



Aerial refueling and the art of the fighter drag

# Long Island Early Fliers Club, Inc.

March, April 2017 Newsletter

Editor: Fred Coste

Volume 2, Issue 2

## A Word from our President, Sal Vitale:

The Long Island Early Fliers Club was formed 60 years ago. It has always been our intent to educate the general public about aviation and to preserve, protect and display aviation artifacts to honor Long Island's rich aviation heritage. After many years of strong determination, we have finally been able to construct our hangar for the enrichment of students of all ages. This has been accomplished by a very small group of volunteers. Each have brought their gifts and talents to our table and given freely, never seeking recognition, though that recognition is well deserved.

We now have a hangar; and we are excited about growing a very interesting museum. In addition to an extensive collection of aircraft engines, propellers and historic books we have airplanes! We are very proud of our latest acquisition; a 1944 Grumman Widgeon. All of this takes a great deal of money to operate our facility each year. While we greatly appreciate our dues paying members, the \$35.00 we collect each year is not enough to meet the ongoing expenses of the organization.

For this reason, we decided to run various fund raising activities to help cover our ongoing expenses. The MACH MONEY Raffle is an important component of the activities we are working on to keep the L.I. Early Fliers moving forward. With only 600 tickets to be sold, if each member bought just one \$50 ticket, we would have about 40% of the total ticket count

sold. If each member purchased just two tickets, combined with the tickets already sold, we would be almost sold out and ready to give away 9 prizes totaling \$15,000 at our April 2017 meeting!

Time is growing short and I'm growing more concerned. Please consider stepping up to the plate and helping us make our first raffle a resounding success. In this newsletter, you will find the raffle details. I urge you to consider helping us succeed in getting the museum open by purchasing a MACH MONEY Raffle ticket. Perhaps you can help by also selling a ticket to a friend!

Thank you for helping us preserve our aviation heritage. Tickets are \$50 each. Simply complete the form in this newsletter and mail it with your check to:

Long Island Early Fliers Club  
P.O. Box 43  
Holbrook, NY 11741

Thank you for your support!

### **Aerial refueling...how and why they do that!**



Have you ever wondered how the military moves aircraft to a war zone that is

thousands of miles from the continental United States?

It's called a "fighter drag" and it involves incredible planning, impeccable timing and exhausting stamina on the part of all the participating pilots.



First consider a little background information. The refueling tanker fleet consists of many types of aircraft that have been converted and dedicated to the job of being a flying gas station. While there are many varieties of tankers, the best known in the fleet are KC-135s, known in the civilian world as Boeing 707s and KC 10s, which is the DC-10, jumbo jet.



*A KC-10 tanker*

In addition to saving the time and inconvenience of having to land and refuel

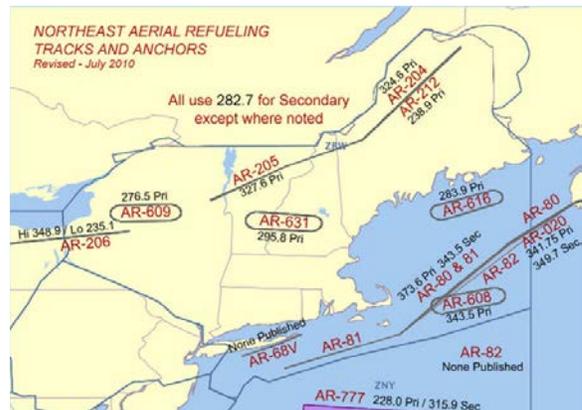
an airplane of limited fuel capacity, like a fighter, aerial refueling saves fuel because it eliminates the need for operating the jet engine at lower, less efficient altitudes. More importantly, it eliminates the gas guzzling climb back to cruise altitude.

All aircraft develop wingtip vortices, which is the horizontal tornado that trails from the wingtips of an aircraft in flight. The bigger the aircraft, the more violent the wingtip vortices. Now imagine trying to hold your airplane steady in very close to a heavy jet....now try doing it at night with no lights on! It's all part of the fun...but that's for another discussion!

Fuel is transferred at the rate of 1000 gallons per minute. In as much as that sounds impressive, think about it in these terms: Fuel weighs about 6 pounds per gallon. In other words, the tanker is unloading 6,000 pounds per minute and your jet fighter is taking in the same amount of weight....all while you are trying to hold it on the boom or a drogue line....only a few feet away from the tanker.....while flying in the air that is being disturbed by the gas station you are trying to keep up with!



So let's talk about the planning part of these missions and how it all comes together. Consider the logistics of a fighter drag you are planning for five fighters of various types that need to get from the U.S. to the Middle east, for example.



*East coast map of refueling tanker locations as of 2010*

The tanker takes off first and gets “on station;” the rendezvous point, which is not far from the starting point. The fighters takeoff and meet the tanker. Each takes a turn at connecting to be sure that the refueling systems in each fighter are fully operational.



In the meantime, tankers all along the route of flight are preparing for takeoff. Because the fighters in a particular fighter drag may have the ability to cruise at a higher speed than the tanker, they throttle up to an efficient cruise speed after tanking. There may be as many as two or three tankers preparing for takeoff or flying to their rendezvous points to wait for the fighters to arrive.

The rendezvous points are set up within reasonable flying distance for the fighters to get to a land base that can accommodate them in the event that they are unable to connect to the tanker that is waiting for them. In other words, they don't fly until the gauges are on empty, hoping to find their gas station in the sky. If they are unable to take on fuel, the fighter will divert to a land base, thereby saving the taxpayers millions of dollars...not to mention a highly trained pilot!

This process, referred to simply as "tanking" will be repeated until the planes arrive at the "in theater" base of operation.

There are two systems commonly used. One is by hooking up to a boom; the other is a probe and drogue.



The boom requires a boom operator who sits in the lower empennage at the rear of the tanker. The boom operator's office has a large door that swings upward into the base of the tail, enabling the operator to view the receiving aircraft through a large rear facing window. The operator flies the boom by operating the two swept wing airfoils near the far end of the boom. There is also an extendable arm which the boom operator deploys, extending the nozzle into the receiver of the aircraft needing fuel.



The probe and drogue works by the pilot of the receiving aircraft flying the probe

into the drogue, which is attached to a long retractable hose that trails, usually from the wingtips of the donor aircraft.



This probe is successfully inserted into the drogue. The drogue not only presents as the target to aim for, but also creates its own drag that keeps it in trail and accessible behind the supply aircraft.



When the SR-71 flew a mission from Beal AFB to Libya and back, some of the tankers took off from their bases overseas as much as 6 hours before the SR-71 left the ground for the mission!

**Want to view past newsletters?  
Visit our website today:  
[www.liefc.org](http://www.liefc.org)**

### ***The Early Fliers prepare for our Washington bus trip***

On March 16<sup>th</sup>, the Early Fliers bus trip participants will be visiting NASA's Goddard Space Flight Center. NASA prepares satellites for launch at Goddard.

Over the years most people have heard of the Hubble Space Telescope and seen amazing photographs of deep space that depict the formation of our universe. Hubble was recently aimed at a section of space that was simply black and left the shutter open. What they found was amazing! Click this link to learn more:

<http://www.flixxy.com/hubble-ultra-deep-field-3d.htm>

NASA is getting ready to launch Hubble's replacement; a more powerful and up to date version. The new space telescope is named for James Webb, NASA's second Administrator as a tribute to the man who

led the fledgling space agency from the beginning of the manned space program in 1961, through the beginning of the Apollo moon program.

Our visit to Goddard has the James Webb Space Telescope on the agenda of our private tour.

### ***Remembering Past President Bob Glaudino***

The Early Fliers have received donations of approximately \$1,000 from the friends and family of Past President Anthony Robert Glaudino, who flew west on November 30, 2016. We remember Bob with the following, written by his daughter, Anne Marie Tognella:

Anthony Robert Glaudino, aka “Bob”, was born on February 8, 1920, in the Italian section of the Bronx. He attended Roosevelt Aviation School, where he received engineering and mechanic’s licenses. The school was located on the site of what is currently the Roosevelt Field Mall, near where Lindbergh took off in 1927.

Bob worked at American Airlines and Pan Am. He was hired for an ‘essential government position’ at Wright Patterson Field in Ohio and was not obligated to take part in WWII, but due to his burning passion to fly, enlisted in 1942 and became a cadet in the US Army Air Corps, the military aviation arm of the USA between

1926 and 1941. He was sent to Atlantic City, then Texas for training and got his wings in 1944. Prior to leaving for Japan he practiced shooting 50 caliber machine guns from the P-51 Mustang over Sanibel & Captiva Islands.



He was stationed on the Japanese island of Iojima (different from Iwo Jima) where he test flew and repaired planes and became the Commander’s right hand man. In 1946 he returned from the war and was in the Reserves through 1951 when he was recalled due to the Korean War and was stationed in Bridgeport, CT, at the Sikorsky Helicopter Plant. From 1955-59 he tested American planes for the USAF at Siai-Marchetti in northern Italy, which came in from European countries and South Africa to be overhauled and repaired. He and his family lived in a small town north of Milano at that time. He returned to the US and was stationed at Griffiss AFB in Rome, NY, Republic Aviation on LI, Sikorsky in CT,

**Avco Lycoming in CT, and finally back to Republic Aviation on LI.**



**Bob went up through the ranks and eventually retired as Lt. Colonel from the Air Force in 1970. In retirement, he was the head of Buildings and Grounds for the Bayport-Blue Point School District, a member/President of the LI Early Fliers Club, and was instrumental in the renaming of Francis S. Gabreski Airport. He was a docent at the Cradle of Aviation Museum which initially received a donation of \$250,000 from the LI Early Fliers Club. He was a proud member of the 460<sup>th</sup> Fighter Squadron since 1944.**



***In this photo, Bob is featured with the P-51 Mustang, one of the planes he flew in the Pacific along with the P-40.***

**Bob and his wife Dolores celebrated their 68<sup>th</sup> wedding anniversary on June 26, 2016. Sadly, Bob passed away at the age of 96 on November 30, 2016. He was the proud father of Anne Marie, Robert (his wife Nancy), and Laurie; grandfather of Victor (his wife Patty), Cristina, and Samantha, and great grandfather of Victoria.**





***The Long Island Early Fliers Club  
was recently named as the  
recipient of a 1944 Grumman  
Widgeon.***

**Our volunteers are presently hard at work getting ready to decide whether the plane can be flown into Bayport Aerodrome, or if it will be necessary to disassemble the airplane and move it by truck over the road to our facility.**



**The airplane is in wonderful condition, however it has not been flown in approximately 17 years. We are exploring both possibilities for getting it to our hangar, both of which can be costly propositions.**

**If it is to be flown in, we will need to have an annual inspection performed, as well as hire a pilot with a multi engine sea plane rating who is current in a Widgeon. If we truck it to Bayport, we will have to pull both engines, props and wings and trailer the airplane over the road. Either way it's doable, just costly.**



**We plan to keep the airplane in flight ready condition and display it with special attention given to the former owner and his family, with stories about how it was used. The owner's grandson told us of his memories of visiting colleges before graduation from high school.**

**Further details will be announced as they develop.**

**Our volunteers have been hard at work each week getting ready to bring the Widgeon into the collection. Special thanks go to John and Tom Hancock, Ed McDermott, Eric Sandberg, Ray Kelley, Tom Alferman, John Hess, Pat Gallagher, and Fred Coste for cataloging books, preparing engine displays, preserving the Aeronca L-3, preparing 18 feet of bookcases which will provide about 130**

feet of shelving and last but not least, the food that Pat loves to cook....and we all love to eat!

Thank you all for sharing your gifts and talents this winter, guys!

Please support the Long Island Early Fliers Club by participating in our MACH MONEY Raffle. This fund raising event will go a long way toward helping us to afford the work we want to accomplish in getting our aircraft on display.

**Time to Smile:**

**Dear alcohol,**  
**We had a deal that you would make me prettier, funnier and a better dancer.**  
**I saw the video, we need to talk.**

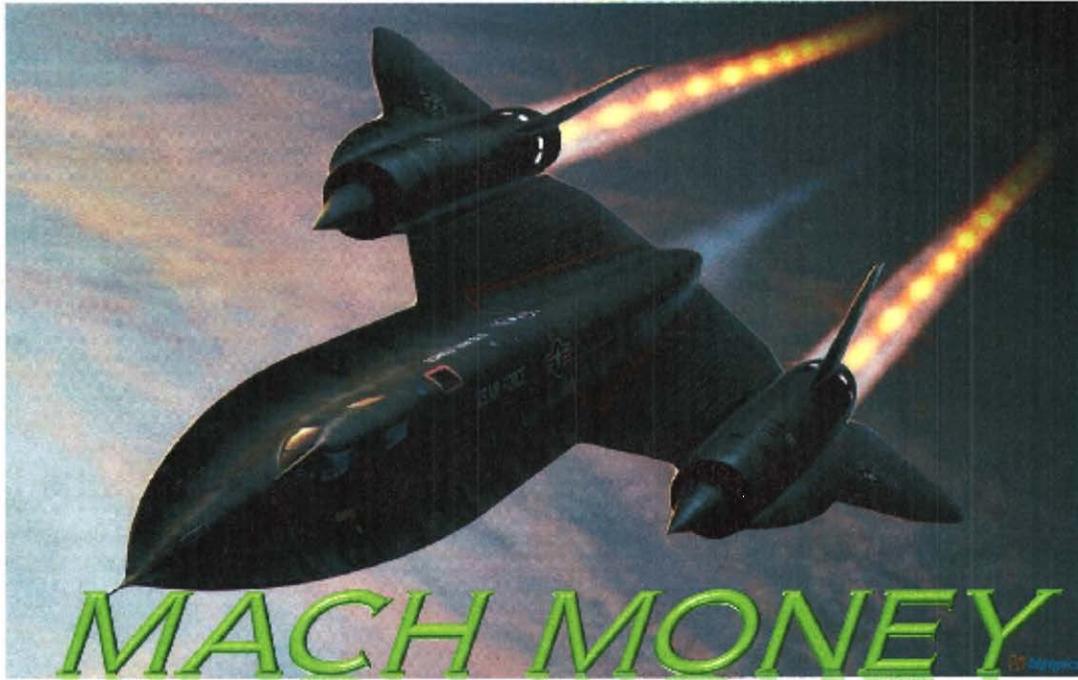
**SOMETIMES I SIT QUIETLY AND WONDER WHY I'M NOT IN A MENTAL ASYLUM... THEN I TAKE A LOOK AROUND AND REALIZE... MAYBE I ALREADY AM.**



**I hate it when I see an old person and then realize that we went to high school together.**

Please support our raffle! Details next page  
Drawing is April 9, 2017

## THE LONG ISLAND EARLY FLIERS CLUB



### Raffle Prizes:



One Grand Prize: \$10,000 or 33% of available prize money

One Second Prize: \$5,000 or 16.6% of available prize money

3 Third Prizes: \$1,000 or 3.3% of available prize money each

4 Fourth Prizes: \$500 or 1.6% of available prize money each

Maximum 600 tickets to be sold.



Return this portion with your check or money order for \$50 per ticket to: LIEF, PO Box 43 Holbrook NY 11741. Tickets will be sent by return mail. Raffle rules on reverse.

Name: \_\_\_\_\_

Number of Tickets: \_\_\_\_\_ x \$50 Each

Address: \_\_\_\_\_

Total Enclosed: \_\_\_\_\_

Phone: \_\_\_\_\_

Find out who has The Right Stub April 9, 2017.

Email: \_\_\_\_\_

Winners need not be present.

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***Your support is very much appreciated!!!***

## **TERMS & CONDITIONS**

### **Eligibility:**

**Purchaser must be at least age 21 on October 1, 2016 in order to be eligible to buy tickets in this drawing.**

Each entrant, by entering the Raffle, agrees to abide by all of the rules and conditions contained herein, as well as all applicable local, state and federal laws and regulations, and further agrees to release the Long Island Early Fliers Club, Inc. and its officers and directors, members, agents and volunteers from any and all liability with respect to all aspects of the Raffle including, but not limited to, the selection process. The Raffle is open to any eligible person residing in a state where the Raffle is not prohibited. Entrants must be 21 years of age or older.

### **Tickets:**

Each purchased ticket shall constitute an "entry" into the raffle drawing for all prizes and the person to whom the ticket is registered shall be the "entrant." If an entrant's payment is dishonored by the bank for any reason, such entrant's raffle ticket will be declared invalid unless full and satisfactory payment is made prior to the Raffle drawing. LIEFC, its, officers, directors, and members are not responsible for and shall not be liable for: 1). Incomplete, illegible, or unintelligible entries; 2). Incorrect, returned, or misdirected notifications based on inaccurate information provided by the entrant; or 3). Any condition caused by events beyond the control of LIEFC.

### **Drawing:**

Winners will be determined by random drawings of all the eligible entrants received. The drawings will be held on April 9, 2017 at the LIEFC hangar, Bayport Aerodrome, Bayport, NY. The winners do not need to be present at the time of the drawing to win. LIEFC will endeavor to notify all winners within 5 business days of the drawing. It is the responsibility of the donor/entrant to provide valid contact information for notification.

### **Winners:**

At the discretion of LIEFC, winners will be notified by phone, e-mail or by mail based on the information received on the entry form. Names of winners will be available to all media and will be listed on the LIEFC website. Winning entrants agree to allow LIEFC to use their names, likeness, and any statements made by them regarding the prize for advertising or publicity purposes without compensation. If the winner cannot be located after LIEFC has made reasonable attempts to do so, or if the winner is deemed to be ineligible, such winner will be deemed to have forfeited his or her prize, and another subsequent winner will be selected for such prize. The same procedure will be followed until all prizes have been awarded.

### **Restrictions:**

All prize winners are responsible for all costs associated with delivery and other applicable fees, local, state and federal taxes associated with their respective prizes. Winners will be required to provide LIEFC with a valid social security number and must complete all IRS and similar forms requested by LIEFC prior to release of their prize. Failure to do so within thirty (30) days of request shall result in an automatic forfeiture of such winner's prize.

### **General Terms & Conditions:**

By obtaining a Raffle ticket, you agree to be bound by these Official Rules and Regulations and the decisions of LIEFC, which shall be final. LIEFC is not responsible for any injuries, losses, or damages of any kind arising in connection with or as a result of the winner's acceptance or use of any prize. By entering the Raffle, each participant releases LIEFC, its directors, officers, members, and agents from any and all liability for any injuries, losses or damages of any kind caused by any prize or resulting from acceptance, possession, use, or misuse of any prize, and the winner agrees to indemnify and hold LIEFC harmless from any and all losses, damages, rights, claims and actions of any kind arising in connection with or as a result of the winner's acceptance or use of any prize.

### **Disclaimer of All Other Representations and Warranties:**

THERE ARE NO REPRESENTATIONS OR WARRANTIES OTHER THAN AS SET FORTH IN THESE OFFICIAL RULES AND REGULATIONS. LIEFC disclaims all other representations and warranties, expressed or implied, regarding this raffle, including, but not limited to any implied warranties of merchantability or fitness for a particular purpose. A raffle participant's sole and exclusive remedy for LIEFC's breach shall be limited to the return of the purchase price paid for his or her raffle ticket(s). Such claim must be made at least 30 days before the drawing date of this raffle.

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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

Sal Vitale  
*President*

Pat Gallagher  
*Vice President*

Fred Coste  
*Treasurer*

Joan Vitale  
*Secretary*

# Join/Renew today!



Please mail completed form with payment to LIEFC, Inc. P.O. Box 43, Holbrook, NY 11741

## Membership Application

Name: \_\_\_\_\_

Annual Dues\*

Address: \_\_\_\_\_

\* Dues are not prorated. Dues year runs from January 1 through December 31

\_\_\_\_\_

Individual membership: \$35.00

Family membership: \$50.00

Email: \_\_\_\_\_

I am applying for:

Occupation: \_\_\_\_\_

Individual \_\_\_ Family \_\_\_ Membership

Names of family members joining: \_\_\_\_\_

Background information: (Please check all that apply)

Aviation Enthusiast	Private Pilot	Work(ed) in aviation industry	
Model Builder	Commercial Pilot	Aviation mechanic	
History Buff	Airline Pilot	Aircraft owner	
Computer technician	Enjoy writing	Enjoy photography	

I, \_\_\_\_\_, being interested in the preservation of all facets of aviation history, Particularly that pertaining to Long Island's aviation heritage, do hereby apply for membership in the Long Island Early Fliers Club, Inc.

\_\_\_\_\_ (signature) \_\_\_\_\_ (date)

***The Long Island Early Fliers Club, Inc. is a non-profit organization, founded in 1956 and chartered by the New York State Education Department.***