height on a single engine. The remains of two Freighter aircraft reside at the National Aeronautical Collection in Ottawa, awaiting future restoration.

**FLEET FREIGHTER MODEL 50 DATA**

Engine:
Model 50J – two 285 hp Jacobs L-5MB 7-cylinder radial
Model 50K – two 330 hp Jacobs L-6MB 7-cylinder radial

| Dimensions: (both models) | |
|---|---|
| Wing Span | – 45 ft. (upper) |
| | – 43 ft. 4 in. (lower) |
| Length | – 35 ft. 10 in. |
| Wing Area | – 528 sq. ft. (combined) |
| | – 268 sq. ft. (upper) |
| | – 257 sq. ft. (lower) |
| Performance: | |
| Max. Speed @ sea level | – Model J – 137.6 mph |
| | – Model K – 150 mph |
| | – Model K – 132 mph |
| Service Ceiling | – Model J – 11,500 ft. |
| | – Model K – 15,000 ft. |
| Rate of Climb | – Model J – 800 ft/min. |
| | – Model K – 1,000 ft/min. |
| Weights: | |
| Gross Weight | – Model J – 8,000 lbs. |
| | – Model K – 8,326 lbs. |
| Empty Weight | – Model J – 4,665 lbs. (wheels) |
| | – Model K – 4,889 lbs. (wheels) |
| | – Model J – 5,040 lbs. (floats) |
| | – Model K – 5,121 lbs. (floats) |

Note: all five aircraft built had varying weights due to the different equipment installed.

Through the 1930s Sanderson was involved with the Canadian Flying Clubs Association. His duties included awarding of the Webster Trophy to Canada's most outstanding amateur pilot. This award was based on tests in general flying and air navigation. During the 1937 competition Sanderson announced that in future the runner-up in the competition would be the recipient of the Sanderson Shield. The winner of the shield in 1937 was Gordon R. McGregor, later the president of Trans-Canada Airlines. This was a bit of a letdown for McGregor who had won the Webster Trophy outright in 1935 and 1936 and who won it again in 1938.

Fleet Aircraft Ltd. was now producing more aircraft than any other aircraft company in Canada. With the company's increased prominence, Sanderson was appointed to the Board of Directors of the Commercial Air Transport and Manufacturers Association of Canada (CATMAC) in November 1937, in recognition of his abilities as head of a growing aircraft manufacturing company.

The Freighter was intended to use the Jacobs L-6MB engines of 330 horsepower, but until an Approved Type Certificate was issued the prototype was fitted with Jacobs L-5MB engines of 285-horsepower engines. The L-5 engines underpowered the aircraft, but the more powerful L-6 engine proved heavier, less reliable and did not substantially improve the aircraft's performance. Low engine power was to be the Freighter's biggest drawback, as it could not maintain height on one engine with an appreciable load. Fleet Model 50J designation was assigned to Freighters equipped with the L-5 engines, and Model 50K designation was assigned to L-6 engine Freighters.

The Freighter was also offered as a passenger aircraft, with arrangements of six to eight seats of the airline type or up to ten of the bench-seat type. Passenger Freighters were built with different window and door arrangements. The second and third aircraft were built as passenger models, with the elimination of the front freight door, and an extra window was added to each side. A proposed military version, which was never produced, would have had a fixed forward machine gun and two flexible mounted guns at the rear, one on top and the other at the bottom of the fuselage, with internal and external bomb storage. Also offered was a photo-survey model with camera hatch and provision for a Fairchild Photogrammetry 9 x 9 camera, and an air ambulance version with four seats and space for four stretchers or eight seats and room for two stretchers.

The Fleet Freighter was announced to the industry in the spring of 1937. Fleet production found this to be a rather large aircraft, quite a step up in construction from building relatively small, simple trainers. The rest of 1937 and early 1938 was spent on construction of the prototype Model 50J (CF-BDX). At the end of February 1938 the Fleet Freighter was ready to be flown, and it provided a test of Sanderson's ability as a pilot. In his words, "The day came when the prototype was ready to be flown [February 22, 1938]. It was a big day at the factory, as it was not only the first flight, but I was going to — or try to — fly a twin-engine aircraft for the first time. The flight went off in quite an orderly fashion and I could not see why everybody was so excited." In those days there was only a handful of pilots who were qualified to test-fly all types of land-planes, seaplanes and flyingboats. Sanderson was joined in this group by Leigh Capreol, George Spradbrow and Red Lymburner. The notable difference was that Sanderson was also the head of an aircraft manufacturing firm.

The initial flight testing was conducted at the Fort Erie airfield. In April the Freighter was flown to St. Hubert Airport for still further tests at the larger and better-equipped airport. The Freighter was returned to Fort Erie and was immediately put on floats for water-borne trials on the nearby Niagara River.

A temporary Certificate of Airworthiness was recommended on May 11, 1938, after Department of Transport flight tests at Ottawa, Ontario. On September 6, 1939, the Model 50K received a full C.of A. approval for cargo and passenger operation.

Only five Freighters were built and they were not well received by the operators, due to the poor engine performance. The first four were built for civilian operators. The fifth Freighter was completed specifically for the RCAF . All five aircraft had relatively short careers due to crashes or engine fires. The RCAF Serial No. 800 Freighter had the longest life of the five. After little use, it was sold by the RCAF in 1944, and it spent the rest of its life in Mexico as XA-DOE, until it was written off in 1946. The Freighter was doomed from its beginning, mainly due to its unpopular engines and their lack of power. Canada declared war on Germany four days after the Model 50K received certification, ending all hope of ironing out its problems and commencing production. Given more time, Fleet may well have developed the Freighter into a successful aircraft. It was a good design and handled well, but the lack of power gave it a poor acceptance by the bush community, as it could not maintain

In 1937 the company saw an improving market for the Fleet product and orders started to roll in from overseas. These sales were handled through agencies, principally Aviation Equipment and Export Inc. (Aviquipo). The majority of the aircraft produced by Fleet Aircraft Ltd. from 1937 to the beginning of the war were for export to countries such as China (50), Argentina (20), Portugal (6), Venezuela (6), the Dominican Republic (2), New Zealand (1), Iraq (1), America (1), plus another order of 50 for China an order which was cancelled in favour of the Ryan STC-4.

## FLEET MODEL 50 FREIGHTER

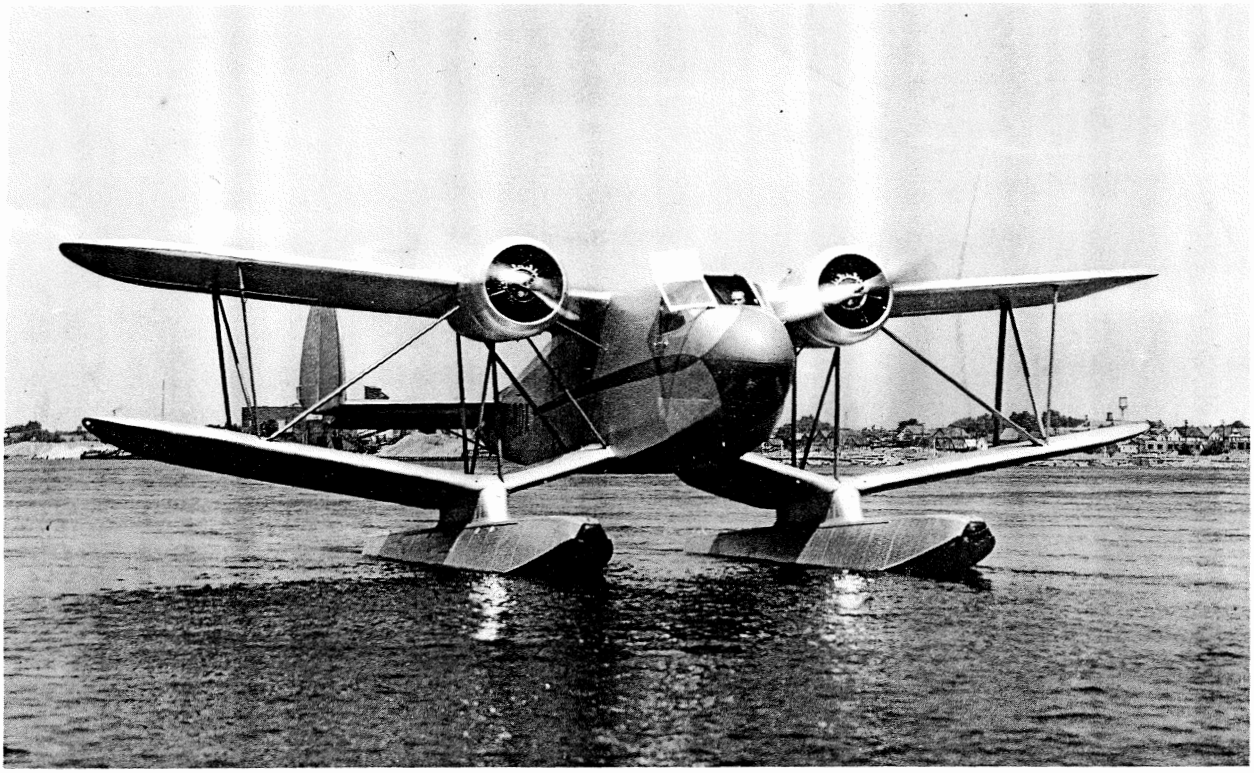
It was toward the end of 1936 that Fleet President W.J. Sanderson again considered the potential bush-plane market. He was awake many a long night thinking of building a twin-engine aircraft. He felt there was a need to complement the Waco, and other aircraft of this type, with a twin-engine freighter. To see if his ideas were on target, he sent another questionnaire asking the bush pilots about their requirements of a bush-plane. The answers he received were varied, but they helped to confirm some of his ideas and allowed him to lay down the general specifications for Fleet's new bush aircraft. It should have an easy freight-loading access, a short takeoff, and be capable of being dismantled into relatively small components, except the fuselage and floats, in order to facilitate repairs and component replacement in the remote wilderness.

The Fleet Freighter design team, led by Project Engineer R. E. (Dick) Young, consisted of Joe Gwinn Jr. of Consolidated Aircraft and Tom McCracken, Fleet's plant manager. Young, along with Sanderson, completed the layout for the new Freighter aircraft. Gwinn, who had designed the Fleet trainer, completed the stress analysis on the aircraft. In general the design followed Sanderson's concept, with simple rugged construction and a low wing loading for short takeoff.

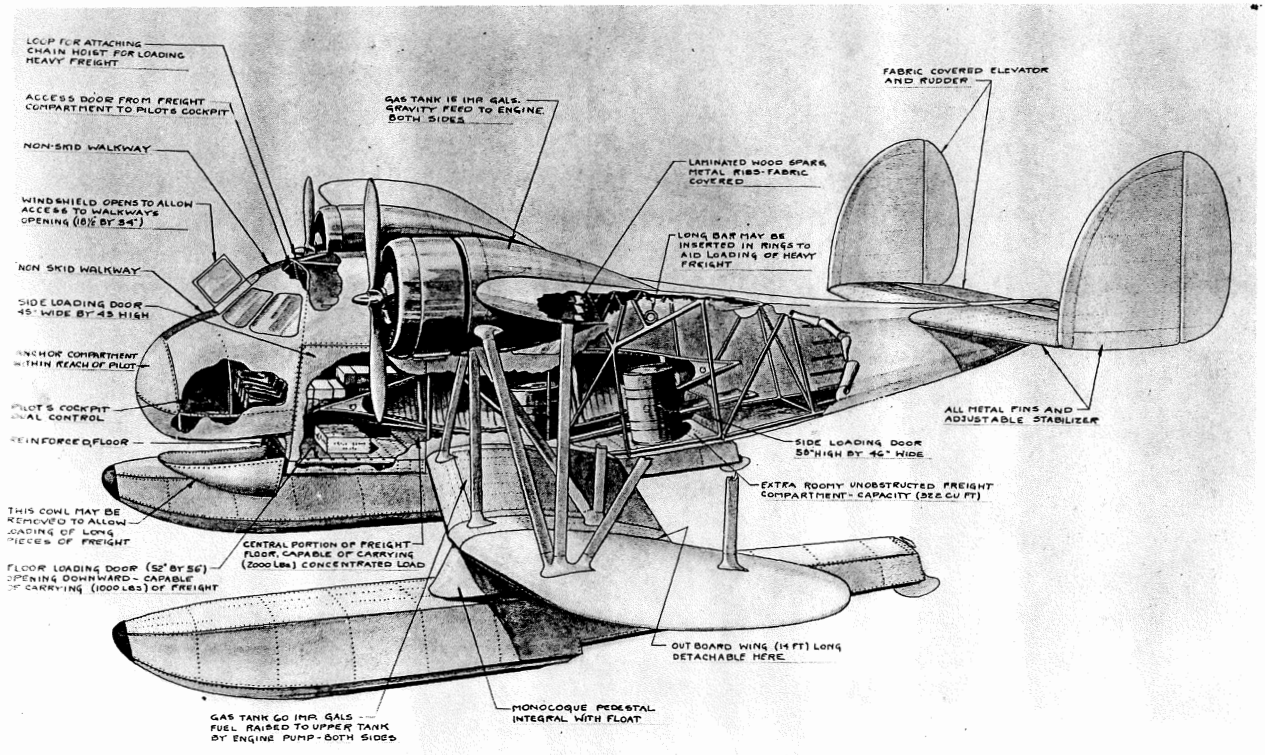
The Fleet 50 was a strut-braced biplane with engines mounted on the leading edge of the upper wing. The lower wing was an inverted-gull with the undercarriage mounted at its lowest point. The fuselage was of welded steel tubing faired with aluminum hat-section stringers. The fabric was fastened with Parker-Kalon (PK) screws and washers similar to those used on the original Fleet trainers. The cabin floor was heavy aluminum alloy sheet. The cockpit was semi-monocoque construction with a steel tube airframe structure that carried past the cockpit to the nose section to serve as a nose-over structure. The fixed tail surfaces were aluminum-alloy semi-monocoque construction, with the fins mounted at the outer ends of the tail-plane. Twin endplate fins and rudders were chosen so the Freighter could get close inshore on a lake for loading without touching trees. The rear spar of the tail-plane was hinged to the fuselage and braced with streamlined steel struts. The leading edge was adjustable, for trimming the aircraft, by means of a vertical jackscrew operated from the cockpit by an endless cable and wheel, similar to that used on the Westland Lysander.

The landing gear was a fixed tail-wheel type and was interchangeable between wheels, skis and floats. Jacking points on the lower stub front spars permitted change-over from floats, wheels or skis without hoisting the aircraft. The inverted-gull lower wing enabled a special version of the Edo-type floats to be mounted directly to the wing to enable the aircraft to straddle low docks and load through a floor hatch.

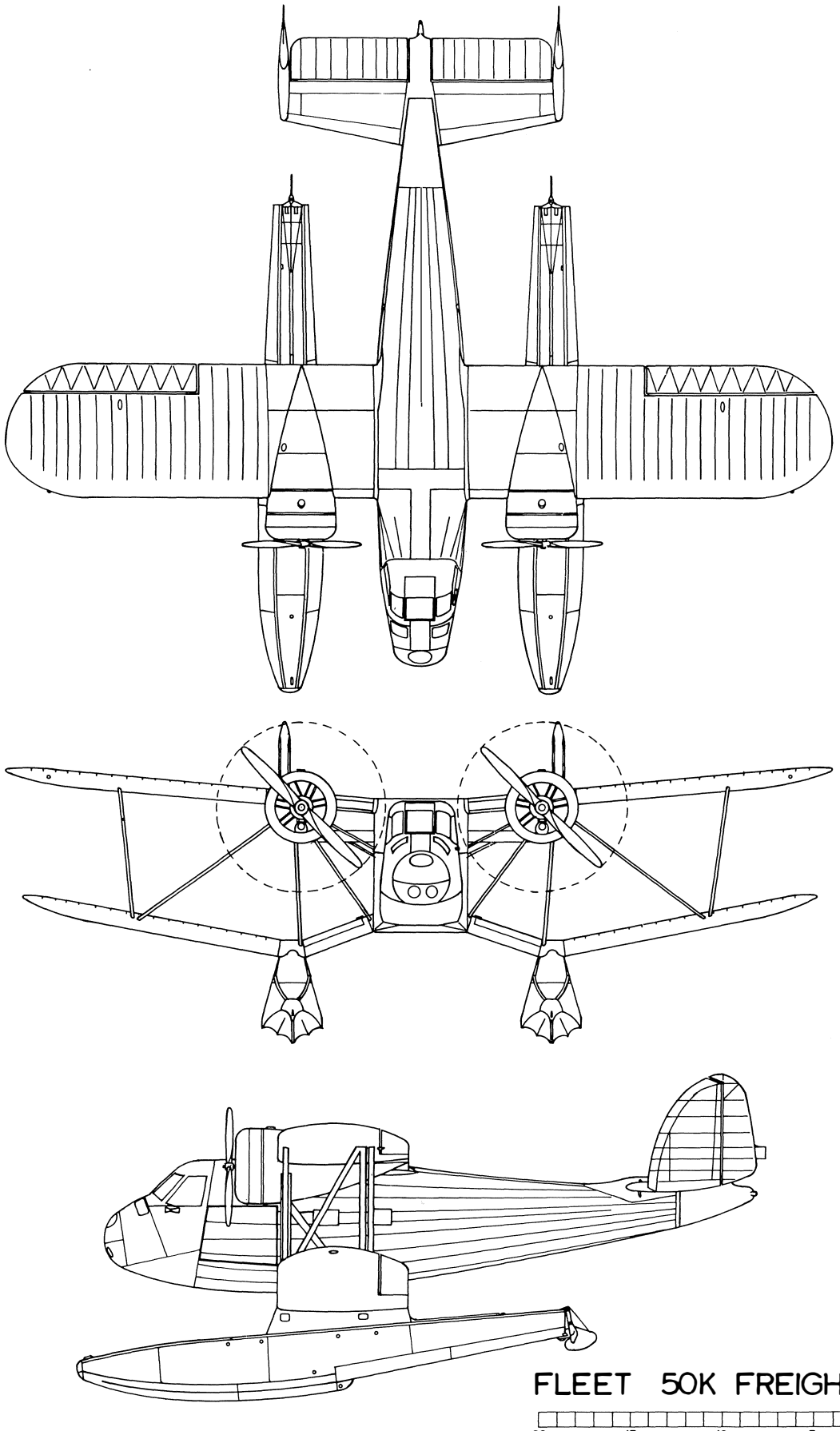
Careful attention was paid to the design of the Freighter, to ensure the ease of loading cargo. There was a 46-by-56-inch door at the rear of the cabin on each side, and a 46-by-45 inch door at the front on the port side. There was also, a 52-by-56 inch hatch in the front cabin floor to allow bulky items to be hoisted directly on board the aircraft. This made it possible to load a crated engine up through the cabin floor. The lower portion of the aircraft's nose was removable to permit long items such as pipe and lumber to be easily loaded.



The prototype Freighter on floats on the Niagara river, 1938. Note the unusual window opening of the cockpit. – *B. MacRitchie Collection*




A cutaway drawing describing the Freighters features. – *B. MacRitchie Collection*



FLEET 50K FREIGHTER

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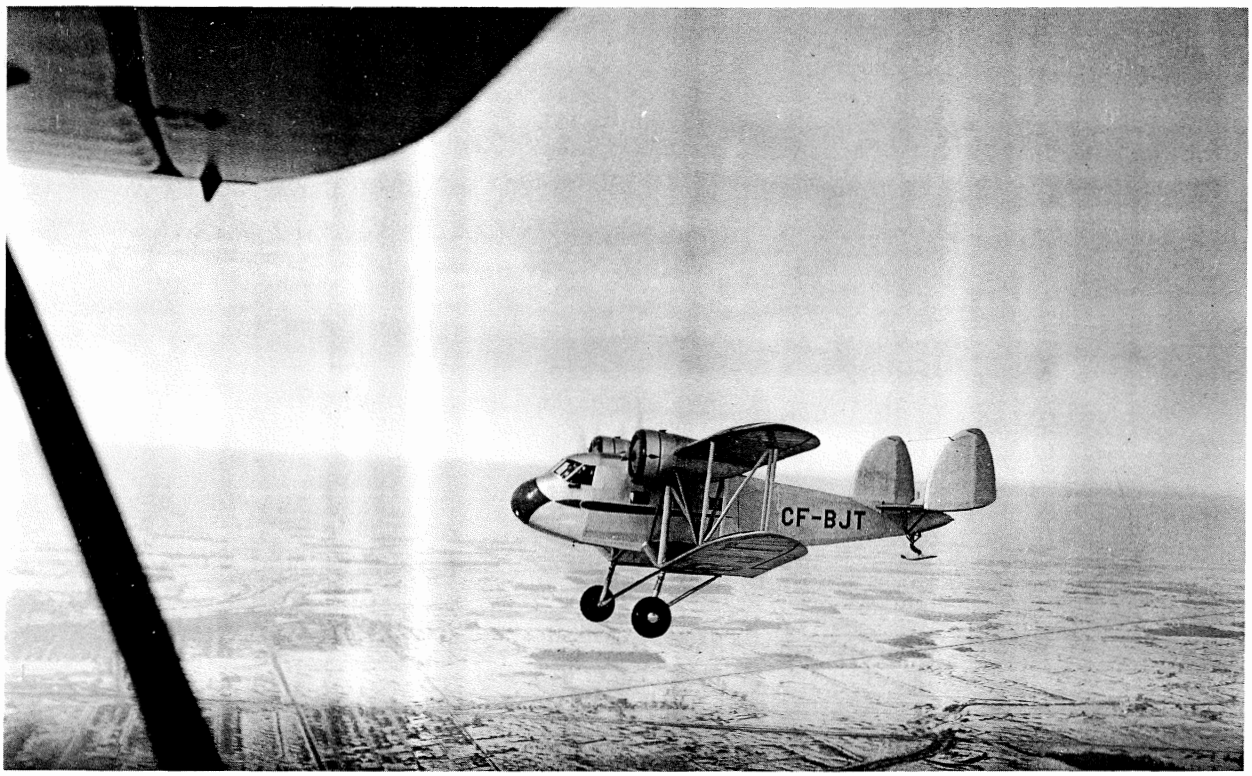
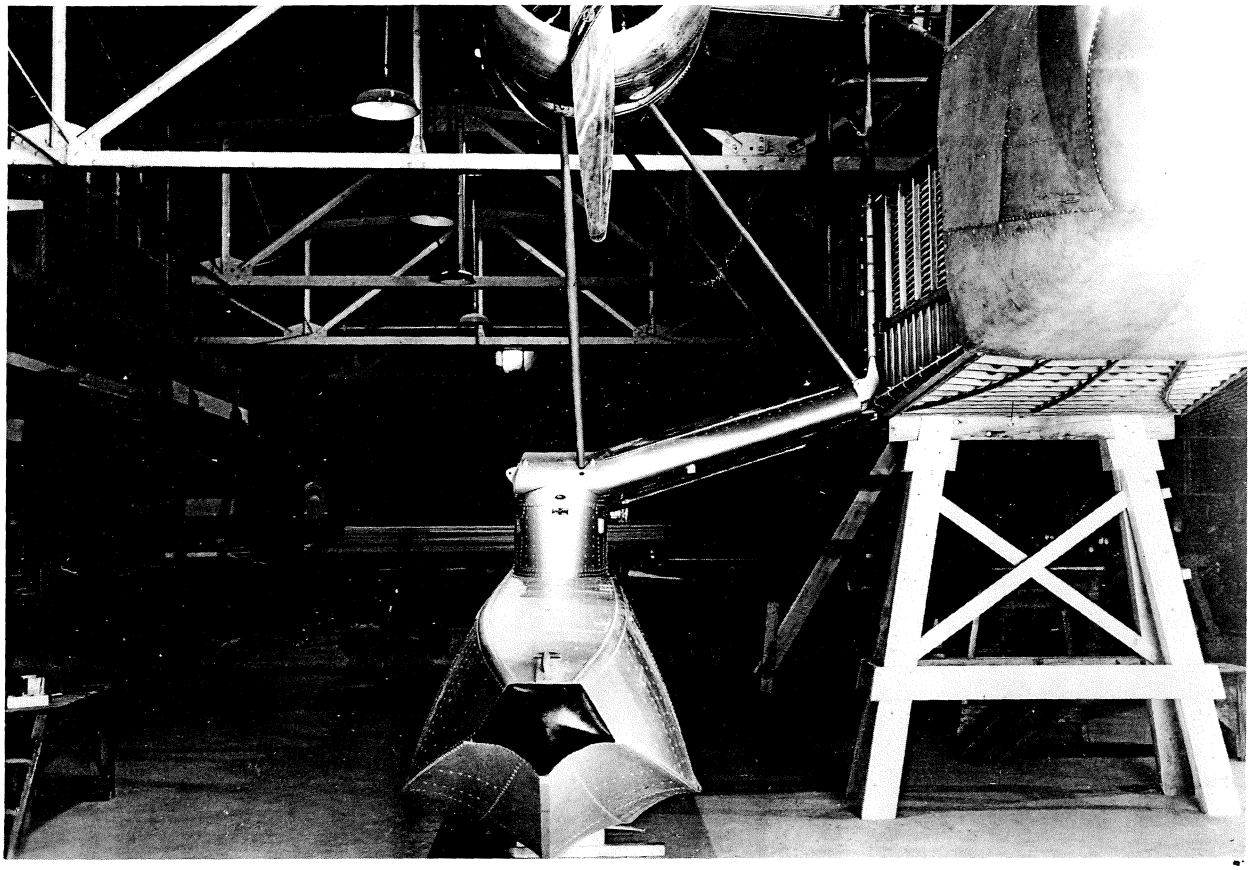
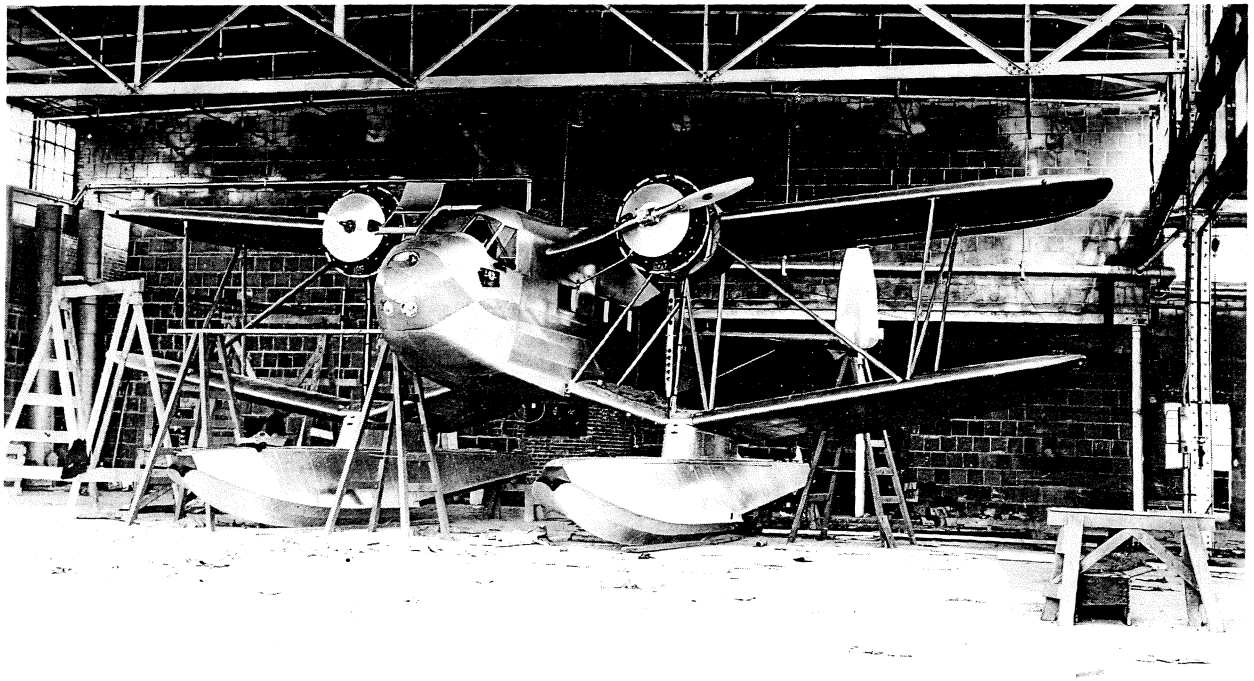
A classical view of CF-BDX at its mooring on the Niagara river. Note the large freight door opening. – *B. MacRitchie Collection*




A rare view of the passenger version of the Fleet Model 50K CF-BJT airborne. Note the tailskid instead of a tail-wheel. – *B. MacRitchie Collection*

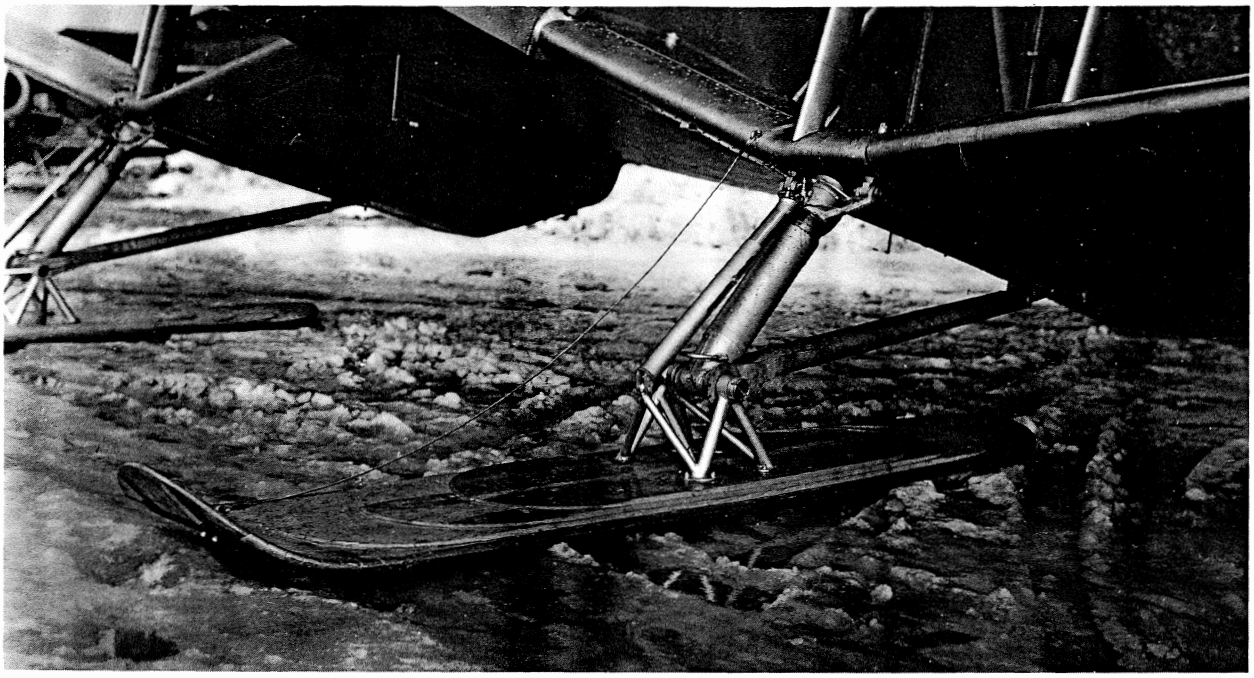


The clean design of the float installation on the Freighter. – *B. MacRitchie Collection*

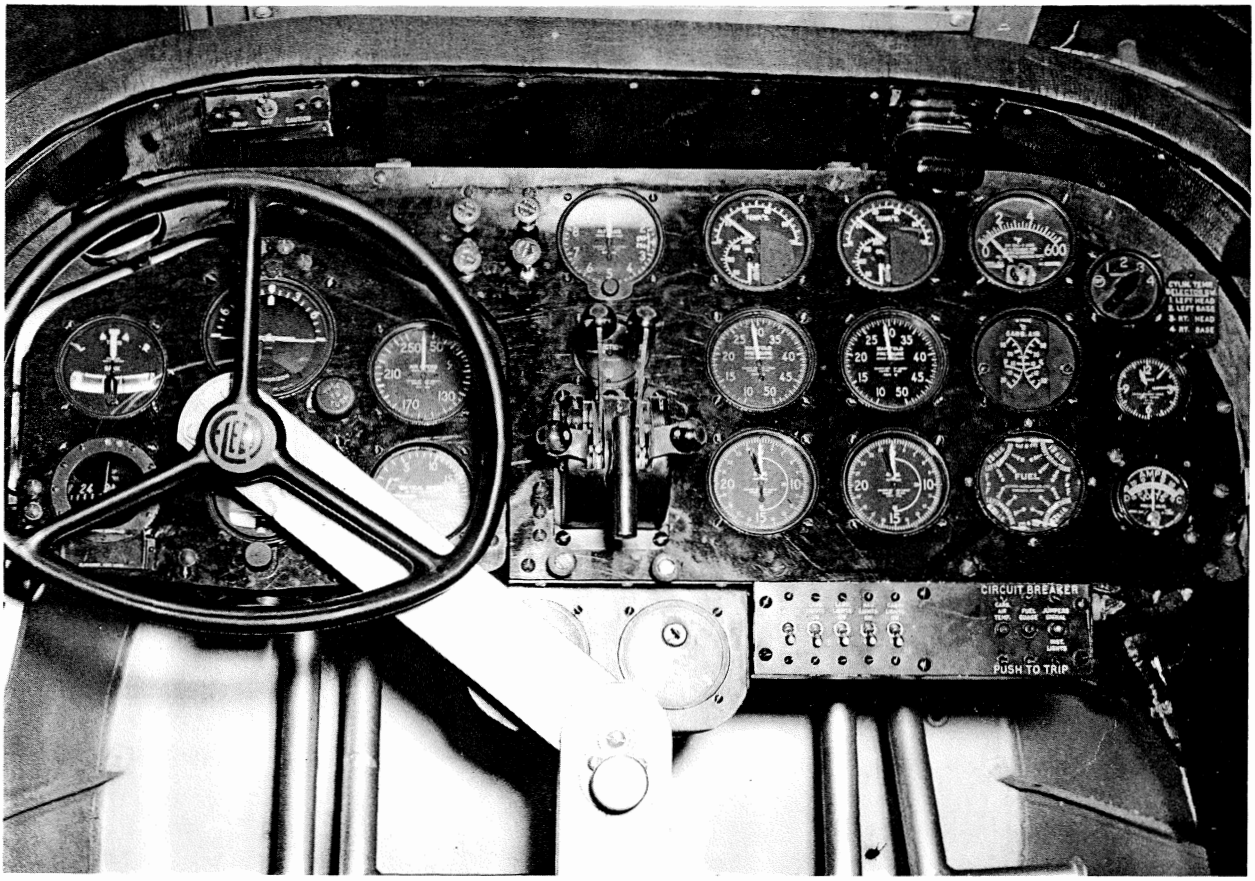


The nearly complete Freighter CF-BJU under construction on floats.

– *B. MacRitchie Collection*



A close-up of the ski installation on the Fleet Freighter. – *B. MacRitchie Collection*




A view of the instrument panel and control column of the Fleet Freighter. The control column could be swung over to allow the aircraft to be flown from both sides of the cockpit.

*– B. MacRitchie Collection*