

THE BOURDON/VIKING *KITTY HAWK* & VIKING (SCHRECK) FLYING BOAT STORY

Two little known New England airplane companies

By Ev Cassagneres

As with many historical studies, and after years of collecting, by the time this writer was ready to put it all on paper, the key people in the original story were long gone, and in many cases it has been difficult to find, make contact, and interview their survivors. When any type of contact was made, there was no guarantee that historically significant photos or other documentation would be found, if in fact any such material did survive and does in fact exist.

When I recently took on this study again, to do a final writing on the subject, questions arose that I did not think of many years ago when I was in contact with the people who were involved with Bourdon and Viking. Now after intense and painstaking research I realize that some of these questions may never be addressed or answered. I am therefore hoping that somewhere out there in the AAHS community, the answers to some of these questions will be found.

This is a first attempt at telling the story of Bourdon and Viking, so one has to begin somewhere. We will start with some background details on some of the people involved during the early stages of development.

SETTING

This story begins in Rhode Island. The state capital, Providence, is the second largest city in New England and was founded by Roger Williams. The city lies at the head of Narragansett Bay, about 40 miles southwest of Boston, Mass.

Providence was founded in 1636, and became the capital in 1900.

LOCAL AIRPORTS IN 1928

On the north shore of Greenwich Bay, in Warwick near Nausauket, there was a flying field known as Pothier Field, at the summer community of Buttonwoods, about eight miles south of the city of Providence. It is a small community of beach cottages, small year-round homes mixed in with a few larger well-maintained residences.

Pothier was named after former Governor of Rhode Island, Aram J. Pothier, and had one hangar in 1928, as seen in photographs, showing a Bourdon *Kitty Hawk* sport biplane there at that time.

About seven miles northeast of Providence, in the town of Pawtucket, on Newport Avenue, was What Cheer Airport in 1928. It was owned and operated by a Mr. Bertucci. The site eventually became the Narragansett Race Track, so well known in this part of the country. Part of the old racetrack can still be seen there, but nothing of the old airport can be found. The one hangar was torn down a number of years ago. The airport was located close by the Central Pond of the James V. Turner Reservoir, just to the east of the airport site. Today on this site one can find an industrial park.

HILLSGROVE

About six miles south of Providence, there is a suburb known as Hillsgrove, in the township of Warwick, Kent County. In the early days the area was known as the "plains," and today is the Hillsgrove Mill Village Historic District.

The name comes partly from the man who settled the area for industrial use - Thomas Jefferson Hill, a prominent Rhode Island industrialist, entrepreneur and public servant. Hill was born in Pawtucket in 1805, and died in 1894 at the age of 89.

In 1863 Hill purchased 600 acres of land along the line of the Providence and Stonington Railroad. It was here that he, with a business partner, Samuel Kilvert, established the steam-powered Rhode Island Malleable Iron Works. The company was located along Jefferson Boulevard at Kilvert Street, also known as Colgrove's Corner. Hill named it Hill's Grove, and the name stuck. It was bounded by Jefferson Avenue, Kilvert Street, and the railroad tracks.

Hill expanded his enterprise in 1875 with the erection of the Elizabeth Mill. An 1895 Everts and Richards map indicates an area directly across Jefferson Avenue from the mill as "grove." Today one can still find the railroad track, now oper-

ALLEN PETER BOURDON

Allen Bourdon was born on January 2, 1888, and raised on a small farm on Church Hill in Woodstock, Vermont.

Allen's "formal" education consisted of no more than that furnished by a one room un-graded school in Woodstock. He had two brothers, Leo and Ralph, and sister Margaret.

He had a deep interest in things mechanical, from automobiles to motorcycles and boats and later airplanes, in addition to sailing, music and sports.

With his older brother Leo they had a machine and woodworking shop in Woodstock. It was before WW I and was known as the Woodstock Manufacturing Company. They were pioneers in the manufacture of skis in this country, and participated in skiing activities long before the advent of ski areas, as we know them today.

He learned to fly and soloed on September 16, 1916, at East Greenwich, Rhode Island, in a Curtiss Jenny. Shortly after he became a flight instructor, and was hired by the Galldaude Aircraft Corporation of East Greenwich, as their test pilot.

After his termination at Galldaude, he was employed by the War Department as a Civilian Flight Instructor from September 1917 to January 1, 1919. He became a "junior" civilian instructor at Gerstner Field, Lake Charles, La., in 1918, at the Air Service Flying School. He instructed military pilots in the techniques of aerobatic flying in wartime combat situations.

After the war, Bourdon returned to Woodstock. The first airplane to land in that community was a Curtiss Jenny Bourdon flew into the local golf course. Local residents remembered the event for many years. About that time he did some exhibition flying at the old Woodstock Fair.

Soon he met and married Ruth "Julie" Slayton of Woodstock. They had two sons, Robert Slayton and Paul. In June 1938 he married for the second time, to Mary Marley. They had no children.

The Bourdons spent winters in their later years down in New Smyrna Beach, Florida, and summers at their home in Sunapee, New Hampshire.

Most of the pioneer's career was with the U.S. Civil Aeronautics Board. In 1954, he retired as Chief Analyst of the cause of aircraft accidents, concluding a long, successful saga of service in the world of aeronautics.

Allen passed away on July 28, 1972, at the New London New Hampshire Hospital. He was 84 years old.

He is survived by his wife Mary Marley Bourdon, now 102 years old, his brother Ralph and sister Margaret Osborne.

In the course of interviews with this author, Bourdon stated his logbooks and other memorabilia were lost in the 1938 hurricane that sank their houseboat.



Taken about 1935, it shows Allen Peter Bourdon, standing by a Kitty Hawk he had sold to a girl from Massachusetts. The airplane was built at Hillsgrove by the Bourdon Co. (Photo from Allen P. Bourdon)

ated by Amtrak. The Elizabeth Mill, is a three-story brick structure with front and rear towers, and is now the northernmost of a series of attached buildings of the Leviton Corporation. Above the third story front tower windows is the inscription "ELIZABETH MILL."

Two years after the mill closed, the Bourdon Aircraft Corporation set up shop to manufacture airplanes on the former business's first floor. From 1933 to about 1939, the building was occupied by the Consumer's Brewing Company. In 1941 the building was purchased by the Leviton Manufacturing Company of Brooklyn, New York.

Directly across the street from Elizabeth Mill, on the east side of Jefferson Boulevard, is the present-day Green State Airport, for many years known as Hillsgrove Airport.

THE GALLAUDET AIRCRAFT CORPORATION

The name Gallaudet will certainly perk up some of our AAHS members, some of whom may even be able to add to this rare story, and the rare and unusual airplanes they designed



Aerial photo showing the Elizabeth Mill on Jefferson Blvd, Hillsgrove, R.I. , 2002. (Photo by Ev Cassagneres)

and built.

Edson Fessenden Gallaudet was a creative engineer with concepts, which at that time were considered impractical. He was a young physics professor at Yale University in New
American Aviation Historical Society Journal, Summer 2007

FRANKLIN T. "HANK" KURT

Franklin T. Kurt, professional pilot, aviation pioneer, aeronautical engineer and author, and a name synonymous with aviation's classic era, was a name very dear to this writer. In 1935, he gave me my very first airplane ride.

Hank passed away in South Brooksville, Maine, on October 3, 1987, at age 83.

He graduated from the Chauncy Hall School in Waltham, Mass. Hank's original ambition was to become a locomotive engineer, but was changed when he attended the Squantum Air Meet in 1909.

Aviation was both Kurt's profession and his lifelong passion, and his career spanned the industry's most breathtaking epoch of development. As a child in Maine, on Kurt Island, he was fascinated by the trim and grace of seagulls' flight and determined at the age of twelve that "aviation would be my life." One of Hank's favorite expressions was "What Ho."

As a pilot, he flew for 42 years, logging over 5,000 hours, much of it in amphibians. He said that he had flown every mile of coastline from Detroit along both sides of Lake Erie, Lake Ontario, the St. Lawrence River, around the Gaspé Peninsula and both coasts of Nova Scotia, and every mile of Atlantic Coast and the Gulf of Mexico, much of this only a few feet above the surf.

Kurt was a member of the Society of Experimental Test Pilots and eight other aviation and technical organizations, serving as officer in many. He was a member of the Beta Theta Pi fraternity, a Trustee of the Chapel Hill-Chauncy Hall School of Waltham, Mass., and served as commodore of the Bucks Harbor Yacht Club in South Brooksville, Maine. He was also an avid sailor.

Hank attended Wesleyan University, in Middletown, Conn., for two years, and went from there to Massachusetts Institute of Technology (MIT) for three years. While at MIT he earned a combined Bachelor of Arts and Bachelor of Science degree. Aeronautical engineering was then only a graduate course, leading only to a Bachelor of Science degree - a five-year matter. He majored in mechanical engineering and took every aero course he could get, always by special petition to the faculty. As he entered the last semester of his third year, an undergraduate course XVI, was established centered around his chain of petitions. He graduated in June 1927 with a Masters of Arts degree in Aero Engineering. He therefore became the first graduate of MIT's undergraduate aeronautical engineering program, course XVI, the very program he had actively petitioned the university to establish.

While at MIT he enlisted in the Naval Reserve and soloed at the U.S. Naval Reserve Air Station at Squantum, Mass., on July 25, 1925, in a T.G.4, #6346, after 18:21 hours of dual before soloing. The T.G.4 was a NAF gunnery trainer built in several versions. He was eventually commissioned as an ensign. His instructor was Lt. Reg Thomas. From there he went to Hampton Roads and finished all the solos the Navy had in 75 hours, including gunnery, bombing, and navigation, most of which was in HS-2L flying boats with Liberty engines. Hampton Roads is near Norfolk, Va.

Most graduates from MIT at that time entered the engineering departments of big companies, and then only to be taken out of the business when the great depression hit in 1929. But Kurt wanted all the practical flying he could get and went into flight operations, as a flight instructor, at Quincy, Mass., on Cape Cod and around Rhode Island, and ultimately to New Haven with the Viking Flying Boat Company.

Hank logged some time with Amelia Earhart, instructing her out of the old East Boston Airport, now Logan International. One flight was in a Waco 9, on September 13, 1927.

While working for Viking in New Haven, he did considerable instructing in *Kitty Hawks*, teaching Yale University students how to fly.

In 1936 he joined the Gilles Aviation Corporation, handling sales, service and flight operations at the Aviation Country Club in Hicksville, Long Island. During that period he authored 50 articles on general aviation, including "The Sportsman Test Pilot" series in *Sportsman Pilot* magazine.

As World War II developed, he joined the Grumman Aircraft Engineering Corporation, where he headed respectively, the departments of mobilization planning, sub-contracting and quality control. He became a very close friend to Leroy Randle Grumman during that time, and in fact taught Grumman's daughter to fly.

Hank Kurt carried license number 763 in those years, making him one of the earliest pilots in the New England area.

Kurt test flew Grumman *Wildcats*, and spent much time designing and flight-testing all of the Grumman amphibians - *Widgeon*, *Goose* and *Mallard*. He also helped to market these fine airplanes. One time he criss-crossed Canada with newspaper mogul Lord Beaverbrook and flew into the eye of a hurricane with *Daily News* photographers.

Kurt authored a book titled, *Water Flying*, published in 1974 by MacMillan, that has become a sort of seaplane Bible for pilots of amphibians from the Caribbean to Alaska.



Hank Kurt standing by a Kitty Hawk, at New Haven, with a student pilot from Yale University. (Photo from Franklin T. Kurt)



Kinner Airster, 3/4 rear view, showing some similarity to the Kitty Hawk. (Photo from John Underwood)

Haven, Connecticut. In 1908 he opened an engineering office in Norwich, Connecticut, and then incorporated the Gallaudet Engineering Company in 1910. The firm began to build airplanes at the East Greenwich, R.I., factory. Mr. Gallaudet became Chairman of the Board, while J. K. Robinson, Jr. was President and General Counsel.

The company was sometimes referred to as "The Seaplane Factory" or "The Gallaudet." The factory was located on an 11-acre site, on the East Greenwich-Warwick line known as Chepiwanoxet (Devils Island). This was about 15 miles south of Providence.

From 1920 to 1924 Allen P. Bourdon was employed by the Consolidated Aircraft Corporation, (founded in 1923 by former Gallaudet general manager Ruben H. Fleet, and purchased Gallaudet that same year) as their engineer and test pilot. The company about that time also employed his brother Leo.

BOURDON AIRCRAFT CORPORATION

The Bourdon Aircraft Corporation, started by Allen P. Bourdon in late 1927, initially operated out of the Gallaudet factory in East Greenwich, Rhode Island. The company was granted a charter by the state of Rhode Island on February 4, 1928. They were to manufacture airplanes and motorboats, as well as motors and other devices for navigation by air or water.

Officers were Allen P. Bourdon, Clifton B. Thompson, Charles L. Ayling, V.P.; Harold T. Dennison, Harry Parsons, Earl Neill, and J. Albert Rhodes. Ralph S. Bourdon, Olac C. Pharnes, and Roderick F. Makepeace served as Secretary, Treasurer and purchasing agent, respectively. Bourdon hired Franklin T. "Hank" Kurt, and John E. "Jake" Summers, to do the engineering and stress analysis.

The company was associated with the GACO Corporation (possibly Gallaudet?) that manufactured airplanes in East Greenwich or the Chepiwanoxet area of Warwick (ref: *Providence Journal*, May 19, 1928).

According to Allen Bourdon, Hank Kurt did the original layout of the sport biplane that would become the Bourdon *Kitty Hawk*, and Jake Summers did the stress analysis and handled all related engineering requirements for the issuance of an ATC Approval Type Certificate number from the Aeronautics Branch of the Department of Commerce. Engineering was actually started in November 1927.

The *Kitty Hawk* was to be a 3-place, open-cockpit, biplane, used for either training or recreational flying.



The prototype Bourdon Kitty Hawk, s/n 1, upon roll-out after completion. Notice the registration number has not yet been applied to rudder or wing. (Photo from the Smithsonian, National Air and Space Museum collection)

KITTY HAWK NAME ORIGIN

According to Hank Kurt, there was a pilot by the name of Ralph C. ("Kiddy") Barrows, often referred to as Lt. Barrows. Barrows flew with Percy H. Spencer out of the old Hartford, Conn., airport, before it was named Brainard Field. In 1913, while still in school, he built his first f-boat, and barnstormed with it in 1914. Spencer's father invented the Spencer rifle. Percy, who lived in the Hartford area, at one time had a photo of his father target shooting with Abe Lincoln behind the White House. Lincoln had ordered 10,000 Spencer rifles, which was the start of the family fortune. Percy was still designing seaplanes well into his 80s, the *Seabee* being the one that is best remembered.

Percy Spencer eventually went into the flying business with "Kiddy" Barrows at Hartford, in an old canvas hangar. He was a good aerobatic pilot, and would do a dead stick landing, and always after a show would come in on a run down the line of airplanes, and without power, turn it without brakes and go in to the same spot position from which he had left, and hit it without hitting any of the other airplanes. He was a wizard according to Kurt.

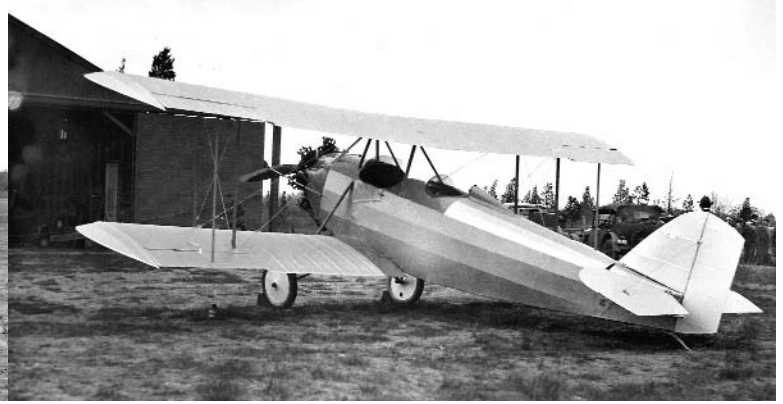
At one air meet, "Kiddy" Barrows was flying one of the Kinner biplanes doing aerobatics over the field, and stalled it deliberately over the top of a tethered balloon, and proceeded to come right down around the anchor line of the balloon like a monkey coming down on its tail, and he said you should have seen it, "Kiddy flew it like a Hawk." So there was the new name for the Bourdon airplane.



Ralph and Allen Bourdon, with Allen in cockpit of s/n 2, registration #7479. (Photo from Franklin T. Kurt)



Prototype Kitty Hawk, s/n 1, showing registration 5598 on rudder, with company name and logo on side of fuselage. (Photo from the Smithsonian, National Air and Space Museum collection)



A good rear view of the prototype Kitty Hawk, s/n 1, by the hangar at Pothier Field, Rhode Island. (Photo from the Smithsonian, National Air and Space Museum collection)

After that the slogan became - "it lands like a kitten and flies like a hawk," It got on all of the advertising. They did not have a big advertising budget at that time. All they could afford was about a one and a half-inch box in *AVIATION* magazine, which was the equivalent of *Aviation Week and Space Technology* today. They had the little *Kitty Hawk* wings with the cat (logo) in the middle with two little ears and whiskers on it, and the wings coming out and the slogan below it. The advertisement was run weekly. "Every week we would change it," Kurt said. There were just enough snickers in it that it would make people look at it each time - all this on an inch and a half of advertising space.

The best advertisement they had was reprinted in certain places. It was the little ad with the *Kitty Hawk* on top of a diagram of a cotter pin and the text read - "This is the cotter pin that was not in Lindbergh's landing gear when the wheel came off at Mexico City. We have the actual cotter pin that was not in his airplane and it will be installed on *Kitty Hawk* no. 18 - who will be the lucky buyer?" They had a lot of fun in those days. Kurt said it was half cat, half bird, but 100 percent airplane.

KITTY HAWK DESIGN

From a personal interview with Hank Kurt on Long Island in 1968, the following story was told to this author about the initial design of the *Kitty Hawk*.

Winfield Bertram Kinner, known as "Bert," (his son was "Win Jr."), on the west coast, was building engines in addition to a biplane. At that time a fellow by the name of Harold T. Dennison of Quincy, Mass., was in real estate and wanted to go into the airplane business. He was out west and was introduced to Winfield Kinner, and bought two of the Kinner *Airster* biplanes. He had them shipped back to a little airport at Squantum, Mass., a field developed by Dennison. The first airplane, built in 1923, was sometimes referred to as the "Crackerbox" *Airster*.

Interesting to note, that a Mr. M.M. Brockway of the Crown Motor Carriage Company, had experienced a boom in his bus sales in 1928, decided to update the Kinner *Airster*, which he did and renamed it the Crown B-3. In a picture

printed on page 34 of *MADCAPS, MILLIONAIRES AND "MOSE,"* a book by John Underwood, the B-3 looks for all the world like the later *Kitty Hawk*, with V-type cabane struts, landing gear configuration, Kinner engine, and outboard wing to wing struts with "X" wires instead of the usual and later "N" type struts.

Getting back to Dennison and his two *Airsters*, we find that Allen Bourdon was flying for Dennison at that time. Hank Kurt was just out of engineering school (MIT) and looking for a job, and was hired and became the second pilot at the Dennison operation.

Kurt said that when he opened up the Kinner *Airster* crates, and took a closer look, he was taken aback at the wood slab-sided airplanes, thinking they may be of weak construction. But according to some, it was probably stronger than a welded fuselage of comparable size. Kurt may have felt the plywood box might become weak from aging, as the glues of that time were not so good; plywood being nothing like it is today.

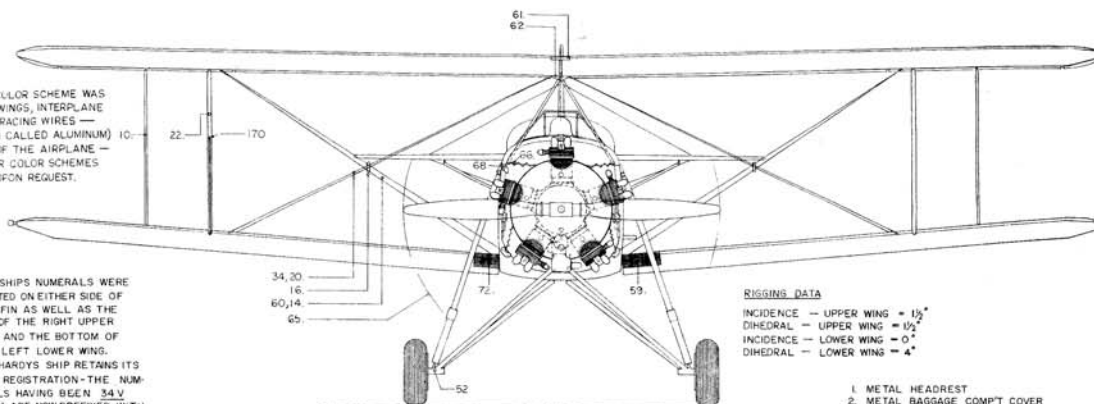
Hank Kurt did, however, get to fly them, and did find the ships a bit unstable, and because that early Kinner engine was already a problem, throwing heads, etc., he and Bourdon decided to use some other engine on the newly designed *Kitty Hawk*.

Copying from the Kinner biplane, they basically changed the wing stagger a little but kept the same ratio of the aileron area, although the wing airfoil was amazingly similar to the Kinner. Kurt changed the ailerons hinges, but the fuselage and other component designs were quite different. Generally it did not look the same in the air as the Kinner. The *Kitty Hawk* had a considerably longer tail and fuselage, and better tail surfaces altogether. The fin and rudder had almost the same curve as the early C-3R Stearman. Kurt had been an assistant to Mac Short when he was helping Lloyd Stearman design the C-3R. He had a French curve that he used to design the Stearman's fin and rudder. He used the same French curve on the *Kitty Hawk*.

Kurt also mentioned "decalage," which was copied from Kinner, and worked into the *Kitty Hawk* wing configuration. The upper wing had one and a half more incidence (angle of attack) than the lower. Since it was further forward, the ship nosed down greatly delaying the full stall. The up elevator was always limited in the up-travel that prevented spins from developing. The customers who used them for training found they

THE FACTORY COLOR SCHEME WAS AS FOLLOWS: WINGS, INTERPLANE STRUTS, ALL BRACING WIRES — SILVER (OFTEN CALLED ALUMINUM) — THE BALANCE OF THE AIRPLANE — MAROON; OTHER COLOR SCHEMES WERE APPLIED UPON REQUEST.

THE SHIPS NUMERALS WERE PAINTED ON EITHER SIDE OF THE FIN AS WELL AS THE TOP OF THE RIGHT UPPER WING AND THE BOTTOM OF THE LEFT LOWER WING. JIM HARDY'S SHIP RETAINS ITS 1930 REGISTRATION — THE NUMERALS HAVING BEEN 34 V. THEY ARE NOW PREFIXED WITH AN N.



FRONT VIEW

RIGGING DATA

INCIDENCE — UPPER WING = $1\frac{1}{2}^{\circ}$
 DIHEDRAL — UPPER WING = $\frac{1}{2}^{\circ}$
 INCIDENCE — LOWER WING = $\frac{1}{2}^{\circ}$
 DIHEDRAL — LOWER WING = 4°

1. METAL HEADREST
2. METAL BAGGAGE COMP'T COVER
3. WD. STRINGER (TURTLEBACK)
4. WD. STRINGER (SIDE)
5. WD. STRINGER (BELLY) — TOTAL OF TWO
6. LEATHER PADDING
7. LEATHER COAMING — LACED ON
8. METAL FUSELAGE COWLING
9. DOPED FABRIC
10. METAL ALERON CONNECTING STRUT
11. LOWER ALERON
12. LUG-INTERPLANE STRUT CONNECTION, WING
13. LUG-FLYING WIRE CONNECTION
14. REAR FLYING WIRES (PAIRED)
15. LONG INCIDENCE WIRE
16. "BROOMSTICK"
17. LEFT NAVIGATION LIGHT
18. FRONT COCKPIT DOOR — PIANO HINGE MOUNT'G
19. SHORT INCIDENCE WIRE
20. REAR LANDING WIRE
21. LUG-INTERPLANE STRUT CONNECT'N TO WING
22. FRONT INTERPLANE STRUT
23. REAR LANDING GEAR STRUT
24. OIL DRAULIC STRUT-SPRING
25. OIL DRAULIC STRUT-PISTON
26. DISK WHEEL
27. 6 X 20 MEDIUM PRESSURE TIR
28. LUG-FLYING WIRE CONNECTION TO FUSELAGE
29. LOUVER STAMPED IN METAL
30. REMOVABLE METAL NOSE COWLING PANEL (SIDE)
31. REMOVABLE METAL NOSE COWLING PANEL (BOT)
32. FUEL TANK FILLER CAP
33. FRONT CABANE STRUT — FRONT PART
34. FRONT LANDING WIRE
35. FRONT CABANE STRUT — REAR PART
36. FUEL GAUGE
37. "WRAP AROUND" WINDSHIELD
38. "MILITARY" WINDSHIELD
39. UPPER ALERON
40. REAR CABANE STRUT
41. REAR INTERPLANE STRUT
42. LUG-INTERPLANE STRUT CONNECTION TO WING
43. LEATHER COAMING — LACED ON
44. RUDDER CONTROL HORN
45. LEAF-SPRING TAIL SKID
46. TAIL BRACE
47. RUDDER CONTROL WIRE
48. LEFT STABILIZER BRACE STRUT
49. INSPECTION HOLE COVER
50. CONTROL WIRE LEAD-IN
51. FRONT LANDING GEAR STRUT
52. WHEEL BEARING — STEEL TUBING
53. METAL OR WOOD PROP — METAL PROP SHOWN
54. REMOVABLE METAL NOSE COWLING — FRONT
55. KINER K-8 ENGINE — 100 H.P.
56. REMOVABLE METAL NOSE COWLING — TOP
57. DURALUMIN BUCKET SEAT
58. FOOT STEP — STREAMLINED STEEL TUBING

STAB MOVES PAST FIN ATTACHMENT FORK WHICH PROJECTS THROUGH STAB COVERING

IT MAY APPEAR FROM THE FEW PUBLISHED PHOTOS OF THE B-4 THAT THE WING SETTINGS VARIED. THIS WAS UNDOUBTEDLY THE CASE INASMUCH AS PILOTS WERE WONT TO RE-RIG THEIR SHIPS TO SUIT THEIR FANCIES

FIN OFFSET TO LEFT AGAINST ENG. TORQUE

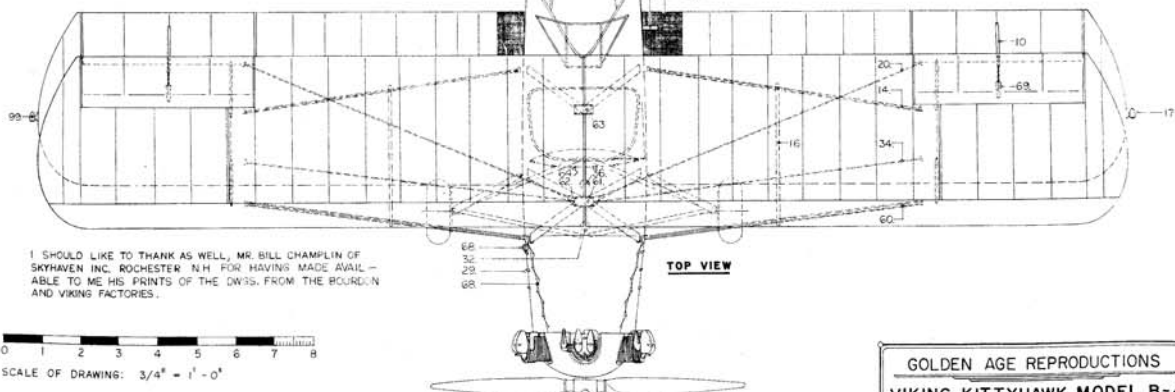
59. LEFT WING-WALK (PAIRED)
60. FRONT FLYING WIRES
61. FRONT UPPER CABANE FITTING
62. FRONT LOWER CABANE FITTING
63. REAR UPPER CABANE FITTING
64. WINDSHIELD ATTACHMENT FITTING
65. PROPELLER ARC
66. METAL COWL LACING
67. DOOR HANDLE
68. OIL TANK FILLER CAP
69. LEATHER LEAD-IN (AIL. PUSH-PULL TUB)

JIM HARDY OF ALLSTON MASS IS THE ENTHUSIASTIC OWNER OF A KITTYHAWK B-4. EXCEPT FOR HIM THESE DRAWINGS COULD NOT HAVE BEEN DEVELOPED. JIM MADE COUNTLESS HOURS AVAILABLE TO ME FOR THE INSPECTION & MEASUREMENT OF HIS SHIP. WHILE THE KITTYHAWK WAS STORED AT MARLBORO, DON LACOUTURE THE AIRPORT MANAGER WAS VERY KIND IN LETTING ME ENTER HIS SHOPS & HANGARS SO THAT I COULD VISIT THE SHIP. — FRED HAMLEN

SPECIFICATIONS

LENGTH O.A. = $21'-1\frac{1}{2}"$
 SPAN = $28'-0"$
 HEIGHT O.A. = $8'-6\frac{1}{2}"$
 SWEEPBACK — NONE
 HIGH SPEED = 112 M.P.H.
 LANDING SPEED = 40 M.P.H.
 CHORD (BOTH WINGS) = $54"$
 STAGGER = $1'-1\frac{1}{2}"$
 GAP = $5'-2"$
 TREAD = $7'-2"$
 CRUISING SPEED = 93 M.P.H.
 EMPTY WEIGHT = 1107 LBS.

COMPARED TO THE RENOWNED WACO 105 FOR EXAMPLE THE KITTYHAWK WAS A RELATIVELY OBSCURE AIRCRAFT. NEVERTHELESS IT WAS A VERY PICTURESCUE SHIP, DESIGNED BY ALLEN P. BOURDON IN 1927 AND BUILT AT HILLSBORO, R.I. THE FIRST SHIP WAS FLOWN IN MAY 1928. THE ORIGINAL POWERPLANT FOR THIS 3-PLACE SHIP WAS THE 96 H.P. RYAN SIEMANS ENGINE. EXCEPT FOR THE STABILIZER AND ELEVATOR THIS SHIP CARRIED ABOUT THE SAME CONFIGURATION AS ITS SUCCESSORS, THE PRODUCTION MODELS B-2 AND B-4. IN FACT THE PRODUCTION OF THE LATER B-2 ENTAILLED ONLY SLIGHT MODIFICATIONS TO THE WINGS AND FUSELAGE EARLY IN 1930. THE BOURDON AIRCRAFT CO. WAS MERGED WITH THE VIKING FLYING BOAT CO. AT WHICH POINT THE PRESENT B-4 WAS PLACED IN PRODUCTION USING MANY OF THE PRECEDING B-2 PARTS.



TOP VIEW

I SHOULD LIKE TO THANK AS WELL, MR. BILL CHAMPLIN OF SKYHAVEN INC. ROCHESTER, N.H. FOR HAVING MADE AVAILABLE TO ME HIS PRINTS OF THE DWGS. FROM THE BOURDON AND VIKING FACTORIES.

SCALE OF DRAWING: $\frac{3}{4}" = 1' - 0"$

GOLDEN AGE REPRODUCTIONS
 VIKING KITTYHAWK MODEL B-4
 ATC N° 166
 COPYRIGHT G.A.R. 1976
 Dwg.



Nice view of the Hallett-powered Kitty Hawk, s/n 2, #7479, taken September 14, 1928. (Photo from Franklin T. Kurt)



Bourdon Kitty Hawk, s/n 4, NC7928, with Siemens engine. Taken at What Cheer Airport in Pawtucket, R.I. (Photo by Warren Shipp)

could not teach spins, so advised them to rig in more up elevator. At New Haven one of their *Kitty Hawks* was so rigged.

The original tail surfaces were designed on the nature of the aircraft of the day, so the *Kitty Hawk* was a bit unstable. Later they installed a larger stabilizer and elevators, and with proper trim they had a more stable airplane.

The *Kitty Hawk* was of conventional construction for the period, with a welded steel fuselage, wooden bulkheads and stringers and fabric covered. Wings were of wooden spars and ribs, metal fittings and fabric covered. The front cockpit had an entry door on the left side. There was no center section on the top wing (same as the *Airster*) as both wings joined together at the thrust line and were bolted to two pylon cabane strut assemblies that were in turn bolted to the top longerons of the fuselage.

See Table 1 for the various engines used, in addition to serial and registration numbers and year of manufacture and some historical data.

They (possibly Kurt and Bourdon) made a trip to Germany and purchased 11 Siemens-Halske SH-14 engines. Kurt was the treasurer of the company as well as the chief engineer, and remembered signing the checks for the engines. Siemens engines were apparently distributed by T. Claude Ryan through Dr. Frank, who represented the Siemens interests in North America.

The *Kitty Hawk* became a well designed and well built and high performing airplane for its day.

FIRST TWO KITTY HAWKS

According to the *Providence Journal*, March 4, 1928, the Bourdon factory (at the Gallaudet plant) began work on two of the *Kitty Hawks*, referred to then as the "Cadet." This would be at Chepiwanoxet. They had seven workers at the factory at the time. In the April 26, 1928, issue of the *Providence Journal* was an article announcing the completion of these first two airplanes.

Bourdon himself claimed that ship number 2 had already been sold before it was completed.

The very first *Kitty Hawk* built, serial number 1, carried

registration number X-5598 and was completed on or about May 10, 1928.

It is not certain, and no documentation has been found, to indicate precisely which of the Ryan-Siemens-Halske engines was in X-5598 *Kitty Hawk*, but it was possibly either the SH-12 or SH-14. The latter was an air-cooled, 7-cylinder radial engine. This engine was also referred to as the Yankee-Siemens engine.

Serial number 1 was designated as the Model B-2 and utilized the USA-27 airfoil, and assigned ATC #134, dated April 1929.

The second ship built was serial number 2, X-7479, model B-2, and was powered with the rare Hallett H526, air-cooled radial of 130 hp.

HALLETT ENGINE

Major George E. A. Hallett was Chief of the power plant section of the Air Service Engineering Division at McCook Field, Dayton, Ohio, during the early 1920s.

Major Hallett apparently formed the company bearing his name - Hallett Manufacturing Company of Los Angeles, Calif. Initially the company built a few experimental engines, which were abandoned. Their principal efforts had been in the construction of marine engines.

In 1928 they introduced a 7-cylinder, air-cooled radial engine developing 130 hp at 1,800 rpm. It was one of these engines that was installed and flown in s/n 2.

The cylinders on the Hallett were one-piece, gray iron castings with integral cooling fins, each being held to the crankcase by two long and two short MacWhite streamlined tie rods attached at the cylinder heads. The engine included two Zenith carburetors on the rear accessory case. Two Splitdorf magnetos, also mounted on the accessory case, provided dual ignition.

It appears that s/n 1, the prototype, made its first flight on May 13, 1928, out of Pothier's Field, Buttonwoods, in Warwick, Rhode Island. Test pilot was Allen P. Bourdon, and the flight, made late in the afternoon, lasted about 20 minutes.



Bourdon Kitty Hawk B-2, s/n 6, NC191H, possibly taken somewhere in Connecticut. (Photo by Kenry R. Palmer, Jr.)

HANK KURT LOGBOOK ENTRIES

Entries in Hank Kurt's pilot logbook are as follows, and are the only documentation that has been found to indicate the details of that first *Kitty Hawk* prototype flight.

- May 13, 1928, Kinner #1092 15 min. Kurt with Allen, to test air for *Kitty Hawk* test (prov.).
- May 14, 1928, Kinner #1092 15 min. Kurt, solo, to fly alongside Allen in *Kitty Hawk* (prov.). Later that same day Kurt flew Kinner #1092 with student from Pothier's field to Dennison Airport - 50 min.
- May 18, 1928, *Kitty Hawk* #5598 20 min. solo first flight (by Kurt) in *Kitty Hawk* (first).

On May 18, 1928, X-5598 was flown for a first distance test to Boston to be inspected by William C. MacCracken of the Department of Commerce (second in command). It took off from Buttonwood's Pothier Field and was piloted by Allen P. Bourdon, with his brother Ralph H. Bourdon as passenger.

PROTOTYPE LOST IN FIRE

Kitty Hawk s/n 1, X-5598, did not live very long, and was lost in a fire on August 15, 1928. It happened at the What Cheer Airport in Pawtucket, Rhode Island.

The airplane was being started by pilot Jesse K. Fenno, treasurer of the Providence Airport Corporation, owners of the field. Fenno was in the cockpit, and it was about 7:30 p.m. Donald Whittarn was turning ("propping") the propeller when the engine backfired, after several attempts to get it going. Pilot Fenno had worked the primer at the same time, and apparently overloaded the carburetor, which spilled fuel over the hot exhaust and caused the fire.

No fire extinguisher was available and the fire spread rapidly back to ignite the doped fuselage, wings and tail surfaces. Both men frantically tried to contain the blaze by throwing dirt on the structure, without success. This happened just outside of the hangar. There was no water in the hangar that could house six airplanes. Two Waco airplanes that belonged to the operation were in the air at the time, being flown by Leo Leeburn and Earnest Berns. They were several miles away and did not realize what had happened until they saw a huge column of black smoke coming up from the airport.

The Pawtucket Fire Department was summoned to the field by phone at 7:45 p.m. By the time the firemen got there the *Kitty Hawk* was in smoking ruin. The incident drew hundreds of people to the airport to witness the tragedy.

The airplane was, however, covered by insurance, at a value of \$4,800. After the wreckage was cooled down a few small boys had to be restrained from taking souvenirs and shortly thereafter the remains, or skeleton, was wheeled into the hangar. Before Mr. Fenno returned home he removed the control stick and took it with him. (Wonder if it still exists today?)

Officials of the What Cheer Airport announced that fire-fighting equipment for the airport had been ordered.

PRODUCTION (in Rhode Island)

No official production lists or other type of documentation has been found to confirm just how many *Kitty Hawks* were produced in Rhode Island, or final disposition of many of these airplanes, other than the five that do exist.

There were apparently seven model B-2, ATC #134, *Kitty Hawks* built in Rhode Island, all of which were powered by either the Ryan-Siemens or Yankee-Siemens engines. See the individual listings in Table 1. They carried serial numbers 1 thru 7.

The next model was the B-4, ATC #166, dated June 1929. They were serial numbers 8 thru 24. All but one (s/n 10) were powered with the Kinner K-5 air-cooled, radial 5-cylinder engine of 90-100 hp. This engine was being manufactured in the United States and readily available, which was not the case for the German Siemens engines.

The only apparent difference between the B-2 and B-4 airplanes was a slight reduction in weight. Performance and flight characteristics were pretty much the same. The ATC number for the B-4 was approved for either the land plane or seaplane.

By August 1, 1929, the Bourdon company was turning out an airplane every 10 to 14 days.

Ship number 3, C-7627, was initially sold to the Providence-Fall River Air Transport, Inc., of Seekonk, Mass., around July 1929.

In October 1929, the Bourdon Aircraft Corporation announced that it was leaving the state of Rhode Island, in a merger with the Viking Flying Boat Company of New Haven, Conn.

Through this merger Viking inherited the *Kitty Hawk* biplane, along with the advertising slogan, "Flies like a hawk, lands like a kitten."

A Bourdon spokesman cited "the failure of the State Airport Commission to make a suitable field for the development of aviation in this (R.I.) state." Shortly before Bourdon's incorporation, the State of Rhode Island had authorized the expenditure of \$300,000 to create a Warwick airport. While not the first aircraft manufacturer in Rhode Island, Bourdon's location at Hillsgrove links it to the air commerce that would come to dominate Warwick in the 20th century, namely Green State Airport.



A beautiful photo of Bourdon B-4, s/n 12, NC293M, with Kinner K-5 engine. Taken at Hillsgrove, across the street from the Elizabeth Mill plant on Jefferson Blvd. (Photos by Edwin Levick from the Ev Cassagneres collection)



Left: Good view of the Kinner K-5 engine and Hartzell propeller.

Below right: Notice the two wings are joined at the center line.



AVIATION SCENE AT NEW HAVEN, CONN.

Aviation development in the New Haven area more than likely was begun by a prominent local flyer by the name of John H. "Jack" Tweed and his brother Charles C. Tweed, with help from two other brothers - Robert E. Gross and Courtland S. Gross.

Jack Tweed was an ex-Naval aviator, and had been barnstorming the Connecticut shoreline on Long Island Sound in a Curtiss MF flying boat, hopping passengers from the local beaches. This was in the early twenties. Tweed was the third person in Connecticut to earn a pilot's license.

Tweed had helped to build the Naval Air Station at Coco Solo, Panama Canal Zone, and was one of the first to fly the jungle route over the Isthmus of Panama. He was without a doubt, one of the early pioneers of aviation, preceded only by Lincoln Beachy, J.A.D. McCurdy, both of whom used to fly out

of Yale (University) Field near the Yale Bowl in contests put on by the old Yale Aero Club in 1911.

One earlier man, Josiah Miegs, a tutor at Yale University, who later took over the local newspaper, built two unmanned lighter-than-air (LTA) balloons in 1785 and flew both of them off the New Haven Green. Detailed information can be found in Ezra Stile's diary, preserved in Yale's Beinecke Rare Book Library.

After WWI Jack Tweed became a test pilot, made exhibition and long distance flights and was an associate of leading aviators of that time.

THE GROSS BROTHERS

The father of Robert and Courtland Gross, Robert H. Gross, was Chairman of The New River Company (investors) in Boston, Mass. Like their father, the brothers were also



Kitty Hawk B-4, s/n 14, NC30V, on floats, on popular lake Winnepesaukee in New Hampshire, where it was used to fly sightseeing passengers in the White Mountain area. (Photo by Richard B. Hoit from the Ev Cassagneres collection)

financiers, and had an interest in the Stearman Aircraft Company of Wichita, Kansas, so were not new in the aviation business. Gross helped with administrative and production problems at the Stearman factory. It appears their father gave each of them \$50,000 with the suggestion that they invest in the aviation business, and they did just that.

THE VIKING FLYING BOAT COMPANY

To the average New Haven person on the street, past a certain age group at least, the Viking Flying Boat company is as familiar a name as John H. "Jack" Tweed. Both are synonymous with New Haven aviation history.

The story begins with a Connecticut company, incorporated June 18, 1925, the New Haven Air Terminal, Inc. They sold property on the east side of New Haven harbor, to the Viking Flying Boat Company, a Delaware corporation, to be used for the operation of seaplanes and flying boats.

The Viking Flying Boat company was actually two companies in one, the Viking Flying Boat Company, a Delaware corporation which was at one time engaged in the manufacture of aircraft and subsequently conducted a small flying school, repair base and service station.

The second company was the Viking Flying Boat Company (Connecticut), Inc., a corporation incorporated in Connecticut. This was a real estate holding company that eventually owned a hangar on a piece of leased property at the New Haven Airport (now Tweed-New Haven Airport). It held a franchise from the city of New Haven for conduct of its operations at the airport.

Initially it operated under the name of the New Haven Air Terminal, Inc., run by Jack Tweed and his brother Charles.

The property was located near the old Koppers Coke company, at the western end of Alabama Street, on the east shore of New Haven harbor.

The Gross brothers and the Tweeds felt that the flying boat business could be a lucrative one to be in at that time.

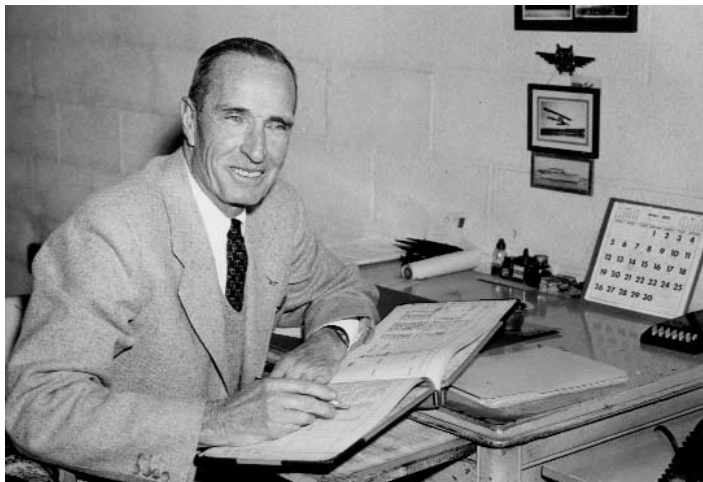
The operation had one hangar, and a ramp into the water, and serviced popular flying boats such as the Curtiss "F" boat, as they were known, and others that might happen upon the scene.

Coincidentally, just a few hundred yards away, the Marlin Firearms Company had a plant and a landing strip, used mainly for flight testing of airborne machine guns, mounted on the nose and fired through the propeller via synchronizing mechanism, which they were developing at the time, one of the first in the world.

THE NEW HAVEN MUNICIPAL AIRPORT

Concurrently, consideration was being given to building a new airport, just east of the harbor operation, intended exclusively for land-based flying machines. Initial consideration had begun in New Haven in late 1922, five years before Charles Lindbergh made his famous non-stop flight from New York to Paris.

On November 23, 1922, New Haven's Mayor David E. Fitzgerald assembled a commission to study the feasibility of selecting potential sites for development of an airport. Through the leadership of member James W. Cook, the present site was established. It was a choice location based on its close proximity to the city, and its expansion possibilities. It was in the southeast corner of the city, and only four and a half miles from City Hall, with part of the property in East Haven, and



April 1953, photo of Jack Tweed at his desk as manager of New Haven Municipal Airport, New Haven, Conn. (From the Ev Cassagneres collection)



The Viking Flying Boat Hangar, circa 1938, New Haven Municipal Airport. (Photo from the Ev Cassagneres collection)



New Haven Air Terminal hangar and ramp into the water of New Haven harbor. The hangar no longer there. (Photo from the New Haven Air Terminal collection)

practically within sight of Morris Cove.

The property comprised 110 acres of forest and swamp land. Eventually the land was purchased for \$65,000, secured by an option in the name of the city, paid for by Messrs. James W. Cook, and Thomas M. Steele, and purchased from Horace Burgess.

SCHRECK FLYING BOAT ENTERS THE PICTURE

As construction of the new airport continued, the Gross brothers made an extensive trip throughout Europe, looking for a suitable flying boat to market in this country. The brothers settled on the popular F.B.A. Schreck (French) design.

The Schreck flying boat was standard equipment in the French Navy, and had an astounding record of thousands of miles of flying without structural accident in Europe. Some of these aircraft made it over to Canada where they were used throughout the country.

The handsome design clearly showed a graceful “continental” flavor in its general form and mechanical makeup. It was a well proven and popular design, initially done by Louis Schreck, a naval architect and yacht designer, turned aeronautical engineer, and was manufactured by the Hydroavions Schreck FBA (also spelled Hydravion FBA) plant in France. The design dated back to the early part of WWI.



New Haven Air Terminal, Inc., showing a couple of Curtiss F boats, and a flag indicating a southerly wind. (Photo from the Jack Tweed collection)

In August 1929, the Gross brothers secured exclusive American licensing rights to manufacture and market them. The French model 17-HT-4 became the Viking model V-2.

The Schreck was a biplane with conventional tail surfaces. It had a seating capacity of four persons in open cockpits. Construction was all wood frame for the wings, with fabric covering, plywood for the fuselage/hull, and wood framing fabric-covered tail surfaces. The airplane was powered with a Hispano-Suiza water-cooled, vee-type, 180-hp engine. Airfoil was the modified Eiffel 359 (Nieuport Astra).

The first Schreck 17-HT-4 to arrive in New Haven was s/n 133, which was given American registration NC792K. It was powered by a 180-hp Hisso engine, s/n 21404. A Viking company log indicates the first test flight on July 31, 1929.

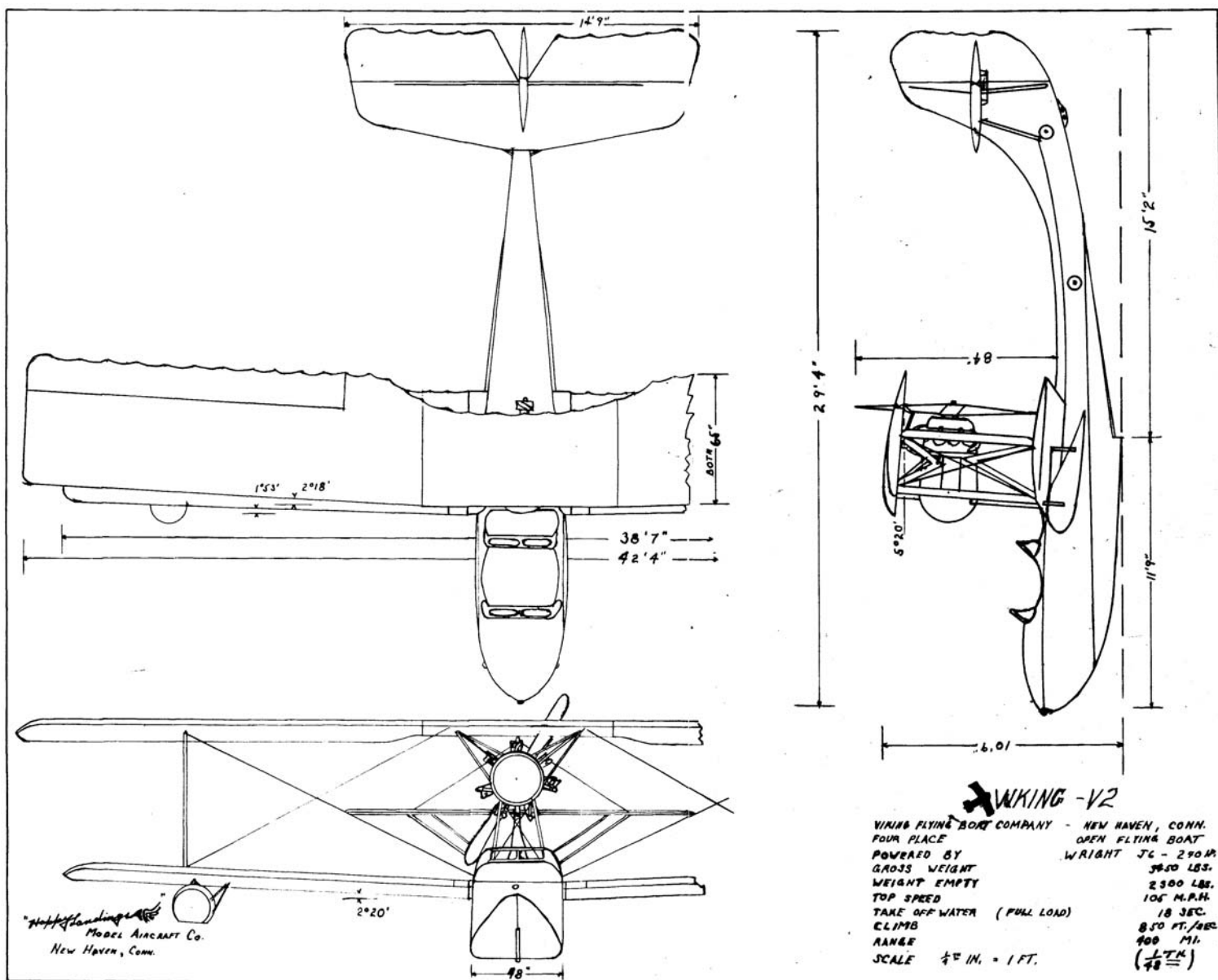
Five Schreck flying boats were shipped from France, and assembled and flown in New Haven. Only four were given U.S. registration numbers (see Table 2).

The other Schreck, s/n 107, was acquired by the U.S. Coast Guard in 1931, as a “Seaplane Experimental” (as it was listed in the Coast Guard Register). The aircraft proved to be an excellent craft and the Coast Guard gave this particular ship the tail number 8, which was later changed to “V-107.” When the Viking company eventually built the V-2 version, the Coast Guard ordered five more (V-152 thru V-156). Serial number 107 was destroyed by fire in March 1934. V-152 was written off in following a crash in March 1939.

Directors of Viking were Herbert Fales, Robert E. Gross, Edward H. Osgood, Robert Proctor, Louis Schreck, Mac Short, Lloyd Stearman, and Reginald D. Thomas.

The Viking flying boat (Schreck) got off the ground, or more accurately the water, and its success in the market place seemed certain. The economic collapse of 1929 killed these great expectations. Sales were few and far between. Gross had thought of potential sales among wealthy sportsmen pilots who frequented the New England coastline and northeastern waterways. The sadder but wiser Gross remarked years later, “People didn’t want boats, flying or otherwise, they wanted collateral.”

In October 1929 Viking merged with Bourdon, and the manufacturing activities of the corporation that resulted



centered under the Viking banner in New Haven. They were planning, in spite of the economic situation, to build both the Schreck flying boat (as the Viking V-2) and the Bourdon designed *Kitty Hawk*.

The Viking V-2 and *Kitty Hawks* were built in a Winchester Repeating Arms building at 89 Shelton Avenue in the city of New Haven. The flying boats were trucked to Vreelands Boat Yard at Morris Cove, where they were assembled and test flown, right off the water in the Cove.

The first *Kitty Hawks* were trucked to the Hamden Airport (adjacent to New Haven in the town of Hamden) and test flown there. The field no longer exists.

BUILDING THE FIRST CIVIL FLYING BOAT

The Viking people found the French drawings' dimensioning was shown in metric, which of course created many problems, so this all had to be translated into our own method of dimensioning, which was time consuming and somewhat complicated. In the long run some redesign would

be necessary.

So who could they get to do the engineering required? With Gross's connections with Stearman and other aviation companies in the Wichita area, he located an engineer who could set up an efficient engineering drawings system and tell them what to do to make the Schreck/Viking fly, and fly well.

Gross found Hall Hibbard, who agreed to come to New Haven for about three months. Hibbard and his wife Irene drove to Connecticut in a brand new Ford Model "A," and subsequently spent four months successfully troubleshooting the project and getting all the drawings in shape.

The author has one 3-view drawing that indicates some of the changes made to the Schreck design.

For instance, both top and bottom wings had a slight sweepback. The top wing had 2°-18' sweepback, while the lower wings had 1°-53' sweepback. Also the lower wings had a 2°-20' dihedral, but none for the top wings. Total wingspan, top wings, was 42' 4". Gross weight was shown to be 3,450 lbs. Overall length was 29' 4" and overall height to be



Standing by a Viking flying boat at Miami, Florida, are L to R, Cortland Gross, Jack Tweed, Lloyd Fales, 1929. (Photo from the Jack Tweed collection)



Viking/Schreck, U.S. Coast Guard #8, on the ramp at New Haven harbor. It was actually s/n 107. (Photo from Hank Kurt from the Ev Cassagneres collection)



Schreck 17-HT-4, s/n 133, NC792K, in the water of New Haven Harbor, and with a full load of people. (Photo from the Ev Cassagneres collection)



First Viking built flying boat, s/n 1, NC37V, On the ramp at the New Haven Air Terminal on New Haven harbor. (Photo from the Ed Sherman collection)



10' 9." Top speed would be 105 mph, range 400 miles, and takeoff with full load (off water) in 18 seconds. The airplane could climb at 850 fpm.

The first civilian V-2 was of course s/n 1, with registration number NC37V, and was test flown by Hank Kurt on June 2, 1930. It was powered by a Wright J-6-7 (R-760) of 240 hp. This ship was apparently used for demonstration purposes to the U.S. Coast Guard and was s/n 107.

They did not build any more V-2 flying boats until 1936, when they produced five for the Coast Guard, all powered with the Wright J-6-7 (R-760) of 240 hp. They were actually built in the hangar at New Haven Airport, trucked to Vreelands Boat Yard and assembled and test flown, by Hank Kurt, off the waters of Morris Cove.

Each of these ships cost the Coast Guard a unit price of \$6,500. They had a top speed of 90 knots, a cruise speed of



Evident here are the beautiful lines of Schreck flying boat, s/n 64, NC136N, powered by a Hisso 180-hp engine, at New Haven. The color of this craft is likely yellow with black bottom. (Photo from the Warren Shipp collection)

75 knots, stall speed of 41 knots, and a range of 390 miles.

These Viking Coast Guard flying boats flew out of air stations in Biloxi, Miss.; Cape May, N.J.; Charleston, S.C.; Miami, Fla.; and St. Petersburg, Fla.

It was not long before Viking proudly advertised itself as “contractors for the U.S. Navy and the U.S. Coast Guard.”

Officially, the Coast Guard V-2 Vikings were listed as serial designation 00-1, which shows up in various publications and technical data. They were ordered under Contract Number Tog - 26,271; 14773.

With the exception of a few manufacturer’s name plates, not even a piece of a Schreck or Viking flying boat mentioned in this article exists today. The all-wood jig for laying the keel of a Viking, which the author saw sitting behind the hangar in New Haven Airport for many years, has also disappeared.

One V-2 was destroyed at a “base” on New Haven harbor after a fuel tank ignited and exploded. Details of this incident are unknown.

One original F.B.A. Schreck exists and is in the world renowned Musee de L’Air at Le Bourget Aeroport, Paris, France. It carries registration designation F-AJOR and is a model 17-HT-4. It is s/n 195.

Three Schreck flying boats that went to Canada, but it is not known if any of them have survived.



Viking flying boat under construction for USCG, in the hangar at New Haven Airport. Notice flying boat hull (cabin type) in corner. It was brought over from France before building up the Viking ships and never flew. It was lost in an explosion at Morris Cove, while starting its engine. (Photo from the Watson Bentley collection)

There is one F.B.A. Schreck Type IV, at the Musee de L’Armee in Brussels, Belgium. It is s/n 5.

NEW HAVEN AIRPORT DEVELOPMENT

On November 11, 1929, elaborate ceremonies were held to celebrate breaking ground for the new airport. The new mayor, Thomas H. Tulley, and governor John H. Trumbull, officially started construction with a gold and silver spade. The spade was delivered “via air” in the hands of local parachutist Ed Sherman, after he had jumped from a Bourdon *Kitty Hawk* open cockpit biplane. Pilot was John Hancock “Jack” Tweed.



U.S. Coast Guard ship #152, s/n 00-1 (CG) built by Viking Flying Boat Company, New Haven. (Photo from Peter Coull)



A view of Coast Guard ship #155, showing good detail of rigging, etc. (Photo from Warren Shipp)



Ed Sherman (center) after making first parachute jump while broadcasting over a radio on the way down. He jumped out of *Kitty Hawk* flown by Jack Tweed, at New Haven. (Photo from the Ev Cassagneres collection)

PARACHUTISTS – EDITH AND ED SHERMAN

Any aviation history in the New Haven area has to include mention of two very special people, early parachute jumpers and parachute riggers.

Edward S. Sherman was born on October 19, 1894, in Torrington, Connecticut. He married Edith De Wick, and taught her to fly and to pack parachutes.

Edith was the only woman among the more than 300 licensed parachute-packing (riggers) experts in the USA in the 1920s.

Ed obtained his rigger's license in 1922. No jumper experienced an accident with a chute Ed had packed.

Edith made her first jump at the New Haven Airport, from a *Kitty Hawk* piloted Ed.

Ed had worked for the Gross brothers in the early *Kitty Hawk* and flying boat days. He worked with employees - Earl Niel, Bill Spicker, Angus and Walter Matheson. Ed was close friends of Bert Acosta, Hugh Herndon, Clarence Chamberlin, Al Williams, Clyde Pangborn, Frank Hawks and Jimmy Mattern, among others.

Ed made the first live broadcast parachute jump in the U.S., via a battery-powered radio. During preparation, descent and arrival upon terra firma he explained to thousands of spell-bound listeners what he was doing and how he felt. The date of this jump thought to have been in the late 1930s.

Ed Sherman died in Montgomery, Ohio, on September 22, 1986.



Another view of #152, with the Wright J-6-7 (R-760) 240-hp engine. The photo location is unknown. (United States Coast Guard photo from the author's collection)

landed on the East Haven side, on the only dirt area that was smooth enough to touch down on. Of course, the landing was illegal. The flight was done on a dare, and was at about 3:30 p.m. Well, what can one say, it WAS being built to become an airport, was it not?

The Viking Flying Boat Company, on leased land from the city, erected the hangar, which is still there, recently re-modeled into the main airline terminal.

Opening day was on Saturday, August 29, 1931. The dedication ceremonies were at 9:00 a.m., beginning with a flag raising and a parachute jump by Ed Sherman, from a *Kitty Hawk* piloted by Jack Tweed.

The first "official" landing was on this day, early in the morning, when Jack Lenox, Chappy Lenox, and Harold Sparks arrived in three Fleet biplanes. Shortly after, the second landing took place, when the Connecticut Air Guard arrived in three Consolidated O-33s from Brainard Field in Hartford.

On opening day the airport had cost the city \$475,000, or roughly \$2.80 per capita. This did not include the time and effort contributed by scores of air-minded New Haveners, the Chamber of Commerce, the Mayor's office, bankers, industrialists and others.

Altogether, in view of the fact that the worst of the depression years lay just ahead, it was an auspicious airport opening the likes of which hundreds of American cities, large and small, have held since the end of WWI.

Two full-fledged aviators of the day were hired by the city to oversee the development and operation of the field. They were Jack Tweed as manager, and George A. Wolcott, assistant manager. The combination of their talents was perfect.

So, in 1931, Viking moved into the new hangar to build the V-2 flying boats and *Kitty Hawks*. Allen Bourdon supervised the installation of the equipment used for the *Kitty Hawk* production.

This operation was located on the west side of the field. The original administration building, faced with yellow brick, is still there, but has had a couple of additions over the years including a control tower. The original one-vehicle firehouse,

Westcott & Mapes, Inc., a local firm, did the engineering for the initial drainage layout. It is the best-drained airport in the state. Boston engineer, Mark Linenthal, wrote up the specifications for the hangar, shop and office building for the Viking Flying Boat Company.

The first (unofficial) landing of an airplane was during construction when an open cockpit biplane, a Waco 10 with a Curtiss OX-5 engine, piloted by Edward J. Callahan flew in from Wallingford, Conn., on February 8, 1930. He actually



First Viking (New Haven) produced Kitty Hawk B-8, s/n 25, NC868Y (was X-868Y), taken at Hamden Airport, 1930. (Photo from the Ev Cassagneres collection)



Kitty Hawk B-8, s/n 26, NC753Y, on floats at popular Lake Winnepesaukee in New Hampshire. (Photo from William Champlin)

between the hangar and the administration building has since been demolished.

Interesting to note is that the entire property had to be cleared of 16,000 trees, with the tree stumps being disposed of by burning. Many years ago I came across two 400-ft reels of black and white 16-mm movie film showing the whole operation.

I remember going there as a young boy in the thirties to wonderful air shows and seeing world famous aerobatic pilots fly. Details of the *Kitty Hawks* there are as real today to my mind's eye as the flowers on my kitchen table. The 4 million candlepower floodlight on the northeast side of the field could light up the whole airport. It and its building are long-removed from the scene today.

VIKING KITTY HAWK B-8, ATC #392

When Viking merged with Bourdon, they inherited all equipment and engineering data. Jack Tweed, together with Hank Kurt and Allen Bourdon, felt that the last model, the E-4 needed some refinements and redesign.

The Bourdon-designed *Kitty Hawk* became the Viking Model B-8. It is not known why B-5, -6 or -7 model designations were not used. This would be the first and only *Kitty Hawk* to be marketed as a Viking rather than a Bourdon.

The B-8 incorporated many improvements in equipment and crew comfort. It was still the basic original design, but a bit heavier. So they boosted the horsepower by installing a Kinner B-5 (R-440) of 125 hp. In photos you will notice the front exhaust of the B-5.

No official documentation has been found to indicate how many *Kitty Hawks*, model B-2 and B-4 were built by Bourdon in Rhode Island, prior to the buy-out by Viking. It appears that around nine to 12 were produced. It also appears that only the B-8 was built by Viking, a total of eight airplanes, serial numbers 25 thru 32. Some of them were built at the 89 Shelton Avenue plant in New Haven and the rest in the new hangar at New Haven Municipal Airport.

Some B-8s were test flown at the old Hamden Airport, in the town of Hamden, adjacent to New Haven. The field is no longer in operation, and is currently an industrial park.

Checking Hank Kurt's pilot logbook, it indicates he flew s/n 20 on the initial test flight on July 29, 1930, at Hamden, and the same for s/n 26 on June 22, 1931, at Hamden.

B-8 DESCRIPTION

This model was approved as a land plane as well as a sea-plane, with Edo 2260 twin floats, and performed quite well with the latter they say.

The B-8 was also a 3-place, open-cockpit, biplane with dual controls, wings of equal span, "V" type cabane struts, and a split-axle landing gear of 88-inch tread with longer telescopic struts and oleo-spring shock absorbers, with wheels of 26 x 4 without brakes. A tailskid was provided of the spring-leaf steel type. However, a 6.50 x 10 semi-airwheel tail wheel assembly was optional.

It used the USA-27 airfoil on all wings, with a wingspan of 28' 4," overall height of 8' 8," and overall length of 22' 11." Wing chord was 54." It had an empty weight of 1,178 lbs, and grossed out at about 1,950 lbs. It could land at 42 mph, climb at 730 fpm at sea level, and had a ceiling of 14,500 ft. Cruising speed worked out to about 95 mph. Price at the factory was \$4,250.

As a seaplane its empty weight was 1,490 lbs, and gross weight of 2,270 lbs. Cruise speed was 88 mph, landing speed of 50 mph, climb at 650 fpm, and a ceiling of 13,000 ft. All dimensions and specs remained about the same.

The wing angle of incidence was 1½° in the upper wing and 0° in the lower. Stagger was 13.375" and sweepback 2° in both wings.



Bourdon Kitty Hawk B-4, s/n 14, NC30V, when owned and flown by Nancy Hopkins. She won 4th place in the 1930 Women's Dixie Derby. She also flew it in the 1930 National Air Tour. This photo was taken at Hills Grove, R.I., on Jefferson Blvd. (Photo from Stephen J. Hudek)

American Aviation Historical Society Journal, Summer 2007



In later years s/n 26, NC753Y, B-8 Kitty Hawk was fitted with possibly an Aeronca vertical fin and rudder in North Carolina. It really spoiled the original looks of the B-8. (Photo from Wally Smith)

Ailerons were of the interchangeable and enclosed type, operated through a push and pull tube. The stabilizer was a one-piece adjustable. The airplane came with a Hartzell wood propeller.

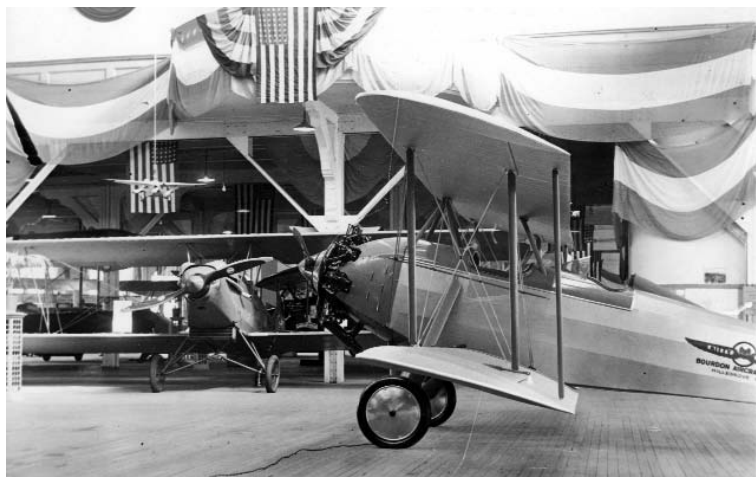
In a letter written on Viking Flying Boat Company stationery, by Hank Kurt, and dated August 8, 1931, he stated that *Kitty Hawks* s/n 10, 11, 21 and 22 had their leading edges reinforced. Ship no. 22 was NC10462, a B-4.

B-8 WOMAN PILOT RECORD

Miss Crystal Mowry set two U.S. women's records for Class 2 seaplanes (empty weight under 1,499 lbs) with the B-8 at Miami, Fla.

The first record was set on December 9, 1936, with Miss Edith McCann as passenger, was for speed over a distance of 100 km (62 miles), at 79.13 mph. The second, set on December 12, 1936, with Miss Alice Borden as passenger, was for an altitude of 1,850 meters (6,069 ft). Both of these records stood until 1954, when the categories were reshuffled and the feminine category was abolished. The two records above were flown in *Kitty Hawk* s/n 26, NC753Y, which still exists.

Miss Mowry set additional class records on the same days using a Viking company owned Aeronca floatplane.



Bourdon Kitty Hawk B-2, s/n 2, 7479, at the New England Exposition in Boston, October 1928. (Photo from the Ev Cassagneres collection)



Viking Airport, on the Venetian Causeway near Miami, Florida, circa 1933 clearly showing the hangar and ramps. (Photo by Birch Mathews via Lockheed Aircraft Corp.)

CONCLUDING REMARKS

In 1933 there was a Viking Airport, located on Venetian Causeway near Miami, Florida. It was managed by Lloyd H. Fales, and had a landing strip of 2,600 feet by 300 feet, sod and only five feet above sea level (MSL).

The name "Viking" was painted on the hangar roof, the only hangar there. The field also had seaplane ramps available, one facing north and one facing west. The operation was a general type fixed-base operation with the usual services. There was no manufacturing of airplanes there.

In a New York aviation show, in early 1929, a Viking *Kitty Hawk* was put on display. No photo of this has been found.

In the third New England Exposition that was held at or in the Mechanics Building at Boston from (supposedly) October 1 through 6, 1928, the *Kitty Hawk* had the place of honor because it was the only modern New England airplane produced at that time. It appears that this aircraft was s/n 2, #7479.

The *Kitty Hawk* was entered into the Guggenheim Safe Airplane competition. To qualify all they did was limit the throw of the elevator upward on the standard airplane. This prevented it from spinning. It had been discovered that nobody could spin one with limited elevator travel. They also lengthened the landing gear struts about four inches to get the airplane to sit back more heavily on the tail skid, to comply with landing rollout requirements. Brakes, nonexistent on most sport planes in those days, were not a consideration. There were about three or four conventional airplanes entered in this contest and only two of them had any opportunity at all. One of them was a Kinner *Bird* and the other was the *Kitty Hawk*. They were both rated excellent from a safety standpoint. So the two of them came off with top honors.

Nancy Hopkins (Tier), a close friend of this author, back in 1930, was a petite and highly capable aviatrix, and flew her *Kitty Hawk* B-4, s/n 14, NC30V, in the Women's Dixie Derby (Class B) from Washington, DC, to Chicago and finished in fourth place. The derby was in connection with the 1930



Kitty Hawk B-8 s/n 28, NC975M, on Edo 2260 floats. The location of this photo is unknown. (Photo from the Ev Cassagneres collection)



Viking-built Kitty Hawk B-8, s/n 30, NC13250, at New Haven Airport, where it was on line and used often for instruction of Yale University students, and is now on display at the New England Air Museum, in Connecticut. (Photo from Lou Berlepsch)

National Air Races held in Chicago. Nancy also won two second places and three third places in the dead-stick landing contest in the women's category. About one month later Nancy won 14th place in the National Air Tour.

Suffering from the effects of the general business depression, as were all other aircraft manufacturers, Viking built very few airplanes during 1931. By early 1932, things were falling off rapidly, and operations were getting tight, so Viking moved from the 89 Shelton Ave. plant to the New Haven Municipal Airport's new hangar, built by Viking on land leased from the city. Here they continued to do a small amount of manufacturing besides general servicing of other aircraft, in addition to flight instruction, and some sales. They also did some charter, engine overhaul, parachute packing and airplane rental. They became the eastern representative for Waco and Lockheed.

Operations continued on the airport under the name of Viking Flying Boat Company, still owned by the Gross brothers, but instead of manufacturing airplanes they continued general aviation fixed base operations.

The old Viking hangar is still there, recently remodeled into the main airline terminal for the field.

Eventually, the operation was run by Robert S. Hart, with Hank Kurt staying on as flight instructor and charter pilot. This writer had his first airplane ride, on July 3, 1935, at night, in the company Waco UIC, NC12472, piloted by Hank Kurt.

During this time the young Lockheed Aircraft Corporation was put up for sale. Under the leadership of Robert Gross, Lockheed was purchased for \$40,000, and Bob became CEO, Lloyd Stearman, Vice President. Under this group, the famous Lockheed 10 *Electra* was developed and produced. It took \$10,000 of the original \$40,000 to get that project started.

Eventually, Courtland Gross, in about 1967, became Chairman of the Finance Committee of the Lockheed Aircraft Corporation in Burbank, Calif. Courtland and his wife and their maid were brutally murdered, in their home near Philadelphia, Penn. The murder was apparently never solved. Courtland's office back then was at 1400 South Penn Square in Philadelphia.

Robert Gross died in 1961.

In September 1938, New Haven suffered severe damage from a hurricane that swept through the area. For a brief period, New Haven Municipal Airport provided the only means of access to and from the storm-crossed community.

In about 1940, as the war situation developed in Europe, it was felt by the Defense Department and local people that it was time to construct a hard-surface runway. Following a long period of negotiations with city, federal, state and other interests, the Works Progress Administration (WPA) was hired to do the work.

In 1943 the Viking Flying Boat Company was still there, in the same hangar, which was then sub-leased to the War Department for the duration of WWII. It was under Army occupation until 1945 when the War Department cancelled its lease on January 31, 1945.

Officially the Viking Flying Boat Corporation (Delaware) was entirely liquidated and finally dissolved on January 13, 1943, at a meeting held in Wilmington, Del. This information came from Mr. Marcien Janckes, who was Assistant Treasurer of the company at the time.

In 1945 the old Viking Flying Boat Company became known as the Viking Flying Services, Inc., with a flight school, aircraft service and storage and sales. This writer began his flight career by learning to fly in their trusty Piper J-3 *Cubs*. Just after the war, Walt Reynolds, who also ran the old Bethany Airport, ran the firm. Eventually the FBO became Usher Aviation.

CONCLUSION

Only five *Kitty Hawks* are still in existence. None is registered as airworthy at the time this article is written. See Table 1 for the status of these airplanes.

Not one original Schreck or Viking flying boat from the New Haven scene has survived.

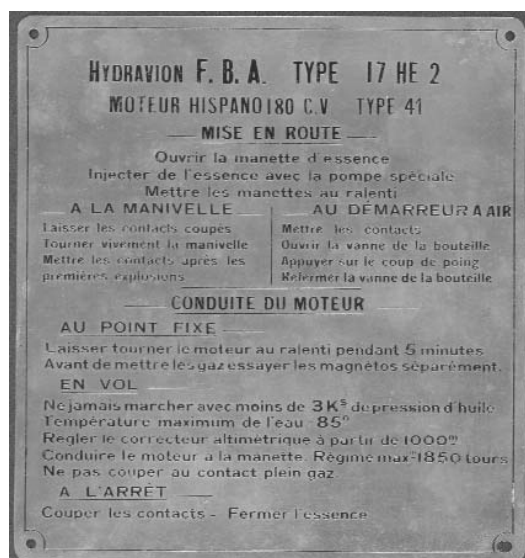
Back in the 1930s, a little boy remembered seeing these real airplanes and flying boats go over his head and along the shoreline of Long Island Sound, as they took off or landed at New Haven Municipal Airport or out on the Sound.

Little did he think he would someday meet some of those aviators (Jack Tweed, Hank Kurt and others), become their friends, and be the person to write up the history of those wonderful people, their airplanes and those wonderful years.

It was thrilling for me as a boy to witness that history. It is almost as thrilling to recall some of those memories and to tell the story. Now, if I could only get my hands and feet on the controls of a *Kitty Hawk*.

TABLE 1
BOURDON/VIKING "KITTY HAWK"
COMPLETE MFC SERIAL AND REGISTRATION NUMBERS, ETC.

S/N	Registration	Model	Year	Mfg	Engine	Remarks
1	X-5598	B-2	1928	Bourdon	Ryan-Siemens SH-14	Lost in fire
2	7479	B-2	1928	Bourdon	Hallett H526 130 hp	
3	C-7627	B-2	1928	Bourdon	Ryan-Siemens SH-14	
4	C-7928	B-2	1928	Bourdon	Yankee-Siemens SH-14	
5	C-336E	B-2	1929	Viking	Ryan-Siemens SH-14	Bourdon B-2, renamed Viking
6	NC-191H	B-2	1929	Viking	Yankee-Siemens SH-14	
7	NC-479	B-2	1929		Yankee-Siemens SH-14	
8	C-9460	B-4	1929		Kinner K-5	
9	NC-980H	B-4	1929		Kinner K-5	
10	NC-292M	B-2/B-4	1929		Siemens	
11	NC- 45M	B-4	1929		Kinner K-5	
12	NC-293M	B-4	1929	Viking	Kinner K-5	Existing
13	NC-921M	B-4	1929	Viking	Kinner K-5	
14	NC-30V	B-4	1930	Viking	Kinner K-5	Land & Sea plane Nancy Hopkins airplane
15	NC-31V		1930	Viking	Kinner K-5	
16	NC-32V	B-4	1930	Viking	Kinner K-5	
17	NC-33V	B-4	1930	Viking	Kinner K-5	
18	NC-34V	B-4	1930	Bourdon	Kinner K-5	Exists - Bill Schwenk Exported to J.A. Valeriano, Manila, Phillipines, Cof A #E-1665
19	NC-35V	B-4	1930	Viking	Kinner K-5	
20	NC-10460	B-4	1930		Kinner K-5	Parts exist
21	NC-10461	B-4	1930		Kinner K-5	
22	NC-10462	B-4	1930		Kinner K-5	
23	NC-10463	B-4	1930		Kinner K-5	
24	NC-10496	B-4	1930	Bourdon	Kinner K-5	
25	X-868Y (NC868Y)	B-8/B-10	1930	Viking	Kinner B-5	160-hp Chevron Model A, Sept 12, 1932
26	NC-753Y	E-8	1931	Viking	Kinner K-5 then B-5	Existing
27	NC-996M	B-8	1931	Viking	Kinner B-5	(Challenger ?)
28	NC-975M	B-8	1931	Viking	Kinner B-5	On floats only existing
29	NC-794N	B-8/B-6	1931		Kinner B-5	
30	NC-13250	B-8	1933	Viking	Kinner B-5	Existing (museum)
31	NC-14717	B-8	1934		Kinner B-5	Built in New Haven on floats
32	NC-16862	B-8	1937	Viking	Kinner B-5	Last ship, May 13 test



Manufacturer's data plate from a Schreck 17-HE-2 flying boat. (From the author's collection)



Manufacturer's data plate from the Viking Flying Boat Co. (From the author's collection)

TABLE 2
VIKING & SCHRECK FLYING BOATS (Civil)

S/N	Civil Reg.	MFG.	MODEL	ENGINE	LOG 1st FLT	PILOT	NOTES
1	NC37V	Viking	V-2	Wr. J-6-7 (R-760)	June 2, 1930	Kurt	1st Viking built with slightly swept wings USCG demo ship
63	NC519M	Schreck	17-HT-4	Wr. R-760	May 30, 1931	Kurt	
64	NC136N	Schreck	17-HMT-2	Hisso 180			(see mfg plate)
107	#8 (USCG)	Schreck		Wr. J-6-7 (R-760)	Nov. 22, 1931	Kurt	Destroyed by fire March 1934 USCG
133	NC792K	Schreck	17-HT-4	Hisso 180	July 31, 1929	Kurt	Kurt flew W.H. 1933
162	NC273V	Schreck	17-HT-4	Hisso 180	March 1930		Possible 1929
USCG # UNITED STATES COAST GUARD SHIPS (Viking built)							
152	00-1	Viking	V-2	Wr.J-6-7	Oct. 7, 1936	Kurt	Destroyed in crash, March 1939
153	00-1	Viking	V-2	Wr.J-6-7	Oct. 28, 1936	Kurt	Decommissioned Nov. 1940
154	00-1	Viking	V-2	Wr.J-6-7	Nov. 11, 1936	Kurt	Decommissioned April 1941
155	00-1	Viking	V-2	Wr.J-6-7	Dec. 4, 1936	Kurt	Decommissioned Nov. 1939
156	00-1	Viking	V-2	Wr.J-6-7	Dec. 14, 1936	Kurt	Decommissioned Dec. 1939

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Mrs. Allen (Mary Marley) Bourdon with this article's author, by Kitty Hawk B-8, s/n 26, NC753Y at Tweed-New Haven Airport's 50th anniversary celebration. She was still living at this writing in 2003. (Photo by Virginia Welch)

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