



# The Beacon

The newsletter of Chapter 54  
Lake Elmo, Minn.

MAY 2018

## May 2018

NEXT MONTH'S PROGRAM WILL BE ON

**MONDAY June 11, 2018**

- Picnic Dinner 6:00 PM
- Donation of \$5 encouraged
- You may bring a dessert to share
- CHAPTER HOUSE, ENTRANCE B, LAKE ELMO AIRPORT 21D
- Our Chapter Web site address: [www.eaa54.org](http://www.eaa54.org)

## Welcome our new Young Eagle Coordinator — Scott Hanson



Hello Young Eagle (YE) Volunteers, welcome to a new year! As most of you hopefully already know Linda Amble has passed on her baton to me as YE Coordinator. I have big shoes to fill, and I hope you all continue to volunteer for YE.

I could use your help! The first of 2018's, EAA54 Young Eagles event was Saturday, May 12, 2018 with 13 Young Eagles flown. Our next event is June 9 starting at 8:30 AM. If you are available to help, please respond to this e-mail with your choice of either Ground support, Pilot support, or Static Display.

Please be at the clubhouse by 8:00 or 8:15 a.m. to get set up for the event. Young Eagles sign up through our Chapter 54 website. If haven't taken the YE Youth Protection training yet, please do so (this is required training) <https://www.eaa.org/en/eea/aviation-education-and-resources/eea-youth-education/youth-protection-policy-and-program> For those that have taken it already, you are good for three years, Here's looking forward to a great year of Young Eagles events with your help.

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## Chapter Calendar of Events

Young Eagles

May 24 Farnsworth Elementary Hangar Tour

May TBA Banquet at Holman's Table

June 11 Chapter BBQ 6:00 PM

July 5,6,7,8 Ford Tri Motor Event 9 AM to 5 PM

July 9 Chapter Meeting

August 12 Aviation Days - Pancake breakfast

August 13 Chapter Meeting

## Farnsworth Hangar Tour

The annual Farnsworth Hangar Tour is rapidly approaching. The date is Thursday, May 24. The times are 10:15 – 11:45 for the morning group and 12:30 – 2:00 for the afternoon group. The kids are 2<sup>nd</sup> graders from Farnsworth. I expect about 60 kids in the morning and another 60 in the afternoon. They will be divided into five groups with about 12 kids per group.



I could use a few extra volunteers.

If you are willing to help, and feel comfortable dealing with young kids, please see below:

1. One more hangar host
  - a. Group size will be 10-12 kids.
  - b. Each group will be at your hangar for about 10-12 minutes.
  - c. Your hangar activity will be
    - i. Show your airplane.
    - ii. Do an activity on compass navigation (developed by Dan Bergstrom) or pretend flying the airport landing traffic pattern (developed by Dave Syverson).
  - d. May want to split each group in half. One half to show your airplane (5-6 minutes), other half does activity (5-6 minutes). Then switch.
2. Two assistance hangar hosts. One to lead the compass activity and the other to lead traffic pattern activity.
3. Five tour guides to assist the groups navigating to the hangars. I will have a hangar location map to follow.
4. One pilot to perform a live flight demo. This will be the last activity of both the morning and afternoon sessions.
  - a. First demo flight will be about 11:25 – 11:45.
  - b. Second demo flight 1:40 – 2:00.
  - c. Takeoff, low pass down runway 14/32, and landing.
  - d. Kids will be gathered behind the fence at Aircraft Viewing Area.
  - e. Give brief introduction to flight and a question and answer session after the flight.

The kids will have a ton of questions.
5. One hangar space on the south side of the field for the Sod Buster Radio Control Club. They will setup their exhibit in this space.

Thanks for considering. Can I sweeten the deal with a free pizza lunch in the clubhouse?  
Leif E.



# fly on the **Ford**

EXPERIENCE THE GOLDEN AGE OF AVIATION



**St. Paul Downtown Airport**  
**July 5-8, 2018**

**ADVANCE ONLINE PRICING:** ADULT: \$70 • CHILD (17 & UNDER): \$50  
**WALK UP PRICING:** \$75 • **RIDES:** THURS 2-5PM • FRI-SUN 9AM-5PM

**FOR MORE INFO:** [FLYTHEFORD.ORG](http://FLYTHEFORD.ORG)



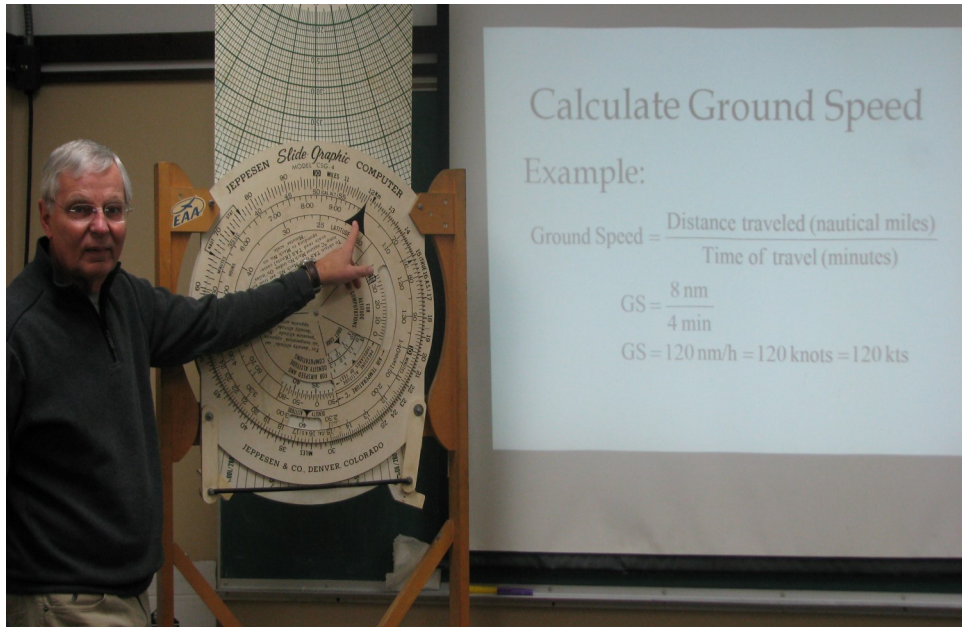
**OR CALL:** 1-877-952-5395

## Education Report

The 2018 Ground School Course concluded on Thursday, May 10. This year's course ran an extra two sessions into May to make up for snow storm cancellations.

The course started on February 1, 2018 and met for 3-hour sessions twice each week. It is a long, grueling commitment for the students and staff. At Century College, it would be the equivalent of two 3-semester credit courses.

We started with eleven registered students. Two dropped out and did not take the final exam. That left nine taking the final exam. Of those, seven received a sign off from our Lead Instructor, Paul Rankin, to take the official FAA Knowledge Exam.



So far, we heard from one student that took the exam and passed with 92%. Another student had a health issue that caused him to miss three weeks of class. During his recovery time, he studied the material on his own and scored high enough on his course final exam to receive the sign off. A remarkable achievement on his part considering what he overcame.

The Chapter owes a big THANK YOU to Paul Rankin. He put in a ton of effort this year to make the course successful. We adopted a new text book that meant all the PowerPoint slides had to be updated. His slides and lectures are very professionally prepared. He also prepared all the stage exams and the final exam that students take. Without his expertise, we would not be able to offer this course.

We are very fortunate Paul joined Chapter 54 and chose to share his aviation knowledge with us, and his students. Jim Pearsall contributed with one lecture and I did two. Paul did the rest. Finally, Paul will now have more "retiree" free time to devote to his airplane projects ... at least, until the first week of February 2019, when we do this all over again. Thank you Paul!!

Leif



## Save the Date!

Who: You!

What: EAA Chapter Work Party <https://www.eaa.org/en/ea/volunteer/volunteer-at-eea-headquarters/weekend-work-parties>

When: July 13th through 15th Where: AirVenture Grounds How: Air and Surface Transport

Why: TBD, but as this is the last weekend before the big event, moving aircraft out of various storage locations to their show positions.

If you are interested in the work party please contact Jim Pearsall, [secretary@eaa54.org](mailto:secretary@eaa54.org) by June 15th.



## Farnsworth Science Fair Needs Volunteer Judges

Attached is a letter I received from Cindy Schreiber at Farnsworth Aerospace. She is looking for volunteers to help judge science/engineering projects for the Farnsworth Science Fair. Please see the attached pdf file. I have done it in the past and it is a lot of fun.

The students display their projects in the auditorium. You will talk to as many students as you are able in the allotted time. They will explain to you what the project consisted of, their methodology, and conclusions they reached.

An evaluation form is available for you to complete for each student project you review. It guides through the evaluation process and criteria you will follow.

There is a morning and afternoon session with lunch provided between. You can do morning or afternoon if you cannot make the full day.

As a sidelight, you will also have a chance to see Farnsworth's Upper Campus Flight Simulator Lab. It is very impressive and a great opportunity for 5<sup>th</sup> – 8<sup>th</sup> graders to develop their flying skills.

Please consider.  
Leif E.



Dear Friend of Farnsworth Aerospace,

The Farnsworth Aerospace Science Fair is Tuesday, May 30, 2018. It will be held at the Farnsworth 5-8 site at 1000 Walsh Street. Parking will be on the street. We will have our 5-6th grade projects displayed in the gym and the 7-8th grade projects displayed in the auditorium. Every student in the school will be completing a Science Fair/Engineering project for a total of 500+ projects. For some of the students, this is their very first time doing a project and others have completed projects in the past. We are looking for your help in judging projects in the morning or afternoon (or both!!). If you are unable to volunteer an entire AM or PM, we still want you to judge for us. Let me know the times you are available with your RSVP.

The schedule for the day is as follows:

**9:00-9:30 AM**

Continental breakfast, Welcome by Mr. Bell and orientation with Science teachers.

**9:30 -12:05 PM**

Morning session of judging 5-8th grade

**12:05-12:45 PM**

Lunch for Morning Judges

**AND/OR**

**12:45-1:15**

Lunch and orientation for PM judges

**1:15 -3:55 PM**

Afternoon session of judging 5-8<sup>th</sup> grade

We need a lot of judges for the number of students involved. Students have worked hard not only on completing their projects and displays, but also on their presentation for the judges.

When you arrive, please check in at the office and someone will give you directions to the orientation room.

Thank you for volunteering this time for our school. Please call me with any questions!

**[Cindy.Schreiber@spps.org](mailto:Cindy.Schreiber@spps.org) or 651-744-4430.**



## PRESIDENTS MESSAGE

*JACK MILLER*

From the President:

Memories are always ahead of us. There are those memories that remind us what not to do and those that motivate us to what needs to be done.

Memories are like that when you and I, as pilots, climb into the left seat – scan the instruments – put on the headset - and lift our hand to start the process of creating more memories. We look forward to good weather, good friends, and good journeys,

My memory bank doesn't have many deposits compared to the memory vault of those that have gone before me and those that are around me. I remember my first "You have the plane" and "Anoka Tower this is...". It is not that I have a great memory. It is because I have not been flying that long.

The job of the President of EAA 54 is more than running meetings, organizing events and making sure the refrigerator is full of soda! It is to connect the good memories of the past to what is ahead of us. Upon this lay the future effectiveness of our chapter.

Connecting the good things/memories to what challenges us as Chapter 54.

Flipping pancakes so that young people can fly

Flying Missing Man Formation in honor of a deceased member

Walking into a hangar to meet or help another aviator

Going out of our way to welcome, help or encourage others as we were helped.

Seems so simple, but sometimes not...We are more than the sum of our memories. We are a community of rag tag, sometimes stubborn aviators that want to make a difference beyond ourselves. Think about it.

### **"Fly the Ford" Needs YOU!**

The Flyer on Page 3 announces our next big adventure and you can help. The EAA Ford Tri Motor is coming to Holman Field Downtown St Paul July 5 to 8 to provide an exciting experience to the general public. If you ever went to Airventure in Oshkosh WI, you have seen the same plane offering scenic and authentic flights around Wittman Field and Oshkosh.

Chapter 54 is sponsoring and supporting the event. There are two main things you can do to help the Chapter and the EAA.

Please help us promote the event by sharing on any social media you participate with. Jim Pearsal will be sending media ready copy through the google groups to post on facebook, twitter and Instagram. You should also tell your friends, post signs at work and at public bulletin boards. EAA will be promoting the event with media flights and their media organization to get the word out but your efforts can be very beneficial for the club. We earn \$5 for each ride during the long weekend!

Next you can volunteer to help out during the event. We need 4 people per morning and afternoon shift to greet passengers, take tickets and accompany them to and from the airplane. Volunteering is fun because you will be right in the middle of a cool event, meet and work with others who support EAA Chapter 54 and support of mission to share aviation with others.

Jim Pearsal has a sign up sheet so contact him to reserve a spot — you may volunteer for one shift or many. You are welcomed to help out even if you have never volunteered before! [secretary@eaa54.org](mailto:secretary@eaa54.org)

## Just in case anyone thinks this doesn't happen....

Dave & Diane Syverson, Kitfox 7 Tri gear

This past winter, one of the members of the online list service used by the Kitfox community reported a flash fire during fueling involving the person's newly completed series 7 Kitfox. The fortunate part was the fire was extinguished quickly, nobody got hurt, no other buildings, structures or vehicles were involved and the airplane is repairable.

There is always a reason why stuff happens. This was precipitated by a static discharge when someone other than the owner removed the fuel cap then attempted to insert a funnel into the fuel filler. Check out the clean, round area in the upper left of the photo where it is apparent the fuel cap was sitting when the fire ignited.

The list discussion about this event revealed that the event took place in a hot dry environment with a strong wind blowing over the aircraft. Pure speculation of course, but it seems theoretically within reason that a static charge due to the wind over the fabric wing could have developed. No electrical bonding nor grounding was in place prior to the funnel being touched to the open fuel filler ring.

For normally certificated aircraft, airframe bonding is a requirement for certification; and, fueling operations are standardized by other regulations, so that in most cases the planets will not align in a manner which would result in a fire as long as procedures regarding the proper use of the fueling equipment is maintained.

There are a couple ways things can go off the rails. Normal fueling procedures and equipment maintenance not adhered to in the case of normally certificated aircraft can create risk of a static discharge fire. The same can be true in unique ways where the fueling operation used does not take into account the experimental nature of the aircraft which may be different from a normally certificated aircraft with regard to electrical bonding and grounding. The mix of standard fueling equipment as we find at the typical FBO and an aircraft (experimental) not required to be in compliance with the regulations for normally certificated aircraft can be an experiment by itself. Self fueling with cans and funnels brings with it additional risks and a need to understand how this stuff works.

Two terms, bonding and grounding, pertinent to static suppression when fueling, are often used interchangeably, and incorrectly. **Bonding** is the electrical continuity established between components. Components can be bonded without being grounded. A metal fuel tank in a metal airplane is probably bonded through metal to metal contact and fasteners; however, the plane is sitting on rubber tires so it is not grounded. **Grounding**; or, earthing as it is often called outside the US, means that an object has electrical continuity to the planet we are sitting on. A fiberglass fuel tank in a composite aircraft sitting on rubber tires may be neither bonded to the airframe nor grounded to the earth.

Definitions from a somewhat more official source – NFPA – National Fire Protection Association: **NFPA 77: Grounding.** The process of bonding one or more conductive objects to the ground, so that all objects are at zero (0) electrical potential; also referred to as “earthing” [NFPA 77 – 3.1.10]. Keep in mind that the term earthing is not currently a defined term. **Bonding.** The process of connecting two or more conductive objects together by means of a conductor so that they are at the same electrical potential, but not necessarily at the same potential as the earth [NFPA 77 – 3.1.2].

A few comments are in order about normally certificated aircraft and equipment on this issue where we are told what to do but not necessarily told how it all works. In a normally certificated composite or metal aircraft, regulations require





absolute bonding between the fuel filler neck and the airframe. Approved fueling systems like we normally see at an FBO in the form of a stationary pump account for grounding of the aircraft by use of the ground cable (which is connected to mother earth if installed correctly); and, electrical bonding/grounding from the dispenser handle through a flexible conductive material incorporated in the hose back to the pump. Connecting the ground strap from the pump to a place on the airframe designated by the airframe manufacturer assures that when the fuel nozzle is touched to the filler opening of the tank there will be no static discharge because everything is at the same electrical potential through complete bonding and grounding. The wild cards are where the ground strap is not connected at all; or, not connected to the designated place on the aircraft and/or the dispensing equipment is not installed or maintained correctly.



So what about a fuel truck we see at some small airports? (Disregarding large commercial airports where fuel trucks have additional features) Since both the truck and the plane are sitting on rubber tires there is little possibility that either is grounded; however, if the bonding strap is properly connected between the truck and plane the two will be at the same electrical potential even if they are not grounded. No difference in electrical potential and no spark.

When it comes to experimental aircraft the fueling operation has to be based on understanding the aircraft's design and construction regarding electrical bonding of its components to assure there will be no spark in the wrong place. What is the chance that ramp staff accustomed to normally certificated aircraft will have any idea? Pretty good bet that the experimental aircraft owner better take charge of the fueling operation at an FBO. Connecting a grounding strap to the airframe of an aircraft where the fuel tank is not bonded to the airframe will not prevent a spark when the grounded dispensing nozzle contacts the fuel tank filler ring.

Back to the case of the static discharge resulting in a new S7 Kitfox getting fire damage in a fueling incident. The fuel tank of a Kitfox is constructed of fiberglass and is mounted to the aluminum spars with an insulating adhesive. The fiberglass fuel tanks have a standard metal ring laminated into the tank and the fuel tank is overlain with the wing fabric with a metal fuel cap affixed to the ring. The majority of Kitfox owners with Rotax engines use auto fuel per the engine manufacturers recommendation; and, as a consequence, self fuel their aircraft with hand carry containers. The scenario was reported to have unfolded on a hot dry windy day with a person other than the aircraft owner removing the fuel cap, then picking up a metal funnel to inset into the filler ring with the static discharge taking place between the funnel and the fuel tank ring. The funnel likely was at the same state of charge as the ground from where it was picked up while the fabric wing and fiberglass fuel tank could have easily generated an electrical potential due to the hot dry wind.

Lessons: 1) Never fuel or defuel an aircraft inside a hangar – NEVER – if a fire occurs, at least there is some hope nothing other than the plane will burn.

2) Have an adequate working fire extinguisher close but behind you and away from the aircraft – a small fire can often be put out before it grows.

3) The person fueling the plane has to know the nature of the aircraft and understand electrical bonding and grounding and how it applies to the specific aircraft. Since Experimental aircraft are not required to comply with the safety standards for normal certificated aircraft, each plane can be quite different.

4) Although not perfect, per a military reference covering fueling of aircraft out in the boondocks where ideal situations do not exist (or in the Alaska wilderness), touching the fuel cap with the dispensing nozzle/funnel before removing the cap is a far less risky operation than pulling the fuel cap and inserting the filler.

5) As a builder issue, builders should be doing what they can to ensure bonding between the airframe and fuel tank. Some of the Kitfox builders have devised systems bonding the fuel tank rings to the airframe. There are many ideas out there from aircraft experimenters, particularly those builder groups addressing composite aircraft. EAA also has reference materials on their website which speak to this issue.



## FOR SALE

Stratoflex clamps PN 10781-4-22CR - SS clamps used for securing firesleeve over hose assemblies. I have 6 of these - \$2 each or offer (new price is \$4.35 ea at Aircraft Spruce) [ddsylverson@comcast.net](mailto:ddsylverson@comcast.net)

Tailwinds Membership, \$4,000 see ad below. Josh Tocko (Owner) FLIGHT LEVEL 510 DESIGN 651.587.0999 [design@fl510design.com](mailto:design@fl510design.com)

I am in a partnership on a 1958 Champ at Lake Elmo and one of the partners recently decided to sell his share and we would like to find a replacement. [Chip Berniard <eberniard@gmail.com>](mailto:ChipBerniard@gmail.com)

I have a share of the Hobo's Flying club for sale. Each share is worth 20% of the club (There are 5 Members). The plane is a 1971 Bellanca Champ Monthly dues: \$60 Wet hourly flying rate: \$50 Club Initiation fee: \$200 Asking price: \$6000 / obo [wschanks@gmail.com](mailto:wschanks@gmail.com)

Piper PA-12 project; Additional miscellaneous parts and older instruments also available. This aircraft has been in my wife's family since 1971. No damage history and all logs. Asking \$35,000 for the project and \$23,000 for the 160hp 0-320. If interested, please email me at [joelbrodd@gmail.com](mailto:joelbrodd@gmail.com)

## WANTED

"Working Partner" to develop Durand Mark V as a Kit plane, working knowledge of Solidworks or CAD. An A & P background is desired...Investment is negotiable Contact Jim Swatosh 956-607-6088 [jswatosh@hotmail.com](mailto:jswatosh@hotmail.com) [www.durandmarkv.com](http://www.durandmarkv.com)

## FOR SALE

1997 Glasair FT1. \$62,000. 550 TT on airframe. 1200 hours on engine major. Up to 200 mph cruise at 10-12 gph with an IO 360 Lycoming. 47 gal fuel. Less fuel burned and slower if pulled back. It has steam gauges but can be flown IFR, a great autopilot. Everything works. Whirlwind constant speed prop. 2000 fpm climb in this weather at 130 mph. Flies great. Comfy interior. No problems at present. More info upon request. Insurance 1/3rd that of retract. Good bird - I built it. Hangar on 21D might also be for sale. Cheap to heat. Clean and cozy. David Briggs [dgbrig550@gmail.com](mailto:dgbrig550@gmail.com) 612 799 1254

## WANTED — TO RENT

Hangar space to rent at Lake Elmo Airport for final assemble of Zenith 750. High wing about the size of a Cessna 152. Ed Trudeau 651-303-4936.



## Chapter 54 Directory

Housing Director	
Dave Fiebiger	
<a href="mailto:housing@eaa54.org">housing@eaa54.org</a>	
Membership Director	
John Renwick	
<a href="mailto:member-ship@eaa54.org">member-ship@eaa54.org</a>	
Young Eagles Director	
Treasurer	
Tom Gibbons	
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Newsletter Editor/Director At-Large	
Dale Seitzer	
<a href="mailto:newsletter@eaa54.org">Newsletter@eaa54.org</a>	
Chapter Historian:	
Jeff Hove	
21D RCO 118.625, Uni-com: 122.8	
21D AWOS:120.075, TPA: 1932'	
Runways:	
4-22 (2497' x 75')	
14-32 (2850' x 75')	



## Tailwinds Flying Club Welcomes New Members

Tailwinds Flying Club is based at Lake Elmo airport. We are a non-profit corporation of 39 pilots who equally own three aircraft and one hangar (25E). Our goal and philosophy are to fly great airplanes safely and inexpensively. We currently have a Cirrus SR20, Archer II and Cherokee Six. Some of our members belong to EAA 54 and we love to fly Young Eagles. Please stop by and visit us anytime! North side, Fairchild Lane, Hangar 25E. To inquire about membership, please call 612-584-1740 or visit [www.tailwinds21d.org](http://www.tailwinds21d.org).