

the originally scheduled time.

The wing components manufactured by the well-equipped Fort William facility comprise about 40% of the weight and value of the CS2F airframe and constitute the largest part of the airframe made by any contractor. They include, of course, all the necessary mechanism for wing folding.

Latest employment figures for the Lakehead plant show 1,840 employees, but it should be noted that a considerable proportion of the manufacturing activity is devoted to the production of buses.

During the year, control of all divisions of Canadian Car & Foundry Co. Ltd. passed into the hands of A. V. Roe Canada Ltd., which announced at the time the deal was completed (October, 1955) that there would be no changes in management. Consequently the firm continues to operate under the CanCar name as a member of the A. V. Roe Canada Group of companies,

which also includes Avro Aircraft Ltd., Orenda Engines Ltd., and Canadian Steel Improvement Ltd.

Canadian P & W

AS PRODUCTION of the Pratt & Whitney R-1340 Wasp is being phased out at the Jacques Cartier, Quebec, plant of Canadian Pratt & Whitney Aircraft Co. Ltd., its place is being taken by the Wright R-1820 Cyclone, some 400 of which are being manufactured for installation in the CS2F anti-submarine aircraft.

Deliveries of the R-1820 have already started with nearly 20 engines having left the plant. R-1340's which have been built now total approximately 1,000. However, though the production of complete R-1340's is coming to an end, there is no reduction in the manufacture of parts or spares, this being explained by the fact that Canadian Pratt & Whitney is now the world's only source of newly-manufactured

spares for this engine. Similarly, it manufactures parts for such other Pratt & Whitney engines at the R-985, the R-1830, and the R-2000; in the case of these engines, too, it is the only parts maker anywhere. The volume of spares output is considerable and about 75% of it is for the export market.

In connection with the CS2F program, Canadian P & W is also responsible for providing the Hamilton Standard 43D51 Hydromatic dural three-bladed propellers. The Jacques Cartier plant is making all the components except for the blades, which are being supplied by Hamilton Standard (like Canadian P & W, a subsidiary of United Aircraft Corp.). Final assembly is being carried out by Canadian P & W however.

Overhaul of aero engines, helicopters, propellers and aircraft accessories, continues to provide a substantial flow of business; this is not surprising considering that it was with such activities that the firm concerned itself exclusively, during the first quarter century of its existence.

The helicopter business has developed at a gratifying pace during the last few years, a situation that has prompted Canadian P & W to consider seriously plans to produce Sikorsky helicopters in Canada. Canadian P & W Vice President J.W.R. Drummond says on this subject that: "It is a natural development of our present operation. As an associate company of Sikorsky aircraft we have represented them in Canada since the outset in sales, service & overhaul. Our overhaul experience embraces assembly and many sub-assembly operations on helicopters. We are making engines which they use and the mechanical components of the helicopter are similar to engine components and can be made with little addition to our present machinery and equipment. Much of the original planning for this work has already been completed." There are now approximately 40 civil and military Sikorsky helicopters operating in Canada.

Capital expenditures during the past year have included more than \$1,500,000 on new equipment required for R-1820 production. The firm also purchased from the Government all the machinery and equipment supplied by the Crown for the manufacture of R-1340 Wasps.

ORENDA'S PS-13 PROGRESSES

The arrival last month of a USAF B-47, on loan to the RCAF for the next two years as a flying test bed for the flight trials of the Orenda PS-13 turbojet, is a measure of the rapidly advancing state of development of this powerful new Canadian gas turbine.

It is also an indication that the PS-13, which was originally initiated by Orenda Engines Ltd. (then the Gas Turbine Div. of A. V. Roe Canada) as a private venture, is now being officially sponsored by the Canadian Government for the RCAF.

The picture below shows the B-47 landing at Cartierville, where it will be converted to carry a seventh powerplant. The conversion process is expected to take till the end of the year and will be carried out by Canadair Ltd. under contract to Orenda Engines.

Details of the PS-13's installation in the B-47 have not been released, but it is understood that it will be hung under the rear fuselage, far enough back so that the tail surfaces

will not be subjected to any buffeting or sonic vibratory effects from the jet efflux. Consideration was given to a retractable bomb bay installation, but the engine was too big.

Published, though unconfirmed, information about this big new turbojet indicates that it has a design thrust of approximately 18,000 lbs., which can be augmented by means of reheat to 25,000 lbs. Target weight was said to be 4,000 lbs., which would give a very commendable thrust/weight ratio of better than 4.5:1. Extensive use has been made of titanium alloys.

Planning on the PS-13 began in 1953 and fabrication got underway early in 1954. The engine was first run early in 1955 and reports last spring indicated that it was then being run at about three-quarters design thrust. If reasonable progress has been made since that time, and the B-47's arrival would hint that such is the case, then it is probable that the PS-13 is now running on the test stand at design thrust.

