

MITCH MAYBORN

The Ugly Duckling Sikorsky's S-38

The Ugly Duckling--not much to look at, but every inch a champion. In its lifetime, the S-38 performed a variety of tasks that would have destroyed a lesser aircraft. Pioneer airline routes were surveyed and flown across the Andes and the jungles of South America. Long overwater flights were made to Hawaii and over the Caribbean. Exploratory flights were made across Africa, Greenland, New Guinea and Australia. Passengers were carried and freight was hauled under all possible adverse conditions of weather, terrain, and lack of proper facilities. No wonder that the men who flew her have been strong in praise.

The designer, Igor Sikorsky, by 1926 had struggled through misfortune and poverty to create successfully the Sikorsky Manufacturing Corporation. But the company was still struggling hard in 1927 for a secure place in aviation. As Sikorsky saw it: "In spite of the excellent characteristics of the S-37, the time for the large transport is not yet at hand." It was impossible then to secure additional orders on this type of ship. The company built and sold a number of Universal wings, but this did not represent any important business. During this period the S-36 was completed and a few ships of this type were sold. But Sikorsky still had his troubles. "The volume of sales was insufficient to keep the organization alive, and difficulties and worries were to a large extent still with us."

During this trying time, Sikorsky and his men worked hard to remedy defects in the S-36. The result was the first S-38 in May, 1928. Of this plane, the designer said, "It was tested, and we very quickly realized that we had a really excellent machine on our hands." The Navy Department ordered two; and soon afterward Pan American Airways purchased a few for pioneer work on their airlines.

"It was this modest airplane which actually completed the peaceful conquest of nearly all of South America", Sikorsky states. "The first series of ships were sold out quickly; a second series was started and also sold out in

ABOUT THE AUTHOR

Mitch Mayborn should be well-known by now to most of the membership. An editor of Drilling Magazine, sport flyer and collector, Mr. Mayborn has combined his literary skills and aviation hobbies in a way that has truly been profitable for the society.

a very short time. Soon afterward the company found itself with more business than it could handle."

The factory was enlarged and it became advisable to reorganize the Sikorsky Aviation Corporation. Land was purchased in Stratford Connecticut, in close proximity to deep water, which was very important for its seaplane activities. An excellent, modern aircraft factory, with first-class machinery, equipment, offices, drafting rooms, research laboratories and a wind tunnel, was planned and, during 1929 erected on this land. "It was at that time" Sikorsky relates, "that our organization ceased to be a small one and became a substantial, excellently equipped, modern aircraft manufacturing organization."

The success of the S-38, at a time when the Sikorsky Manufacturing Corp. was doing very poorly, was the major factor in the eventual success of the company. If for nothing else, the S-38 should be remembered for this.

If Igor Sikorsky was proud of his S-38, so were several airlines.

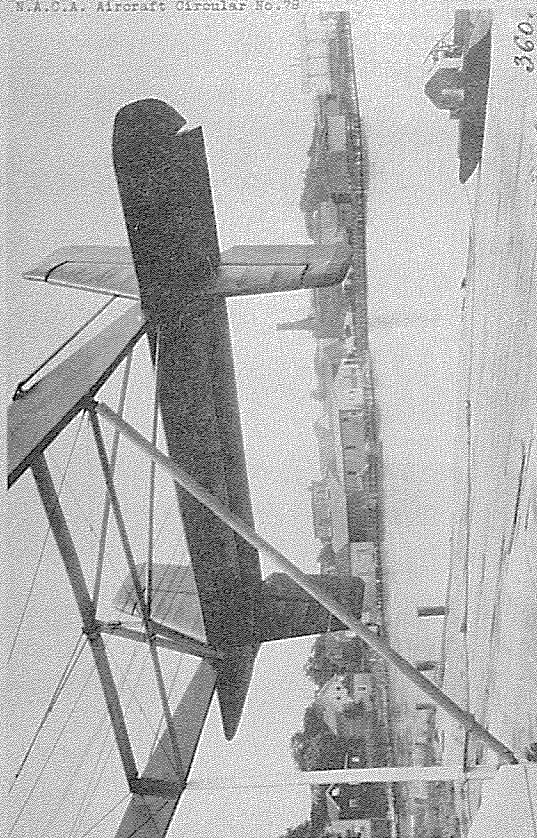
Captain Charles I. "Sam" Elliott, Chief Pilot for Inter-Island Airways, Ltd. loved flying and scheduled himself for over 5,000 hours in the S-38. He considered "the flying tadpole", as the S-38 was called, an excellent airplane, the best for the kind of work it had to do. If one pushes aside the progress of nearly thirty years, and gets back to the view-point of the late 1920's and early 30's, it is possible to appreciate meaningfully the S-38. In Elliott's eyes, "There may have been better land planes and better flying boats, but none that combined the two half so well."

Sam Elliott came to Inter-Island Airways as its first employee, in August 1929. As a Navy pilot, he had graduated at the head of the first class of enlisted pilots trained. He was assigned to serve with VF-2 "Fighting Two" on board the USS Langley where he made carrier landing number 1000. Upon leaving the Navy Elliott became Chief Pilot and later Superintendent of Operations for Hawaiian Airlines. He retired in 1951.

Another pioneer pilot, Captain Basil L. Rowe, flew the S-38 for Pan American in the Caribbean, Central and South America. At one time the owner and operator of the West Indian Aerial Express, Rowe sold to Pan American and became their chief pilot. Rowe explains, "Flying for an airline wasn't the drab experience I had expected. Pan American was growing fast and bidding for mail contracts over new routes, which gave me plenty of opportunity for pioneer flying. We had to survey the new routes to know what we were bidding on: the operating costs, the hazards, the time required for the flight, the facilities for landing. The usual procedure on a survey flight was first to send a staff down to the projected terminal by boat. They would locate the most suitable place to anchor a barge for me to dock the amphibian, and then would check into customs and immigration arrangements. When everything was ready, I would take off on the pioneer flight, sometimes with two or three company officials aboard. In most of the places we went into, aviation was entirely new. Most of the people had never seen an airplane. It was a big event. Officials of the town would be out on a boat at the mouth of the muddy, silt-laden rivers that riled the water far out to sea. I would come in with a flourish, starting up the flamings from the jungle shore, take the town officials up for a hop and there would be a big local holiday." Some of the Pan American flights mentioned with the individual aircraft histories are from Captain Rowe.

N.A.C.A. Aircraft Circular No. 79

FIGS. 3, 4, 5



360.

Fig. 3 Tail surfaces of the Sikorsky S-38 amphibian

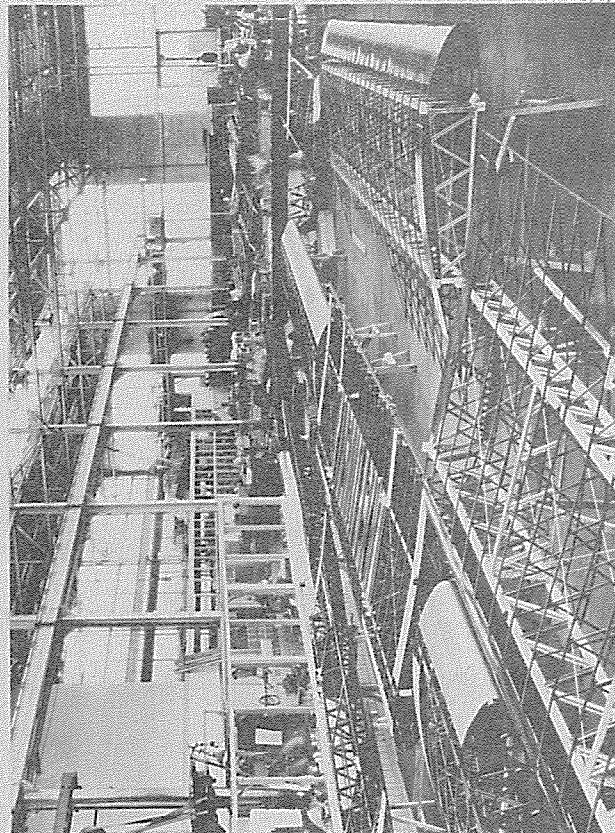


Fig. 5 Interior view of the wing assembly shop of the Sikorsky Manufacturing Corp.

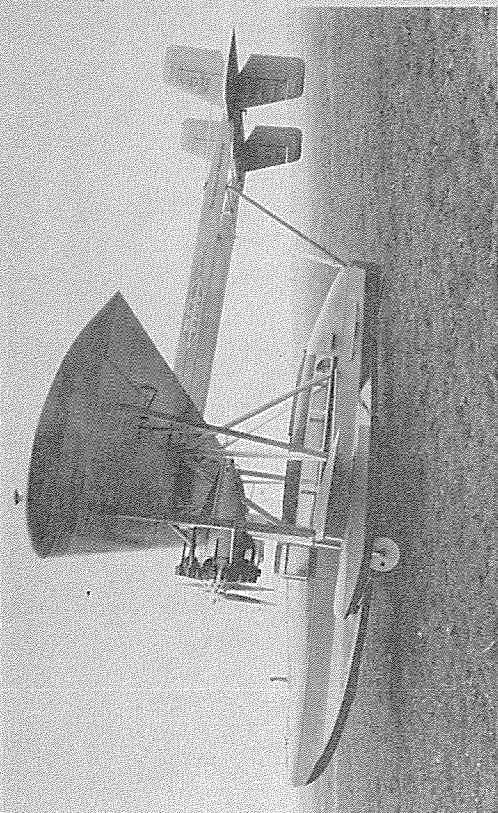


Fig. 2 View of the Sikorsky S-38 amphibian with two V-12 engines

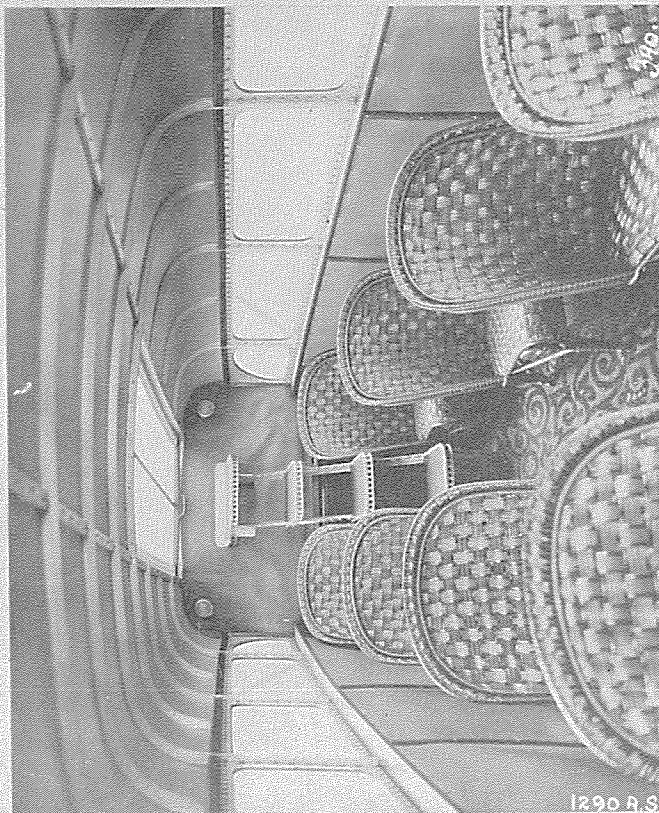
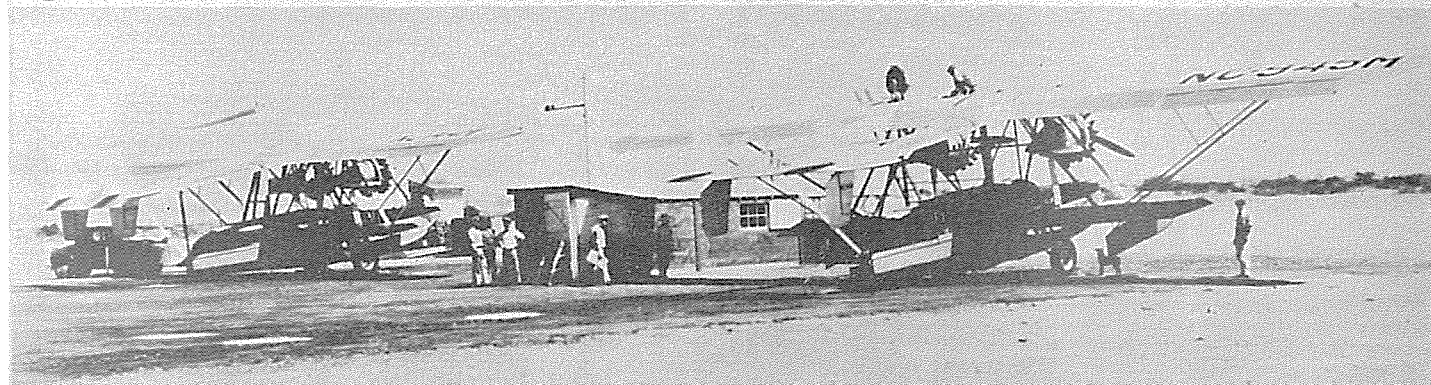


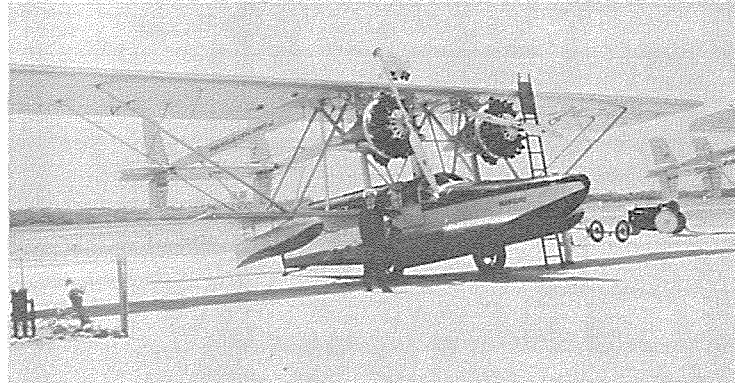
Fig. 4 Interior of cabin of the Sikorsky S-38 amphibian

1290 A.S.

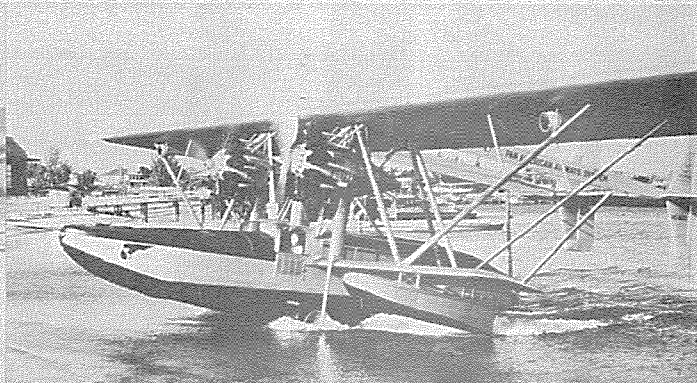


Pan American Grace S-38's Nos. 214-15 (left) and 314-3 at Talara, Peru.

Panagra



214-16 in UMCA markings

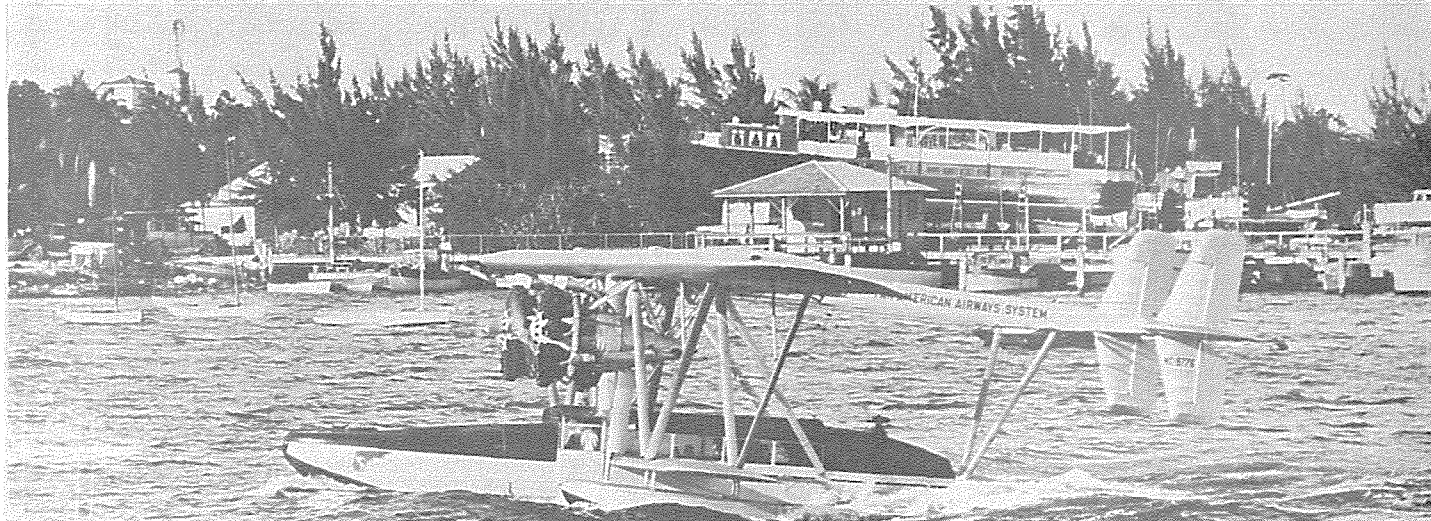
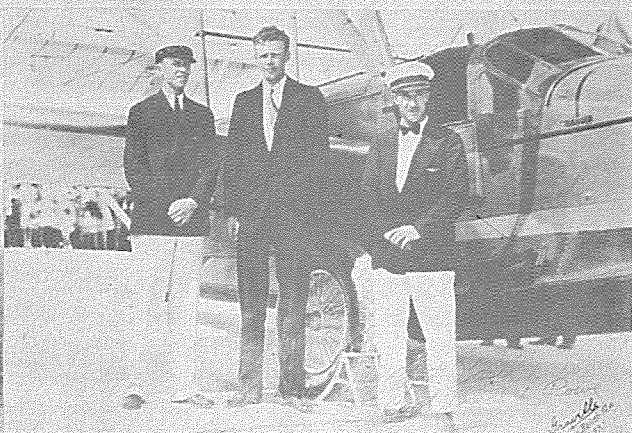


PAA Pan Am's 14-4 at Dinner Key

PAA



214-7 of PAA taking off at La Guara, Venez. PAA Denicke, Lindbergh, Rowe, Apr. 1930 Rowe



114-3 at Dinner Key

PAA

Another famous pilot, Vern Carstens, now Manager-Flight Operations for Beech Aircraft Corp., was pilot for explorer-photographer Martin Johnson and his wife for two years in Africa. Of the S-38, Carstens said, "It is true that they were slow and probably clumsy looking, but they had a great deal of utility that would make them very useful in bush operations today."

What was the S-38 then, and how did it perform? What were the faults of this ungainly bird, called everything from "flying tadpole" to "duck" to "flying fish"?

The S-38 was developed from the Sikorsky S-34 and S-36. The S-34 was an experimental type and only one was built. During a test flight, with Igor Sikorsky and pilot Collier on board, engine trouble developed while flying low over the water. They landed the S-34 down wind and the plane sank. But they learned from the S-34. The S-36, developed from the S-34 was also a two engined, twin boom aircraft and five were built. The most famous perhaps was the "Dawn" which crashed in late 1927 on an attempted flight to Europe. Pan American Airways purchased S-36, NC-3699, and the Navy had one as XPS-1, A-8005.

The S-38 was developed directly from the S-36. The general, high wing, twin boom, suspended hull, design of the S-34, S-36 and S-38 was carried through on succeeding models S-39, S-40 and S-41.

The sesqui-arrangement of the wings allowed Sikorsky to utilize the aerodynamic advantages of the monoplane with the structural advantages of the biplane. The major lifting surfaces were well above the water and the lower wing provided good support for the floats which were not far from the fuselage.

The tail surfaces were mounted high above the water on a twin boom support. This kept them in the slipstream for control effectiveness and out of the rough water. The hull was divided into six watertight compartments, and each float was divided into three.

With a total load of 9900 pounds, only 300 h.p. was needed to maintain level flight, so there was ample reserve power available for take-off, climb, and flight with one engine. The S-38A, powered by two Pratt & Whitney 410 h.p. "Wasp" engines, would maintain level flight on one engine at a maximum speed of 90 mph at a total load of 9400 pounds which was equal to the full load of 9900 pounds less gasoline for the dead engine.

Steering the S-38 while taxiing on water with but one engine was facilitated by lowering the wheel on the side of the operating engine.

The three pilots questioned about the S-38's flying qualities all flew it under different conditions and in different places. Vern Carstens flew for two years in Africa, Captain Sam Elliott flew over 5,000 hours in the S-38 in Hawaii, and Captain Basil Rowe pioneered most of the Pan Am routes in the Caribbean, Central and South America. Yet all three pilots were in agreement on the handling characteristics of the S-38.

Commenting on the landing characteristics on water for instance, Captain Rowe said, "It had a rather flat bottom which made stall landings somewhat rough at times which is the reason that we (Pan Am) always made step landings

which is equivalent to a wheel landing in a landplane. However, if the water was rough or rolling such a landing was not practical and it was necessary to use the standard stall landings." Along these same lines Vern Carstens reported, "The S-38 was a good aircraft on water insofar as landing and taxiing was concerned. It was easy to handle even in high winds, and I never found that landing was critical even under rough water conditions. Captain Elliot, also in agreement said, "In rough water or swells, due to the relative flatness of the hull bottom it had to be forced to stay on the water or it would porpoise before settling in, especially in long swells."

The Army had some trouble with the C-6A in landing on water. The experienced airline pilots, in commenting on the accident reports, have indicated that the fault was with a lack of experience with the water characteristics of the S-38 type aircraft, and not the aircraft. In some cases this lack could not be helped.

All three said that take-offs were something else. "With a load" states Elliot, "you sat so low in the water that the props kicked up so much spray over the windshield that for the first part of the take-off, until you got on the step you had no forward vision at all. After getting on the step vision was ok, and you were into the air like a scared jack rabbit." Flying the S-38 for Pan Am, Captain Rowe said, "The S-38 had excellent hydrodynamic qualities. However, it would have been a much better ship with some additional power. During take-off in a calm sea we frequently had difficulty with a heavy load. At times the props picked up sea water and threw it into the carburetor scoops which caused the engine to rev down and then we had to start all over again after changing a few spark plugs."

Vern Carstens reported that, "Take-offs were always a problem. The hull design was such that a considerable amount of spray was thrown into the props which in turn caused the cockpit windows to be covered with water and until the aircraft was on the step, visibility through the windshield was nil, and sometimes completely in the hand of chance when water and wind conditions were bad. Carstens, who spent two years in Africa with an S-38 and an S-39 commented "The S-38 was not a complex aircraft and maintenance was only normal. It was easy to service and unless it had been water of a corrosive nature, all that needed to be done was to drain the bilges and floats, and open the hatches so that the interior could dry out. The S-38 was designed for easy accessibility in this respect. All wing struts were open on the end for draining and ventilation and the hull was of such sound construction that even under rough water conditions there was very little seepage."

From Captain Elliot, commenting on the handling characteristics on land, "The S-38 had very good landing and take-off characteristics on land. Getting into and out of small fields, I do not think that it could be beat. It had to be that kind of aircraft to operate in and out of the so called landing fields we had at the start of our operation in Hawaii. On unpaved runways, and we only had one that was paved, the tail skag was an excellent stopper. At first our first two S-38's had no wheel brakes, and in a cross wind you had to blimp the windward motor until you had slowed down enough to let the plane swing around into the wind and stop. With wheel brakes this difficulty was eased a lot. One reason the S-38 had such good cross wind characteristics was the lack of a large fuselage for the wind to act on. We had some fields that had soft spots and when wet this posed a problem when taxiing, due to the high

center of thrust and the wheels being set so far back from the nose. Many's the time the wheels sank into the soft dirt and the plane tipped up on the forward part of the keel. It often happened when only a few passengers were in the cabin or if it was empty. When this happened all you did was throttle the engines back and let the ship settle back - no damage was ever done to my knowledge except maybe to some nerves."

Another enthusiastic admirer of the take-off characteristics was Vern Carstens. "On land the S-38 was an excellent handling aircraft in all ways. The brakes made it easy to taxi and because of its low landing speed and good stall characteristics (55mph) landings were never a problem, even in getting into some strips as short as 1400 to 1500 feet. Take-offs were never critical. Because of the altitude and tropical conditions under which we operated in Africa, we would pay strict attention to the aircraft's gross weight. However, when things were favorable we operated under overload conditions a great deal and the way the S-38 would take off gave you the impression that it could handle any load that could be put into it."

The long bow and the biplane construction limited visibility in an undesirable manner. This lack of visibility, made necessary by the construction, shows up in an Army report which says, "Vision forward is fair. Vision to the side and rear is very poor." Another Army pilot said, "On pilot's side (left) visibility is only forward and to the left side. Vision to the other side is poor." However, at that time traffic problems were not so pressing and this limited visibility was not considered hazardous.

The S-38 was a good plane. This story is a tribute to an old workhorse for a long hard job well done.

Bibliographical Note

This is a continuing study and not all of the facts are here. All of the Army and Navy c/n's have not been found, and there are still some foreign registrations missing. I would appreciate knowing of any additions or corrections to this story. Photos are always welcome. There are several persons without whose help this story could not have been written. Pilots Captain Charles I. (Sam) Elliott, Captain Basil L. Rowe, and Vern Carstens have been of great help. Pan American World Airways, Abe French, and Sikorsky Aircraft have all contributed information and photos. Thanks to my wife Corinne for typing up the final copy. There have been many others who helped but space prevents listing all, my thanks to them is nevertheless sincere. Any error in fact is with the author.

TABLE I

Dimensions S-38A and S-38B

Over-all Length	40' 3"	Span, Upper Wing	71' 8"
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Height	13'10"	Span, Lower Wing	36'
Hull Length	30'	Total Wing Area	720 sq. ft.
Width of Tread	9' 8 $\frac{1}{4}$ "	Span	

TABLE II
Performance S-38A and S-38B

Gross Weight	9200 lb.	991b.
High Speed	128 M.P.H.**	124.5 M.P.H.**
Stalling Speed	52 $\frac{1}{2}$ M.P.H.	55 M.P.H.
Cruising Speed at Sea Level at 1650 R.P.M.	112 M.P.H.	110 M.P.H.
Initial Climb	940 Ft./Min.**	880 Ft./Min.*
Climb in 10 minutes	7650 Ft.**	7250 Ft.**
Service Ceiling	20,100 Ft.	19,400 Ft.**
Take-off time in still air from land	8 seconds	10 seconds*
Take-off time in still air from water	11 seconds	16 seconds

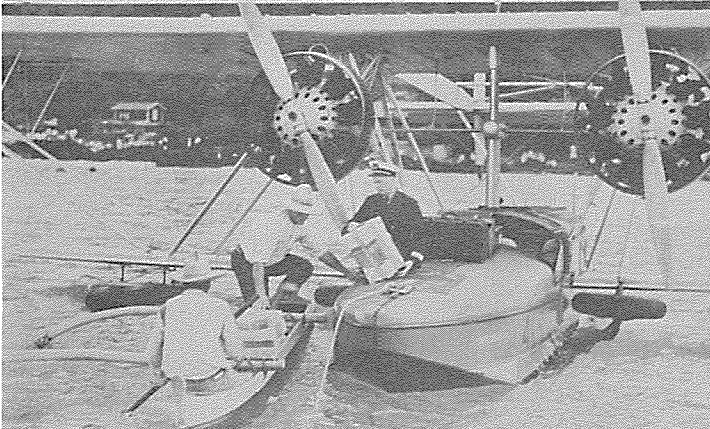
* Department of Commerce Tests

** Official test at Naval Air Station Anacosta, D. C.

C/N	MODEL	LICENSE	DATE BUILT	REMARKS
11A	S-38A	5933 NC-5933	June 1928 Sept. 1928	The prototype S-38. 5933 identification marks issued to Sikorsky Manufacturing Co., College Point, L. I., June 30, 1928. Powered by two 425 h. p. Wasps, c/n 717 and 725. Operated by New York Rio & Buenos Aires Lines (NYRBA) from July, 1928, until September 15, 1930, when Pan American Airways (Pan Am) took over the routes and aircraft. According to this agreement, 11A cost Pan Am \$50,591.00. On



Inter Island Airways S-38C #3 (414-3) over Hawaiian volcanoes



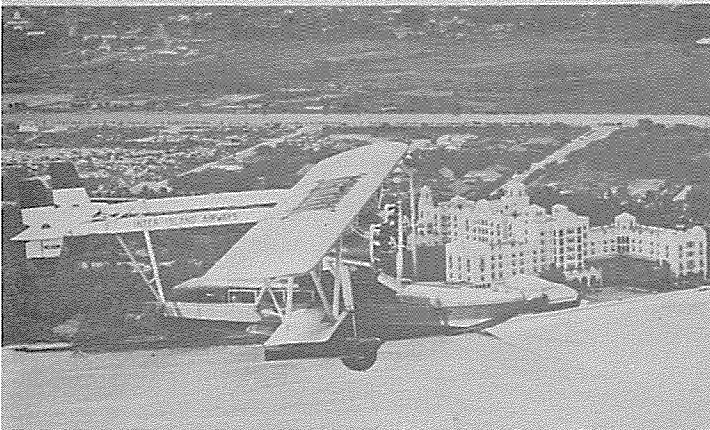
Sam Elliott unloading 314-8

Hawaiian A/1



314-8 "Molokai" over Honolulu

Sam Elliott



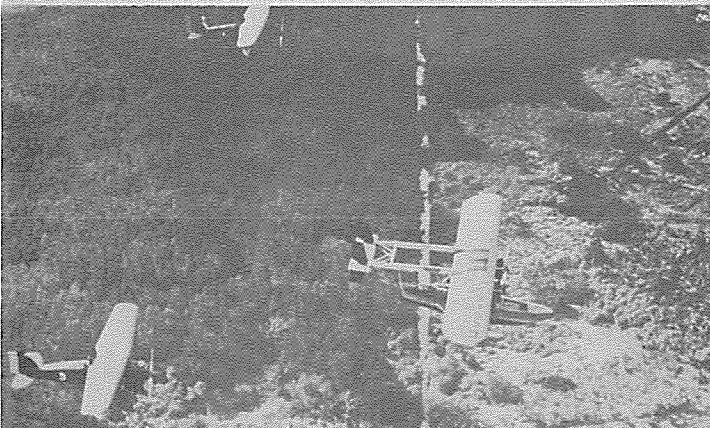
214-8 "Maui" over Waikiki Beach

Elliott



214-8 after tangle with grader

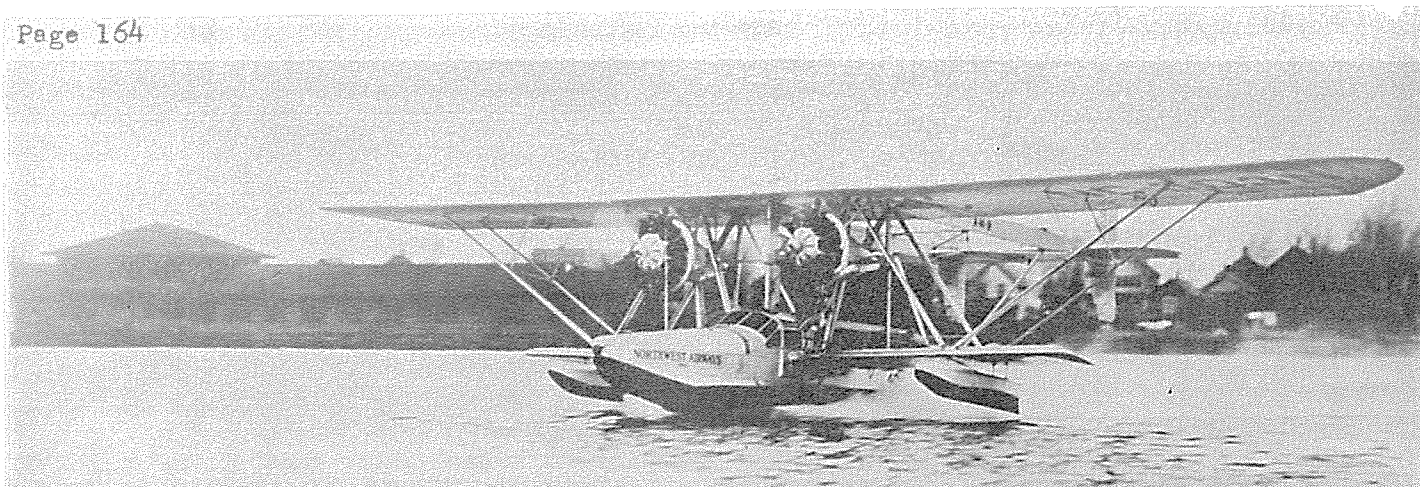
Elliott



Lindbergh returns from Panama in 14-1

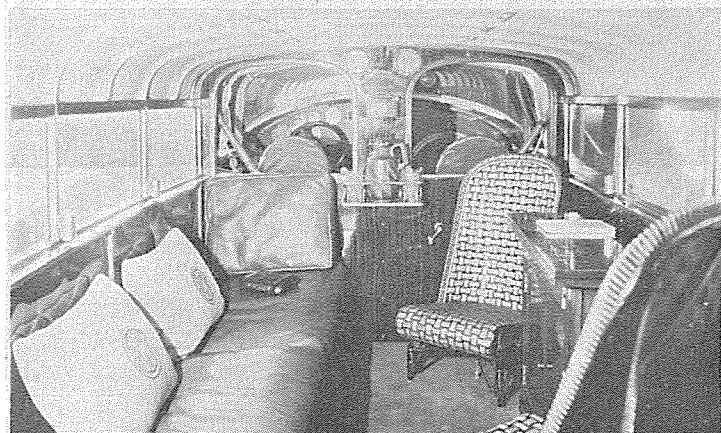


114-3 refueling at Yucatan



414-1 taking off from Duluth Harbor

Northwest Airlines

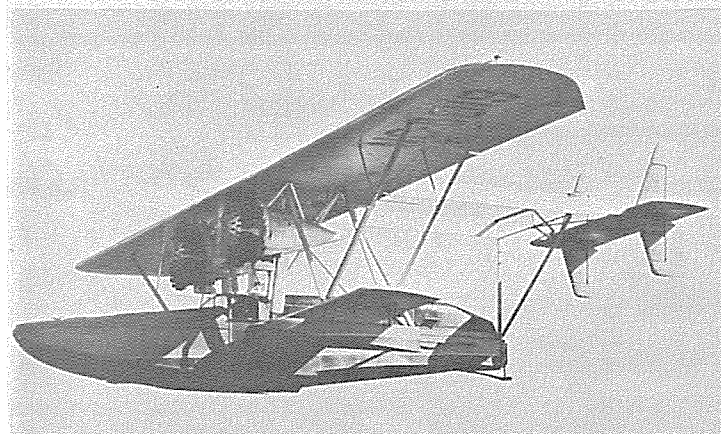


Interior of 14-2

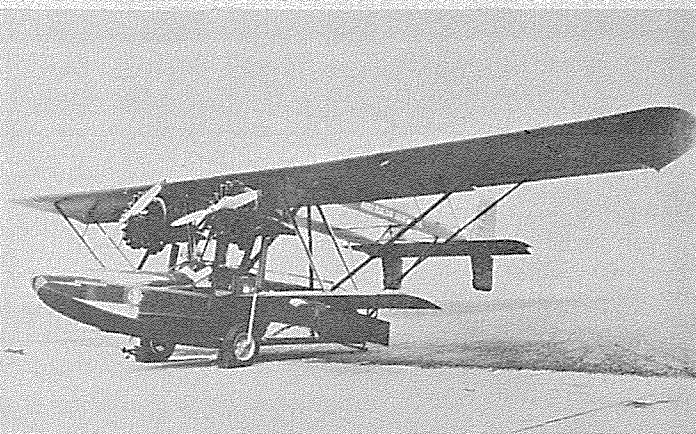


Sikorsky "Colonial", 114-11

Sikorsky

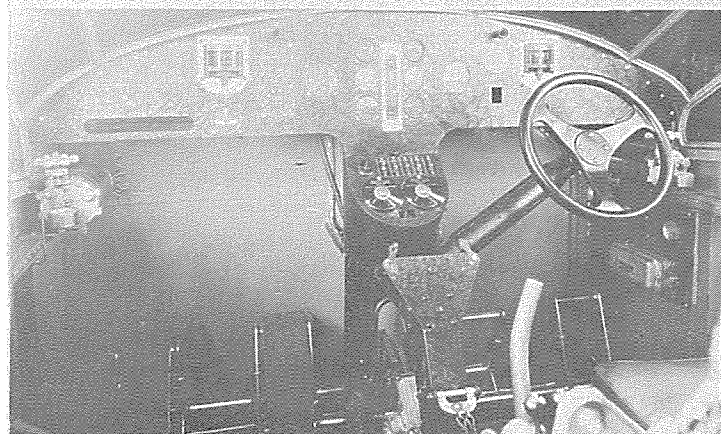


NC-8019, 14-3

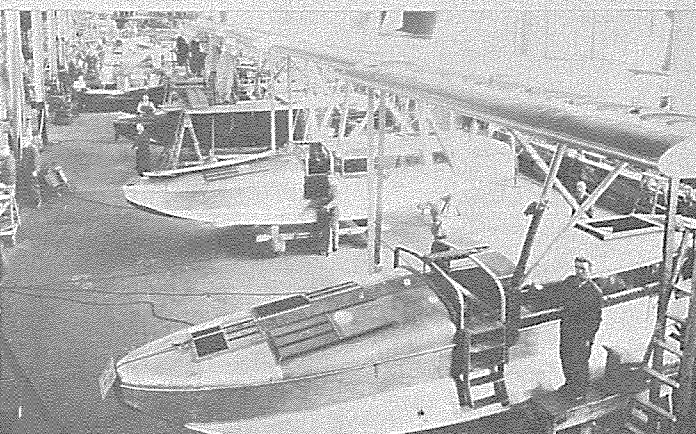


Sikorsky American Airways 314-14

AA-Hudek



Instrument panel, S-38A



Sikorsky 114-7, 114-6, 114-5, 114-4 (rear)

Sikorsky

utility and school use. As X-8022 it was powered by a 575 h. p. Wasp. Later modified to use a 450 h. p. Wasp as NC-8022. Sequence of owners in doubt, but it changed hands several times in a few years. Operated for a time by Joseph M. Patterson of Liberty Magazine. Named the "Liberty", it was registered to Liberty Amphibian Airships, Inc., possibly connected with Liberty Magazine. Later operated by New York & Suburban Airlines, NYC. In October, 1930, it was registered to Curtiss-Wright Flying Service. No later information.

14-7 S-38A . NC-9043 (1929) Purchased by Curtiss Flying Service, Garden City, N. Y. Powered by two P&W Wasps engines, one of which was c/n 905. On March 23, 1929, 14-7 disappeared on a flight from Norfolk, Virginia, to Curtiss Field, New York. Curtiss Flying Service pilot Harry Smith with the two crewmen, and sportsman-financier T. Raymond Finucane, had left Miami on the 22nd for Norfolk where they stayed the night. Left Norfolk at 5:45 am of the 23rd and were due at Curtiss Field at 9:00 but were never heard from. A gigantic search was started. Finucane's brother posted \$10,000 reward for any ship's captain that rescued the men and \$2,500 for information leading to the location of the crash. Curtiss Flying Service offered \$500 on the 25th, and on the 26th upped the amount to \$1,000. Bad weather severely hampered the search efforts, but at times there were over 40 aircraft searching, including the Navy's airship "Los Angeles". Various reports concerning the plane were received, but no trace was ever found and it was decided that they had been blown off course and were forced to land at sea when fuel was exhausted. 14-7 had been put in service October 9, 1928, had flown 111 hours and 9,924 miles.

14-8 XPS-2 A-8089 (1928) Contract No. 9783 was issued October 13, 1928 by the Navy to Sikorsky for purchase of two XPS-2 aircraft. These were S-38-A types, c/n 14-8 and 14-9. 14-8 was delivered to the Navy prior to January, 1929, at Anacostia NAS. Sometime in the first quarter of 1929 it was transferred to VJ-1B, Aroostook, Battle Fleet. The Navy's last XRS was retired by November, 1933.

14-9 XPS-2 A-8089 (1928) Assigned to COMAIRONs, Battle Fleet on January 1929. In the first quarter 1929 it was transferred to VJ-1B, Aroostook, Battle Fleet. Redesignated XRS-2 late 1930.

14-10 S-38A NC-8044 Dec. 1928 Pan Am contract for purchase of NC-8044 from Sikorsky dated February 4, 1928. Delivered December 31, at a cost of \$52,678.00 and operated in the Caribbean. Powered by Wasps c/n 924 and 925. September 13, 1931, Captain Rowe flew NC-8044 on a relief flight carrying supplies, medicines and Red Cross personnel to the stricken city of Belize, British Honduras, after the city had been wrecked by a violent hurricane which swept most of the city and its inhabitants into the sea and surrounding marshes. A year and a half later, May 26, 1933, while changing fuel tanks, an air lock de-

veloped in the gravity feed fuel lines and forced Rowe in NC-8044, down in the Everglades, Florida. He landed in the saw grass with the wheels up so there was little damage to the plane except for the bottom of the hull which resembled the surface of a washboard. Plane was carried out in pieces. Still registered to Pan Am as late as 1935.

114-1 S-38B NC-9753 (1929) First plane designated S-38B. Registered to Col. Robert R. McCormick, publisher of the Chicago Tribune. Powered by two 450 h. p. Wasps and named the "Untin' Bowler" which means "hunting bowler", a fox hunters hat, the significance is not known except that McCormick was a Scot. In July, 1929, the "Untin' Bowler" attempted a pioneering flight over the Northern Route. Pilot was Robert Gast, later killed in another S-38 in China. Navigator-radio operator was Parker "Shorty" Cramer and accompanying them was Bob Wood, Chicago Tribune aviation editor. They left Chicago Harbor July 3, 1929, and landed a few hours later at Milwaukee, Wisconsin. From there they proceeded to Sault St. Marie and Remi Lake, landing there the next day. Flight then went from Remi Lake to great Whale, Labrador. Finally arrived at Cape Chidley, on the northernmost tip of Newfoundland, where Wood filed the first take on the story of the flight. Held at Cape Childley for several days due to fog, and as the fog cleared up, a shift in the wind blew floating icebergs into the harbor encircling the plane. The men were unable to prevent the ice from crushing the hull of the ship and it sank in the harbor, ending the flight.

114-2 S-38B NC-9775 March 1929 Pan Am contract for purchase of NC-9755 from Sikorsky dated February 27, 1929. Delivered April 25, at a cost of \$51,688. Operated in the Caribbean from 1929 until 1937. No interim data until 1941 when it was registered to Palm Beach Aero. Corp., in Florida. Information missing again until after the war when it is registered to Embry-Riddle, Miami, Florida, for 1946-47, and possibly later, but no information regarding eventual end.

114-3 S-38B NC-9776 March 1929 Pan Am contract for purchase of NC-9776 from Sikorsky dated April 29, 1929. Powered by two wasp C-1 engines. Delivered to Pan Am on May 19, 1929, at a cost of \$51,120.00. Operated in the Caribbean area. April 11, 1930, Capt. Basil Rowe surveyed the route to the Canal Zone via Havana, Cuba and Puerto Cabezas, Nicaragua, to shorten the route through Central America and thus cut two days of flying time for the air mail. Returned via Central America to survey the route to Guatemala City and Puerto Barrios, Guatemala. On May 1, 1930, Charles Lindbergh, Rowe, and radio operator Bert Denicke, flew the first Trans-Carribean northbound air mail from the Canal Zone over the previously surveyed route from Cristobal, Puerto Cabezas, Havana, to Miami, Florida. Towards the end of 1930 Capt. Rowe was again surveying a route in NC-9776. A long overwater hop was called for on the flight from Cristobal, Canal Zone to Kingston, Jamaica, to Cienfuegos, to Miami. On the hop from Cristobal to Kingston, all extra weight was removed as every reduction of six pounds meant an additional gallon of gas which in the S-38 was two miles. For this flight the floor was removed, and the safety glass windows were exchanged for lighter duralumin. Even the maps were cut into strips to save weight. There were no navigation facilities, and no radio in the plane, therefore all navigation was by dead reckoning. NC-9776 continued in Pan Am use until sometime in 1937. No information until 1941 at

which time it is registered to Palm Beach Aero Corp. No information during the war, but by 1946 it appears on the register as owned by Embry Riddle. Not registered in 1947 and no later information.

114-4	S-38B	NC-9105	(1929)	Owned by financier J. C. Willson of the Willson Flying Corp., NYC. The plush aircraft was named "Country Boy" and used by Willson from 1929 through 1932. In 1933 it was registered to the Obaro Corp., Diver Green, Conn. Sold to Despatch Corp., of NYC, and registered to that firm from January, 1934 into 1935. No later information.
114-5	S-38B	NC-9106	(1929)	Named the "Pan Am", and owned by the Pan American Petroleum Co., New Orleans, Louisiana. 114-5 was used for transportation of company officials and for sales promotion. No information after October, 1930, but possibly exported to South America to a Pan American affiliate.
114-6	S-38B	NC-9107 F-46	(1929)	Pan Am contract for purchase of NC-9107 from Sikorsky dated April 29, 1929, and was delivered May 7, at a cost of \$51,869.00. Operated by Pan Am affiliate SCADTA in Colombia where it was named the "Von Krohn" and registered F-46. Crashed and destroyed April, 1934, while in the service of SCADTA.
114-7	S-38B	NC-9143	(1929)	Operated by Curtiss Flying Service, Garden City, N. Y., from July, 1929, until 1930. Transferred to Curtiss Flying Service at Chicago where it operated until 1932. Listed as S-38B Special in January, 1932, which meant that it had probably been converted for cargo operations.
114-8	S-38B	NC-9144	(1929)	Curtiss Flying Service, Garden City, New York, from July, 1929, until 1930. Transferred to Curtiss-Wright Flying Service and registered as S-38B Special. No information after October, 1930.
114-9-R	S-38B	NC-9137	June 1929	Pan Am contract for purchase of NC-9137 from Sikorsky dated April 29, 1929. Delivered June 30, at a cost of \$52,862.32. Operated in the Western Division. On July 17, 1929, NC-9137 was flown by Capt. Rowe on the first Pan Am survey flight of FAM6 from San Juan, Puerto Rico to Paramaribo, Dutch Guiana via the Leeward and Windward Islands, on the return trip he surveyed the route from Trinidad westward across the top of South America and the Dutch West Indies to the Canal Zone. February 3, 1932, Capt. Rowe flew a mercy flight to Santiago de Cuba via Nuevitas, Cuba to assist survivors of a violent earthquake. Flew in Red Cross personnel, medicines, and supplies.
114-10	S-38B	NC-9151	April 1929	Pan Am contract for purchase of NC-9151 from Sikorsky dated April 29, 1929. Delivered May 7, at a cost of \$52,013.10 and operated in the Caribbean area. Powered by two Wasp SC-1 engines. The

rugged S-38 was called again into mercy flights, and on April 1, 1931, Capt. Rowe flew supplies, medicines and Red Cross personnel to the stricken city of Managua, Nicaragua after it had been wrecked by a severe earthquake. Rowe became known as the "flying baker" when he flew bread to Managua for several days from nearby cities. 114-10 still used by Pan Am in 1940. Sold to Bol-Inca Mining Corp. in 1940, who used it until 1947, and possibly later.

114-11 S-38B NC-9138 (1929) The first slope windshield S-38B was 114-11.

Prior to this, all of the aircraft had vertical windshields. This sloped shield is one of the main recognition features of the S-38B types. 114-11 was used by Colonial Western Airways, NYC in 1929. From 1930 to 1932 it was used by Colonial Air Transport, Inc. American Airways, New Jersey, used it in 1933. However, by 1934, NC-9138 again changed hands and was used by Air Engineers, Inc. Sold again apparently to Bol-Inca Mining Corp. in 1935. Possibly scrapped, or sold abroad, it does not again appear on the United States register.

114-12 XC-6 29-406 (1929) No confirmation that this is c/n 114-12, but all available in-

formation indicates that it is. Army contract for purchase of one experimental S-38B type airplane, designated XC-6, was approved January 19, 1929. Was tested at McCook field and given the designation XP-588. Powered by two P & W was R-1340C engines of 450 h. p. each. Engine c/n's were (r) 1981 and (1) 1982, and were given Army serials of 29-336 and 29-337 respectively. Tests were carried out on the XC-6 during the early part of 1930. After the performance tests were completed 29-406 was assigned to Bolling Field, D. C. On June 4, 1930, returning from maneuvers at Groton, Conn., the pilot of 29-406 was making some practice landings in Long Island Sound and damaged the right wing pontoon on a take-off. Plane was sent to Middletown Air Depot for installation of new motors, pontoons and general inspection.

114-13 S-38B NC-9139 (1929) First used by Standard
9139 Oct. 14, 1931 Oil Co. from July, 1929
until 1930. 114-13 was

then used by Sikorsky as a test aircraft and demonstrator. Many tests of interest were made in this plane. Piloted by Boris Sergievsky on September 25, 1929, 114-13 with a total gross weight of 10,395 and shielded cowling, attained a level flight speed of 127.1 m.p.h. Take-off on this day, and in this series of tests, with the temperature at 66° and the barometer reading 30.1, was 16 seconds from land and 24 from water. Climb to 10,000 feet took 20.46 minutes. On October 23 through 25, 1929, 114-13 was at Mitchel Field and was piloted by several Army pilots, including Lt. James Doolittle. These were the Army trials. Continued as a company aircraft and demonstrator until sometime in 1935.

114-14 S-38B No information

114-15 S-38B NC-195H (1929) Named the "City of
Richmond", NC-195H

was destroyed on the shore of Greenland September 11, 1932. This was the end of a flight that the newspapers labeled the "flying family's air junket". On board the plane, enroute to Scotland, London and various European capitols were George Hutchinson, his wife, two daughters, ages 6 & 8, and a crew of four. The flight had left New York, August 23, 1932 and landed the same day at St.

Johns, New Brunswick where the wheels were removed. Next day they flew to Port Menier, Anticosti Island, Quebec. Held there by fog and rain until the 30th at which time they flew to Hopedale, Labrador. Arrived at Godthaab, September 2, and were fined \$160 for landing without permission. The Danish government had given permission to land at Iceland and the Faroe Islands, but not Greenland. Remained at Godthaab until the 6th when they flew to Julianehaab. Departed the 9th for Angmagsalik. Encountered fog enroute. Were forced down and spent two days on the open sea, finally beaching the plane the 11th where it was destroyed by a pounding surf. The crew of four, and the entire Hutchinson family were found the 13th, suffering from exposure but otherwise allright, by the SS Lord Talbot, a British trawler. They were later taken to Scotland in the Lord Talbot. Later, in London Hutchinson blamed the accident on the very short range radio carried in his plane, stating that had better equipment been carried they could have found their way.

114-16	S-38B	NC-196H	(1929)	Operated by Curtiss Flying Service from
1929 until sometime in 1930. No information after July, 1930.				

114-17	PS-3 RS-3	A-8284 A-8285 A-8286 or A-8287	(1929)	Contract No. 12150, dated April 30, 1929 issued for purchase of PS-3 aircraft
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A-8284 through A-8287. The ships were delivered in April-June quarter 1929; April-June quarter 1931; and January-March quarter 1932. All of the PS-3 aircraft were developed from the XPS-2 or S-38A. Late 1930, designation was changed to RS-3. One of this group of planes, was 114-17, and it is probably A-8284, but this is not confirmed.

114-18	S-38B	NC-158H	(1929)	Built prior to July, 1929, at which time
it is registered to Colonial Western Airways, Inc. Powered by two Wasp C engines. No information 1931-1934. In 1935 it is registered to William C. Talbot, San Mateo, California. From 1938 through 1947 it is owned and operated by Paul Mantz, Burbank, California. During the World's Fair in San Francisco, Treasure Island, in 1938-39, Mantz had the seaplane concession and in this S-38, and S-39 NC-804W, c/n 905, Mantz and his pilots flew over 100,000 passengers. Flights took off, circled Alcatraz Island and San Francisco Bay and returned to the ramp at Treasure Island. Nicknamed, "formation of spare parts" by the Mantz crew. Used by Air Express, Inc., and named "Alaskan Clipper" probably in the 1931-34 period.				

114-19	S-38B	NR-159H NC-159H	(1929) Oct. 1930	NR registration issued to Sikorsky Aviation Corp. prior to July, Probably sold abroad.
1930, and changed to NC between July and October, 1930.				

114-20	S-38B	NC-160H	(1929)	First owner was Charles R. Walgreen, Chicago, No information, 1933. No information 1935- No later information.
111. Registered to him from October, 1930, until 1932. Operated by Pal-Wauke Airpark, Inc., Chicago, in 1934. 36. Used in Alaska in 1937 by W. J. Eskimo of Kodiak.				

214-1	S-38B	NC-197H	(1929)	Pan Am contract for purchase of NC-197H
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from Sikorsky dated April 29, 1929. Delivered August 16, at a cost of \$51,120.-00. On September 19, 1929, the brand new plane, piloted by Robert Hively, crashed just after take off, and was destroyed at Miami, Florida. The cause was not determined.

214-2 S-38B NC-198H (1929) Operated by Colonial Air Transport, New York, from early 1930 until 1932. No later information.

214-3 S-38C NC-199H (1929) Built after July, 1929, this was the S-38C. First owner was the Bromar Corp., of Chicago, for 1930. From 1931 until 1932, was operated by D. W. Norris, Milwaukee, Wisconsin. Purchased by Northwest Airways, Inc., St. Paul, Minn., in December 1932. NC-199H was NWA plane No. 41, and used on routes from Minneapolis, St. Paul, and Duluth, landing at airports in the first two cities and the harbor at Duluth. Sold in December 1934, to H. L. Plummer. No information until 1940 when it is registered to George Daufkirch, Long Island, New York. No later information.

214-4 S-38B NC-73K Aug. 1929 Delivered to NYRBA per NYRBA/Pan Am agreement. NC-73K, along with all other aircraft was transferred to Pan Am on September 15, 1930. Cost Pan Am \$56,770.00. Operated in the Brazilian area until sometime in 1934. Possibly transferred to an affiliate at that time.

214-5 S-38B NC-74K Aug. 1929 First owner, J. Hertz, Chicago. Sold back to Sikorsky, it was purchased by Pan Am, March, 1931. Operated in the Caribbean. Used for a time by Compania Nacional Cubana de Aviacion, Pan Am subsidiary. After several years of bitter internal strife, Cuba revolted and overthrew the president, General Gerardo Machado. With the permission of the Army to leave the country but not the citizens, General Machado arrived at the airport at Havana with the former Secretary of Treasury, ex-mayor of the Central District, the ex-chief of the National police, and the president of the aviation company. An hour and a half delay occurred while awaiting the official clearance for departure, however when an angry, shouting mob approached the airport, pilot Al McCullough took off in NC-74K. Later they landed at Vanadero Beach to pick up the family of the General. September 5, 1935, finds NC-74K piloted by Capt. Rowe to the Florida Keys on a mercy flight to Islamorada. He flew in Red Cross doctors, medicines and supplies after the town had been swept away, with 500-7 dead or missing. Continued in Pan Am service until 1937 when it was used by Andrew Cannon of Weirs. 1939, NC-74K was operated by Arthur and Lillian Chalk of Miami, Florida. 1940-41 by Miami Seaplane Service. No later information.

214-6 S-38B- NC-75K Aug. 1929 Pan Am contract for
PP-PAM Oct. 1933 purchase of NC-75K
from Sikorsky dated

April 29, 1929. Delivered August 28 at a cost of \$51,120.00 and used in Brazil. With Lindbergh, Rowe flew the first air mail San Juan to Paramaribo, Duth Guiana. In October, 1933, registration was changed to PP-PAM, Brazilian registration No. 57. Operated by Panair do Brazil. Crashed and destroyed at Rio Branco, Brazil, 1938.

214-7 S-38C NC-111M August 1929 Named the "Hawaii",

this was the first airplane of Inter-Island Airways, Ltd, Honolulu, Hawaii. NC-111M, along with Inter-Island's second S-38, NC-112M, 214-8, was delivered crated via steamer from New York late in October, 1929. NC-111M (No. 1) was tested October 23, and NC-112M (No. 2) was tested a few days later. On October 29, both No. 1, "Hawaii" and No. 2, "Maui" made their first flight to the islands of Maui and Hawaii, flying to Hilo, Hawaii, and stopping at Maui outbound and inbound. October 31, both planes made a round trip flight to the island of Kauai. November 11, after christening and inaugural ceremonies, No. 1 took off from John Rodgers Airport (now the Honolulu International Airport) for Hilo, Hawaii on the first scheduled airline flight in the Hawaiian Islands. The first forced landing in the history of Inter-Island, which has 30 years of scheduled flying and no fatalities, occurred a few days before the inauguration and ceremonies. On November 3, while operating from the Hilo, Hawaii airport the left engine went out shortly after a take-off due to a stripped reduction gear. With a strong cross wind and no brakes, the big smooth harbor looked pretty good to Captain Elliot, who pulled up the wheels and made the first of many Inter-Island water landings. On March 19, 1931, No. 1 was landed at Molokai Field with the wheels up. Plane landed in a soft spot so damage was slight. Flew to John Rodgers Airport the same day. On May 27, 1931, Captain Elliot flew to the slopes of Mauna Loa and distributed 1,000 pounds of grass seed between lava flows at the 8,000 foot level. From December 2 to 8, 1933, when 13,680 foot Mauna Loa erupted, many flights were made over the crater with passengers and photographers, taking a look at the show. Captain Elliott's last flight in No. 1 was in February, 1938 and he states that it was probably scrapped not many months later.

214-8	S-38C	NC-112M	Aug. 1929	Inter-Island aircraft No. 2. Named the
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"Maui", it was put into commission on November 11, along with No. 1. On May 25, 1931, while landing in a rainstorm at Lanai Airport, a 600 x 1800 foot grass area in the pineapple fields, Captain Elliot ran off the end of the field and hooked the right lower wing tip on a road grader that had been left at the edge of the field. Damage required replacing of the upper right and lower wings, the right wing tip float and the main struts on the right side. This was the only time that any of Inter-Island's S-38's were damaged to any extent. On October 8, 1934, No. 2 made the first scheduled airmail flight between the Hawaiian Islands. January 6, 1935, just before her first flight from Hawaii to the U. S., Amelia Earhart made a sightseeing flight from Honolulu to Maui, Hilo Hawaii and the Kilauea Volcano. NC-112M was probably scrapped sometime in 1938.

214-9	S-38B	NC-113M	(1929)	Originally owned by NYRBA, was trans-
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ferred to Pan Am September 15, 1930, at a cost of \$50,794.00. On September 25, 1932, NC-113M was stolen from its moorings on a lake near Rio de Janeiro, Brazil by 3 men who hoped to sell the plane to a revolutionary force. The Pan Am night watchman was forced to board the plane with the men. 214-9 took off into the early morning light and crashed shortly after, about 15 miles south of Rio, near Merity. Just before the crash, the plane was seen to dive and fly erratically indicating a struggle for control of the plane or a lack of flying experience of the pilot. All four men perished in the crash which totally destroyed NC-113M. Leader of the men who stole the plane was a German, Walter Voss.

214-10

No information.

214-11

No information.

214-12 S-38B NC-141M (1929)

First owner was the Public Service company of Northern Illinois, of Chicago, named the "Northern Light". In 1931, it was sold to Arthur L. Caperton, Glenview, Illinois. No information after 1932.

214-13 S-38B NC-142M Aug. 1929
VH-UZE (1937)

Pan Am contract for purchase of NC-142M dated April 29, 1929.

Delivered September 16 at a cost of \$51,200.00. Based at Miami and operated in the Caribbean area. Captain Rowe, with Colonel Charles Lindbergh flew the first air mail over the new route, Miami to Canal Zone via Havana and Puerto Cabezas, Nicaragua, April 26, 1930. (114-3 flew the survey) Letters from Trevor W. Boughton and J. A. Pryor describe fully the history of 214-13 after it is sold by Pan Am. On August 12, 1936, NC-142M was sold by Shell Aviation Corp. to the Papua Oil Development Co., Ltd., Port Moresby, New Guinea. On March 5, 1937, an export certificate was issued to Asiatic Petroleum Corp. This was for purchase of wing pontoons, lower left and right wing panels only, and were bought from Pan Am. These items had been built in 1929 and were reconditioned in April, 1937. The rest of the aircraft had been rebuilt in December, 1936. An Australian C of A was granted March 12, 1937, at Brisbane after the plane had been erected, inspected and tested. Was at this time powered with two P & W Wasp SC-1 engines, c/n 1670 and 2883. The wheels were removed to allow larger payload, and VH-UZE was operated as a flying boat.

On December 27, 1937, 214-13 was involved in a landing accident on the Kikori River. Pilot H. A. Davies and three passengers arrived at 1 P.M. after leaving Daru at 11:40 A.M. As usual the river was muddy but two logs were seen well clear of the landing area. After planing for about 100 feet, violent impact with a submerged object threw the plane 20 feet into the air. Davies opened the throttles and gained airspeed, but flight could be maintained only by use of full starboard aileron. The nose of the port pontoon had been carried away and the lower port wing was badly damaged. Since landing was necessary immediately, Davies set the plane down. An attempt was made to tow the plane to shore but the drag was too much for an outboard motor boat even when assisted by the plane engines. Finally they made it to the mouth of a creek. By 9 p.m. the plane was nearly submerged as the tidal range at Kikori was from 10-12 feet. VH-UZE continued sinking in the soft mud and all attempts to salvage were futile. Upon inspection of the damaged pontoon scales were found, all evidence indicated the accident was caused by a large crocodile, not a log as previously suspected

214-14 S-38B NC-143M (1929)

United Airports of Connecticut, Hartford, from 1929 until late 1930. Sold to Liberty Amphibian Airships, Inc., NYC. Used by Pan Am, apparently after 1934. No later information.

214-15 S-38B NC-144M Sept. 1929

Pan Am contract for purchase of NC-144M from Sikorsky dated April 29, 1929. Delivered September 30 at a cost of \$51,120.00. Operated by Pan American Grace and Pan Am alternately for several years. On May 21, 1930, pilot Ed Schultz and co-pilot Leo Terletzky flew the first air mail to Managua, Nicaragua. No information after 1933,

possibly transferred to an affiliate airline.

214-16	S-38B	NC-145M PP-PAL	(1929) Aug. 1931	Pan Am contract for purchase of NC-145M from Sikorsky dated
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April 29, 1929. Delivered October 10 at a cost of \$51,120.00. On October 15, 1929, five days after delivery, Capt. Rowe was forced down at Le Fey, Cuba while flying NC-145M. One of the forward hatches vibrated open while enroute from Havana to Cozumel, Mexico. Could not stay in the air due to the starboard propeller operating in the eddies, causing severe vibration. As in the case of all Pan Am affiliate operations, planes were transferred to whichever line needed an aircraft. Accordingly 214-16 was operated at Cristobal, C. Z. by subsidiary. While the UMCA, NC-145M was named "Marichu". On August, 1931, registration was changed to PP-PAM, Brazilian registration No. 45. Crashed and destroyed July, 1933, while in the service of Panair to Brazil, another Pan Am affiliate.

214-17	S-38B	NC-146M	(1929)	Pan Am contract for purchase of NC-146M from Sikorsky dated April 29, 1929, and delivered October 16 at a cost of \$51,120. Operated in Caribbean area, by Pan Am and an affiliate. Registration cancelled March 29, 1943 by Pan Am. Reason unknown.
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214-18	S-38B	NC-300N	(1929)	~~Pan Am contract for~~ ~~purchase of NC-300N~~ from Sikorsky dated June 5, 1929, delivered October 22, at a cost of \$51,120.00. Operated by Panagra and based at Cristobal, C. Z. Later transferred to Colombian affiliate, SCADTA. Still in operation December, 1934.
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214-19	S-38B	NC-301N	(1929)	Operated by NYRBA. Per agreement was transferred to Pan Am September 15, 1930, at a cost of \$54,446.23. Later transferred to SCADTA. Still operated in late 1934.
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214-20	S-38B	NC-302N	(1929)	Operated by NYRBA. Per agreement was transferred to Pan Am September 15, 1930 at a cost of \$54,628.53. Dismantled by Pan Am in December 1930.
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314-1	S-38B	NC-945M	Nov. 1929	Operated by NYRBA. Per agreement was transferred to Pan Am September 15, 1930 at a cost of \$57,191.30. Used by Pan Am and affiliates until sometime in 1937. UMCA was using 314-1 in late 1934. In 1937-38, was registered to Colombian Petroleum Co., Inc., NYC. Possibly exported, but no later information.
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314-2	S-38B	NC-944M	(1929)	Operated by NYRBA. Per agreement was transferred to Pan Am September 15, 1930, at a cost of \$41,884.70. May 26, 1931 plane was delivered by Captain Rowe to New York Airways, a Pan Am affiliate. Was used for their summer operations on the New York, Atlantic City run. Flew the first trip over this route May 28. Crashed and destroyed June 14, 1932.
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314-3	S-38B	NC-945M	Dec. 1929	Pan Am contract for purchase of NC-945M
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from Sikorsky dated June 5, 1929. Delivered January 16, 1930, at a cost of \$51,120.00. Operated by Pan Am 1930 and '34 and Panagra from 1931-1933 and 1935 & 1936. Based at Barranquilla, Colombia for a time while in Panagra Service. Named the "San Juan". No information during 1937-38, but by 1939, it was registered to Joseph P. Sheehan, Cambridge, Mass. Ship was blue and silver and retained the name "San Juan". Powered at this time by two P & W Wasp R-1340-C1 engines. Painted on the side was, "North Atlantic Airways." Still registered to Sheehan at late as 1947.

314-4	S-38B	NC-946M	Dec. 1929	Operated by NYRBA. Per agreement was
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transferred to Pan Am September 15, 1930 at a cost of \$54,564.70. Scrapped by Pan Am in August, 1933.

314-5	S-38B	NC-1V XA-BAX	Dec. 1929	Purchased by Co. Robert R. McCormick of the <u>Chicago Tribune</u>
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after 114-1 was destroyed. In the same tradition as his "Untin Bowler", McCormick named NC-1V the "Arf Pint". Sold in 1933 to an airline. From 1934 until mid-1937, operated by Air Engineers, Inc., Garden City, N. Y. Apparently Babb Co. arranged for the sale to Lineas Aereas Mineras, S. A. sometime in 1937. While in the service of LAMSA it flew regular over water routes from Mazatlan, Mexico. On October 15, 1943, a hurricane destroyed the LAMSA hanger, which fell in on S-38B, XA-BAX, Lockheed Vega XA-BKF, and the remains of one or two Bach tri-motors. The S-38 was badly damaged and was never repaired, the Vega was the only one that again flew (AAHS Vol. II, No. 1, Page 27).

314-6	S-38B	NC-2V	Dec. 1929	Operated by Creole Petroleum Co. from
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January 1930 until 1932. Named "Creole". Possibly exported at that time.

314-7	S-38B	NC-3V 3V NC-3V	Jan. 1930 Jan. 1932 Aug. 1934	Operated by Sikorsky Aviation Corp. 3V identification marks issued January 1, 1932.
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When sold to Pan Am in 1934, Pratt & Whitney delivered the plane, so it was probably operated as an engine test, under the 3V markings. Sold August 27, 1934, to Pan Am for approximately \$30,000.00. Used by SCADTA in Colombia.

314-8	S-38C	NC-4V	Jan. 1930	Initially registered to Sikorsky Aviation Corp. Sold to Inter-Island and christened the "Molokai" July 27, 1931, by the young daughter of Senator George Cooke. First official flight was a sight-seeing trip for the Cooke family, to all of the islands southeast of Honolulu. Captain Elliot relates that in one of his early flights in NC-4V they lost an engine due to a swallowed valve and only by dumping fuel were they able to land safely. This was Inter-Island plane No. 4. On September 17, 1931, the King of Siam went on a sightseeing flight over Honolulu and around Oahu. By 1940 and 1941, NC-4V was used as a trainer. Still registered in 1947 to Inter-Island Airways, Ltd. However the name of the airline had been changed to Hawaiian Airlines, so the No. 4 aircraft was probably inactive at that time. It was eventually scrapped, and towed to the city dump.
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314-9	S-38B	NC-5V	(1930)	Registered to Sikorsky Aviation Corp. Pro-
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bably exported in late 1931.

314-10 (1930) No information.

314-11 S-38B NC-7V (1930) No information concerning early operations. In 1933, it was purchased by American Airways, Inc., Chicago. When American Airways changed name to American Airlines, Inc., NC-7V went along with the change. Operated until sometime in 1936. Possibly scrapped.

314-12 S-38B NC-6V (1930) First owner was the
S-38N PK-AKT Cleveland Co.,
Cleveland, Ohio, from

1930 until 1932. Returned to Sikorsky in 1932. Sold to Pal-Waukee Airports, Inc., Chicago by Sikorsky the same year. No information during 1935, but in 1936 it appeared as PK-AKT and was operated by New Guinea Petroleum Co. (NNGPM) This was the first of two S-38's operated by NNGPM. The other was 414-14. Used for aerial survey and photographic work in New Guinea. Actual owner was KNILM, a daughter company to KLM in Indonesia. Operated with 414-14 and three DH-89 aircraft, from Mimika, Seroei, Babo and Epan. In January 1937, with 70% of the photo survey complete, the two S-38's continued operations until the summer of 1937. Late 1937 until 1941 the two S-38's continued survey work. February 20, 1942, Japanese Zero's attacked the airport at Buitenzorg, Java, and S-38B, PK-AKT was probably destroyed in the raid. If not on this day, it was not much later, when the Japanese invaded the island in 1942.

314-13 (1930) No information.

314-14 S-38C NC-10V (1930) American Airways, Inc.
for part of 1933 and
1934.

314-15 S-38B NC-11V (1930) First owner was
SE-EKN Feb. 1934 Margery Durant, Old
Westbury, L. I., the

daughter of the president of General Motors who used it for pleasure flying. February 15, 1934 was registered to O. O. E. Ekman and N. F. R. Bernstrom, and was based at Stockholm. Was at that time named "Silver Wings" which may have been retained from the United States. Although based at Stockholm, it was barnstorming most of the time. June 3, 1936, was registered to Svensk Flygtjanst AB, a charter company. Sometime later it was sold to a French company in Africa, but no information regarding its fate.

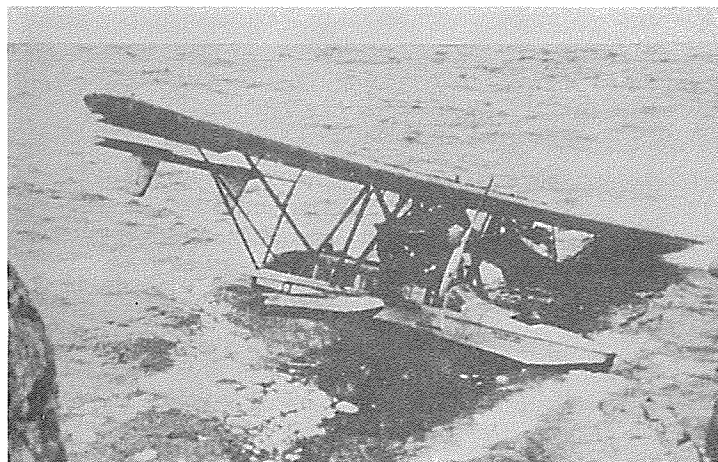
314-16 (1930) No information.

314-17 (1930) No information.

314-18 (1930) No information.

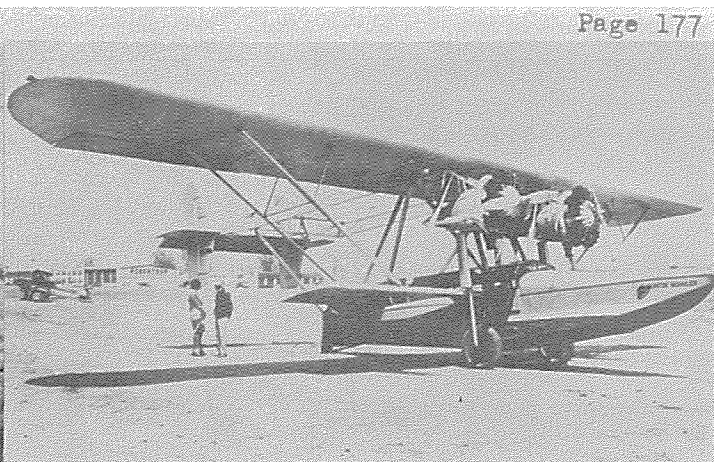
314-19 S-38B NC-15V (1930) No recorded U.S.
G-ABYS Aug. 1932 owner for NC-15V.
F-AOUC Dec. 1935 Went to Great Britain August, 1932,

and was named the "Blue Falcon". Was in the United Kingdom until December, 1935,

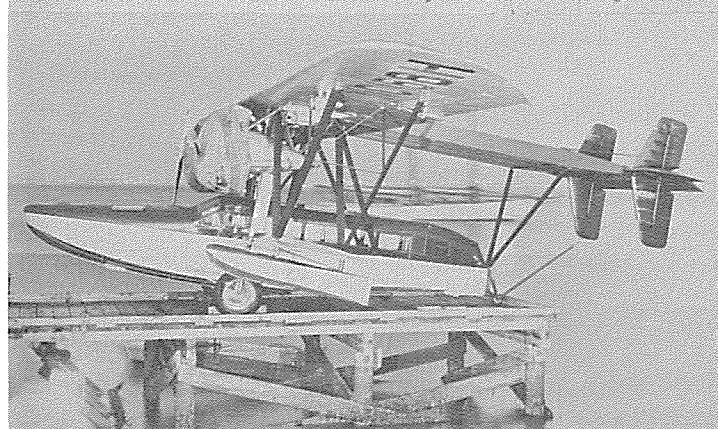


Crash in Greenland of 114-5

UPI-Mayborn

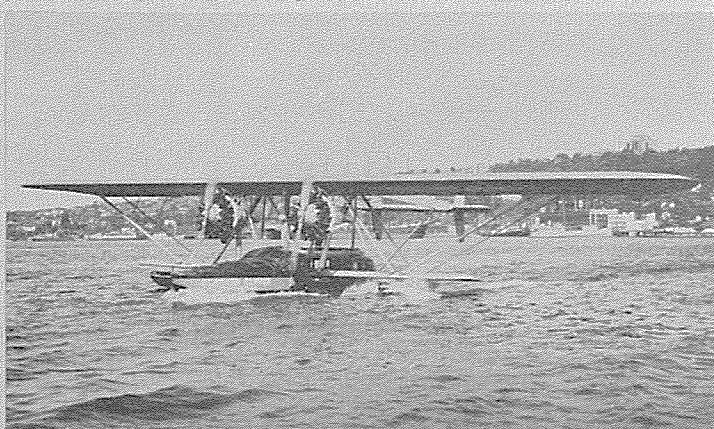


The "Untin" Bowler, 114-2 Chi.Tribune-Hudek

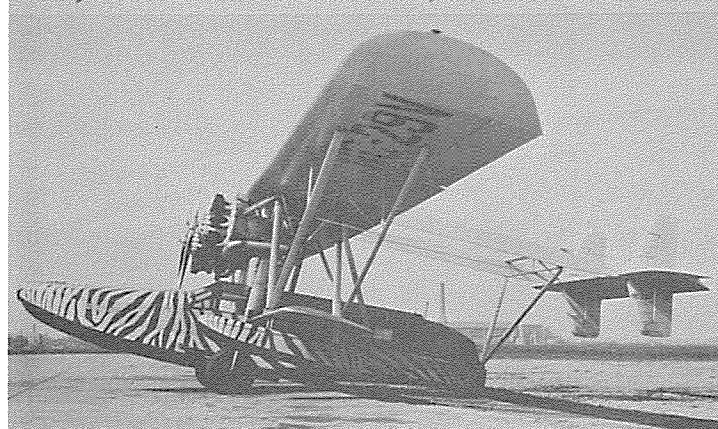


NC-158H at Treasure Island, 1940

Larkins



"Alaskan Clipper" of Air Express G.Williams



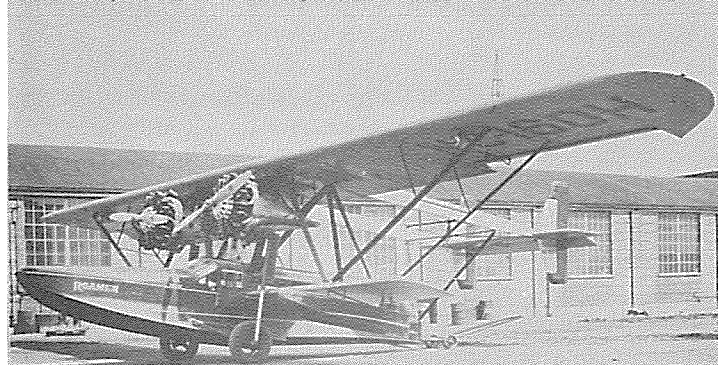
NC-29V, "Osa's Ark", Martin Johnson

Stollar



NC-29V as Floyd Floren Flyer

G.Kohn



NC-74K (214-5) of Miami Seaplane A.Krieger



NC-160H "Roamer" (114-20)

G.Williams

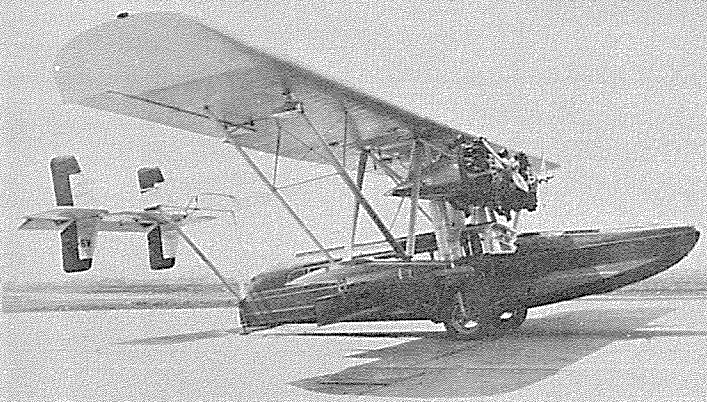


CF-ASO (414-19)

D.E. Anderson



G-ABYS, former NC-15V "Blue Falcon" Flight



NC-6V (314-12) later PK-AKT

J. Canary



RX-10, Panama register

Longworth-Dames



NC-1V (314-5) "Arf Pint"

G. Kohn



XA-BAX (314-5) after hurricane

Villasenor



F-46 (114-6) ex-NC-9107, of SCADTA-Avianca



NC-2V (314-6) "Creole"

Creole Petr. Co.

when it went to the French North African Airline, Aeromaritime. February 27, 1936 ownership was transferred to Compagnie des Chargeurs Reunis. Crashed and destroyed August 12, 1939 at Calabar, Niger Colony.

314-20	S-38BH or BT	NC-16V	(1930)	Pan Am contract for purchase of NC-16V from Sikorsky dated
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April 19, 1933. Delivered May 8. Operated in China by Pan Am. Crashed and destroyed at Chusan Island, November 24, 1933. Pilot George Rumill was treated for bruises and shock, co-pilot William Elmers, for broken ankles, and the American Consul at Foochow, Lincoln Reynolds, for fractured vertebrae.

414-1	S-38B	NC-303N	Dec. 1929	Used by Grigsby- Gurnow Co. Chicago,
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for flying company personnel and for sales promotion. In early 1930, NC-303N which was named "Majestic", delivered the millionth Majestic radio set built by Grigsby-Gurnow. Purchased for \$15,000 in April, 1931, by Northwest Airways, Inc., St. Paul, Minn. Listed as NWA plane No. 40. NC-303N flew the Minneapolis, St. Paul, Duluth run until May, 1935, when it was sold to H. L. Plummer. It is possible that Plummer was acting as an agent for Bol-Inca Mining Corp, NYC, as it is registered to them a short time later. No later information, but possibly exported by Bol-Inca.

414-2	S-38B	NC-304N PP-PAK	(1929) Augt 1931	Pan Am contract for purchase of NC-304N from Sikorsky dated
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June 5, 1929. Delivered at a cost of \$51,120.00. November 12, 1929, Captain B. Rowe flew the first air mail from Miami to Merida, Mexico via Havana and Cozumel Island. Brazilian registration No. 44, PP-PAK was issued August, 1931 to PAB who operated it as late as 1938.

414-3	S-305N	NC-305N	(1929)	Named the "Kauai", NC-305N was the
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third of Inter-Island's S-38's. Was put in commission in January, 1930 and still registered to Inter-Island as late as 1946. In 1940, when Radio Range stations were installed on the four major islands of Hawaii, Oahu, Maui, Hawaii and Kauai. No. 3 was outfitted as a training ship. The engines were shielded after a fashion, a range receiver installed with a whip antenna that ran down thru the hull from the baggage compartment for receiving the range signals. The left pilot's side was covered with a hood and all pilots were given radio range practice on the Hilo range to qualify for their ATR's. No. 3 was also used for co-pilot training, water landing practice and pilot checks. On December 7, 1941, NC-305N sat out the Japanese attack in front of the Inter-Island main hanger, and was the only one of their planes that was not damaged. In January, 1942, with the war scare on, Honolulu began to run low on fresh meat. Paul Fagan who had a herd of cattle on Molokai chartered No. 3 to haul beef to Honolulu. They stripped the interior of the cabin and loaded the freshly butchered beef and flew it to Honolulu from Molokai. This was the start of Hawaiian Airlines Freight service. On the out-bound flights the plane was loaded with anything needed on Molokai- groceries, rocksalt, even bags of sawdust. This was continued until there was no more beef to be hauled from Molokai. After the freighter operation, NC-305N was used as a training ship for water landings.

4114-4	S-38B	NC-306N	(1929)	Pan Am contract for purchase of NC-306N
from Sikorsky dated June 5, 1929. Delivered at a cost of \$51,200.00. After bucking strong headwinds from Talara, Peru, to France Field, C. Z., NC-306N ran out of gas six miles short of the field and crashed in the deep jungle. Carrying the mail for Panagra, pilot Laurens Claude had left Talara early February 7, 1931, and landed at Guayaquil, Ecuador. Leaving there the same day, he attempted to make it to France Field. Observers at France Field saw the plane go down and a search was started immediately. Wreckage was spotted from the air near Brazos Brook and rescuers cut their way to the crash. The crew of three were taken to Colon for treatment and all survived.				
4114-5	S-38B	NC-307N	(1929)	Sikorsky Aviation, from 1929 until after July, 1931.
4114-6	S-38B	NC-308N PP-PAB	(1928?) April 1930	Operated by NYRBA. Per agreement NC-308N was turned over to
Pan Am September 15, 1930 at a cost of \$54,610.00. It is possible that the Brazilian registration was issued to NYRBA prior to transfer to Pan Am. Was Brazilian registration No. 27. Scrapped by Pan Am May 23, 1934.				
4114-7	S-38B	NC308N	(1929)	Pan Am contract for purchase of NC-309N
from Sikorsky dated June 5, 1929. Delivered January 22, 1930 at a cost of \$51,120. Based at Cristobal for a time. Crashed April, 1931 while operated by SCADTA.				
4114-8	S-38BH or BT	NC-17V	(1930)	Pan Am contract for Purchase of NC-17V from Sikorsky dated
April 19, 1933. Delivered May 8. Operated in China by the Chinese National Aviation Corp. NC-17V disappeared April 10, 1934 on a flight from Shanghai to Canton. Pilot Robert Gast had reported encountering fog and was turning back to Shanghai. Later, mail bags and debris from the plane were found floating on Hangchow Bay. Search for the crew of three and one passenger was abandoned April 23. Gast's body was found August 19.				
4114-9	S-38B	NC-18V	March 1930	Pan Am contract for purchase of NC-18V
from Sikorsky dated February 14, 1933. Delivered to Panagra April, 1933 at a cost of \$6,000.00.				
4114-10	S-38B	NC-19V	March 1930	Pan Am contract for purchase of NC-19V
from Sikorsky dated February 14, 1933. Delivered to Panagra, April, 1933 at a cost of \$6,000.00. Operated by Panagra until sometime in 1937 when it was sold. Palm Beach Seaplane Service, Inc., West Palm Beach, Florida, operated NC-19V from 1937 until after 1940. No later information.				
4114-11	S-38	NC-20V XA-AGB	(1930)	Sikorsky Aviation Corp. of Bridgeport, Conn. Sold to the

state of Yucatan and named the "Mayab" where it was used by the Governor of Yucatan, Sr. Bartolome Correa. His pilot was Capt. Jorge Llerenas Silva. When two of Mexico's top aviators, C. R. Sidar and Lt. Carlos Rovirosa crashed at Puerto Limon, Costa Rica, the "Mayab" was sent to bring their remains back to Mexico. Flight to Costa Rica and back was against very heavy weather. On September 9, 1930, a check flight was made after engine repair work, and prior to a scheduled flight to Mexico City. The "Mayab" took off from Merida at 10 a. m. and flew to Progreso and back. After arriving back at Merida, they circled the field when suddenly a fire broke out in one of the engines. The fire spread; there was an explosion and the "Mayab" went out of control and crashed about $1\frac{1}{2}$ miles west of the airport, killing the pilot Llerenas and possibly several others on board.

414-12 S-38B NC-21V Oct. 1931 First owner is John DeBlois Wack of Briarcliff, N. Y. No information from 1931 until 1941. Purchased by Pan Am sometime after 1934. December 11, 1941, S-38B, NC-21V was destroyed at Biscayne Bay, Florida. During water take-off, with propellers set in high pitch pilot lost control of the fully loaded aircraft which porpoised then nosed over in the water and caught fire. Plane was destroyed and the crew of three killed.

414-13 S-38BT NC-22V Pan Am contract for purchase of NC-22V from Sikorsky dated January 19, 1933. Delivered to Panagra, February, 1933, at a cost of \$6,000.00 and used by them through 1939. Based for a time at Cristobal.

414-14 S-38B NC-23V (1930) Standard Oil Co. of N. J. from early 1930 until 1935. 414-14 was operated with 314-12 by New Guinea Petroleum Co. and used for photo survey of New Guinea. All civil aircraft in Indonesia were divided into different classes when assigned registrations: PK is for Indonesia; A is for amphibian; K is for Kartering or photo survey. Color of PK-AKS was whitish all over except for the top of the fuselage which was dark. "NNGPM" on both sides of the tail booms. After completion of the NNGPM survey, PK-AKS, along with PK-AKT continued with photo survey work all over Indonesia, British Borneo, and Australian New Guinea, working for other companies and commercial enterprises. Like PK-AKT, 414-14 was probably destroyed by a Japanese raid on Buitenzorg, Java, February 20, 1942. If not then, it was destroyed when Java was invaded.

414-15 S-38BL NC-24V (1930) Issued to Hughes Products Co., Ltd., Los Angeles, California, September 15, 1932. Used by Hughes until 1933. No later information.

414-16 S-38B NC-25V (1930) Powered with two 575 H. P. Wasps, NC-25V was used by Sikorsky Aviation to set national and international air records. July 21, 1930, Captain Boris Sergievsky flew this S-38 to two records for payload which were international records. With a payload of 1000 kilograms NC-25V broke the record for altitude with loads of 500 and 1000 kilograms with an altitude of 26,929.08 feet. A few weeks later he flew 2000 kilograms (4409.24 lbs) 19,709.24 feet. The 1000 Kilogram and 2000 kilogram records still stand

as United States records. A world speed record of 143.65 miles per hour was claimed for the 100 kilometer flight with a 2000 kilogram load, but this was not recorded for some reason.

414-17	S-38C	NC-26V	(1930)	Registered to Sikorsky all of 1931 and part of 1932. NC-26V was probably exported. No information after 1932.
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414-18		NC-27V		No information.
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414-19	S-38C	NC-28V CF-ASO	May 1930 May 1932	Registered as NC-28V to Sikorsky Aviation Corp from June 1, 1931 until sold to Canadian Airways, May 12, 1932. Canadian used it on the 60 mile over-water hop from Vancouver to Victoria. Dismantled in a badly corroded condition. In June, 1934, Canadian Airways declared that it be reduced to salvage and the registration was cancelled. This is the only S-38 on the Canadian register.
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414-20	S-38BS	NC-29V 29V	(1930) (1930)	Martin Johnson, the explorer, purchased NC-29V from Sikorsky in 1932. At the time that Johnson purchased the plane, new wings, and rebuilt, supercharged engines were installed on the original hull. The supercharged engines were needed as all operations in Africa were between 5,000 and 7,000 feet above sea level, both land and water. It was necessary to carry a supply of Tetra Ethyl of Lead to treat the gas which was in Africa. In the two years that Johnson used the S-38 in Africa, they traveled over 60,000 miles. The S-38 was painted black and white with zebra stripes, and on the nose was the name "OSA'S ARK". Pilot for the Johnson expedition was Vern Carstens. accompanying the S-38 was S-39CS (NC-52V), c/n 914. This plane was named "Spirit of Africa". After his return from Africa, Johnson kept NC-29V for some time, but sold it in 1938. The 29V identification marks were issued in 1935. No information from 1939 until 1941. Registered to James Johnson, Jr., Michigan. Reportedly destroyed on a take-off crash in Canada during 1941-42.
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514-1				No information.
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514-2				No information.
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514-3				No information.
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514-4	S-38B S-38H	NC-40V 40V NC-40V	May 1930 Jan. 1932 (1933)	Owned by Sikorsky Aviation Corp., Bridge- port, Conn. from May, 1930 until March, 1933.
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ATC 356 was issued September 17, 1930 to cover conversion of 514-4 to an S-38BH. January 1, 1932 registration was changed from NC-40V to the 40V identification marks. Was changed back to NC-40V when sold to Pan Am. Delivered March 31, 1933 at a cost of \$24,753.51. On August 11, 1933 it was either sold or transferred to Pacific American Airways, Co., N. Y. Pan Am affiliate, and shipped by boat to China. Operated in vicinity of Shanghai until destroyed by storm at Hankow, China, August 13, 1935.

514-5 through 514-20

No information.

C-6A 30-397 (1930) Contract No. W-535-A.C. 3263 dated June 13, 1930, for purchase of C-6A aircraft 30-397 through 30-406. The first C-6A delivered, 30-397, was based at Crissy Field, California with the 91st Observation Squadron. Damaged by excessive porpoising in 3 landings on water, February 2, 1931, but was repaired.

C-6A 30-398 (1930) Based at Wright Field.

C-6A 30-399 (1930) Based at March Field, California with the 64th Service Squadron. On July 25, 1933 at about 12:15 P.M., 30-399 crashed at Oceanside, California, in what was probably the worst Sikorsky S-38/C-6A accident. Piloted by Lt. C. H. Murray, the flight left March Field at 11:15 A.M. with six other Army personnel on board. When just off the southern end of Oceanside the right wing tore off. The plane was thrown into a left bank and then continued there for a few seconds, then the right side dropped. Falling to the right, 30-399 continued half spinning and half rolling until it struck the ground. The upper right wing and a portion of the center section fell about 500 yards from the main part of the wreckage. In the investigation of the accident, it was reported that the plane had been flown almost entirely from land fields, had been flown by many pilots, and had made more landings than normal for the amount of flying time it had. Total time on the plane was 1125:40. Many of the landings were quite hard due to inexperience in flying ships of this type and to the natural lack of resiliency of the landing gear. After this accident an unsatisfactory report was submitted and as a result, all the Army's C-6/C-6A aircraft were scrapped.

C-6A 30-400 (1930) Based at Langley Field, Va.

C-6A 30-401 (1930) Based at the Canal Zone.

C-6A 30-402 (1930) Based at Nichols Field, Rizal, Philippine Islands. On September 1, 1932, and January 10, 1933, it was involved in two minor landing accidents. In the first, the oil line to the left oleo strut in the landing gear split in a hard landing and allowed the wing to drag the ground. The second accident was a rough water landing, during which the plane bounced hard and broke the windows in the pilots compartment.

C-6A 30-403 (1930) Based at Nichols Field, Rizal, Philippine Islands with the 2nd Observation Squadron where it was used as a target tow aircraft. Slightly damaged in hard water landing at Camp Claudo, Rizal, on March 9, 1932.

C-6A 30-404 (1930) Based at Nichols Field, Rizal, Philippine Islands, with the 2nd Observation Squadron, was used as target tow aircraft. February 1, 1932, windows broken and hull buckled in hard water land-

ing. August 4, 1932, the left pontoon was forced into the ground when a 20 M.P.H. gust of wind between two hangars lifted the right wing. Field was muddy and a cross-wind take off was necessary. Damage was slight.

C-6A 30-405 (1930) Based at Wheeler
Field, T.H. with the

75th Service Squadron where it was used as a rescue aircraft and target tow. After a two hour and forty-five minute flight over water towing targets for Anti-Aircraft night firing, the pilot of 30-405 returned to Wheeler Field. In the preparation for his first night landing, the pilot neglected to lower the landing gear, but a smooth landing was made on the hull and damage was very slight. Later, aircraft was modified for a flare installation as it was to be used as a search and rescue airplane.

C-6A 30-406 (1930) Based at Langley
Field, Va. with the

59th Service Squadron. Was slightly damaged in hard landing on the water, March 15, 1932.

PS-3 A-8285 (1929) (See 114-17) A-8285
operated with VJ-5D11

(Utility Squadron Five, Eleventh Naval District) from December, 1929, until December, 1930. Possibly transferred to N A S Coco Solo, C. Z. at that time. If this is true, A-8285 operated until November, 1934, with the Utility Unit at Coco Solo.

PS-3 A-8922 Navy contract No.
RS-3 22268 issued June 1,
1931 for the purchase

of A-8922.

RS-3 A-8923 A-8923 was assigned
to VJ-6M (Nicaragua)

in the June, 1931, quarter. In the June quarter of 1933, it was sent to the Naval Aircraft Factory for overhaul. Returned to VJ-6M, it continue operations with them until the November quarter 1934. No Sikorsky RS-3 or S-38 type aircraft appears with the navy after the November quarter of 1934.

PS-3 A-9055 Navy contract No.
24365 is issued

November 4, 1931 for the purchase of A-9055.

The following aircraft listed are for the purpose of completing the history of the Sikorsky S-38. There is proof that each plane existed and they are listed in the hope that someone will be able to fill in the missing details.

S-38 Pan Am purchased
from Sikorsky August

16, 1933 at a cost of \$24,417.62. Used by SCADTA in Colombia in December 1934. (From Pan Am correspondence).

(Continued on page 191)



C-6A's 30-400 & 29-406 (rear) USAF-Mayborn



XPS-1 (S-36) Compare to S-38. USN-Barberry



PS-3, A-8285. Gunmount on nose. USN-Larkins



C-6A, AO30-399.

G.S.Williams

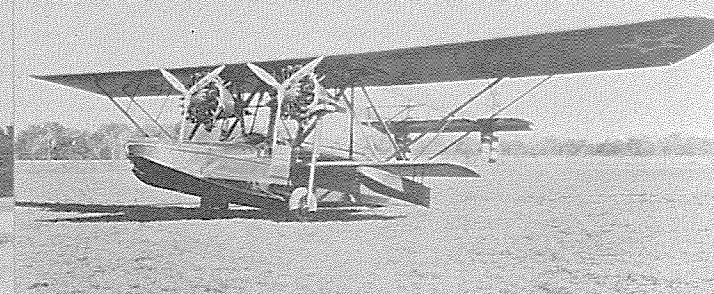


30-399 after crash

Mayborn



Marine RS-3, A-8923



USN-Mayborn

30-397 with 3-blade props

USAF-Mayborn

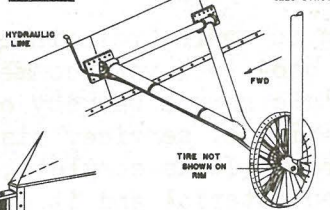
SPECIFICATIONS

ATO NO. 185
UPPER SPAN - 71' 8"
LOWER SPAN - 56' 1-7/16"
WING AREA - 750 SQ. FT.
UPPER CHORD - 100"
LOWER CHORD - 80"
LENGTH - 40' 8"
MAX. HT. TO TOP OF WING - 13' 6"
GROSS WT. - 10,450 LB.
2 PRATT & WHITNEY "WASP" OR "HORNET" OF 450 HP EACH
HAMILTON STANDARD FIXED OR CONTROLLABLE PITCH PROPS OF 9'10" EACH
NORMAL PAYLOAD - 1000 LB.
MAX. VELOCITY - 185 MPH
CRUISE " " - 110 MPH
STALL " " - 85 MPH
SERVICE CEILING - 18,000 FT.
CRUISING RAD. - 800 MI.
NO PASSENGERS - 10 TO 12

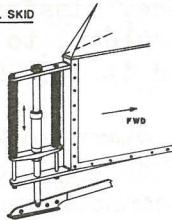
ONLY OUTLINE OF CYLINDERS AND PUSHRODS IS SHOWN

NO-948M IS PLACED IN RELATIVELY THE SAME LOCATION SHOWN ON UNDERSIDE OF UPPER LEFT WING

MAIN GEAR

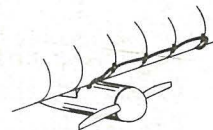


TAIL SKID



SKETCHES NOT TO SCALE

PS-2 GENERATOR

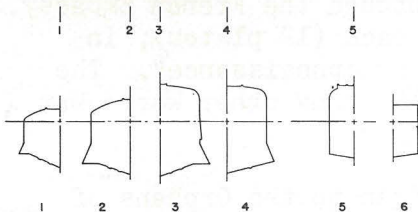
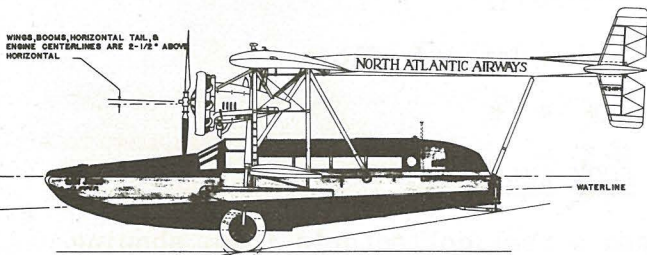


NO-948M, ATO NO. 185, SERIAL NO. 314-3, FLIGHT NO. 355 WAS PHOTOGRAPHED AT BOSTON MUNICIPAL AIRPORT, EAST BOSTON, ON 21 JUNE 1939. IT WAS AN OLD PAA PLANE WITH TWO P & W R-1840-G1 ENGINES OF 450 HP EACH.

COLOR SCHEME
HULL - TWO-TONE BLUE (LIGHT & DARK) WITH WHITE TRIM, BELOW WATERLINE AND UPPER CABIN BEING DARK BLUE.
FLOATE - SAME AS LOWER HULL.
UPPER WING - BASICALLY SILVER WITH LIGHT BLUE STRIPES OUTLINED IN DARK BLUE.
LOWER WING, BOOMS, NAGELLES, VERTICAL GEAR STRUTS, PROPS, TAIL, STRUTS, TIRE RIMS, "SAN JUAN CLIPPER" - SILVER
TIRE, BACK OF PROPS, CYLINDERS, LETTERING (EXCEPT HULL), SKID - BLACK

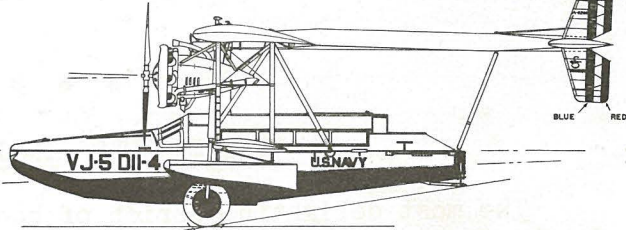
PS-2 COLOR SCHEME
WING (EXCEPT CHROME YELLOW UPPER SURFACE), BOOMS, TAIL, GEAR OLEOS, NOSE BUMPER, BASIC PROPS, RING MOUNT - SILVER
BASIC HULL AND FLOATE, NAGELLES, STRUTS, GENERATOR - LIGHT GRAY
TIRE, LETTERING, TRIANGULAR GEAR STRUTS, CYLINDERS, HULL BELOW WATERLINE, FLOATE BOTTOMS, SKID, CABIN ABOVE WINDOWS, STEPS, GUNNEL AT HULL CENTERLINE, FLOATE GUNNELS, INTAKES - BLACK
TRIM AT WATERLINE ON HULL - RED
PROP TIPS - RED, YELLOW, BLUE, EACH COLOR 4" WIDE WITH RED AT TIP
"PS-2" IS WHITE ON DARK BACKGROUND & BLACK ON WHITE BACKGROUND

WINGS, BOOMS, HORIZONTAL TAIL, & ENGINE CENTERLINES ARE 2-1/2" ABOVE HORIZONTAL



MANY THANKS TO THE FOLLOWING FOR THEIR HELP:
W.T. LARKINS
R. WARDEN
MITCHELL BAYBORN
L. CASEY, SMITHSONIAN INSTITUTION
R.S. HOPKINS

TAIL STRIPES ON BOTH SIDES OF EACH RUDDER



OB'S ARK COLOR SCHEME
"OB'S ARK" - APPEARS TO BE IN GOLD OUTLINED IN BLACK
BASIC HULL & FLOATE COLOR - DARK BROWN & CREAM ZEBRA STRIPES, DARK BROWN BOTTOM, DARK BROWN UPPER CABIN & WINDOW FRAMES

WINGS, TAIL, BOOMS, STRUTS, FAIRED GEAR STRUTS, PROPS, NOSE BUMPER, GEAR OLEOS, NAGELLES - SILVER
BACK OF PROPS, CYLINDERS, SKID, TIRE, LETTERING, INTAKES - BLACK
TRIANGULAR GEAR STRUTS & TIRE RIMS - DARK BROWN

NO-25V EQUALLY SPACED INSIDE ALERON LENGTH AND BETWEEN STRUTS
WING LIGHTS SIMILAR TO NORTH ATLANTIC AIRWAYS VERSION

DRAWN FOR W.T. LARKINS
BY W.A. EBERPACHER 3-27-39

INCHES
PART



SCALE - 1/4" = 1'

SIKORSKY S-38B OR PS-2
COLLEGE POINT, LONG ISLAND, N.Y. - 1928

rons) while most "army cooperation type units remained as Fl. Abt.

3. The Flieger-Ersatzabteilungen were actually flight training units which supplied replacement personnel to the front-line units (hence the name), equivalent to American basic or advanced flight training units. They were also designated numerically as "F. E. A. 7", etc.
4. These ranks have no equivalent in the American forces. The "Cavalry Captain" was equivalent to the German Rittmeister, but the Staff-Captain (Stabshauptmann) has no equivalent.

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The Ugly Duckling (continued from page 184)

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| S-38 | Pan Am purchased from Sikorsky for \$11,500. |
| Crashed at Havana, Cuba, on January 15, 1933. (Pan Am correspondence.) | |
| S-38 | Operated by the Andian National Corporation |
| and named "Ancol". Andian National is a subsidiary of the Standard Oil Co. of New Jersey. (Photo in 1930 Sikorsky brochure.) | |
| S-38 | Owned either by Bror G. Dahlberg or the Celotex Corporation about 1930. (Photo in the Sikorsky brochure.) |
| S-38 | Two S-38 types were still in use in 1941 by Sociedad Anonima de Navegacion Aerea in Argentina. There may have been more prior to 1941. (Photo on page 5b, <u>Jane's All the World's Aircraft, 1941.</u>) |
| S-38 | At least one S-38 type with Lloyd Aero Boliviano, in Bolivia, S. A. |
| S-38 | Igor Sikorsky flew this plane as far as the Panama Canal on a delivery flight to Chile in January, 1931. The government of Chile purchased the plane to be used by the Prince of Wales during his visit. (<u>The Story of the Winged-S</u> , by Igor Sikorsky, p.185; and Green and Fricker, <u>The Air Forces of the World</u> , p. 67.) |
| S-38B | RX-10 |
| | Owner and c/n unknown. See photo. |

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