state of fatigue. I did not press matters for two weeks, but used the time in personally explaining in detail the various duties which I had proposed should occupy the attention of the various engineers we had sent to North American Aviation for instruction.

Finally, when I did get going on the licence negotiations, I found that they would allow me to write out an agreement very much on the lines of that given me by our solicitors before leaving Melbourne. I consulted Mr. Felix, who had been recommended by Blake & Riggall, and found him particularly good. After some discussion, I finally got down to what appeared to be a satisfactory agreement. I cabled a summary, and having received a reply to the effect that the Board agreed, I finalised as soon as possible.

Meanwhile, I had looked into the matter of plant and materials for the aircraft factory, and started inquiries as to prices and delivery of plant.

Having got some idea of our requirements, and while awaiting the necessary preliminary information from N.A.A. which would enable us to make a definite move in regard to ordering, I contacted the Pratt & Whitney firm through their head of exports, Mr. Hamilton, who was in Los Angeles.

The lack of experience of N.A.A. in dealing with a licensee made progress very slow, so that I finally decided to let things take their course at North American and proceed with the Pratt & Whitney licence.

In the meantime, I had developed a considerable correspondence with machine tool makers, and had journeyed to several other factories to see various items of plant.

Pratt & Whitney Aircraft Licence Negotiations:

I found that Mr. Hamilton had Power of Attorney to negotiate direct with me and that he had already negotiated licences with Germany, France, Italy, and Japan, and was very experienced in these matters. These other licences had been conducted on such a large scale and with apparently very little regard for the finer points which I had been advised by Blake & Riggall to negotiate. I found it very difficult to get down to the assurances which we required, and the negotiations became protracted. I had served on me a form of licence which apparently

had been agreed to by the other foreign countries. American firms negotiate many licences with foreigners, and practically all their licences are with foreign countries who apparently cannot always be trusted, and the custom had grown up that the conditions can be made very one-sided. Mr. Hamilton is a very pleasant man to deal with, and I have seen a very great deal of him. I found that he was prepared to give us special consideration. He consented to come to Mr. Felix's office, where I had a great advantage, having already been through the other licence with Mr. Felix, who was by this time familiar with our outlook. Eventually, I got down to the final form of the agreement which was signed.

I feel, now that I have seen a great deal of the United Aircraft Corporation, that we will always get a very good deal from them, and that they are very pleased to be associated with us.

Having got something definite on paper in regard to the licences, I turned attention to the many matters which would arise in consequence. I was still in Los Angeles, and advanced matters at N.A.A. as far as I could. I knew from the experience to date that, while they would do anything to oblige us, they would be unable, owing to their own state of confusion and lack of experience in dealing with a licence, to accelerate matters. In this regard they were at no greater disadvantage than most other firms, but I was shortly to learn the difference when dealing with a better organised and experienced firm, such as the United Aircraft Corporation group of firms are. However, United did not have to offer any aeroplane comparable, for our purposes, with the NA.16 and its development types.

At East Hartford:

I arrived at East Hartford, where Mr. Carroll and the three other engineers had already got started on their studies, and commenced to look into the matter of the manufacture of Pratt & Whitney engines.

The organisation of this firm was such that they could immediately lay before me complete information on any matter concerning the licence, and they allotted a special experienced engineer to act as adviser for the licensee representatives, and this man has been permanently and continuously available for the whole period of time we shall have representatives at the Pratt & Whitney factory.

After a complete study of how the engine was made, and the plant and methods which were used, I proceeded to devise how we should have to make it, and what we should want in the way of plant and tools.

It was necessary to keep in mind all factors which entered into the problem in Australia, and I found this part of the task very difficult at first. After a few weeks study I finally compiled what I considered was the minimum necessary list of plant. When I finally got to negotiating for various items of plant, with the associated tooling and the necessity of utilising any and all the British tools which would suit, I found the task very difficult indeed.

Finally, I got down to a list of essential items which must be obtained from America. I had the assistance of an expert in British machine tools, who had been sent across from England by the Coventry firm of H.C. Wickman & Co. This was of very great assistance at this stage, as it enabled me to compile a list of all items which should be investigated in England. Having obtained alternative proposals for American machine tools, I took these to England for comparison with English equivalents before making selections.

Materials for Engine Factory:

I next turned to the matter of materials for Engine manufacture.

After a lot of thought, I finally decided that I had better take the least amount of risk possible, and therefore I proposed to order the greater portion direct from Pratt & Whitney. I consider that on the next batch of 50 engines we can use a great deal of Australian and British material, but this must be investigated in detail over a lengthy period, and in conjunction with a good deal of mechanical testing. The plant we would have would enable us to do this simultaneously with the production of the first batch of engines, and we would be able to enter onto the second batch with the assurance that we could use a great deal of Australian and British material.

As Messrs. Pratt & Whitney purchase their forgings and castings from specialist firms, our licence will provide no information on these processes. I therefore decided that for the first batch of engines we should not imperil the success of the enterprise by attempting to make our own castings and forgings. Many of the forgings are very simple and arrangements can be made to have these made in Australia; but this will take time and the program of production will be upset unless these materials are available at an early stage. We will be able to make all of the castings, but it will be necessary to develop foundry technique, and the program will be held up unless castings are available from the start. Some of the patterns required were obtained, and we can arrange for the local production of castings simultaneously with the production of the first batch of engines from imported castings.

Before leaving Pratt & Whitney for England, I left all our engineers with a clear idea of what was required of them. I started inquiries into the tooling requirements, and I interviewed some engineers from Pratt & Whitney with the idea of selecting a suitable man for Australia.

In England:

Immediately I arrived in England I placed orders for those items of plant, and materials for the aircraft factory, which I knew I would be able to obtain satisfactorily in England. I immediately started investigation on all doubtful cases. As soon as it was satisfactorily demonstrated that we could get what we wanted in England, I immediately decided to order in England.

However, after exhaustive inquiries, and collecting conclusive evidence, I finally had to revert to American sources of supply for many machine tools. In some cases prolonged delivery was responsible, but in the majority of cases this was not so. I found that all English aero-engine makers and many aeroplane manufacturers use a large amount of American plant, because equivalent tools are not made in England. It is not surprising, therefore, that I found that sometimes I would have to buy American under any circumstances.

Anticipating requirements for tools, which I would not know definitely until I returned to America, I obtained particulars of all the suitable English tools of the types likely to be required. On subsequently returning to Pratt & Whitney and North American Aviation, I was able to send the bulk of the small tool orders to England, because of the information I had collected in England.

I left England feeling that I had managed to obtain all the plant and materials which it was possible to get, and in no cases could I have obtained British substitutes for any of the American purchases without accepting delays in delivery of at least six months longer than the delivery which was finally obtained.

Return to Pratt & Whitney:

On the occasion of my return I found that Mr. Carroll had done an excellent job in completing the purchase of plant and

preparing the tooling requirements. I was enabled to finalise on all essential tooling and left feeling that everything was in hand in regard to our engine manufacture proposals. I completed the engagement of Mr. Schipper for Chief Engineer for the Engine Factory. All of our Australian engineers seemed to have made excellent use of the opportunity to study and I felt convinced that we had received a splendid deal from the Pratt & Whitney Aircraft Co.

Return to North American Aviation:

I found, when I got back to Inglewood, that Mr. Air had done a good job there, and that all our engineers seemed satisfied that they thoroughly understood their respective tasks in regard to the manufacture of NA.16 aircraft.

I completed the outstanding orders for odd items of plant, materials, and tooling. I found that North American had already sent forward much of their materials and drawings and appeared certain to complete our orders in ample time to enable us to develop our production in Australia according to expectations.

One sample aeroplane had been sent, and the other was doing test flights. While at this factory, I was joined by Mr. Pearman, who I had selected in London for Manager of the Aeroplane factory. It was of the very greatest value to spend two days at North American with him, explaining the type of construction and methods we intended to adopt, and he will benefit very greatly by this opportunity.

Miscellaneous:

During my visit to America, I investigated many aspects of the problems of aircraft manufacture which will have an important bearing on our future activities.

I have not enlarged on these in this short report, feeling that they will come up for special consideration in due course.

Among the most important matters was the De Havilland Engine licence, which was advanced to a stage when it only remains to sign the agreement in Australia.

The matter of negotiations for a licence of a small training type fell through owing to exorbitant prices asked by the Phillips & Powis firm. Our alternative scheme appears to me to be much better.

I am also in a position to supply full details on the important matter of the production of controllable propellers.

Expenditure:

Owing to rising prices and the very difficult situation in regard to the supply of machine tools, it has been impossible to obtain many items of plant at the prices at which they were offered a year ago. I have had the very greatest difficulty in devising how to obtain the necessary plant without greatly exceeding the original estimates. The remission of duty and other concessions will enable the estimates for plant to be approximately maintained. It has been possible to get the necessary materials for the initial program at the figures originally estimated. Up to the present, the expenditure on tools is about half the original allowance, and there is reason to believe that the final cost will be approximately to estimate. Generally speaking, therefore, the costs of licences, plant, materials, and tools, are all approximately to estimate in spite of a rising market for most of these commodities.

The matter of prices of aircraft and engines to be supplied to the Air Board must be reviewed in the light of the altered circumstances, which have eventuated - principally the fact that the advanced type of NA.16 aeroplane is a machine of much better performance and increased cost to manufacture.

(Sgd.) L. J. Wackett.