The History of Canadair

The million-and-a-half-square-foot modern aircraft factory, in which Canadair Four aircraft are produced today, is the outgrowth of an organization which in 1923 entered the aircraft industry with the manufacture of a small amphibian aircraft.

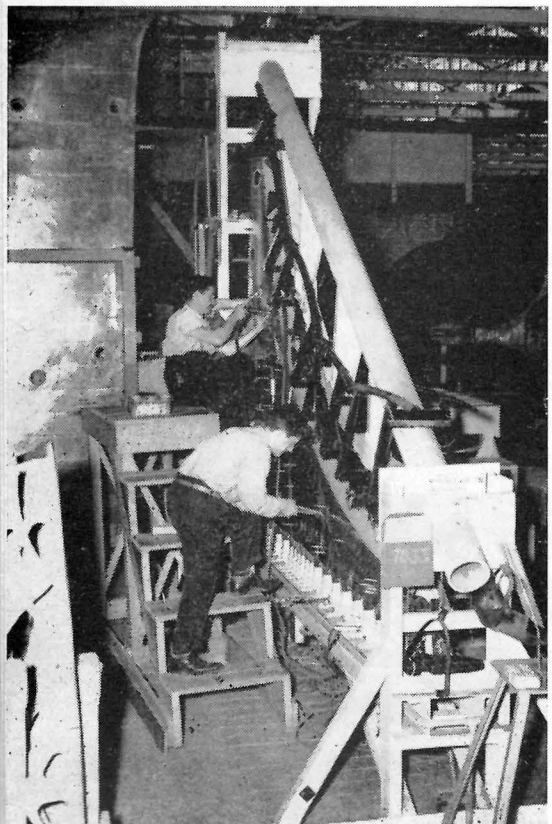
The First 20 Years

Canadian Vickers Limited, Montreal shipbuilding firm, entered the aircraft industry in 1923 commencing with the production of the Vicker's "Viking".

Production of this and other models for the next 20 years was carried on at the Canadian Vickers Shipbuilding Plant at Maisonneuve in the east end of Montreal. Models produced were mostly sea planes and amphibians, including the Vicker's "Vedette", "Vancouver", and "Varuna". Other models produced there were the Avro "504" float plane, Fokker "Super Universal", Fairchild "SC2", Northrop "Delta", and the Super Marine "Stranraer".

Canadian Vickers also participated in the joint Canadian manufacture of the Handley-Paige "Hampden", building certain of the major components to be sent to St. Hubert Airport near Montreal for final assembly.

TAIL SECTION—Sections of the aircraft are built separately and funnelled to the assembly line. Here is the nose piece of the tail fin under construction.



Near the end of 1941, on completion of the order for 40 Stranraers, a contract was signed by Canadian Vickers and the Canadian Government for production of Consolidated-Vultee PBY-5A amphibian "Canso" aircraft for the U.S. Navy and the Royal Canadian Air Force. The Canso, a Canadian version of the Catalina, had a wing span of 104′, length 63′ 10″, and height 19′ 8″. Empty weight was 19,980 pounds, gross weight 34,500 pounds.

Canadian Vickers' facilities were inadequate for the Canso production program and the Canadian Government decided to construct a new and complete aircraft manufacturing facility to be managed on behalf of the Crown by Canadian Vickers.

The New Plant

Cartierville Airport was selected as the site for the new plant, and construction began in 1942

The new plant was to consist of a main single-story factory building and final assembly bay, together with a flight hangar, warehouse and a cafeteria.

Towards the end of 1942, with the plant complete and equipment installed, production of PBY aircraft components was begun. Final assembly continued initially at the St. Hubert Airport and the first complete PBY aircraft began to come off the assembly line at the Cartierville Plant in September 1943.

Formation of Canadair Limited

Canadair Limited was formed in October, 1944 under a Dominion Charter to take over for the Crown on a management-fee basis, the aircraft manufacturing operations of Canadian Vickers in the Crown-owned Cartierville Plant.

Production of PBY Cansos continued and reached a rate of 30 aircraft per month. Total production by Canadair Limited and its predecessor, Canadian Vickers was 369 complete Canso aircraft plus a large number of spare parts and components.

Spare Parts Sales and Production

In 1944 Canadair Limited embarked on a program of selling and manufacturing spare parts which later became a major activity of the Company and

DOOR MAKERS—A corner of the conversion shop shows door "mods" in the building.

made the name of Canadair a by-word among aircraft operators the world over.

Spares activities had commenced with the production of spare parts, sub-assemblies and major components of PBY airplanes, under a sub-contract with Consolidated-Vultee Aircraft Corporation, followed closely by production of component parts for Mosquito Aircraft.

Later, Canadair Limited purchased large amounts of C-47 spare parts from factories which had been producing them in the United States, and established a huge inventory which has enabled Canadair to fill requirements for C-47 and DC-3 spare parts to the many companies which commenced operation of these aircraft after the war.

To accommodate this growing business as well as conversion and overhaul business under negotiation and yet to permit full use of the Canadair's main plant for new aircraft production, Canadair Limited leased the former Noorduyn Plant, located also on the Cartierville Airport, in January, 1946. This facility became known as the Canadair Conversion Plant.

With substantial inventories of many parts still remaining in the Canadair warehouses, the Company continues as a leading supplier of these parts. In its Conversion Plant warehouses, across the airport from its main plant, Cana-

H. Oliver West, President and General Manager.

T. J. Emmert, Vice-president and Assistant General Manager.

D. H. Macfarlane, Vice-president and Secretary-treasurer.

dair handles, inspects, fabricates; and assembles spare parts for shipment to the airlines of the world.

Overhaul and Conversion Activities

Shortly after the formation of Canadair Limited in 1944, the Company undertook overhaul of aircraft for the R.A.F. Transport Command on a contract basis.

In February 1945, Canadair Limited was designated by the Douglas Aircraft Company, Inc., as a Douglas Authorized Conversion and Overhaul Centre. Completion of the main PBY contract in March, 1945 had released a large amount of space for overhaul and conversion work, and the Company embarked on this activity on a large scale.

The peak of Canadair's conversion activity was reached during the summer of 1946, when forty aircraft could be handled simultaneously.

Upon completion of its major overhaul and conversion program in 1947, Canadair had converted over 225 C-47 type aircraft to DC-3 passenger transports, which are now in operation by the airlines of the United States, France, Belgium, Norway, Sweden, Netherlands East Indies, Argentina, Canada and other countries throughout the world.

Development of the DC-4M and C-54GM

The Wartime needs of the Royal Canadian Air Force and peacetime needs of Trans-Canada Air Lines for efficient air transportation equipment gained the concerted attention of the two organizations, and engineers from both organizations set out to study the

R. A. Neale, Assistant to the President and Factory Manager.

various models in production or in design by the well-known aircraft manufacturers in the United States.

There the C-54 Skymaster was rapidly building an unparalleled record of efficiency, dependability and operating economy of air routes the world over. Other models were just entering service or embarking on initial production stages. Still others were in design, and still newer models appeared from month to month on the drafting boards. There were the Douglas DC-4 and later the DC-6, both based on the time-proven C-54 designs; the Lockheed Constellation; the Boeing Stratocruiser, miscellaneous other four-engine transport aircraft; and several high-powered two-engine designs.

Engineers of TCA, the RCAF and the Canadian Government undertook an extensive study of these and other models, and voluminous analyses and reports were painstakingly prepared and studied from a comparative standpoint.

The DC-4 Skymaster, first commercial version of the C-54, appeared most suitable to the highly varied requirements of both the airline and the air force. It lacked, however, the speed, altitude, pressurization and other modern features appearing in the newer designs which took shape in the months to follow.

Determined to retain the economy and time-proven dependability of the DC-4 (C-54) type and yet desirous of meeting the competition of modern pressurized high-speed high-altitude models, the Canadian engineers decided that the DC-4, with some of the features of the newer and completely modern DC-6, would best meet their exacting demands for a fast and modern, yet economical and dependable transport aircraft for all the major routes and requirements of both TCA and the RCAF.

In 1944, the Canadian Government was granted a license by the Douglas Aircraft Company to incorporate in one aircraft the design features of both the DC-4 and the DC-6, and Canadair Limited was charged with the task of designing and producing the new design.

Choice of power plants for the aircraft led to a second exhaustive analysis, involving again a long series of conferences, reports and comparisons by

engineers of TCA, RCAF, Canadair Limited, and the Douglas Aircraft Company. The decision was in favor of the commercial version of the time-proven Rolls-Royce "Merlin" series which had powered famous wartime aircraft such as the "Spitfire", "Mosquito" and "Lancaster".

Design of the DC-4M, the commercial version, and the C-54GM, the military version, was begun at Canadair in 1944.

Production got under way in 1945 and the first DC-4M-1 aircraft was completed in July 1946. This aircraft was christened "North Star" by Trans-Canada Air Lines, and the name "North Star" became the general designation for DC-4M types operated by that company. The DC-4M-1 was an interim aircraft produced for trans-Atlantic operations of TCA pending completion of the DC-4M-2, the first of a series featuring, in addition to new high performance and range economy, cabin pressurization, reduced noise level, and other passenger comfort features.

Canadair Limited as a Private Company

In keeping with its policy of allowing government manufacturing activities to revert to private ownership following the war, the Canadian Government declared its intention to divest itself of its manufacturing interests. In 1946 the Electric Boat Company of New London, Connecticut, leading designer and builder of submarines in the United States, acquired substantially all of the capital stock of Canadair Limited, and entered a lease-option agreement with the Canadian Government for use of the Cartierville plant facilities.

H. Oliver West was installed as President and General Manager of Canadair Limited, and the new management assumed control of the Company in January, 1947.

Internationally known in both production and operational phases of the aviation industry, Mr. West, as Executive-Vice-President of the Boeing Aircraft Company in Seattle, had been the leading figure in the wartime production of both the B-17 Flying Fortresses, and the B-29 Superfortresses, as well as other models produced in Boeing's far-flung aircraft factories. Prior to the War, Mr. West had been well-known in the air transport field, having taken part in the organization and management of both United Air Lines in the United States and TCA in Canada.

Production of C-54GM, DC-4M-1, and DC-4M-2 aircraft began on a large scale to meet orders of TCA for 20 commercial aircraft and the RCAF for 24 military aircraft.

On April 15, 1947, the DC-4M-1 "North Star" entered service of TCA on the trans-Atlantic route between Montreal and London and rapidly established an unparalleled record of speed and dependability combined with remarkably high aircraft utilization. In 58 days of operation, Trans-Canada Air Lines had completed 58 round trips across the Atlantic, and before the end of the year 6 DC-4M-1's had reached a schedule of 14 round trips per week on that route.

As the new pressurized DC-4M-2 aircraft became available early in 1948, they began to replace the interim DC-4M-1 models on the trans-Atlantic route, and TCA continued its program of route expansion, calculated to provide a network of four-engine aircraft services within Canada, from Canada to the Caribbean area and across both the Atlantic and Pacific oceans to London, England, and to Sydney, Australia.

Development of the Canadair Four

Capitalizing on the performance of earlier versions in flight tests and in airline operations, Canadair engineers proceeded to develop an aircraft to meet a world-wide need for a general purpose transport, capable of operating efficiently and economically over short, medium, and long routes, and under widely varying operating conditions. In the summer of 1947 Canadair Limited announced the C-4 aircraft and offered it for sale to the airlines of the world. The Canadair Four is a pressurized, four-engine transport aircraft, with a gross weight of 80,200 pounds, and a minimum cruising speed of 345 m.p.h. Its maximum range is 4060 miles; maximum payload of the passenger version is 14,758 pounds. The standard passenger configuration has seating capacity for forty passengers; other versions provide high-density seating or combination day-plane and sleeper arrangements. Various cargo versions of the aircraft provide huge payload capacities over the same ranges as the standard transport model.

Canadair Limited in 1948

Commencing its second year as a private company, Canadair Limited entered the year 1948 with attention focused on completion of C-54GM, DC-4M-1 and DC-4M-2 contracts, and acceleration of sales and production programs for the Canadair Four. The Conversion Plant of Canadair Limited was busily engaged in the sales and production of spare parts, as well as a

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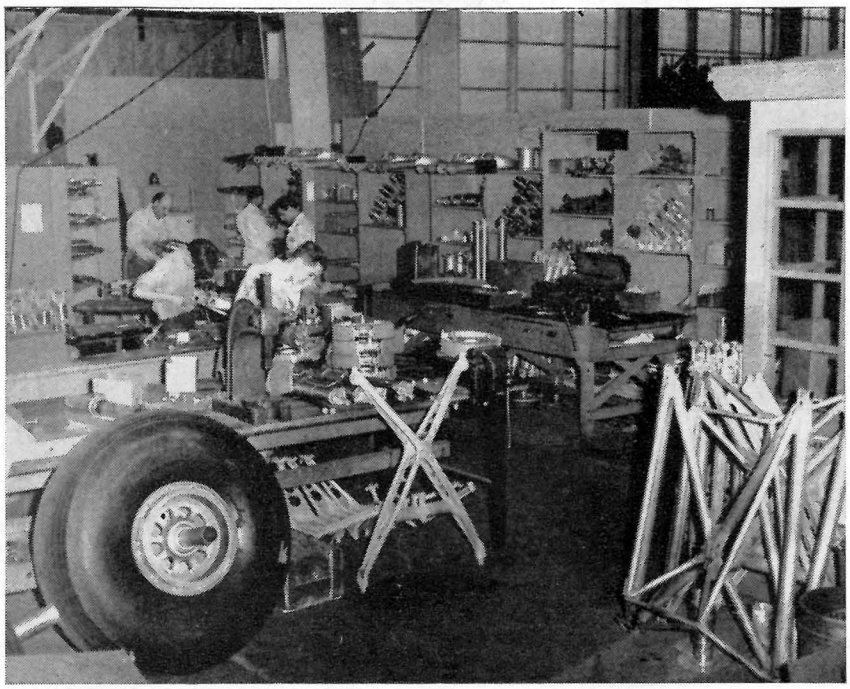
CONVERSION SHOP—A corner of the conversion shop is a busy spot.



Canadair—

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program of C-47 conversions for the RCAF and others.

At present the plant is not, of course, operating up to its full wartime capacity, but there are some 4,000 employees working. Should the occasion demand, present production could be more than doubled, to turn out 10 aircraft per month with the present facilities.

While current figures are not available at this time, total value of production at Canadair up to Sept. 14, 1946, was just over $105,000,000. This figure was made up of $10,480,000 for DC-3 conversions for foreign customers, $2,730,000 for DC-3 conversions for TCA; $27,440,000 RCAF PBY contract; $54,780,000 U.S. government contracts. The inventory on hand at that time was shown as nearly $10,000,000.

Since then, of course, there has been the RCAF and TCA North Star program, on which figures are not available, and considerable conversion and spares work which is not yet prepared for release of figures.

Conversion Work

While Canadair Limited, at the moment, is sticking strictly to the aircraft business and has not taken on any extraneous lines (such as washing machines, truck bodies, etc.), as have some other airplane manufacturers, we learned that the company is by no means putting all its eggs in one basket by depending entirely upon the building of new aircraft.

In addition to the current production program, Canadair is offering a full overhaul service for DC-4 aircraft, which is seen as a particular attraction to United States operators who are finding it difficult to get fast, dependble and economical service at home.

Another contribution to the United States industry and a major boost to the Canadian economic picture, is the fact that Canadair, through the Canadian government, has almost completed shipment of a "several million" dollar order of C-47 spares to the United States Air Force.

This deal, in addition to bolstering the good neighbor policy, goes a long way to putting Canada's aircraft trade balance with the U.S. on the right side of the ledger.

The conversion end of Canadair business is another bright spot in rather clouded skies of Canadian aircraft production, in that this enterprise has also meant considerable in the way of favorable dollar balance.

Located in what was formerly the Noorduyn plant at Cartierville, and which was taken over by Canadair two years ago, is the conversion division of Canadair. From the assembly lines of this section have gone out aircraft, particularly C-47's, to operators in the United States, Europe, South America and Canada, and in addition many custom jobs have been undertaken for private owners or smaller operators.

Value of Canadair conversion sales from Sept. 14 of last year to date, was $7,000,000—and of this total $6,000,000 is listed as U.S. dollar income.

Manufacture of aircraft spares has also proven a major project with Canadair, and advantage has been taken of the full facilities of the million-and-a-half square feet plant to make this a profitable venture.

This program dates back to 1944, when Canadair built many components and sections for the Allies fighting planes. It has been carried on into peacetime with the acquisition of a large stock of C-47 and DC-3 spares, augmented by the manufacture of spares not only for conversion work but for export.

Section for Aviation At the Trade Fair

The last word in jet engines and reciprocating type power plants for aircraft will be on display in the aircraft and marine section of the Canadian International Trade Fair being held from May 31 to June 12 at the Canadian National Exhibition grounds in Toronto.

The aviation displays will be housed in the automotive building, where there will be on show aircraft, radar apparatus, industrial marine and structural engines, models, parts and equipment for aircraft, electrical connectors for aircraft and diesel marine engine equipment.

Buyers interested in marine and aviation equipment are requested by Fair authorities to write for an official invitation, as admittance will be by invitation only during the week. The public will be admitted on Saturdays only. According to most recent reports, nine major firms from across Canada will be represented in the aviation and marine section.