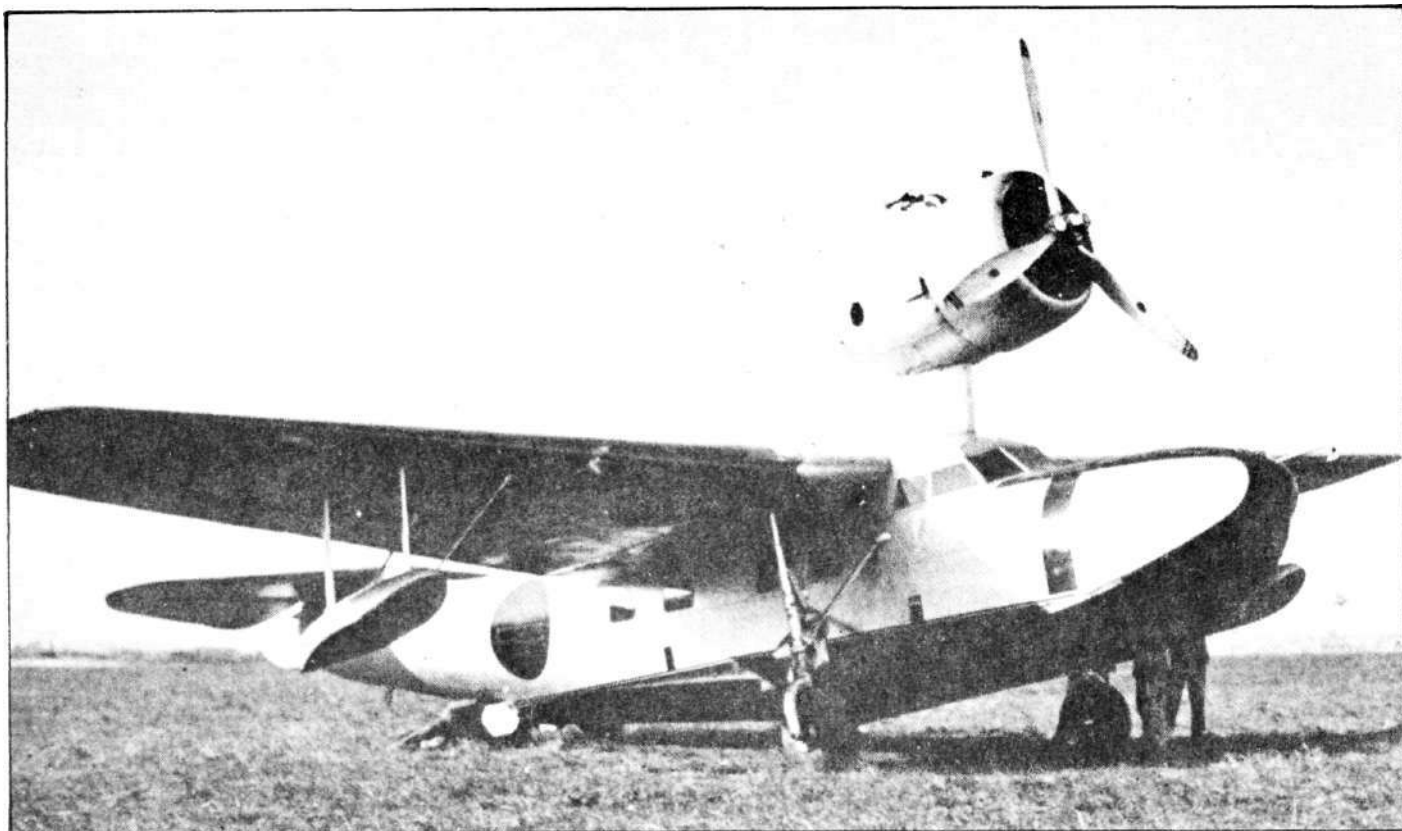




## Fairchild F. 91 Flying-boat Type Amphibian

by Noboru Jyoko

**IN JAPAN**—In the early thirties Japanese military aviation authorities were devoting themselves to developing modern aircraft. During the 1930s Japan's naval officials purchased various American aircraft, including the Boeing F-2B, F-4B-1; Chance Vought V-143; Curtiss P-6A; Douglas DB-19; Grumman FF-1; Kinner Envoy C-7; North American NA-16; Northrop 2E and 2F; Security S-1B Airstar; Seversky 2PA-B3; and Vought 02U-1.

In the mid-1930s, Japan also purchased the following seaplanes: Consolidated P2Y1; Curtiss Wright Courtney; Douglas DF-151; Fairchild F-91; and Grumman G-21.

After various evaluations these planes were mainly used for research in the fields of internal accommodation or equipment. One example, Fairchild A-942-B, ex NC-16359, c/n 9404, was supplied to the Imperial Japanese Navy in 1936 via Ohkura Shoji K.K. or Ohkura Trading Co., and received designation LXF1.

The Japanese navy regarded the Fairchild as suitable for transport duties on the Chinese front, and a new project based on this excellent amphibian was started in 1938 as a 13-shi Small Amphibious Transport Plane.

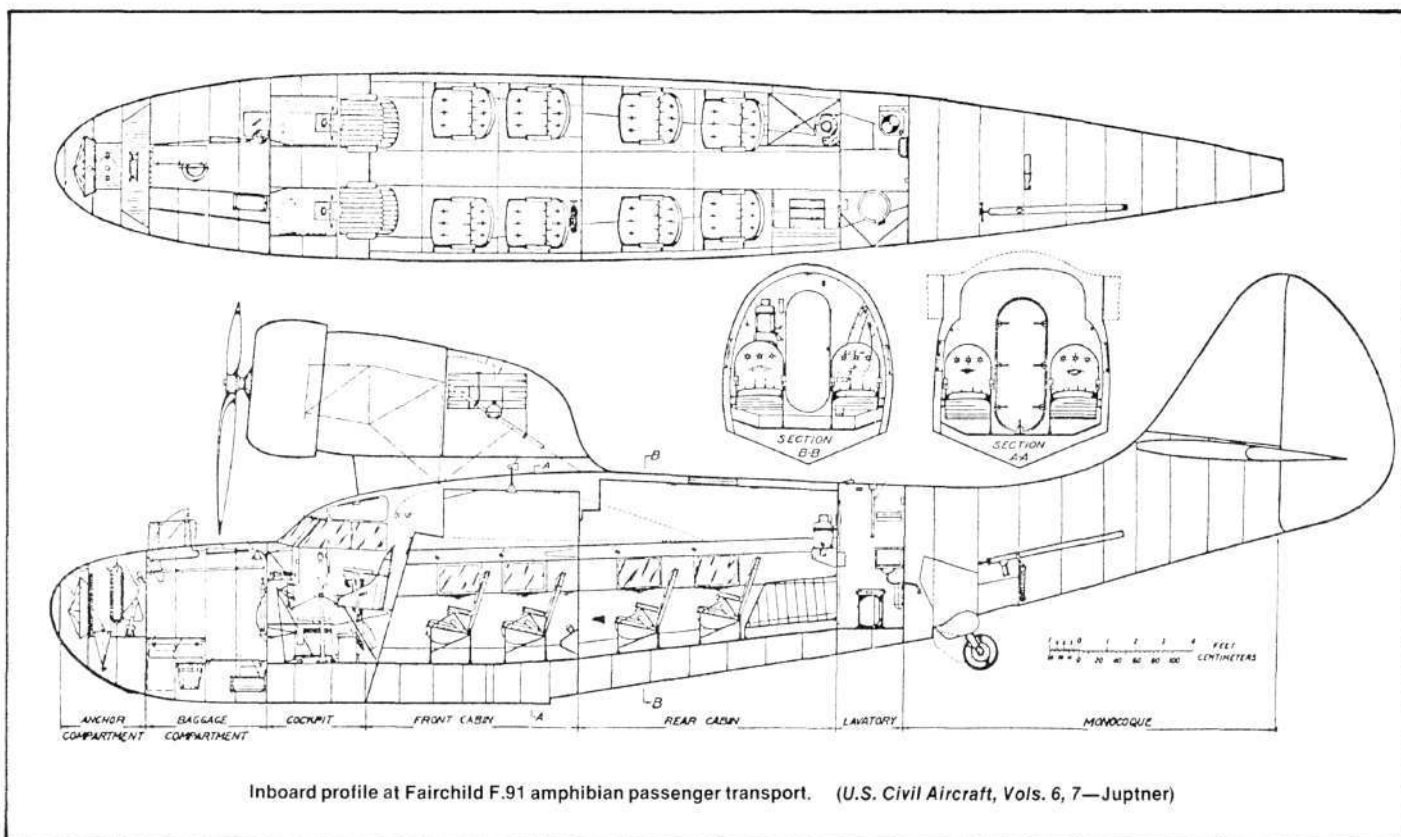
Grumman G-21, Curtiss Courtney and the Fairchild 91 were helpful in the development of Japan's first amphibian. In 1939 Nihon Hikoki K.K. or Japan Aircraft Co. was assigned to make the amphibian flying boat (L7P1) the only original Nihon design to enter wartime service. Two models were built, the first completed in April and the second in August 1942. The Nakajima "Kotobuki" 41 radials of 710 horsepower supplied power. Extensive use was made of wood and low-priority materials in construction. The L7P1 did not enter production because of trouble in taking off from the water and a bad stall characteristic at low speed being overweight from wooden construction. It is curious that the side view of L7P1 looks more like the Sikorsky S-43 amphibian than the Fairchild.

Mr. Isao Morikawa, who was a Kawanishi test pilot once, told me that the amphibian was good at landing on the ground but difficult on the water. He went to Kisarazu naval air base where he trained in takeoff and landing circa 1937. He continued that he had heard of the amphibian having good characteristics on the water and pleasant habits in the air but he was unimpressed with its controllability and stability in the air.

The fate of the Fairchild is not clearly known, but after evaluation it was used for V.I.P. transport duty until about 1939. A landing accident due to engine trouble at Nanking, China, caused it to be written off.

**IN AMERICA**—The Fairchild flying boat-type amphibian known as A-942-A, A-942-B in particular and as the "Model 91" in general, was an excellent aircraft, so it was known as the *Jungle Clipper* or as the *Baby Clipper*. The amphibian portrayed as high adventure along the steamy Amazon River, exploring the wilds of New Guinea, or shuttling merchants back and forth along the Yangtze River in China.

The high-speed, all-metal, modern amphibian was developed by Fairchild, in cooperation with Pan American Airways engineers, for use in coastal and sheltered waters of South America. Alfred A. Gassner, who earlier had worked for Anthony Fokker and had developed the F-11 amphibian, was largely responsible for design of the Model 91 series. Most amphibians paid dearly in loss of performance to achieve the ability to operate off land or water, but outside of a little extra weight the "Model 91" suffered very little loss.



The unusual flying boat was carefully designed to eliminate the drag-producing factors usually associated with an aircraft of this type, and thus at one time it happened to be the fastest single-engined amphibian in the world.

The first *Jungle Clipper*, A-942-A, was off on its maiden flight on 5 April 1935 and all went well. The type certificate number for the model A-942-A was issued on 22 November 1935 and only three examples of this model were manufactured by the Fairchild Aircraft Corp. at Hagerstown, Md. Also the type certificate A-942-B was issued on 16 May 1936 and it is likely that five examples of this version were either manufactured or converted by the Fairchild Aircraft Corp. at Hagerstown, a division of the Fairchild Aviation Corp.

Enthusiased about the aircraft and the service it would perform, Pan Am ordered six (for early delivery). In 1933 the Pan American Airways system started a weekly service from Para to Manaus, a 932-mile (1500 kms.) run up the Amazon River into the interior of Brazil. At first a Sikorsky S-30 was used but this route was actually meant for the *Jungle Clipper*. It was delivered to the Pan Am base in Miami on 21 January 1936 and outfitted there for service in Brazil.

Another similar aircraft was delivered shortly after. Operating under Panair do Brazil, the route did not justify the six examples that were originally ordered, so orders for four were canceled and only two were used on the river line.

Realizing soon that the *Jungle Clipper* was operating off water more often than from

land, the landing gear assemblies were stripped from the hull, and the ships were used as pure flying boats. Shedding of the weight allowed increased payload.

Meanwhile, the *Jungle Clipper*, flying up and down the Amazon River route, proved its robust nature and kept at it until 1945. The development of aviation along the river during days of WWII brought in multi-engined landplanes that rendered the *Jungle Clipper* almost unnecessary. Late in 1945, in a chore filled with sadness, the *Jungle Clipper* (A-942-A) was stripped of usable items, chopped up into small pieces, and then scrapped along with some aging Consolidated *Commodores* and a few worn-out Sikorsky S.38s. The amphibian had clean fuselage lines with seating arranged for eight passengers and a crew of two. The 75-inch-wide hull was divided into five watertight compartments.

**IN MEDITERRANEAN**—A Fairchild A-942-A, ex NC-14744, PP-PAP, c/n 9402, was purchased from Panair do Brazil by the British Air Ambulance Corps and named *Wing Mercy*. It was uncased at Heliopolis, delivered to the Sea Rescue Flight on 25 Nov. 1941, and operated in North Africa with R.A.F. serial HK832. On 17 May 1943 it struck a floating object and sank off Bengazi.

**CONCLUSION**—I would like to take a line from an author, Joseph P. Juptner, who wrote U.S. Civil Aircraft. He praised the aircraft as follows:

"We have to concede here that the Fairchild *Baby Clipper* was indeed an unusual

airplane, and in spite of its small number it did leave a lasting mark on the face of aviation history."

Nose Comp.: Stowage for mooring gear and freight for up to 650 lbs. or 295 kg.

Second Comp.: Cockpit that seated two pilots.

Main Cabin: Divided into two compartments with seating for four in each. Seats in the front compartment were easily removed to haul extra cargo. Cabin walls were sound-proofed and interior comfort was regulated by heat and ventilation.

Tail Comp.: A lavatory and a baggage compartment with allowances for 350 lbs.

The most significant change in the A-942-B was installation of the Wright *Cyclone* engine and some modifications necessary for this combination. There was absolutely no difference in the performance or general nature of the aircraft with either engine, but if the customers had a choice they sometimes did choose.

Powerplant: P&W *Hornet* S2EG 750 hp/2250 rpm./2500 ft., 800 hp/t.o. or Wright *Cyclone* SGR-1820-F52 760 hp/2100 rpm, 875 hp/t.o.

Max. Speed: 175m/5800 ft., cruising speed 155m/s.l./75%, 151m/8000 ft./66%, range 720m., span 56'0", length 46'8", wing area 483 sq. ft. a.u.w. 9700 lbs.

**NC-14743**—A-942-A #9401 *Hornet* 750 hp, retained by Fairchild as demonstration.

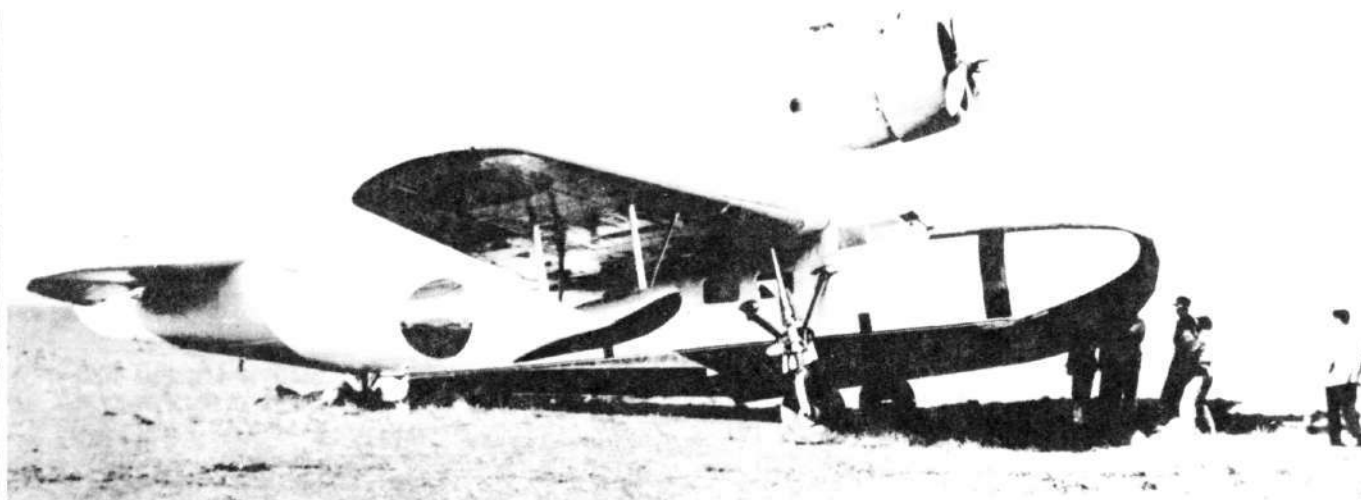
**NC-14744**—A-942-A #9402 *Hornet* 750 hp, PP-PAP Panair do Brazil, later delivered to the Sea Rescue Flight of RAF.

**NC-15952**—A-942-A #9403 *Hornet* 750 hp, PP-PAT Panair do Brazil.

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1 Fairchild 91 at Haneda Airport circa 1936.

2 At Haneda Airport.

3 Last landing; date of photo is uncertain, but is presumed to be circa 1939 at Nanking. (N. Jyoko)

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**NC-16359**—A-942-B #9404 *Cyclone* 760 hp, shipped to Japan.

**NC-16690**—A-942-B #9405 *Cyclone* 760 hp, fitted as a very plush six-seat "Air-Yacht" for famous racer of speed boats and industrialist, Gar Wood.

**NC-19130**—A-942-B #9406 *Cyclone* 760 hp, unknown.

**NR-777**—A-942-B #9407 *Cyclone* 760 hp, used by Richard Archbold of the N.Y. Museum of Natural History for his expedition into the wilds of New Guinea. (This is the aircraft first inspected by Japanese officials.)

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#### ABOUT THE AUTHOR

Mr. Noboru Jyoko is a Japanese aeronautical bug and AAHS member. He is a retired high-school principal with a consuming interest in aviation dating back to 1935. His special interest is Japanese aviation with emphasis on aircraft imported from foreign countries.

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