

George Bogardus Archive

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EAA 105

Fly an Experimental? Thank George Bogardus!

OAHS blog August, 23rd 2023



George Bogardus a brief biography

- Born about 1914 Cascade Locks, OR
- Moved to Portland 1926. Meets Les Long in 1929
- A regular at Bernards Airfield, Beaverton mid 1930s
- Ryan Flight School Hemet, CA 1937 to 1942
- Cofounded American Airmen's Association with Frye and Long 1942
- Drove '37 Chevy to Washington, D.C. petitioned CAB for the right to register and fly home-built airplanes 1946
- Homebuilt aircraft are added to the experimental category 1947
- Flew Little Gee Bee (NX) to Washington, D.C. in 1947, 1948, and 1951
- Inducted into EAA Home Builders Hall of Fame 1993
- Died 1997 – leaves estate to EAA Chapter 105

Amateur built aviation between the wars

- WWI accelerates aircraft technology 1914 - 1918
- Aviation in the U.S. rapidly develops 1920s
- Lindbergh crosses the Atlantic 1927
- Aviation fever!
- Great Depression 1929 – 1939
- Government regulation increases 1930s - 1940s
- WWII 1939 – 1945
- Post war aviation bubble
- George Bogardus petitions for EAB 1946



Corbin Super Ace 1935

Leslie (Les) Long 1889 – 1945 Cornelius, OR

- Ran an electric fence business and repaired radios
- Airplane home builder, experimenter, and author
- Published many articles – Modern Mechanics, Popular Aviation, etc.
- Started the Amateur Aircraft League – early 1930s
- Sold an unknown number of airplane kits and plans
- Designed seven different home-builts, constructed 11 airplanes, and about a dozen Harlequin motors.
- Hand built propellers for many home builders
- Experimented with various high, mid and low wing designs – determined low wing, wire braced design was best for EAB
- Influenced the design of Wimpy, Little Gee Bee and the Story airplanes



Ad placed in Popular Aviation by Leslie Long April 1934

The Les Long Low Wing

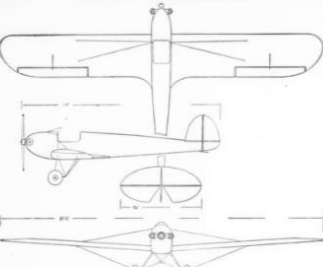
Some Practical Notes on the



A three-quarter front view of the Low-Wing Longship.



Rear elevation of the Les-Wing Longship.



Aerobographic scale drawings of the Les-Wing Longship shown in the photograph above. This plan is the extreme of a long series of experiments by Mr. Long.

Construction of Low-Wings

of other work presented is being finished at that time. Now it is spring, and while the ship is being tested it is not fully complete.

As it was designed solely for amateurs three points were always kept in mind. They were safety, ease of construction and low cost. There is nothing particularly radical about it.

The most noticeable features are the leading gear and the wing roots. As the drawings and photos will show, the number of parts has been reduced to the minimum. The leading gear serves as the complete wing lift structure. The dash is a combination of instrument board, pilot protector and landing wire attachment.

There are no pylons, cables or other members sticking out in the wind. The leading gear is entirely separate from the wings proper, which is unusual in a low-wing and means much to amateurs, as the wings may be detached in a moment and the fuselage towed anywhere on its own gear.

The control stick has no horns, pulleys, bell-cranks or other gadgets. The ailerons and elevator cables hook directly to it, and there isn't a pulley in the entire fuselage. Only four are used in the entire ship, those near the ailerons.

Actual cost of material is about \$300, exclusive of power plant, but this will vary with the cost of materials. There isn't a single tricky thing about the construction. Fuselage is standard welded steel tubing, fabric covered. Tail fasteners the same. The wings are the usual two-spar type, with truss ribs and fabric covering. The roots are modified so as to form the fillets, but that only requires extending the lower rib back about 20 inches and slapping to conform with the bottom of the fuselage. In other words, the fillets are built into the wings, rather than being put on after assembly. That simplifies things a lot.

While it can scarcely be noticed, the wings have drag and anti-drag bracing. The drag-wires show only about a foot of length, and the anti-drag wires are completely concealed in the fillets. Drag-wires mean a lot when the going gets rough. The ailerons are the Freese type and built of elexone.

The lift-truss, consisting of 2 cables for each wing and they run from the spars to a fitting directly behind the first of the wheel. The cables are much shorter than on an equivalent parallel in this case and are a foot long for a ship of nearly 32 foot span. Fuel tank of five-gallons size is carried under the wing. The ship was designed for the Harbison motor, but as that motor there was none available and an L-head Aeromax was used instead.

It is too bad that the ship had to be taken before the ship was properly finished, but this was due to the fact that if this issue of P-A was to be caught. The temporary covering is anything but what it should be. The weather has been very bad for weeks and the final assembly and flight testing has been done in an ice cold rain.

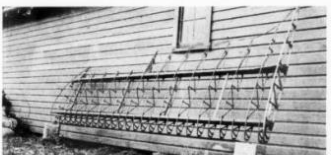
Flight pictures have been out of the question, but the ship has a very good appearance in the air and on the ground. When finally completed it will have a windshield, head-rest, crash-pads and other decorations. It is hoped the Editor will give an space in the future for a better photo and a flight shot to go with it. (Sweil-Editor).



Side elevation of the Les-Wing Longship showing the fuselage faisting methods and the fuselage-spar arrangement.



The simple yet sturdy fuselage structure of the Les-Wing Longship.



The uncovered wing structure of the Les-Wing Longship, showing the bolting ribs, the drag and anti-drag wires.

LIGHT PLANE HERITAGE



Myron Buswell preparing to take Wimpy on a flight at the Buell garage in Tualatin, Oregon. Auto fuel was the order of the day then.

LES LONG'S "WIMPY"

by Myron H. Buswell
(EAA 571)
P.O. Box 187
Independence, OR 97351

Lakeside, Oregon, returning via Seaside and Astoria to Beaverton. A distance of more than 500 miles. The five-gallon gas can fuel tank used the ingenuity of the pilot to keep the 30 hp Aeromax E-107A flat head two-cylinder engine refueled on this trip. One passenger landing at Elston brought out a farmer who helped procure some gas at a nearby service station.

During 1940 and 1941 the outward appearance of the plane was redesigned.

This ultra light plane was the last of seven airplanes designed and built by the late Les Long. This ship was built in Long's shop at Cornelius, Oregon by Ed Bat, Les Long and "Sewer" Ralston, with the airplane bearing the number 15516 and registered as the Ralston LW in the winter of 1936-37. It also carried an Oregon airworthiness certificate and a large aluminum license plate issued by the state and renewed each year through 1941.

In October, 1938 the ship was purchased by Max Harley and this author and was based at Charlie Bernard's pasture airport at Beaverton, Oregon. The new owners were then associated with Yates geodetic aircraft development at Beaverton.

The airplane was flown about 100 hours up to late fall 1939 by many different pilots. One extensive cross-country flight was made to a 4th of July fly-in at 12 FEBRUARY 1968



signed and the airplane completely rebuilt by me with the help of Snodgrass, but several others. A new fuselage assembly of elliptical form, new fuel tank with sliding hatch, efficient three-blade propeller and new engine cowling, with a shiny new paint scheme of blue and cream on top of the new Sears & Roebuck motor made it appear as if the photos shown with this article.

The airplane was test flown successfully and then was out for six months, the result of a broken crankshaft that caused the author's first of several forced landings in his flying career. The performance of "Wimpy" was 75 mph cruise and 80 mph landing speed. It probably climbed about 400 feet per minute. It was spun and looped many times.

The ship was sold to Clyde Evans of Sheridan, Wyoming in 1940. He clipped the wings from 32 feet to 25 feet and installed a 65 hp Lycoming engine. Later, through the efforts of the original EAA Experimenter magazine, it was finally discovered that it was in the hands of Darrel F. Delaney of Eugene, Oregon. It was sold to Mr. Kosh in Fremont, California in the 1960's, much changed from its original appearance.

The photos shown with this article show the airplane as it was originally designed by Long and the extensive modifications made by myself in 1940. My changes brought it up to the appearance that Long had in mind when he first designed it. I used to dream that some day there would be dozens of them flying, but Pearl Harbor changed all that.

In early 1940 I closed up my shop, drove to Southern California with Murray Wick, leaving behind a half-completed outline of the wing engine section copied from George Yates' geodetic wooden construction and design philosophy. It was Yates who gave me wing by sending me in June 1938 in his good flying experimental open cockpit Slicker powered with a Martin 120 hp engine.

Wick and I found a job with Claude Perry at Fort Ord school at Hemet, California under the able supervision of George Hagopian. Later George was to become the primary force in obtaining the CAA's approval for the "B" and "C" type airplane movement as we know it today.



Classing up at the Buell garage in Tualatin, Oregon. Auto fuel was the order of the day then.



This right front view details the landing gear construction and shows the sliding control cover from a little better angle.

SPECIFICATIONS OF WIMPY	
Wing span	31 ft. 6 in.
Wing area	50 sq. ft.
Area	120 sq. ft.
Weight empty	305 lbs.
Powerplant	30 hp Aeromax E-107A
Fuel capacity	7-1/2 gallons
Weight loaded	585 lbs.
Wing loading	4.9 lbs./sq. ft.
Power loading	19 lbs./hp
Stalling speed	36 mph
Cruising speed	70 mph
Top speed	80 mph
Climb	500 ft./min.
Glide ratio	225 miles
Range	15,000 ft.



The cockpit is closed on this side view which gives us a better feel for the streamlined fuselage.

Note: Rumor has it that the name "Wimpy" came about because "Buz" Buswell used to circle over the clubhouse and shout down for a hamburger to be ready when he landed. "Wimpy" was a character in the popular cartoon "Foghorn" who always asked for a hamburger. BUELL

EAA Experimenter February 1988

by Myron Buswell

Popular Aviation June 1937

by Les Long

The Beaverton Outlaws

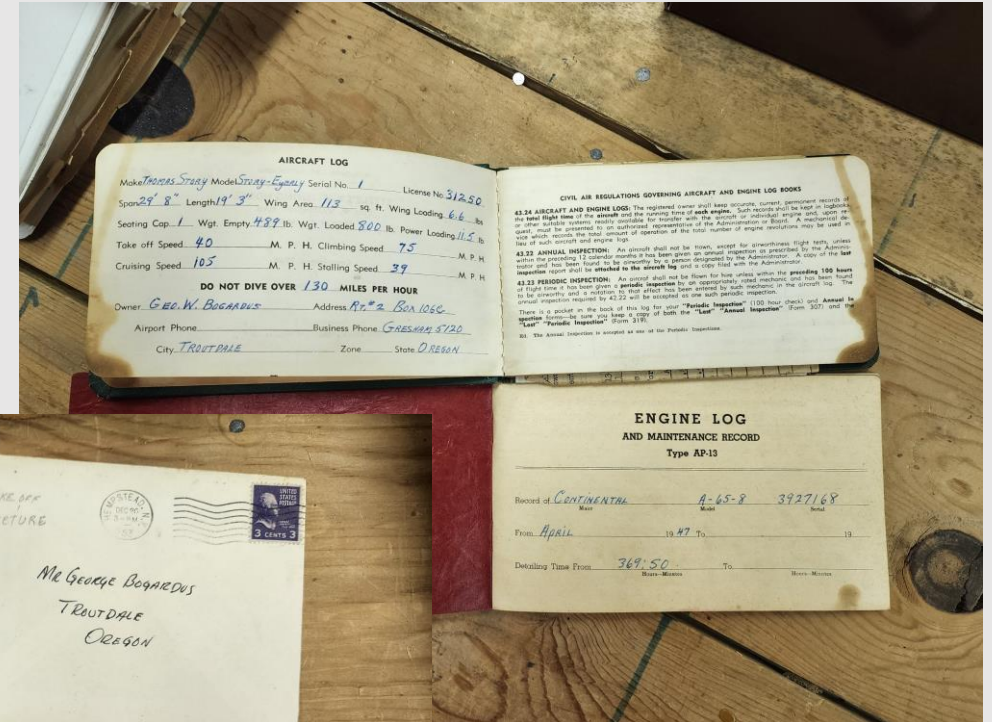
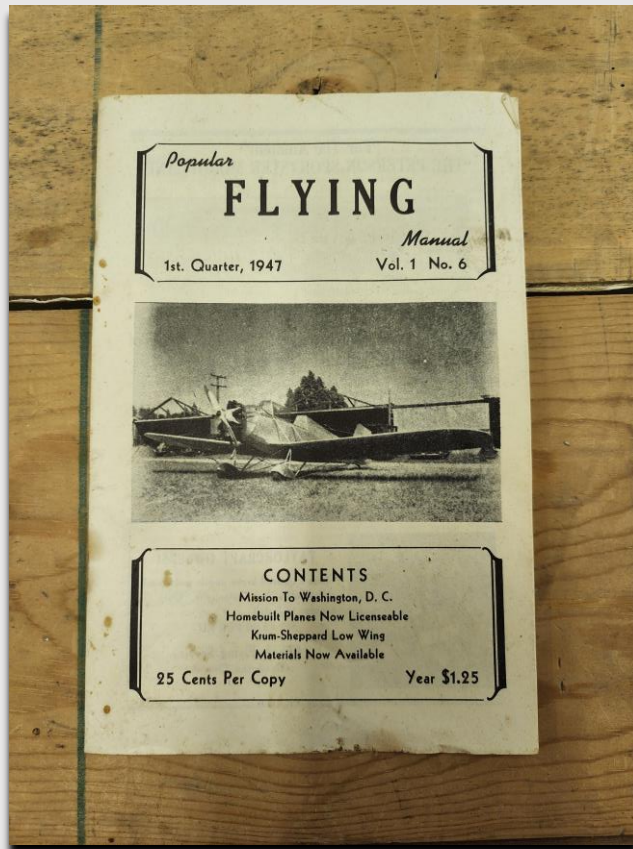
- Oregon was progressive, had unique state level aviation laws
- Charlie Bernard's field in Beaverton became a haven for home builders in the 1930s
- Federal management of aviation was developing alongside aviation
- Nation regulation was needed to standardize aircraft design, manufacturing, licensing, and to regulate airline travel
- Home builders were left out of the equation...
- By the 1940s Federal laws were encroaching on Oregon home builders' *freedom* to build, and fly their own airplanes
- WWII suspended all civil aviation on the west coast – CA, OR, WA

What's in the archive?

- 20+ binders and boxes
- Photos
- Scrapbooks – news and magazine articles
- Triple A Flyer and Popular Flying Manual – the AAA newsletters
- Correspondence 1940s – 1950s
 - Government
 - Letters from AAA members to George
 - Letters from Les Long to George
 - GB's personal documents
- Little Gee Bee airframe and engine logbooks
- OX-5 Club documents – very early Oregon aviation
- Little Gee Bee restoration and donation documents
- Wonderful 1940s – 1950s era references and patina



Oregon Aviation History, the Bogardus story



What's next?

- Make a list or rough catalog of the archive's entire contents. This is needed to discuss digitization, or disposition of the archive
- Quantify the archive's value to researchers, authors, historians
- Develop recommendations for the archive's long-term preservation and access by the public
- Present my recommendations to the EAA 105 and Bogardus Trust Boards
- Help develop and promote the story of early Oregon aviation which includes a long list of builders, aviators, and mechanics

Researcher's Dilemma – a shoe box full of photos



Leslie Long Harlequin motor circa 1930 - 1935

- Two cylinder engine designed and built by Les Long using Harley Davidson motor cycle cylinders. Appears to have a model A Ford Zenith carburetor
- 30hp @2650rpm
- Possibly installed on a Harlequin Longster, an airplane designed and built by Les Long
- Propeller hand built by Les Long
- Photo likely taken at Les Long's farm in Cornelius, Oregon
- Notes: One of 10 photos in a series. See [The Long Harlequin Motor](#) by Leslie Long Modern Mechanics And Inventions 1931 Flying And Glider Manual. [Washington County, OR](#) has similar photos of the airplane in flight.

The End – see how EAA 105 restored Little GB



References

1. George Bogardus, The Homebuilder's Advocate by Bob Whittier pp 29-34. EAA Experimenter December 1993
2. The Henderson Longster by George A. Hardie, Jr pp 31 - 34. EAA Experimenter December 1987
3. The Low Wing Longster by George A. Hardie, Jr pp 28 - 29. EAA Experimenter January 1988
4. Bogardus, Poberenzy and Wittman Inducted into Home Builders Hall of Fame pp 3. EAA Experimenter November 1993
5. The Story Story by Peter M. Bowers pp 4 - 5. EAA Sport Aviation June 1960
6. Little Gee Bee by George Bogardus pp 12 - 13 EAA Experimenter March 1988
7. Les Long's Wimpy by Myron H. Buswell pp 18 - 19 EAA Experimenter February 1988
8. Chapter 105 The Continuation of A Tradition by Dean Sigler pp 26 - 29. EAA Sport Aviation September 1964
9. The Home Builder Bows Out (copy) by Leslie Long p 27 - 28, 102 Flying and Popular Aviation June 1941. See: Google Books, search: Leslie long harlequin motor
10. [Some Practical Notes on the Construction of Low Wings](#) by Leslie Long Popular Aviation 1937-06: Vol 20 Iss 6. This is clearly the prototype for Wimpy, Little Gee Bee, the Story airplanes, etc.
11. [The Long Harlequin Motor](#) by Leslie Long Modern Mechanics And Inventions 1931 Flying And Glider Manual