



The Wright Flyer



The Curtiss June Bug

## Long Island Early Fliers Club, Inc.

November, December 2019 Newsletter

Editor: Fred Coste

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### Editor's Note:

I can't decide if there are more places that claim the name of Cradle of Aviation, or more individuals who claim to have invented aviation.....oh yes, lest I forget the French who have been able to name the parts of an airplane, therefore it must have been their idea in the first place!

Early aviation, in which I am not including lighter than air craft, had three main players. The two best known were the Wright brothers and Glenn Curtiss, both of whom had the inventive juices flowing as a result of bicycles and motorcycles. The third, Samuel Pierpont Langley was an astronomer and physicist. By rights, it was assumed that Langley would excel in this quest because he had the financial backing of the Smithsonian Institution.

Though achieving the first heavier than air flights, the Wright brothers and Glenn Curtiss became embroiled in patent infringement suits that are believed to have inhibited innovation in aircraft development in the United States. While arguing over wing warping, ailerons and who had the right to incorporate them in new design ideas, European aircraft designers worked more cooperatively. As a result, American pilots trained in European designs, like Bleriot and Renards. The problem was so severe that while Assistant Secretary of the Navy, Franklin D. Roosevelt tried to have

all American aircraft manufacturers join the Manufacturers Aircraft Association to pool patent ideas.

After the death of Wilbur Wright, Orville sold his interest to the Wright – Martin Corporation and most of the Patent lawsuits eventually faded away.

In the real world, designs evolve and build on each other. Sometimes they are stolen ideas, but most often they are based upon a more up to date understanding of the physics of flight.

Innovation is driven by necessity. In the beginning, stability was key and most planes were biplanes. Mounting a machine gun on top of the engine cowling required a method of synchronizing the prop so the pilot still had a prop after firing at his target. It is unfortunate that war and the urgency to be one up on the other side is the factor that has driven some of mankind's boldest peacetime achievements. The lifting body is one such example.

Toward the end of WWII, while Nazi Germany was feeling the slipping away of the 1000 year Reich, German engineers and scientists were under great pressure to develop the "wonder weapon" that would save the day. It seemed no idea was off the table.

Enter what we have come to know as the "lifting body." Lifting bodies have little or no wing area, but create lift

from the fuselage surfaces. They are wonderfully efficient gliders and are one of the designs that German engineer Alexander Lippisch experimented with.



*Messerschmitt Me 163 Komet – note the lack of a horizontal stabilizer*

Adding a rocket motor to this glider propelled the Me 163 to speeds of 700 miles per hour. That's twice as fast as most of the fighters of the time.

The Komet burned through its fuel in just seven minutes of flight—giving it an operational range of just twenty-five miles. Nonetheless, the Luftwaffe decided it could use the Me 163 as a point-defense fighter, deploying it to airfields close to high-value targets subject to repeated attack.

The Komet's design was revised for mass production in the Me 163B. A tiny propeller added on the tip of the nose generated electricity for the Komet's avionics. The Me 163 had smooth handling characteristics and a superb rate of climb, but its unpressurized

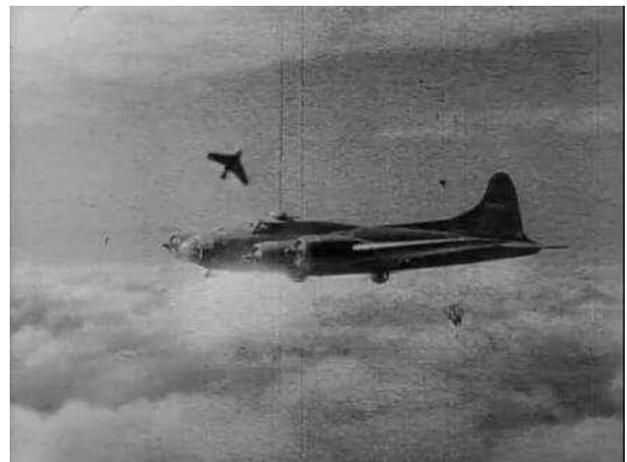
cockpit made it necessary for pilots to undergo special conditioning in high-altitude pressure chambers to avoid passing out at high altitudes.

The fuel was caustic and volatile. It required no ignition system as the fuels coming into contact with each other would spontaneously ignite; explode really!

The fuels known as “T-Stoff,” a hydrogen peroxide–based solution, which is an oxidizer and “C – Stoff,” which consisted of methanol and hydrazine hydrate. These fuels were difficult to handle safely. Most of this tiny plane consisted of fuel tanks. Even the pilot sat on one of these tanks, which ruptured with relative ease. This required a special fabric to protect the pilot. That was a hard-learned lesson as a tank that once leaked killed the pilot almost instantly. By the time they could open the cockpit and extract him, there were only bones left inside his flight suit!



Landing gear was considered unnecessary and wasteful in both aerodynamic drag and weight. Instead, the Komet would start its takeoff run on a dolly that would be jettisoned after taking off. At 200 mph, the pilot would maintain level flight until reaching a climb speed of 420 mph, then pull the nose up to a 70 degree climb angle. The Komet would climb at 16,000 feet per minute, reaching bomber formations at 39,000 feet in about three minutes.



Despite its speed, the Komet was not very successful at bomber intercepts. At the velocity they were cruising, even though the fuel supply had been expended, there simply wasn't enough time to target and shoot down the slower moving bombers. The Luftwaffe fitted Me 163s with the experimental SG500 Jagdfaust, which involved six recoilless fifty-millimeter mortars fixed in the wing roots of the Komet. When the Me 163 flew under an enemy bomber, the bomber's silhouette would

trigger the SG500's optical photocells, automatically launching the recoilless weapons vertically into the target's belly. The Jagdfaust was used only once operationally to shoot down a Lancaster heavy bomber on April 10, 1945.

In all, Komet pilots claimed sixteen aerial victories—mostly B-17 and Mosquito bombers —though only nine can be confirmed with certainty from Allied records. In return, between six and nine Me 163s were shot down in combat, mostly by P-51 Mustangs, though one also fell victim to a B-17 tail gunner. Another nine were lost to accidents. It was not an impressive showing, given the resources invested in the Komet project.

The efficiency as a glider enabled the Komet pilot to swoop above the formation and dive through it several times before losing the energy and having to start the descent for landing. Allied fighter pilots soon learned that this was the time that the Me 163 was most vulnerable.

Having no landing gear and no power, the Komet pilot had only the ability for one approach and a landing on a skid, bouncing along on the turf runway.

Though Me-163s can only be found in museums these days, the lifting body

became an important part of the United States space program.

While Werner Von Braun was making his mark in the early cold war by helping the U.S. develop the Intercontinental Ballistic Missile that eventually brought us to the moon, NASA needed to look ahead to a time when working in space needed to become more cost effective with reusable equipment.

In practical terms, this meant a ballistic launch and an aerodynamic return to earth. Researchers again turned to the lifting body as a way to come back and land on a runway.



*Early NASA lifting bodies*



There were many designs that were successful, with each tracing its roots back to the Me-163.



*Space Shuttle Enterprise  
One of the most famous lifting bodies*

Though it's important to give credit where credit is due, it's just as important to acknowledge credit for design evolution. As the science becomes better understood, design will change by necessity; not to diminish an inventor's original idea, but to honor the creativity that first brought forth the concept.

Despite the war of words between the Wright Brothers and Glenn Curtiss, one has to admit: "We've come a long way, baby!"

**\*\*\*\*\*LIEFC News\*\*\*\*\***

We are proud to announce that the New York State Education Department has approved our name change to:

**Long Island Early Fliers Education Foundation.**

It was felt that having the original name with the word "Club" gave the organization the image of being a flying club. While that was never the intent, back in 1956 the name did not imply that it was a club, but rather a "group" of early fliers.

The driving force in the change is that we are hopeful the new connotation will be more reflective of what we actually do and more conducive to successful fund raising efforts.

**L.I.E.F. Fall Bus Tour was a great success**



*Glass blowing demonstration at Corning Museum of Glass*

Our first stop was the Corning Museum of Glass where we saw everything from the whimsical to the utilitarian in

glassware. Corning Glass Works is known for its Pyrex products, which ultimately lead to the creation of the windows in spacecraft that can withstand the intense heat of reentry. However, the museum also displayed ornate chandeliers and glass chess pieces, not to mention truly early samples of glass throughout the ages.



*The Chess Board and it's figurines*



Day two began with a visit to the Glenn Curtiss Museum in Hammondsport, NY. Nestled in the beautiful countryside, the museum honors the achievements of local resident Glenn Curtiss and his contributions to the U.S. aviation industry.



*The Curtiss June Bug*

The diversity of creativity displayed at this museum was incredible. From motorcycles to flying boats, Glenn Curtiss was a prolific designer.



*A Curtiss motorcycle with side car*



**Curtiss flying boat**

The highlight of our tour was seeing the restoration of a Curtiss P-40 War Hawk that was retrieved from an alligator and snake infested swamp in Florida.



**The remains of the P-40 cockpit**



**Our thirsty group snaps a picture before heading over to the vineyards**

The next stop was the Bully Hill Vineyards (formerly Taylor Wines), where we had a private tour and tasting! (Talk about herding cats, I wasn't sure we were going to leave the place - and John Hess really seemed to be enjoying it!)



Day three brought us to Keuka Lake in Hammondsport for the Wings and Wheels sea plane fly in.



*John's favorite – A Republic SeaBee*



*A J-3 on floats- performed better than expected*



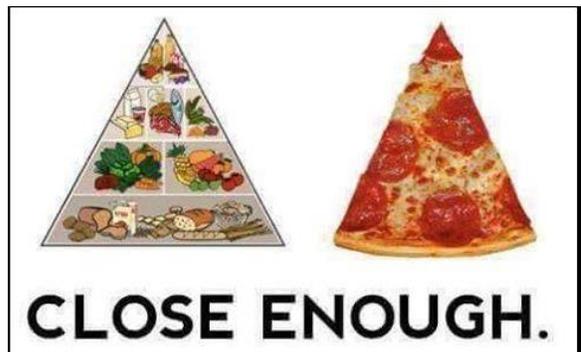
*One more step back, Andy! We want to see the whole plane! 😊*

**Time to smile.....**

**Be sure to click on the link:**  
**Raise the volume, too!**



WhatsApp Video  
2019-10-13 at 15.08.





**My stomach IS Flat!  
.....The L is just silent**



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**The LONG ISLAND**  
*Early Fliers Club*

Long Island Early Fliers Club, Inc. is a non-profit organization founded in 1956 and Chartered by the New York State Education Department. We are dedicated to aviation education and preserving Long Island's aviation heritage. Volunteers who want to help educate and preserve our history are always welcome. Annual Membership in our organization is \$35.00 for individuals; \$50.00 for families.

Donations of aviation memorabilia, aircraft and aircraft parts, aviation clothing, display quality models and items of historic significance are always welcome and greatly appreciated. Cash donations, as well as artifact donations are tax deductible. You may visit our facility at Bayport Aerodrome, Vitamin Drive, Bayport New York most Wednesdays between the hours of 9:00 a.m. and 1:00 p.m. Appointments are necessary as airports are secure locations and can also be arranged at other times for your convenience. Contact us at: L.I.E.F.C., P.O. Box 43, Holbrook, NY, 11741 or call (631)-523-5407 (Fred Coste) or fax: 631-588-2147

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