

A Mutual Fiasco: The American Fokker F-11



by Gert P.M. Blüm

The Fokker F-11A never quite lived up to expectations; having been caught between the economic times and engineering problems that changed both the marketplace and marketability of the design. Here we see F-11AHB, NC339N, msn 906, the only one put in commercial service. (American Fokker photo from the Gerald Balzer collection, AAHS archives)

Although one of the lesser known products of the American Fokker factory, new information on the Fokker F-11 flying boat/amphibian series is still to be found. Such makes it worthy to bring wider attention to the history of this unsuccessful model. The mere knowledge that only 5 of the 21 boat hulls that were built transformed into completed aircraft (of which three were eventually sold) gives rise to this. Hence this review that also highlights the financial fiasco of this model for both the Dutch and American¹ Fokker companies. It also provides an opportunity to refute a persistent misunderstanding about the identity of the third aircraft of the type.

Dutch Fokker Metal Hulls

In the Netherlands, the Fokker company (called Nederlandsche Vliegtuigenfabriek N.V. or NVNV in short) developed in the early 1920s a small series of metal hulled flying boats/amphibians. All were single engine biplanes with a small lower wing fitted to the hull and designated as B-types. The series started with the unsuccessful B.I amphibian for Colonial use by the Dutch Navy, which flew for the first time in October 1922. It was followed by the small B.II, a reconnaissance flying boat, for which a provisional order of six aircraft was received to be operated from a new cruiser class of the Dutch Navy. The single prototype was completed in October 1923, but was sold back to the factory early in 1925.²

A Flying Boat for America

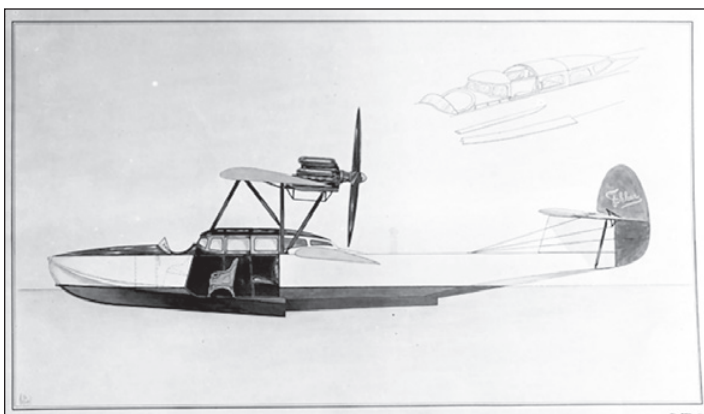
In January 1926 the next type was ordered by the Department of Colonial Affairs for use in the Netherlands East Indies, but the B.III flying boat did not pass the contractual trials in the Netherlands. The sale fell through, but soon afterwards Fokker succeeded in interesting its American subsidiary in the purchase. Modified as B.IIIc and now fitted with a cabin hood, the Atlantic Aircraft Corporation (AAC) delivered the aircraft to Harold S. Vanderbilt.³

In the meantime, far more ambitious designs appeared on the drawing boards of the AAC. One of them was a proposal of July 21, 1926, for a large navy monoplane flying boat, probably called PA-1⁴ with a wingspan of 108 ft 4 in. Powered by three Pratt & Whitney Wasps and with a calculated endurance of nearly nine hours, it seemed to be intended as a new generation U.S. Navy patrol aircraft, replacing the ancient F-5L and PN-series. By the way, the same wing appeared on the XHB-2 heavy bomber design study for the USAAC on a drawing of September 21, 1926. However, both projects failed to become what would have been the largest U.S. Fokker aircraft ever built.

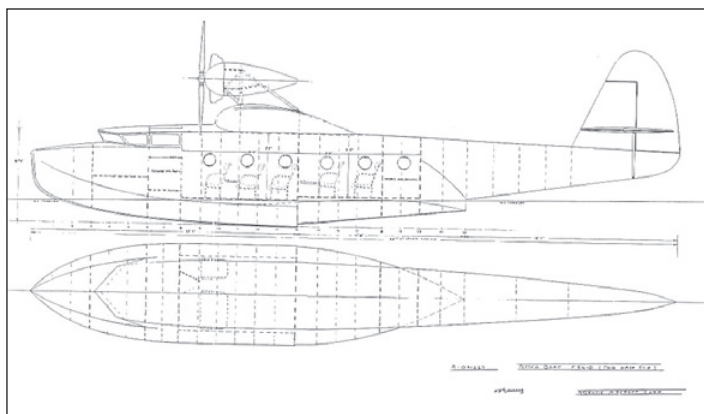
Both the purchase of the B.IIIc and the PA-1 proposal illustrated Fokker's attention to an American market for flying boats. The Austrian Alfred A. Gassner, employed by AAC at the time, started designing monoplane developments of the B.III,



The lineage of the F-11A can be seen in the Fokker B.III with its similar hull, tail design. (Fokker photo from the Gerald Balzer collection, AAHS archives)



The Dutch Fokker B.IIIc as offered by the Atlantic Aircraft Corporation to Vanderbilt (American Fokker Image from the San Diego Air & Space Museum collection)



September 1927 design of the Fokker F-50D flying boat by Gassner on AAC drawing 09127. (Fokker drawing from the author's collection)

taking shape under the American designation F-50. One of the designs was an outgrowth of September 1927, called F-50D: a modern-looking high wing flying boat for 15 passengers, equipped with two Pratt & Whitney Wasp engines that were situated side by side on top of the wing.⁵ In November, the hull of a slightly larger military version (Navy Class VT) was drawn under the same type designation.

The direct predecessor of Fokker's first American flying boat to reach construction appeared on the drawing board in mid-October 1927 as the 'Wasp Boat' with a single pusher engine pod on top of the wing and designated F-50E.⁶ At the end of November, the boat hull was further engineered⁷ and ready to be built. For practical reasons, the wooden wing was to be the same as the Super Universal's one, which was under development at the time. Because the factory in the U.S. did not have experience in metal construction, it was decided to

contract out the building of a test hull to NVNV and then finish the aircraft in the USA. In late January 1928, Anthony Fokker confirmed the building order to the Netherlands.⁸ It was entered under the NVNV commission number 2910 and the agreed price was \$4,500.00.

The commercial designation chosen for the aircraft in the U.S. was F-11, following the F-10 (Super) Trimotor. Rather confusingly, AAC allotted not only designations to their products but also model numbers for types that reached production, sometimes using the same number for both.⁹ As AAC had started to 'Americanize' the Dutch B.IIIc by allotting it production model 9 with the new manufacturers serial number (msn) of 900, it was decided to give the completely different F-11 the same model number with subsequent msn's in the 900 range.

The Prototype

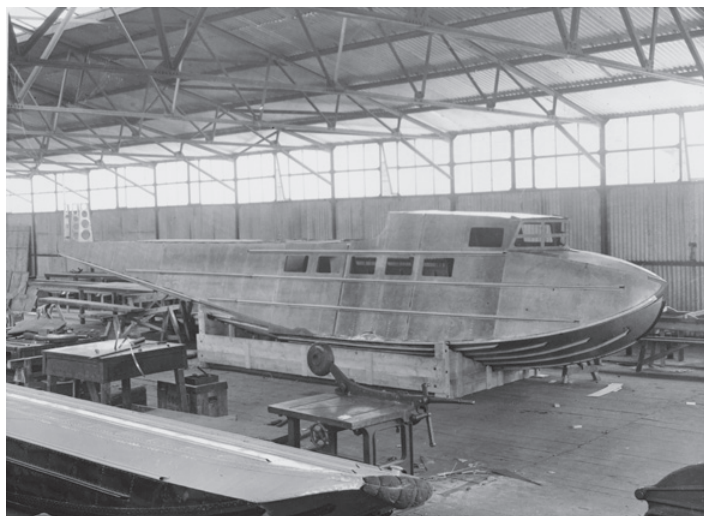
Mid-1928 factory photos of the Amsterdam plant showed the almost complete fuselage of the F-11 and on July 18, 1928, the boat hull was shipped to New York on the *S.S. Rotterdam*. After completion in the AAC factory in Hasbrouck Heights, N.J., the prototype (NC7887, msn 901) with a Wasp engine of 410 hp and now called F-11 Flying Boat¹⁰ was ready for testing, which began on October 20, 1928. It was equipped with small floats of their own design and three circular windows were added by AAC to both sides of the rear fuselage to create a baggage room.¹¹ Testing was hampered by problems with the Wasp engine. The aircraft soon went back to the factory to be converted into an amphibious version. Meanwhile, Fokker's American activities were restructured by forming the Fokker Aircraft Corporation of America (FACoA), with a production plant in Glen Dale, W.Va., making AAC its subsidiary.

Sketches by Gassner dating back to December 8 and 9, 1927, already showed variants of trapezoidal 'floats' attached on both sides of the hull by hinges and lying horizontally on the water. These were connected to the underside of the wing by a tube construction, which made it possible to move the ends of the floats up and down. This allowed the wheel of the landing gear attached to each float to move from horizontal in flight to a vertical position for landing and back. With this sponson, as the device was called, the aircraft became an amphibian. It was exhibited in this configuration at the beginning of December 1928 in Chicago, Ill., at the International Aeronautical Exposition and the following April was announced to be shown in Detroit, Michigan.

A Golden Future?

Although Fokker was not entirely satisfied with the new airplane, in December 1928 10 production boat fuselages were ordered from the NVNV on their commission number 3420.¹² These had a somewhat longer hull, which ended now below the rudder and would be delivered at the price of \$5,200.00 each. That same month, construction started in Amsterdam. Apparently, the interest in the exhibited prototype was sufficient for Anthony Fokker to order another 10 hulls from the Netherlands at the end of March 1929, under NVNV commission number 3600,¹³ at the same unit price as the previous order.

However, the optimism about the future of the type was not confirmed by the performance of the prototype. The wing



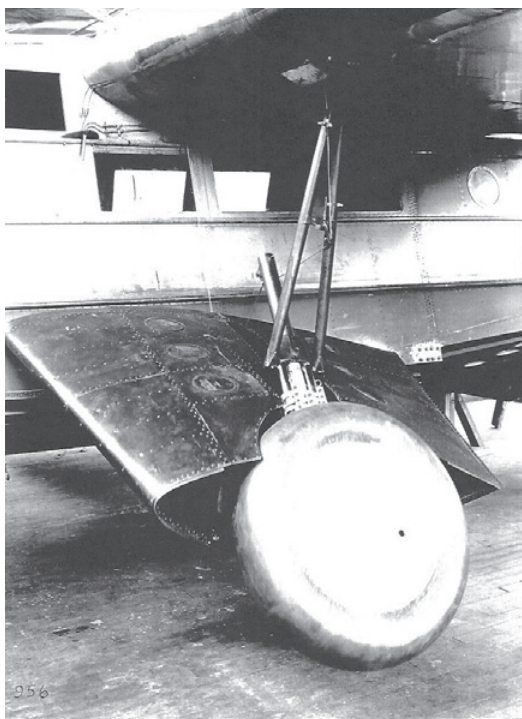
Almost completed fuselage of the F-11 in the Fokker factory in The Netherlands. (Netherlands Fokker photo from the author's collection)



The prototype of the F-11 with its early type small floats is hoisted into the water. An outboard motor facilitated taxiing. (American Fokker photo from the author's collection)



Initially configured as a flying boat, msn 901 would be modified into an amphibian with the addition of retractable landing gear. Note the abbreviated vertical stabilizer. This would be enlarged in future production versions. (American Fokker photo from the author's collection)



Above: View showing an F-11 equipped with the sponson gear arrangement. (American Fokker photo from the author's collection)

Left: The sponsoon construction developed to convert the prototye into an amphibian - seen here in the semi-retracted position. (American Fokker photo from the author's collection)

surface proved to be too small and the engine was not powerful enough to win a prominent place among its competitors. The sponson construction did not work either, so the prototype was rebuilt into a flying boat, now equipped with a stronger Wright Cyclone engine of 525 hp, common type floats mounted under a larger wing and a cabin for six people. In this form it was called F-11A Special and sold in September 1930 to (again) Harold S. Vanderbilt, who kept the aircraft registered until the end of 1933. He sold it in mid-1937. On September 21, 1938, the aircraft was destroyed by a hurricane at its berth in Revere Beach, Massachusetts.

Hull Production

The delivery of hulls from the Netherlands from the first production series began in arriving in April 1929 with the rest

following in rapid succession. By September 1929, all 10 hulls of the original order had been delivered and were available for completion by the U.S. plant in Hasbrouck Heights.¹⁴ Two of the hulls, incidentally, did not meet the quality requirements set by the U.S. factory and were credited by the Dutch company.¹⁵

The factory estimated the completion time at 56 working days per ship, so fast deliveries were possible. The price set for the Flying Boat was \$40,000 and for the Amphibian \$42,000 with both offered seating for up to eight occupants. By April 1929, the factory had already started static tests with the first production aircraft, setting the pace. In using the larger wing that was designed for the F-14¹⁶ increased lift was created, while a Wright Cyclone was expected to provide the needed horsepower. It is possible that this aircraft, referred to as F-11A,¹⁷ flew first as a flying boat with wing floats, but soon



The sponson arrangement wasn't very successful and was soon removed, converting the prototype back to a flying boat. It was sold to Harold S. Vanderbilt as F-11 Special with a bigger wing and Cyclone engine. (American Fokker photo from the Boeing Company)



F-11A, NC7887, seen taxiing up to its berth in Revere Beach, Massachusetts. A storm destroyed this aircraft at its berth in September 1938. (Photo from the author's collection)

a simplified wheel undercarriage was added that could be straightened up while landing on the water.

Military Interest

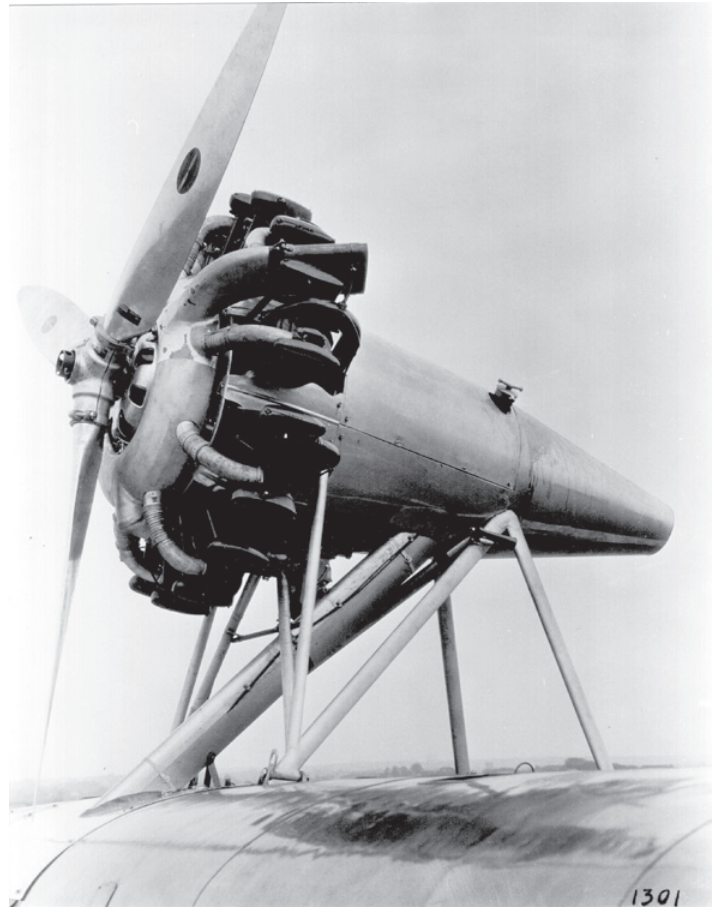
This second aircraft (msn 902) was shown to the general public during the National Air Races in Cleveland, Ohio, from August 24 to September 2, 1929. Interest shown by the U.S. Army Air Corps (USAAC) shortly afterwards led to a brief inspection and demonstration at Wright Field, the USAAC test center in Dayton, Ohio.

Shortly after the demonstration, on September 14, the leading edge of its right wing was broken in an unfortunate landing by test pilot Max Holzem at factory airfield Teterboro Airport, N.J., and further testing did not seem possible for the time being. However, the aircraft reappeared on September 27, 1929 in a line-up of Fokker aircraft on the occasion of the F-32's presentation at the factory field. Possibly the wing was

'borrowed' from the next F-11 on the production line.¹⁸ In the subsequent test, the motor position was changed from a pusher to a tractor configuration, but for the desired performance the engine power proved to be too meager in both configurations.

As the USAAC also had indicated that the aircraft was underpowered, it judged the suggestion of the factory to equip it with two Wasp C engines of a total 840 hp interesting. Fokker decided to place a pod with two engines (as was also used on the F-32) on top of the wing producing a combined pusher and tractor configuration. When Fokker reported to the USAAC in June 1930 that the two-engined F-11A was ready for testing, it was immediately requested to be sent to Mitchel Field, L.I., N.Y., for a test program, thus showing their continued interest in the type.

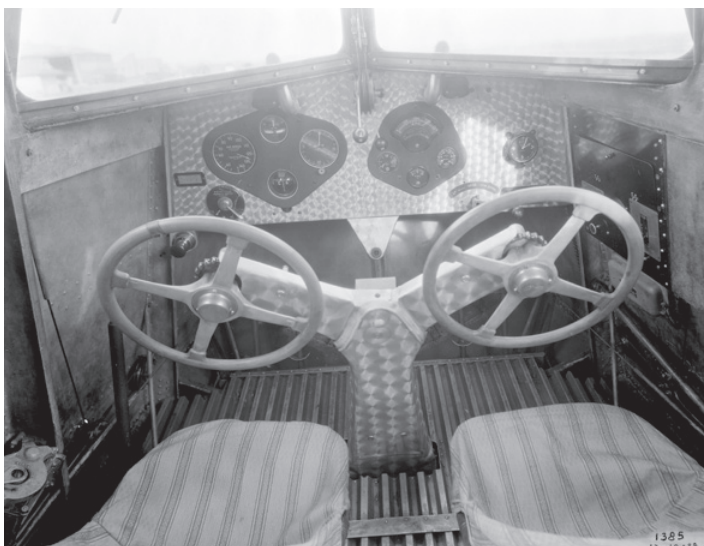
The third aircraft (msn 903) under construction at the Hasbrouck Heights factory had a civil registration applied for in August 1929.¹⁹ It was fitted with a Cyclone engine in pusher configuration on top of the wing. At the request of the factory, however, the assigned identity number was cancelled in February 1930, possibly as a result of the use of the wing to repair the second aircraft. In the production summary of the Fokker factory from early June 1930 the aircraft was reportedly ready again,²⁰ but now equipped with a Pratt & Whitney Hornet B engine of 575 hp and designated as F-11AHB. In this form, the aircraft was made available to the USAAC the same month and tested at Mitchel Field together with the twin-engined F-11A.



The F-11AC as originally powered by a 525-hp Wright Cyclone engine, for a short time fitted as tractor on msn 902. (American Fokker photo from the author's collection)



Interior shot of cabin seating arrangement. (American Fokker photo from the author's collection)



View of the cockpit of the F-11A. (American Fokker photo from the Boeing Company)

One Swallow Does Not Make Spring Yet

The fourth aircraft²¹ (msn 904) actually left the factory before the third. Boat racer Gar 'Silver Fox' Wood had ordered this ship in September 1929 and got it delivered in November, equipped with a Hornet B engine. He flew it for a number of years until the aircraft went into storage in 1933. After overhaul, the license was renewed in September 1936 and the aircraft changed hands several times. In October 1938, it purchased by John W. Schlenkmann for the use of Reverend Paul Schulte, who was going to use it as a flying chapel, including a real altar installation in the cabin. His goal was to serve lonely church members in remote arctic areas. This use did not last long, because according to reports the aircraft crashed and sunk in Lake Erie, Mich. It was dropped from the civil aircraft register in October 1939.

At the end of October 1929, shortly after the order by Gar Wood, America was struck by the large stock market decline on Wall Street, which heralded the beginning of the Great Depression of the 1930s. One of the markets for which the F-11A was intended, namely for wealthy individuals, shriveled



The Wright Cyclone engine, tried in both pusher and tractor arrangements still fell short on performance. Fokker attempted to fix the USAAC requirement with a tandem arrangement (similar to the F-32 engine pods) with two Pratt & Whitney Wasp engines. (American Fokker photo from the author's collection)

up while the airlines, even if they were using amphibian planes or flying boats, suddenly became very reticent about ordering new equipment. Even a price reduction of \$7,500 for the flying boat and \$ 8,225 for the amphibian did not attract new interests. This forced Fokker to put all his cards on an Air Corps order for the F-11 type.

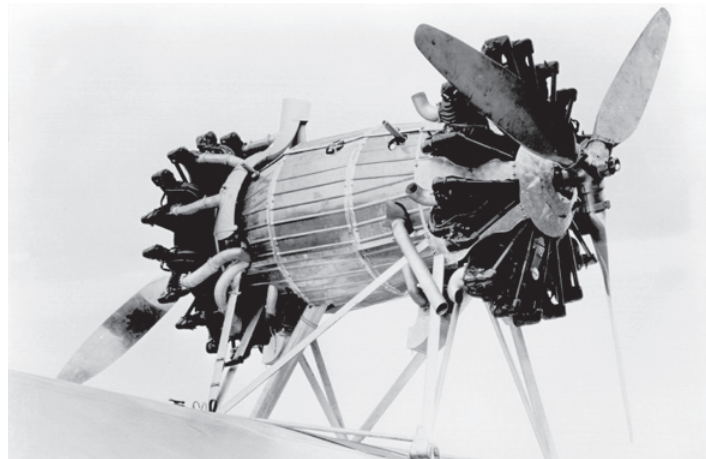
The Military Tests

The opinion on both F-11A's that were tested at Mitchel Field in early June 1930 differed.²² The configuration with two engines on the second aircraft was judged negative: the aircraft still operated satisfactorily from water, but for land operations it was too heavy. It was recommended to install a Hornet B motor just like the third aircraft. This happened shortly afterwards in the Fokker factory when an engine with three-bladed propeller was hurriedly borrowed from a F-32.

The inspection results of msn 903 were more favorable than for the two-engined variant, but the rudder had to be provisionally enlarged on the spot in order to compensate the tendency to turn left in flight. The aircraft then went back to the factory for six weeks to make improvements and to solve the problem of hull vibrations. Afterwards, further testing was transferred to Wright Field. The second aircraft, with both engines changed to a single Hornet B, was soon flown to Dayton and tested from June 16 onwards. Because the engine pod weighed 900 lbs. less than the earlier tandem arrangement, a substantial improvement in general performance was achieved. But at a cost of a much lower the top speed.²³ However, as with msn 903 (albeit a little less), now the tendency to turn to the left was observed, especially in the start.

Although the findings of the test were positive in general, the hull turned out to shake and vibrate in the flight. The aircraft was returned to the factory in July 1930 with the verbal announcement that an USAAC order could only be obtained if the type was fitted with a Wright Cyclone engine and the vibrations could be solved. It never returned to Wright Field and was only used by Anthony Fokker himself for a while, ending up as flying boat.

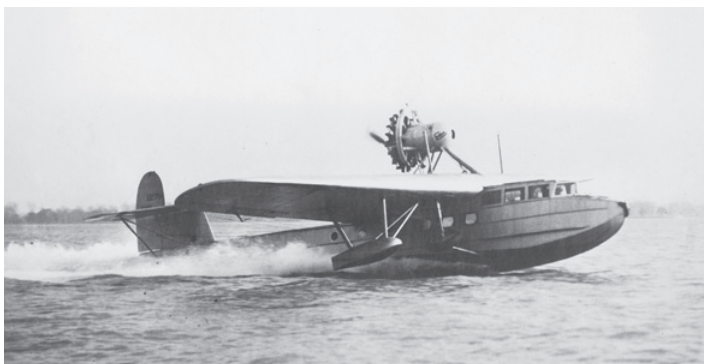
With an order for six aircraft in prospect,²⁴ the third aircraft with an enlarged fin and rudder went to Wright Field on August



Another view of Msn 902 with the tandem engine arrangement. (American Fokker photo from the author's collection)



American Fokker aircraft lineup taken on September 27, 1929, with the rollout of the F-32. F-11A, msn 903, appears on the near-side of the F-32 with an intact wing. (American Fokker photo from the Gerald Balzer collection, AAHS archives)



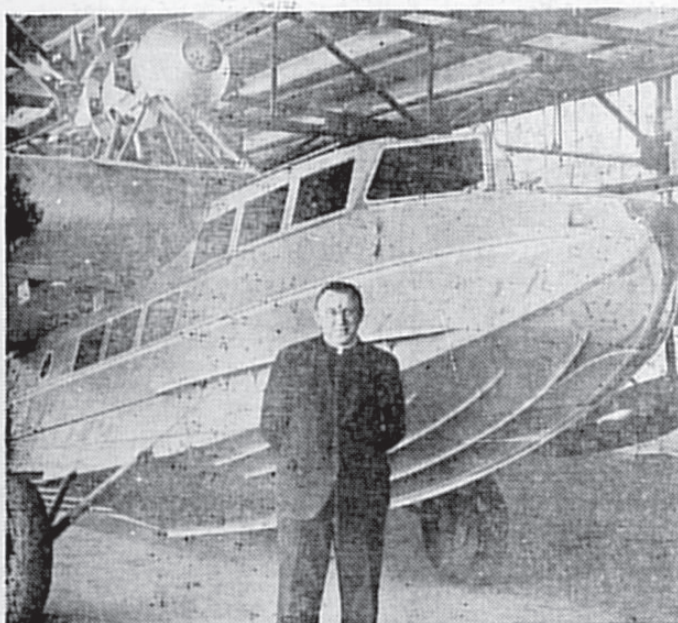
Msn 904 was fitted with a 575-hp Pratt & Whitney Hornet B engine; changing the model identification to F-11AHB, which would be the final configuration offered by Fokker. (American Fokker photo from the Gerald Balzer collection, AAHS archives)

27, 1930. In addition, the cockpit section was covered over with a streamlined hood to the leading edge of the wing. It was designated Y1C-16 for an official test period and already painted in the colors of Western Air Express. During the test, Fokker engineers at Wright Field temporarily applied wires in the central part of the hull, which significantly reduced the vibrations. The Air Corps advised however, to place a bulkhead in the hull at the location of the rear main spar of the wing instead of the wires.

The latter proved to be a bridge too far for Fokker, who viewed this radical conversion of the already completed boat hulls as not being feasible. The vibration problem was caused by the wing attachment to the F-11 hull. The attachment locations were originally determined by the distance between the spars of the Super Universal wing. With the use of the larger wing from the F-14, the spar distance changed, and the rear spar was no longer situated on top of a hull rib.

The USAAC order then went to the Sikorsky S-38A and Fokker was left nothing other than to take back the tested aircraft. The sale of the plane to WAE was cancelled due to a lack of certification by the Department of Commerce. The last reference to this aircraft was on the factory inventory of July 31, 1931.

Arctic Priest Takes Church With Him



Completely equipped with an altar, this new Fokker amphibian plane will carry Reverend Paul Schulte back to the Arctic, where he is known as the "Flying Priest." Long a missionary in the north country, Father Schulte returned to the United States to purchase the new plane.

Msn 903 would be sold to boat racer Gar Wood. It would later become a flying chapel for the Reverend Paul Schulte. (Milford Newspaper, February 9, 1939, via Karel Kalkman)

Air Ferries

The Air Corps report of mid-1930 tests at Mitchel Field stated that the aircraft with msn 903 was intended for Air Ferries Corporation in San Francisco, California. This company had indeed indicated around March 1930 that it wanted to purchase three F-11As, the first to be delivered in May.²⁵ But only one, viz. the sixth aircraft²⁶ (msn 906 and the last of the type to be built by the American Fokker factory) did serve Air Ferries. It was completed in February 1930, again equipped with a Hornet B engine but without the circular windows in the rear fuselage. Soon afterwards, it reappeared with the enlarged fin/



A view of the interior of Msn 903 in its chapel configuration. (Photo from the author's collection)



Fokker sent msn 903, NC843W, painted in Western Air Express colors, to Wright Field for evaluation by the USAAC in August 1930. Sporting a larger rudder and vertical fin, it was assigned the designation Y1C-16. Neither the government nor the airline ended up purchasing this model Fokker. (USAAC photo from the author's collection)

rudder configuration with an increased seating capacity being was raised to 10 people, for which an extra cabin window was added. Further, cabin entrance doors were installed on both sides of the fuselage, all apparently at customer's request.

Exhibited at the All-American Aircraft Show in Detroit, Mich., in April 1930 it flew to San Francisco to be delivered on May 12, 1930. Air Ferries used it on its San Francisco Bay service but refrained from further purchases. The aircraft went into storage in 1931. After the sale to Gorst Air Transport in Seattle, Wash., in November 1932, the aircraft began an adventurous life as a bush airplane, ending up in Canada.²⁷ It crashed at McDames Lake, B.C., on July 13, 1937, and the remains of the hull are now in storage at the Aviodrome Aviation Collection in the Netherlands.

Bad Prospects For The Remaining Hulls

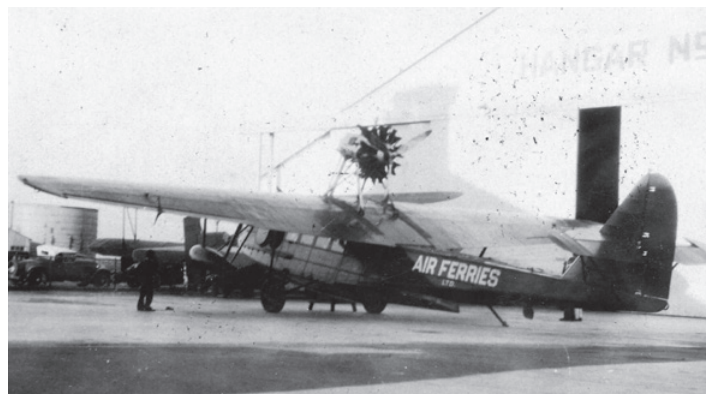
The completion of the second production order from the Netherlands was carried out as energetically as the first. However, after the shipment of the first two hulls in December 1929, further deliveries were halted at the request of the U.S.

factory. On the inventory of the American Fokker factory dated January 26, 1931, the hulls 905 to 911 still appeared.²⁸ In Amsterdam, the remaining eight F-11A hulls of the second order were stored, waiting for better times. But those did not come soon enough, neither in U.S. nor in the Netherlands.

Early October 1929 hope was still based on further developments of the F-11 with two Wasp engines²⁹ or a single 'geared' Curtiss Conqueror, but prospects were soon too bad to justify continuation. An announcement around October 1930 that Alaska-Washington Airways intended to purchase two 'giant 14-place Fokker flying boats' for its Seattle-Alaska run did not materialize either.³⁰ In a market study from the beginning of 1931, the U.S. Fokker factory stated that the sales department was demotivated by the lack of sales due to insufficient performance, despite the many efforts and costs. Where sales discussions were conducted, the F-11 proved to be too slow, had too little range and too little payload to compete. The aircraft was mentioned as being difficult to categorize against the competition and could only be sold at an extremely low price. Also, the intention at the end of 1931 to develop



Msn 906, NC339N, was the last and only F-11A to see commercial service. Delivered as a F-11AHB to Air Ferries Corp., in San Francisco, Calif., in May 1930. (American Fokker photo from the author's collection)



Msn 906 seen here in Air Ferries Corp. colors. (From the Gerald Balzer collection, AAHS archives)



Eventually exported (1933) to Canada and modified to flying boat, msn 906 became CF-AUV operating in the Yukon area. (Bush Pilots in Southern Alaska)



The Aviodrome celebrated the return of the F-11 hull to the Netherlands by a Canadian inspired diorama of its crash scene (Aviodrome - Lelystad)

another combined float/wheel undercarriage for the aircraft was stopped before it could be finished.

Shared Sorrow

On October 29, 1930, it was proposed at a meeting of the Board of Directors of the American Fokker factory that Anthony Fokker and the President J.M Schoonmaker Jr would consider what to do with the 10 hulls of the second order. Three months later a report was made that it had been agreed that both the Netherlands and American companies would each take five hulls. Thus, the NVNV remained both owner of five hulls that they had taken back as well as the caretaker of the three hulls of the order that had not yet been shipped to the U.S.

Several attempts by the NVNV to develop these eight hulls into a modified type³¹ did not work out, but that was not the only pain besides the crediting the two hulls of the first production order. From post-calculation in the Netherlands it appeared that the construction of the F-11 hulls had cost \$17,200 more than had been agreed, which loss was taken in the 1929 financial year. Driven by optimism, the amount of the cancelled order for five boat hulls was added on balance for around \$20,000 from the end of 1930 onwards. Finally, in the 1937 financial year of NVNV, the hulls were fully written off.³² One hull ended up at the Delft University in the Netherlands to study metal construction and even survived the war. The forward part of another hull was on show at the Avia Exhibition in The Hague, the Netherlands in September 1937. Later it was placed close to the teahouse 'Soesterdal,' near the Soesterberg Air Base, the Netherlands. According to someone's memory, Fokker employees may have also created a pleasure boat from a discarded hull.

In the U.S., at the end of 1931, four hulls of the first production order and the two of the follow-up orders were stored in the tin shop of the already abandoned factory at Teterboro Airport, possibly joined by the two completed aircraft. In May 1932 it was decided to demolish them. The very costs of the

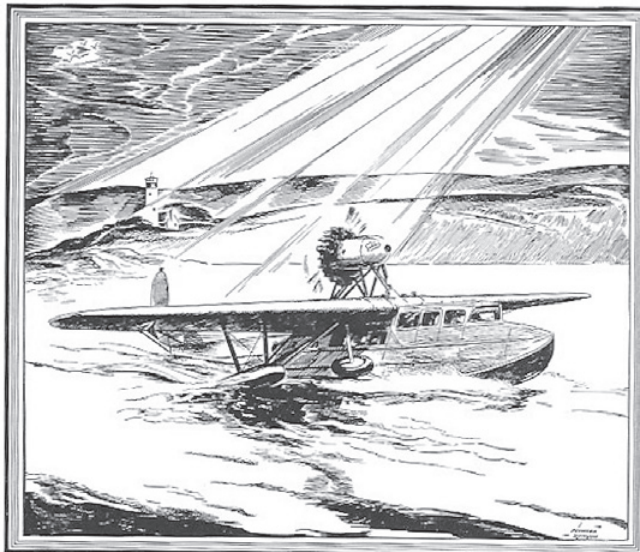
discarded hulls plus import duties only exceeded \$50,000 and were taken as loss. Thus, the precious adventure of the F-11 ended.

Off-Springs?

Mid 1929, the U.S. Coast Guard (USCG) formulated its specifications for a future rescue flying boat. Among the proposals received was one of FACoA, which looked on first glance like a F-11 hull with the wing of the F-10 airliner and two engines in top. However, the Fokker practice to use a standard type wing for the type was neither feasible in the specification, nor could the F-11 hull have used again. After a long development route, in which Harry B. Coffin, formerly engineer at the Naval Aircraft Factory played an important role, the proposal emerged as Fokker AF-15, or Flying Life Boat (FLB).³³ It had grown out to nearly twice the weight of the F-11A, had an enlarged fuselage with much bigger wing, so it could hardly be called a development anymore.

Around October 1930, the USCG at last ordered five FLB's from the FACoA, which were built by their successor, the General Aviation Manufacturing Corporation (GAMC) at the former Curtiss Caproni plant in Dundalk, Maryland. However, again the boat hulls were not of their own construction but delivered by a sub-contractor called Seymour J. Baum Inc. of Elmhurst, L.I., New York. The FLBs³⁴ were delivered to the Coast Guard in the second part of 1932 and the last one served until August 1941.

Finally, GAMC proposed for a U.S. Navy competition at the end of 1932 a Long-Range Flying Boat that might be seen as a far descendant from the F-11 and/or FLB. With its gross weight of 28,000 lbs. it more than doubled the FLB's weight so it would have been a substantially different aircraft. It was, however, not selected for a contract³⁵ and thus ended the flying boat line of the former FACoA. ➔



THE AMPHIBION THAT GAR WOOD SELECTED

WHEN Gar Wood, eminent power boat racer and manufacturer, selected a Fokker Amphibion for his personal use, he paid a high tribute indeed to the performance of the plane, and the sturdiness of its build.

Powered with a Wright 525 h. p. Cyclone or Pratt & Whitney 575 h. p. Hornet motors, Fokker Amphibions have a high speed of 112 m. p. h., and a cruising speed of 95 m. p. h. Rigged as flying boats, they have a high speed of 120 m. p. h. For transport or personal use, these ships are also provided with two motors.

pective purchasers will be interested to know that Fokker has built more airplanes than any other manufacturer in the world, that Fokker planes have made twice as many great pioneering flights as any other make of plane, and that Fokker planes have flown over 25,000,000 miles on transport lines, establishing a record for safety that has never been approached.

Because of economies due to production principles of General Motors, prices are probably less than you might expect. Terms may now be arranged on the G. M. A. C. finance plan to suit your convenience.

For the use of business executives, for pleasure, and for transport, Fokker now makes six different models of airplanes: single and multi-engine types, land planes, sea planes, flying boats, amphibians. Requests for information or demonstration are invited, and will be promptly answered. Fokker Aircraft Corporation of America, General Motors Building, New York.

FOKKER

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FOKKER AIRCRAFT CORPORATION OF AMERICA

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★ STANDARD SPECIFICATION ★

Amphibion — Fokker F-11-A — Flying Boat

FLYING YACHT—COMMERCIAL TRANSPORT
(Wright "Cyclone" or Pratt & Whitney "Hornet" Engine)

Structure Standard Fokker design. All wood, veneer-covered wing, full cantilever type. Aluminum alloy hull. Tail surfaces and engine mounting, tubular steel construction. Amphibion with folding landing gear, combined with aluminum alloy sponsons. Flying boat with aluminum alloy wing side floats.

Power Plant Wright 525 H.P. "Cyclone" or Pratt & Whitney 500 H.P. "Hornet" engine. Hand inertia starter, with booster magneto. Three-bladed adjustable metal propeller.

Fuel and Oil Systems Two gasoline tanks between wing spars; total capacity 126 gallons. Two "boiler type" glass tube gasoline level gauges. Engine driven fuel pump, hand emergency pump. Oil tank on engine mount.

Amphibion Landing Gear Folding type with vertical shock absorbing struts to front wing spar. Wheel track 14 ft. 5 in. Wheels fitted with 36 in. x 8 in. tires; internal expanding brakes.

Cockpit In front of main cabin. Enclosed and fitted with fixed windows. Pilots' seats with safety belts. Lighted metal instrument board.

Controls Dual control with "swing over" wheel. Stabilizer adjuster with indicator. On amphibion, brake controls act independently on each wheel through rudder control for steering. Arrangement to set both brakes for testing engine and parking.

Instrument Board Installation

1 Magnetic Compass	1 Engine Primer
1 Altimeter	1 Oil Pressure Gauge
1 Airspeed Indicator	1 Gasoline Pressure Gauge
1 Bank and Turn Indicator	1 Oil Thermometer
1 Tachometer	1 Ignition Switch
1 Clock	

Cabin Mahogany finish below window line. Standard equipment: six seats for passengers. Dimensions of main cabin, including pilots' cockpit: 15 ft. long, 5 ft. wide, 5 ft. 5 in. high. Compartment for baggage (convertible to toilet or galley) aft of main cabin. Walkway alongside of hull. Large entrance door on left side.

Lighting and Other Equipment Navigation, cabin and instrument lights. 35 amp. hr. battery. Conduit tubes and blocking for extra installation of landing lights. Two fire extinguishers. First-aid kit. Engine and exhaust cover.

Finish Wing: Galathea orange enamel. Hull: black asphalt below water line; navy gray above water line. Exposed metal parts: navy gray lacquer. Engine cowling: burnished and clear lacquer. Horizontal tail surfaces: Galathea orange lacquer. Vertical tail surfaces: navy gray.

Dimensions Span 59 ft. Overall length 45 ft. Overall height 13 ft. Wing area 500 sq. ft.

Weights

AMPHIBION	BOAT
126 gals. gasoline 756 lbs.; 12 gals. oil 90 lbs.; pilot, 170 lbs.; payload 1,384 lbs.; total useful load 2,400 lbs.	126 gals. gasoline 756 lbs.; 12 gals. oil 90 lbs.; pilot, 170 lbs.; payload 1,384 lbs.; total useful load 2,400 lbs.

Performance with Full Load at Sea Level

AMPHIBION AND FLYING BOAT

High speed	125 M.P.H.
Cruising speed	100 M.P.H.
Landing speed	15 M.P.H.
Climb	950 ft. min.
Range at cruising speed (Amphibion)	4½ hours, 450 miles
Range at cruising speed (Flying Boat)	5 hours, 500 miles

Extra Accessories No accessories, instruments, color finish or equipment, other than those specified above, are included in the standard specification or in the list price, but such additional accessories, instruments, color finish or equipment can be furnished at prices which will be quoted on request.

Standardized special installations supplied at extra charge: electric inertia starter, including engine driven generator and larger battery, \$510. Landing lights, with engine driven generator, \$650. Combination of the two foregoing, \$780. Landing lights, with larger battery (without generator) \$320. Two Wiley flares, \$225. Special navigation instruments supplied and installed at manufacturers' list prices.

Prices FOKKER F-11-A AMPHIBION, equipped according to standard specification, delivered set up for flight at factory, \$42,000.

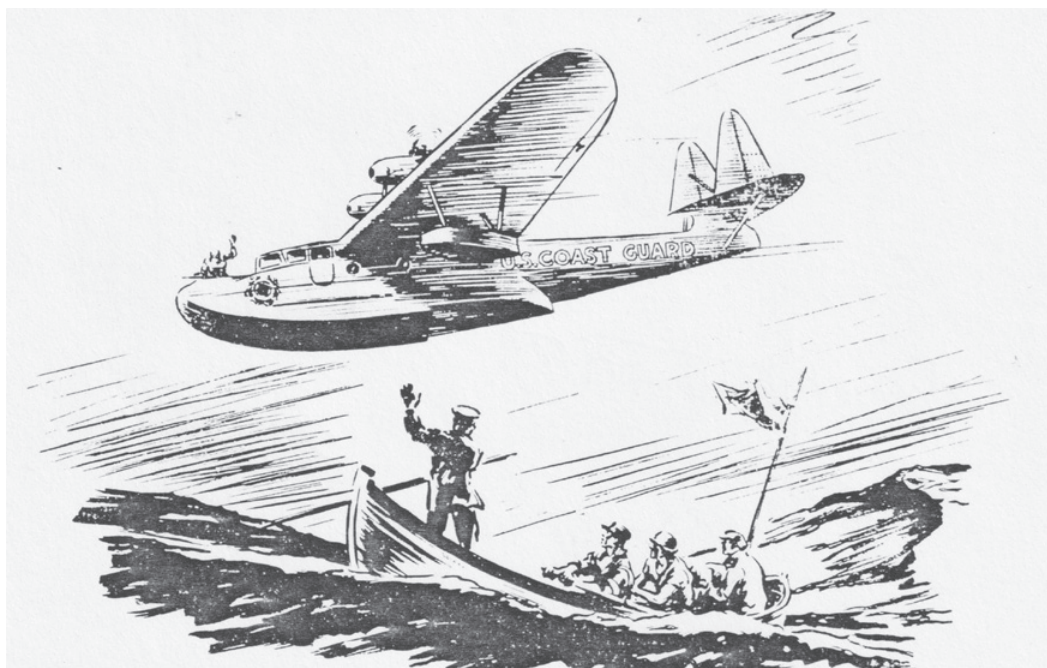
FOKKER F-11-A FLYING BOAT, equipped according to standard specification, delivered set up for flight on water near factory, \$40,000.

All quotations are domestic only and subject to change without notice.

MARCH, 1929
M. P. L.

In spite of marketing and sales activities that include celebrity endorsements, Fokker was unable to find a niche for the F-11. (From the author's collection)

As can be determined from the F-11 standard specification sheet, the plane was short on speed, range and load capabilities — not a winning combination. (From the author's collection)



An impression of Fokker's initial flying boat offer to the U.S. Coast Guard, in which the heritage of the F-11A was still visible. (U.S. Coast Guard)



The final Fokker flying boat development in the U.S. as it emerged as Flying Life Boat; the first aircraft pictured still without its beaching gear and the original Coast Guard marking "FLB-8," (American Fokker photo from the Boeing Company)

Notes

(Endnotes)

- 1 This regards successively the Atlantic Aircraft Corporation and the Fokker Aircraft Corporation of America which under GMC's ownership later became General Aviation Manufacturing Corporation
- 2 The related expansion of the Dutch Navy was vetoed by the parliament in October 1923
- 3 The aircraft was already in process for the AAC late in 1926 under NVNV commission number 1842 and had to be ready by April 22, 1927 at the latest
- 4 Wing drawings of a wind tunnel model called PA-1 were dated July 22-27, 1926
- 5 Drawing AAC A-091227 (the number is also the date) 'Flying Boat F50-D'
- 6 Drawing AAC X-703 of October 18, 1927 'Flying Boat F50E (1 Wasp)'
- 7 Drawing AAC X-704 dated November 25, 1927 'Flying Boat F.50-E (Single Wasp), Hull construction'
- 8 It was called FB. V, as there might have been already an earlier Dutch model (F)B. IV project; the latter designation apparently was reused when the type was not built. Later on, both the designations FB.IV or B.IV were used for it in the Netherlands.
- 9 This was the case with the models 10 (F-10) and 14 (F-14)
- 10 The aircraft received msn 901 and the civil registration number 7887 (later NC7887)
- 11 Original plans mentioned it a sleeping compartment for the crew
- 12 With the Dutch msn 5169/5178
- 13 Dutch msn 5196/5205, although the last two numbers are unconfirmed
- 14 The dates of the invoices were between March 19 and September 11, 1929
- 15 Those hulls were not replaced
- 16 The surface of the Super Universal wing was 400 sq. ft and the F-14's one 550 sq ft.
- 17 With msn 902 and registration number 148H (later also NC148H and X148H); fitted with a Wright Cyclone, the Department of Commerce, Aeronautical Branch called it F-XI-AC
- 18 This could also explain why the second production machine (msn 903) was finished much later
- 19 Msn 903, for which registration number 151H was assigned
- 20 Designated as msn 903 with the manufacturing date of June 12, 1930, a new civil registration number (843W) was assigned, possibly because Fokker had not mentioned its msn in the application
- 21 A F-11AHB amphibian with msn 904 and registration number 127M (later on NC127M)
- 22 Letter of 18 June 1930 from 1st Lts J.G. Taylor and 1st Lt H.P. Rush to the Chief Engineer at Wright Field (note: the letter mentioned 802 and 803 as msn's of the aircraft, but this seems a slip)

Hull Numbers

1	Msn 901	NC7887	F-11A > F-11A Special	Harold S. Vanderbilt
2	Msn 902	NC148H	F-11A > F-11AC	
3	Msn 903	NC151H	F-11A	registration canceled
	Msn 903	NC843W	F-11A	re-registered
4	Msn 904	NC127M	F-11AHB Amphibian	Gar Wood; et al; sold to John W. Schlenkmann for the use of Reverend Paul Schulte, Oct/1938
5	Msn 905		F-11A	Never Completed
6	Msn 906	NC339N	F-11AHB Amphibian	Air Ferries Corp., San Francisco > Gorst AT / Seattle > Canada
7-21			not assigned and eventually scrapped.	

- 23 From the measured 140 mph back to an estimate of 115 mph
- 24 According to Fokker mentioned in oral communication by General Foulois, commander of the USAAC
- 25 In July 1930 the order was made public by Air Ferries
- 26 Also, a F-11AHB with msn 906 and the registration 339N (later NC339N); msn 905 was never completed
- 27 Registered on July 1, 1933 as CF-AUV
- 28 This is confusing as the 906 had already been delivered at the time. Also, the list mentioned 902 twice as completed aircraft (with one apparently intended as 903 for WAE which was mentioned in connection with it)
- 29 This could have been the original proposal for the Coast Guard flying boat which is mentioned later in the text
- 30 This might have been a commercial adaption of the type developed for the Coast Guard
- 31 Among them was a trimotored sesquiplane and a monoplane design with two tractor and one pusher engine above the wing
- 32 Note for the Supervisory Board NVNV December 20, 1937
- 33 This designation was not the FACoA's model number; real model 15 was the Fokker F-9, of which six were produced for the USAAC as C-7A Trimotors. The AF-15/FLB's model number might have been 20.
- 34 Afterwards, when GAMC was renamed North American Aviation, Inc. the FLB's were also known as PJ-1 or PJ-2. A GA-15 designation was never used at the time, although sometimes the FLB's were called GA AF-15. The real GA-15 became North American's NA-15 and subsequent the Air Corps XO-47
- 35 In the Board of Directors meeting it was mentioned that the choice made for liquid cooled engines reduced its changes.

About the Author

Gert P.M. Blum was born in 1942 and is a retired civil engineer by profession. He was a partner in a Dutch management



consulting firm on building and properties. His interest in American Fokker planes dates from the early 1960s and has led to his specialize in the subject. He has contributed a number of articles on Fokker aircraft to *AAHS Journal*.

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- 1021 Boeing Propeller-Driven Commercial Transports
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