Background of Airborne Battle

Canada's Outstanding Air Effort Owes Much to Pioneers

In 1939 the Canadian aircraft industry, moving easily, employed about 5,000 people and produced a total of 31 planes. At its '44 peak it provided a gainful living for over 130,000 people and produced approximately 4,300 planes. World war has made a relatively insignificant manufacturing business a major factor in Canada's rise to fifth greatest air power in the world. In the last five and a half years Canadian airfields have trained more than 114,000 airmen who have fought from Iceland to India, and factories have produced more than 13,000 combat training planes for them to fly.

Although growing pains have been severe, the initiative and perseverance of those who gave a transfusion to formerly anemic aircraft business has made possible the phenomenal increase in output, number of employees, capital involved and floor space used.

Before the war the dozen or so companies building planes waited impatiently for an occasional government order to keep them in operation. By 1938 Great Britain was aware of the fact that danger could not be averted for long and looked around for facilities for the manufacture of fighting aircraft. The resulting contracts were instrumental in saving Canada's aircraft factories from complete unpreparedness the following year.

But progress was extremely slow. Skilled labor was not readily available and changes in plans were numerous. Most Canadians had never seen an aircraft factory, let alone work in one, and before the drawings of a new plane had been made, it had become obsolete, (a situation which still prevails). To a great extent this accounts for the relative slowness of the growth of output, compared with that of the labor employed.

Meanwhile Axis and Allies were each trying to bring out more deadly machines and step up the total load and weight of individual bombs. Each change has involved a completely new design, a new assembly line and withdrawal of old models, aside from training the labor employed. As a consequence achievement must now be reckoned in terms of tonnage rather than the number of planes produced.

The events contributing to the unusual growth of the industry date back to Sept., 1938, when Great Britain sent a delegation to Canada to look over the possibilities of air production in Canada. As a result, a company which became known as Associated Aircraft was formed to act as a co-ordinating organization. It was dissolved during the first phase of the war when we still dreamed rosy dreams and an all-out war effort was a vague notion. Production lagged.

In 1940 it became obvious that the situation had changed, that Canada was to play an important part in the survival struggle. The appointment of a controller to the aircraft production program gave the creaky machine a lift. By the spring of 1941 primary training planes were being turned out at the rate of a hundred a month. The demands of the British Commonwealth Air Training Plan, which was undoubtedly the most potent factor affecting the manufacture of aircraft in Canada in the first three years of the war, occasioned the building of the Canadian Anson. Again, progress was painfully slow, but eventually the production program of the twin-engined trainer was successfully concluded. The makers of the trainer, Canadian Car & Foundry, were also fulfilling their contract for Hurricanes.

The biggest news, however, broke in September, 1941, when it was announced that Canada would build the de Havilland Mosquito fighter bomber and one of the most ambitious programs of aircraft production yet attempted got under way. Since no two Canadian plants faced the same jobs or problems, no story can be called "typical," but the story of the Mosquito reflects the sort of ingenuity that won production battles for all the Canadian aircraft companies.

Adaptability Everywhere

De Havilland turned over, lock, stock and barrel to the speedy bombers. That month two senior British engineers came to Canada to supervise engineering, planning and production procedures. It was a man-size job, but soon work began on complete wing and fuselage jigs, smaller jigs and fixtures, sample components and aircraft, tools, tens of thousands of drawings, operation and materials schedules, hundreds of special photographs. One year later, to the month, the first Canadian Mosquito was successfully flown.

Canadian industrial companies showed adaptability as English firms had done. General Motors turned over from motor chassis to balsa-sandwich fuselages, Massey-Harris from harvesters to plywood wings and Nash Kelvinator from refrigerators to variable pitch propellers.

The Lancaster

Another production story unfolded when, in January, 1942, it was learned that Victory Aircraft at Malton was to manufacture Lancaster bombers for Britain. This achievement is one of the great strides of the industry during this war. The final drawings for the project arrived from England in April, 1942, and 16 months later the Canadian Lancaster made its first flight. Although there were 30,000 drawings to be interpreted and over 50,000 parts to be manufactured, the job was completed in record time.

Since the beginning of the war Canada has produced the Anson V, Cornell, Mosquito (DH 98), Harvard, Hurricane, Lancaster, Norseman, PBY (Catalina) and Curtiss Helldiver, nearly 15,000 planes in all. Recently, in order to get more practical results from the huge national investment in the aircraft industry, and to step up production, fewer types of planes have been manufactured, mainly Mosquitoes, Lancasters and Helldivers. But contracts for the others are still running out.

When victory is achieved in the West and the war shifts to the Pacific, it is believed that further changes will take place. The Mosquito bomber will be replaced by the Mosquito fighter, and greater emphasis will be placed on the manufacture of Helldivers.

Canadian planes have operated in every theatre of war, and standing at the crossroads of world airways, now equipped with bases and airmen, Canada is ready to take part in international air commerce — a far cry from the days of exhibition flights at county fairs.

Canadian Airmen in World War I

The men who pioneered the industry can look with pride at the results of their efforts. There was little public interest in flying until World War I, when Canadian airmen distinguished themselves in combat. These men prompted the adaption of the airplane for aerial mapping, photography, prospecting and forest patrol in 1919 and throughout the 1920's. Air transport of freight and passengers struggled along as early as 1924. There was no glamour for the blazer of new air trails and air engineer—only poor pay and overwork. But the bush pilot taught Canada how to link steel with isolated mining and lumbering camps of the north and paved the way for the other men of vision who followed.

Flying Boats and Gypsy Moths

By 1927 Canadian Vickers were building flying boats, and in 1928 de Havilland set up a factory near Toronto to make the Gypsy Moth—a two-seater light airplane. In the same year the Curtiss Reid Company established themselves as competitors, and in 1929 Fairchild Aircraft Limited was formed to produce planes to be used in Canada's north. But it was not until the Noorduyn Norseman appeared in 1936 that the first airplane to be designed, financed and engineered by a 100% Canadian effort was completed.

Such was the general picture when Canada's great aerial achievement began to roll in 1939. At the close of 1944 it was no longer appropriate to talk about the "infant industry"—the phrase had served its usefulness but hardly described a major export business which was a powerful tool of war and an important factor in establishing Canada as a world power.