The Beacon

The newsletter of Chapter 54
Lake Elmo, Minn.

April 2021

21D RCO 118.625 COM 122.8 AWOS 120.075 Elev. 1932'
Runways **4-22** (2497' x 75') **14-32** (2850' x 75')

Chapter House, South Airport Entrance at the Beacon
Chapter Meetings 2nd Monday of Each Month
7:00pm social 7:30pm Meeting

Who's currently who in Ch.54:

www.eaa54.org

President: Leif Erickson president@eaa54.org **Vice Pres:** Gregg Adler vicepresident@eaa54.org **Treasurer:** Tom Gibbons treasurer@eaa54.org **Secretary:** *your name here?* secretary@eaa54.org	**Education Dir:** Robyn Stoller education@eaa54.org **Housing Dir:** Dan Bergstrom housing@eaa54.org **Membership Dir:** John Renwick membership@eaa54.org **Young Eagles Dir:** Scott Hanson youngeagles@eaa54.org	**Newsletter Ed:** Marlon Gunderson newsletter@eaa54.org **Webmaster:** Michael McKinnon webmaster@eaa54.org **Directors, Class2:** Tim Reberg, Paul Hove, Bill Schanks Jr. **Social Media:** Jim Pearsall socialmedia@eaa54.org

Inside this Issue:

From the Flight Deck	1-3	Chapter Meetings	8-11
MN Winter in Rearview	3-4	Leaders Column	12-13
Members Column	5-7	Editor's 2¢	14-16

From the Flight Deck (Leif Erickson)

Opening Up … Safely … Efficiently … Being Prepared

Welcome Vernal Equinox. On Saturday, March 20 the direct rays of the sun crossed the equator on their journey north. This event signals the start of astronomical spring, as compared to temperature trend based meteorological spring. Spring means warmer temperatures, increased number daylight hours, and the return to summer activities.

Safely

The COVID virus appears to be reluctantly waning in our area. The number of daily confirmed cases, hospitalizations, ICU occupancies are trending down. At the same time, the number of vaccinations administered are up. All positive trends. But on the heels of this good news is the apparent surge of the virus variants. These may be more contagious, have more severe symptoms, and lead to a third wave.

The state guidelines concerning COVID protocols are being slowly relaxed as they relate to both indoor and outdoor gathering sized.

The bottom line … we can start to think, and plan, for reopening the clubhouse. Such as social events, and a return to some semblance of normal life. But we do need to temper our enthusiasm and be reminded the virus is still real, and a threat that cannot be ignored. Our board is monitoring the situation and will plan accordingly. Uncertainty, Uncertainty, … UNCERTAINTY.

The return to clubhouse social events will be very welcome. Remember the summer cookouts on the deck? The burgers and brats on the grill along other summer picnic style food. Member displays of aircraft parked nearby for viewing. Sounds delightful. But we must remain

vigilant and abide by safety protocols. We can, and will, safely host events like this yet this coming summer. Perhaps use outdoor seating to enhance social distancing.

A return to clubhouse meetings will bring changes in how we operate. My proposal is the process begins with a hybrid model. Like the model school districts use to address the challenges of educating our young people.

The last few programs at our monthly gathering have been very well received. Attendance is up, as measured by use of Zoom Gallery view. Our VP Gregg Adler has arranged two entertaining programs for our members. The program by Guil Barros about his flight to his boyhood home in Brazil, attracted two pages of Gallery View attendees. Each page accommodated 25 participants. For the first time ever more than 25 people joined. I do not recall ever having that many members attend a gathering, either in person or virtual.

Zoom also gives us the opportunity to advertise our programs to a wider audience. We can expand our programs to include Lake Elmo Aero and their flight students. To a student pilot, what greater incentive could we offer future EAA members than realizing the possibilities of being a private pilot and flying an airplane built with their own hands. I also like the possibility of inviting members of the SodBusters Radio Control flying club to attend. We can spread the opportunities of flying and homebuilding to a much wider audience in the St. Croix Valley and beyond.

Efficiently
The hybrid model is a combination of in-person and virtual learning. The experience with social isolation has brought changes to how we relate to and communicate with each other. Some changes are good, and some are not so good.

One of the good changes for me has been the use of video conferencing technology, like Zoom. It has allowed us to extend the availability of our gathers to members beyond the clubhouse. Members from all over the state and country are joining our gathering. Something they would not otherwise be able to do.

Being Prepared
We need to continue with Zoom capability for our in-person/virtual gatherings. That will require Wi-Fi availability in the clubhouse. Unfortunately, Wi-Fi is not cheap. It will come with a price tag that is yet unknown. I will lobby our board to make this improvement in our clubhouse technology.

2021 will be a tough year for our operating finances. I do not have end-of-year financial data yet, but I fear we will likely operate in the red. Primarily because of annual fixed costs like a Chapter Renewal fee to EAA, insurance costs (liability provided by EAA and Hazard provided by a local insurance carrier), and the MAC lease for our clubhouse location, coupled with a lack of revenue generating activities.

With no fundraising events, dues money is our only source of income. Our roughly 100 members paying $25 annual membership dues, will barely be enough revenue for the chapter to meet our annual costs.

Any fundraising events suggestions you have are welcome. Please contact me, or any board member, with your suggestion. I am always willing to listen.

A dues increase may be necessary. Our current annual dues structure may still be the same as when I became a member of Chapter 54 back in 1999.

My experience in our townhouse association reminds me that raising monthly HOA fees is not popular. And it may cause some of our members to drop their membership.

But overall, the increased exposure via hybrid style gatherings will expand our message to a wider audience and result in growth. Isolating our chapter to clubhouse-only gathering is not a recipe for long-term success and growth.

Other
A special thank you to our Housing Directly Dan Bergstrom for his efforts to replace our aging furnace. It limped through the winter and the two-week February cold snap (remember that?). But with Dan's efforts we now have a reliable, efficient furnace that will meet our winter heating needs for many years to come.

Also, a special thanks to Education Director Robyn Stoller for her efforts developing a survey that was distributed to all our members. The board will meet with Robyn to review the results of the survey and develop an action plan to implement recommendations gleaned from our first data-driven decision- making process.

One thing to mention, my name appeared on the introductory page of the survey. Please understand, Robyn deserves all the credit for creating, distributing, and presenting the results. Not me. Thank you, Robyn.

I am pleased to announce that Ed Trudeau, an insurance agent in White Bear Lake, has agreed to be our Chapter insurance advisor. I recently attended an informative EAA

webinar about their General Liability Insurance Program. For me, it was an eye-opener. It taught me to be aware of the WCPGR (What Could Possibly Go Wrong) liability issues association with chapter hosted events. Including all in-person meetings and events. Thank you, Ed.

Finally, thanks to Jack Miller for a list of possible social events for the chapter. They will be considered.

Thanks for reading.
Leif E.

MN Winter in Rearview

Photos by Jeremy Dando. Looks like they had a good day for it and about 60 aircraft turned out. Iceport had an even better day in early March, after the polar temps of mid-Feb, with blue skies and temps in the upper 40's. Photos next page by Jack Parkin, M.Grzincich, Jason Farber, and J.Qunell.

ICEPORT 2021

MAC's Twin Bay
LAKE MILLE LACS

Da Boathouse
IN DA BAY

TANIS
AIRCRAFT PRODUCTS
Aviation Safety Starts with Tanis Preheat

A sincere "Thank You" goes out to Tanis Aircraft Products for their continued generous support of this unique, family-friendly event!

For the latest ICEPORT event updates, please visit:
www.facebook.com/CreateLift

- Pilots please monitor: 122.9
- There is no fee for this event, but donations are highly encouraged to offset Mac's Twin Bay plowing expenses
- Plowed iceway (Skis & wheels welcome!)

"Look for the orange safety cones depicting the landing zone"

VENUE: ICEPORT 2021 Fly-in Brunch
DATE/TIME: Saturday, March 6th, 2021 10:00am - 3:00pm (Drawings @1:00pm)
LOCATION: Mac's Twin Bay (Lake Mille Lacs) www.macstwinbay.com/da-boathouse-restaurant

From Randy Corfman, President, MN Pilots Assn:

Wondering if pilots are ready to get back into the swing of things with Fly In events? Wonder no more...

I flew the cub over to Iceport 2021, near Isle MN, and the ADS-B looked like a proverbial hornets nest in that location! It was a beautiful, severe clear, CAVU day and a lot of pent up energy was on display there. Kevin McQuoid and his crew did a great job making runways for wheeled aircraft to safely land and take off. Landings were accomplished on a 9-27 runway, and flights were launched on runway 18. Orchestrated nicely, all taxiways were well marked...it was beautiful to see!

Doug Evink and Tanis Aircraft were there as sponsors of the event and it is always a pleasure to see aviation companies supporting general aviation...even in winter! Thanks to Doug and Tanis for your continued support! Oh, yes, Doug is speaking and Tanis is again supporting the upcoming **Great MN Aviation Gathering on May 21-22, 2021 at the Buffalo Municipal airport (KCFE)**. Please put that on your calendars!

A grand time was had by all!

Members Column / Around the Field

On 21D taxiway Echo, Dan and Mike were getting stuff done this winter.

Photos by Stan Ross.

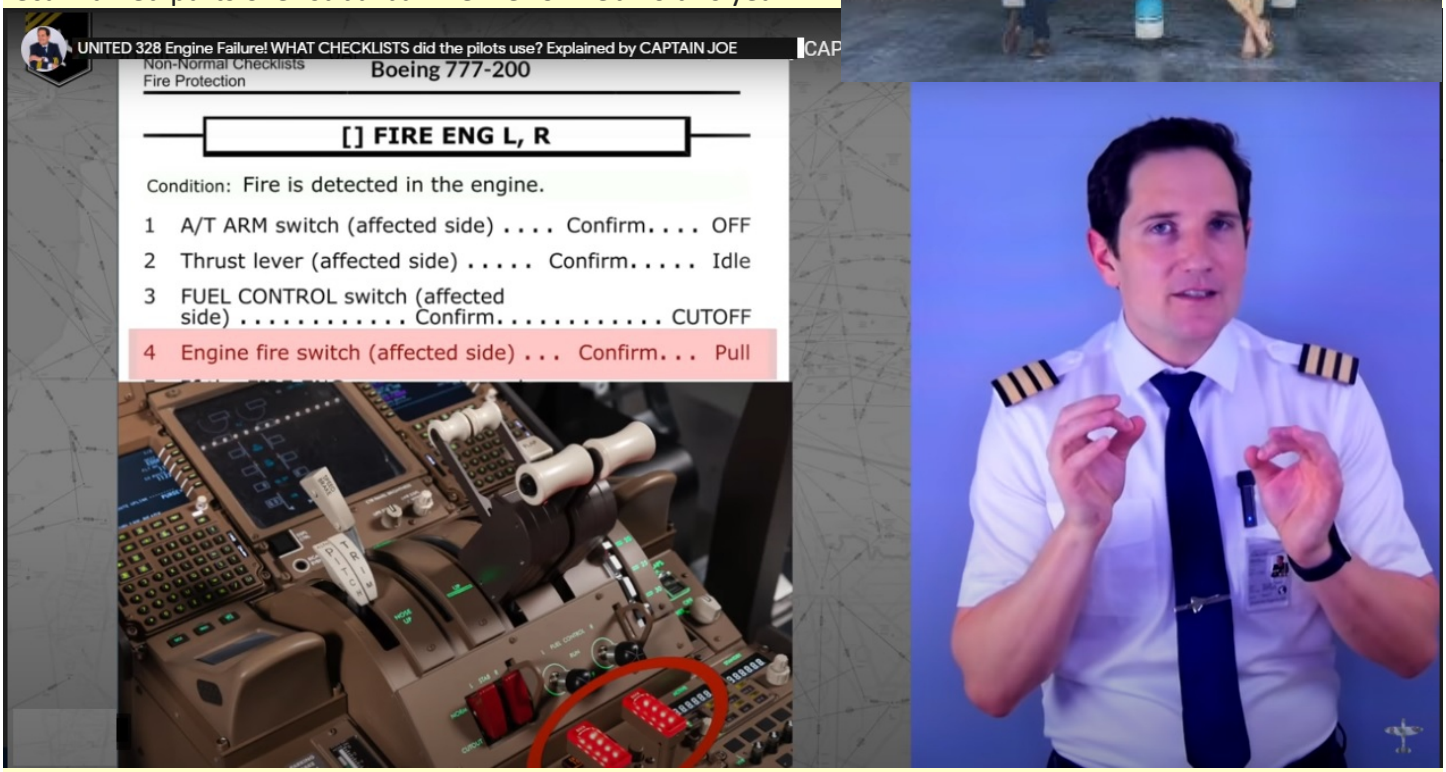
Dan Wharton installing a beautiful Western Skyways rebuilt IO-520 into his 1965 S35 Bonanza project with new Deshannon baffling, making good use of Owen Waas' Debonair-less hanger, and a little bit of Owen's Debonair lives on in a skin repair on Dan's S35.

A couple of hangars down, Mike Graczyk was getting ready to drop the IO-470 he just finished rebuilding into his Cessna 210, a spare time project of his for the last 8 years and now nearing completion.

Jim Pearsall shared a link to a cool story about an Iowan friend (Summer) of his daughter who trained at **Lake Elmo Aero.**

Leif Erickson shared a link for the archived Feb.3rd **webinar on mags**: Webinar- How Mags Work (eaa.org).

Jeff Hove shared an excellent analysis of **UAL Flight 328's emergency turn-back and landing** in Denver which you may recall rained parts over suburban Denver on Feb.20 this year.



Leaf Erickson shared the availability of a free subscription to Midwest Flyer Magazine offered by

FLYER PUBLICATIONS INC
David Weiman, President
Oregon, WI
www.MidwestFlyer.com

Tom Gibbons is looking for chapter members interested in participating in an Oshkosh Workparty trip. Contact Tom with your preference for weekend vs week, specific week, grounds area, and type of work, e.g. painting, carpentry, other.

Stan Ross offered a great suggestion for building good will with the Easton Village neighbors west of the airport:

Exiting Gate B can present challenges while turning onto Manning Avenue.

In heavy traffic, turning south is tricky for airport drivers & even more challenging for drivers leaving the development to the west of the airport heading north onto Manning.

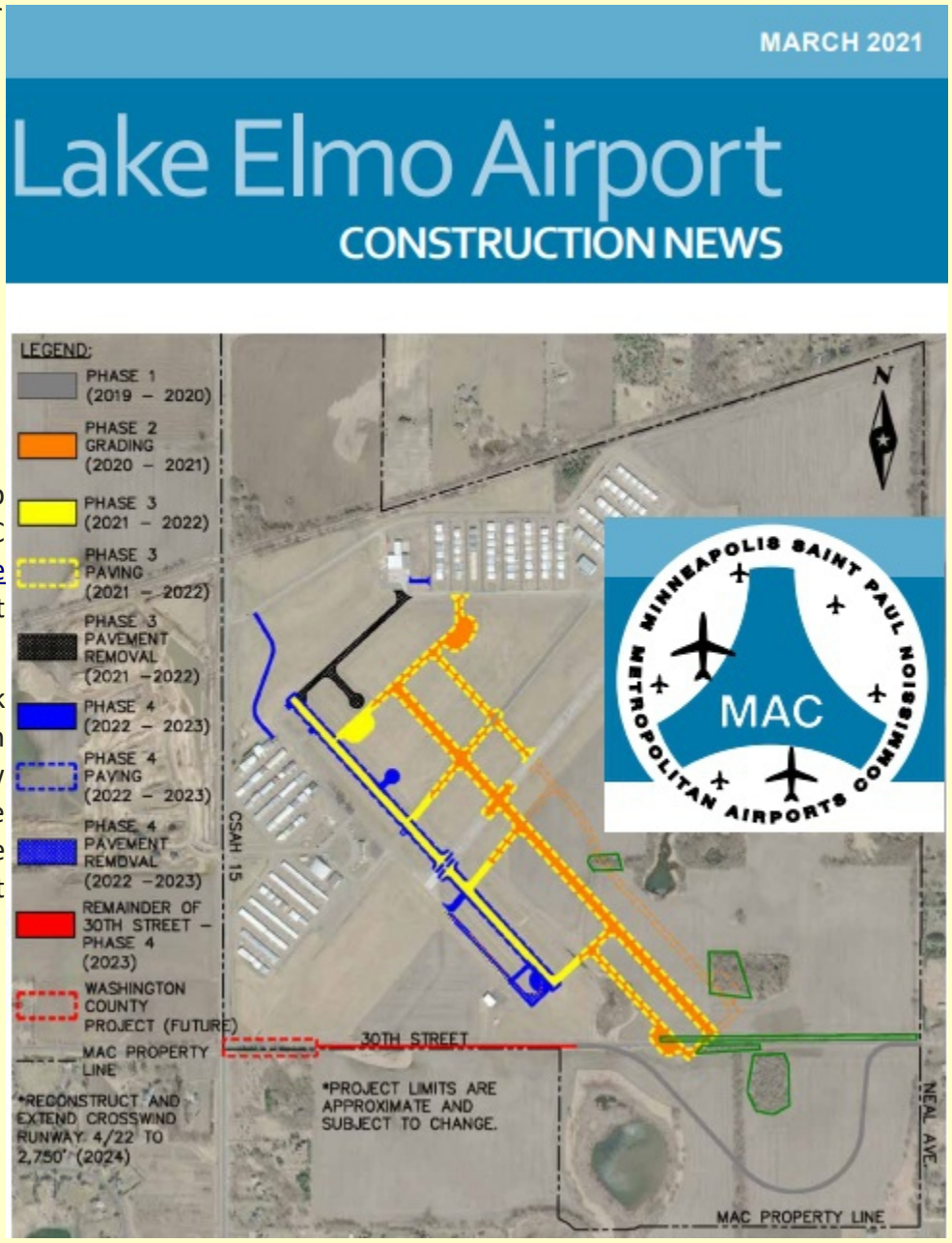
To help build good relations with our airport neighbors I have made an effort to encourage northbound drivers from the housing development to proceed ahead of me (when it makes sense) in heavy traffic.

After I ensure the road is safe in BOTH directions to enter from the west, I simply open my window & wave for them to proceed northbound.

Seems to me this small gesture can only help build good rapport with our many new neighbors to the west.

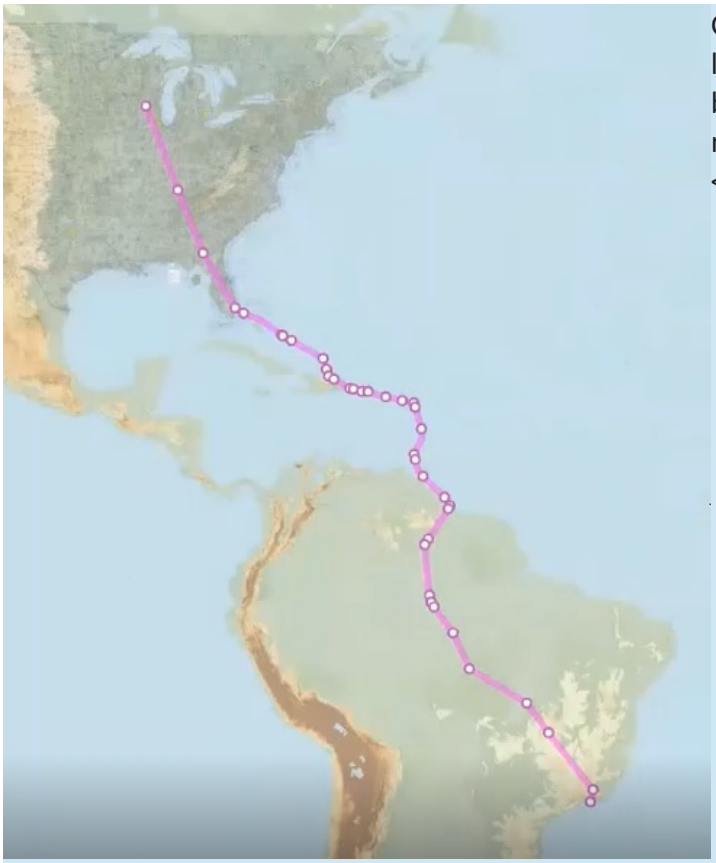
John Renwick, Ch.54 membership director and 21D's MSP MAC RAAC representative, shared a link to the latest update on the airport improvement construction status.

The orange colored grading work shown to the right is underway on the south east end of the new runway. That work will continue towards the northwest and be the focus of the work at the airport this spring and summer.

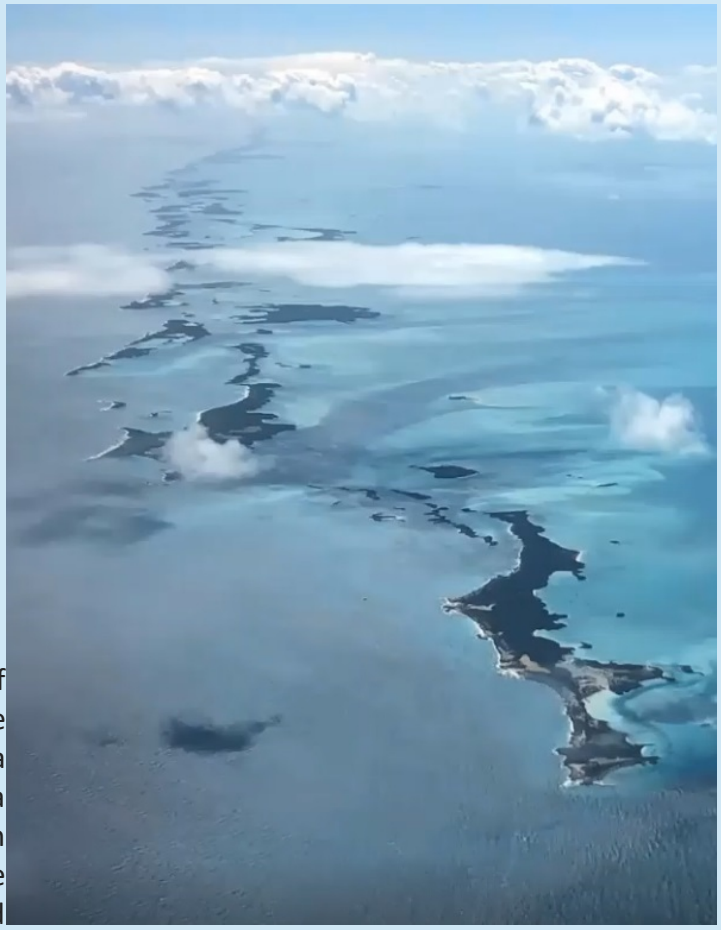


March 8, 2021 Chapter Meeting

Guil Barros, of Madison, WI, kindly joined our March Zoom chapter meeting to present a program about his flight a year ago, just prior to the pandemic in an RV-9A that he built, from Madison down to his home of origin in Rio de Janeiro, Brazil.

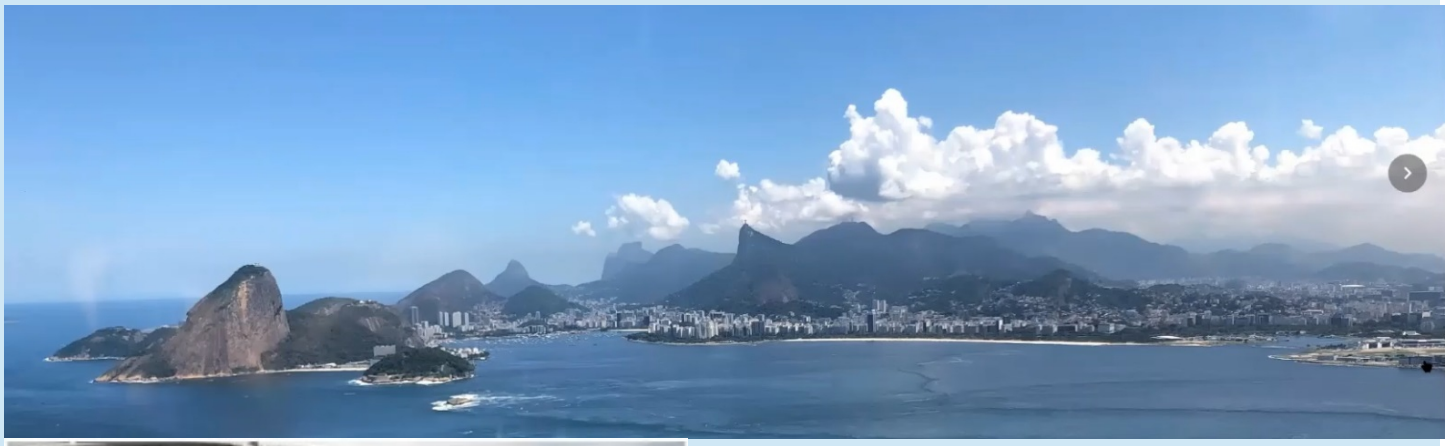


Guil's wife Mary had recently earned her private pilot's license and joined him as co-pilot. The trip ended up being about 100 hours round trip, 20 logged by Mary, mostly flown at 150Kts and 8k' msl burning 6-7g/hr on <4 hour legs.



From Fort Lauderdale, they flew down a chain of Bahamian Islands over the shallow waters of the Caribbean, with one fuel stop in the Bahamas to Punta Cana in the Dominican Republic where they stayed at a very nice resort for 3 nights, then continued to San Juan, Puerto Rico for another overnight and some touring. Next was a hop to Antigua for a fuel stop and then to Grenada for an overnight. They stayed out of Venezuelan airspace by flying 40 miles off shore from Grenada to Georgetown Guyana, which was several hundred miles and their only leg over deep water and open ocean.

It was then a leg over rainforest to Boa Vista, Brazil where they stayed 2 nights, then a long leg over more rainforest into Manaus on the Amazon, and a few more hops over as many days into Rio.



Guil was the toast of Brazil along his route in Brazil and in Rio as the Brazilian son who went away to make his way in the US, built his own airplane and flew back home. Airline pilots and ATC in Brazil all seemed to know about him when he made radio calls, and ATC in Rio let him into Class B for a stunning view of the bay and a landing at the International airport on the waterfront.

Guil's Ch.54 presentation was recorded and made available at this dropbox link. I have not done justice to the presentation with my short description here. You'll need to download the presentation to see more than the first 15 minutes, and it will be worth it.

February 8, 2021 Chapter Meeting

For the February 2021 Zoom chapter meeting we were honored to have **Doug Rozendaal** join us from Iowa to talk about his flight in a C-47 across the Atlantic to participate in the 75th anniversary of D-Day.

Doug started his career with Fedex in the mid-1980s flying freight in old DC-3s in Iowa. He became involved in the Commemorative Air Force over 30 years ago and is now Chairman of the Board and Chief of the General Staff of the CAF. Doug has flown over 10,000 hours in over 170 types of aircraft and provides training in warbird types that include P-51, Corsair, Hellcat, Wildcat, P-40, B-25, PBY,... you get the idea. He lives in Clear

Lake, Iowa and hosts a monthly 3rd Thurs.pm hangar BBQ in the summer, at KMCW Mason City, to which he invited all of us to drop in for any time.

You may recall the EAA story of *That's All Brother*, the C-47 that was discovered to be the lead aircraft of the D-Day invasion when it was sent to Basler Turbo Conversions in Oshkosh to be rebuilt as a turbine freighter; instead it was rescued by the CAF after discovery of it's historical significance and was restored to original specifications. Doug had actually flown this particular aircraft for a prior owner and had delivered it to Basler before knowing of it's history. He captained this ship to Europe for a tour there centered around D-Day.

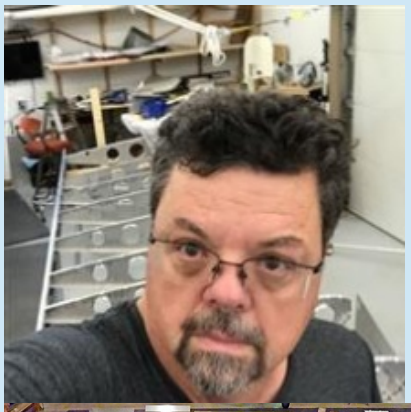
A massive undertaking was organized to fly 15 C-47's from around the US back to Normandy for the 75th anniversary of D-Day. He departed Oxford, Connecticut on May 19, 2019 with a portion of that fleet for the flight that ultimately brought them all to Duxford England with stops in Greenland, Iceland, and Prestwick, Scotland on the way.

26 Transports departed Duxford to commemorate the 75th Anniversary on June 6th with a paratrooper drop over Normandy, France. *That's All Brother* traveled from there to Germany to commemorate the Berlin airlift and then returned to France to participate in the Paris Air Show.

Gary Sinise and The DC3 Society put together a very nicely done 5 min. film of the D-Day commemoration flight, available at this link and very much worth your watching. You'll recognize Doug as the movie begins with him running through the C-47 start-up checklist.

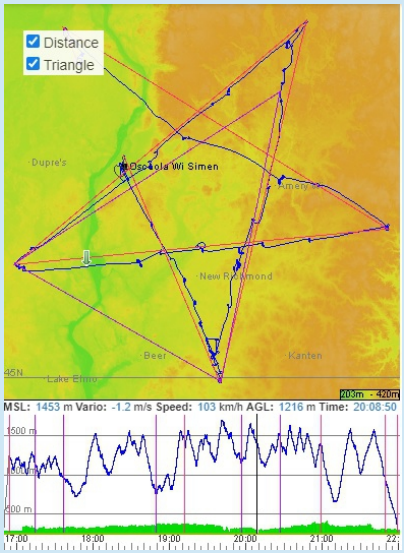
January 11, 2021 Chapter Meeting

The January Chapter zoom meeting was well attended (I counted at least 22 participants towards the beginning). The chapter was joined by new member Randolph Meyers, who introduced himself as a machinist from St. Paul who is starting work on a plans-built BearHawk, example to the right, which is a 4 place high wing steel tube taildragger with metal skinned wings, fabric skinned fuselage, and a fiberglass cowl.



We then heard a progress report from member Donald Plumb of Stockholm, WI on his Zenith 750 Cruzer build which is approaching completion and time to procure the engine which is to be a new UL Power UL 350i, which looks like a really nice new design full FADEC 118hp air cooled direct drive engine that can use Mogas or Avgas. The 750 Cruzer is a high-wing aluminum STOL aircraft with beefy gear for handling short unimproved strips with ease.

The main program for the evening was a presentation by Steve Fischer about glider operations out of Stanton and Osceola airports. Steve is a Designated Pilot Examiner with the MN Soaring Club. He is pictured here on the right congratulating a new pilot who had just passed his check ride.



Steve described launch procedures, thermaling, weather impacts, and land outs – some of which have occurred as far away as Chicago.

Steve shared a useful website which tracks glider flights. In the example graphic to the left from that website, you can see a 295km flight out of Osceola last year that featured a star shaped path. Note the altitude gains that coincide with tight circles on the flight path where a thermal is being ridden.

John Renwick also shared a useful NWS website for monitoring weather conditions for soaring.

Leaders Column

EAA Chapter 54 Member Survey: Positive Results and Action Plan

On March 12-13, a member satisfaction survey was sent to 105 active and recently expired members to gather feedback on the chapter. 25% completed the survey. Survey response rates vary depending on the group, but response rates typically range from 10% - 30%. Our 19 questions focused on 3 key areas:

1. What is your overall satisfaction level with EAA Chapter 54? What would you like to see offered for future educational and social events? What else would improve the overall membership experience for you?
2. What is your level of interest in volunteering? What kind of volunteering are you interested in?
3. What is your current comfort level in returning to in-person meetings/gatherings at the clubhouse, following state safety guidelines?

Thank you to everyone who completed the survey. Your input is valued and important in creating successful future chapter plans. On March 22, survey results were reviewed in detail by the Chapter 54 board. Your survey feedback was used by the board to develop an action plan for the coming year and beyond.

Survey results in a nutshell:

Overall, results were positive. You provided valuable new ideas to help the chapter continue its mission of promoting aviation and GA flying with a strong emphasis on education for youth and adults.

Results on key questions:

I am satisfied with my membership in EAA Chapter 54

35%-Strongly Agree, 54%-Agree, 8%-Neutral, 4%-Disagree

Are you interested in doing some type of volunteer work in the chapter?

69%-Yes, 19%-Yes, but at the moment I cannot, 12%-No.

What type of volunteering are you interested in?

48%-Ground support for Young Eagles flights, 22%-Pilot for Young Eagles flights, 17% Presenter at chapter meeting, 9% Serve as Committee Chair or Officer, 70% General help at chapter events, 4%-Clubhouse

Rate your comfort level in attending in-person meetings again at the EAA 54 clubhouse starting in the next 3-5 months (following state safety guidelines)

46%-Very Comfortable, 23%-Comfortable, 12%-Neutral, 12%-Other (indicating they've been vaccinated, or will see how vaccine goes) 4%-Uncomfortable, 4%-Very Uncomfortable

Board Action Plan Recommendations (based on review of all survey responses):

1. Begin transition to in-person meetings at the clubhouse following state safety guidelines. Preference will be to offer 'hybrid' meetings, so members can join in-person or via zoom. This will require wifi at the clubhouse.
2. Begin planning spring and summer outdoor social activities at the clubhouse. A family summer cook-out on clubhouse deck and corn feed scored high and will be considered for this year. A clubhouse 're-opening party' is also under consideration as a social event (following state safety guidelines)
3. Resume Young Eagles rally flights in May, pending pilot and ground support volunteer availability.
4. Begin planning a group summer fly-out.
5. Utilize member's suggestions for upcoming educational programs, including mountain flying seminars, professional pilot presenters (State Patrol, Army, Medivac, business jet, DNR) and chapter member sharing on their flying and building experiences.
6. Increase outreach to Lake Elmo Aero flight students by offering reduced rate chapter membership and free EAA 6-month trial membership.
7. Increase outreach to aviation groups like Sodbusters and Lake Elmo Aero staff/students through invitations to our monthly meetings/gatherings.

The board thanks all members who shared their insightful and helpful feedback on the survey. Your ideas and input will help guide our activities and outreach in coming months, as we continue working to promote aviation and enjoy comradery with aviation friends inside and outside the chapter. Please contact Gregg Adler or other board member if you have ideas for future programs or activities. Hope to see you soon at an upcoming event!

New Furnace

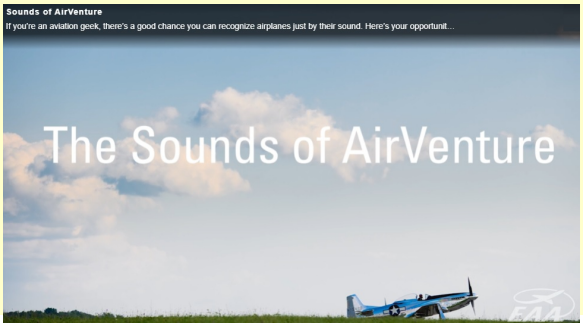
The two week stretch of nearly continual below zero temps in mid-February made it clear it was time for a new furnace in the Chapter 54 clubhouse. It was replaced with a new Lennox Furnace from Hoffman Cooling and Heating. Thanks go to Housing Director Dan Bergstrom for managing this effort and making it happen.

Clubhouse Mission

The Chapter 54 Board recently approved the use of the clubhouse on a rental basis for Aviation Seminar classes about 10 weekends a year which will both help chapter cash flow and further it's education mission. The clubhouse will be unavailable for member use during those weekends. The private concern offering this training was operating out of a Lake Elmo Aero FBO conference room which has been re-purposed. Details about Covid safety compliance are still being studied and could have an impact on the enrollment limits and/or starting dates of these seminars.

EAA HQ has started producing a **monthly Chapter Video**. Check out the offering from March, and look for links to future offerings from there.

And, listen to the sounds of Airventure to help carry you through to the next show.



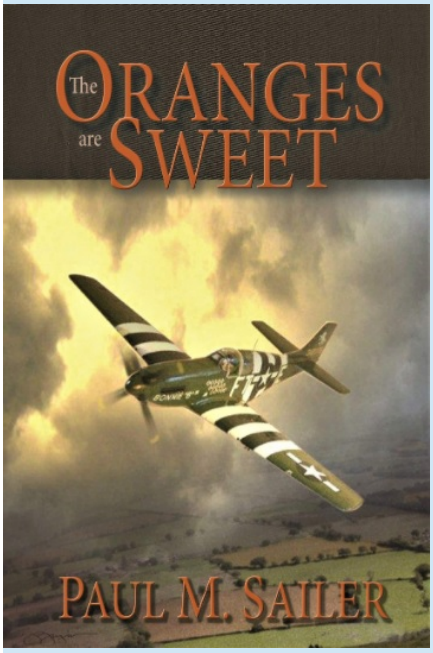
Editor's 2¢ (M. Gunderson)

With an (as yet) unheated hangar, I pull my AC insurance when done flying in December and resort to 'hangar flying' until the end of March. Circumstances as they are, this year it's more like 'Zoom and Webinar flying'. I found much more content available than I could take advantage of, but I'll describe a few here that you might find of enough interest to check out.

Anticipating adding a seaplane rating to my ticket at some point in the future, I signed up for the **MN FAAST Team's** March 6th webinar offering **'Floatplane Season is Coming'.** This turned out to be an entertaining, well prepared, and informative presentation by Amy Gesch of Wipaire about the history of Wipaire and a virtual tour of their facilities, their products, and a float as it travels through their

production line. Amy invited pilots to join them at their Tuesday pm summer cookouts at their seaplane base on the Mississippi river southeast of SGS, and encouraged pilots visiting SGS to stop by and say hello to her if they have cookies with them. During the Q&A someone asked how many people work at Wipaire, to which Amy replied "we joke around here that the answer to that is about half of them, but it's actually about 180 employees". Wipaire is fortunate to have Amy in their front office. The FAAST Team sent a link to a replay of this webinar.

I also signed up for, and watched, the March 9th EAA Webinar **Bong: America's Ace of Aces**. Richard Bong was WWII's leading fighter Ace and is the namesake of the Superior WI airport which neighbors his smaller home town of Poplar, WI. His flying career almost ended before it started when he was grounded during training for one particular flight where he allegedly flew under the Golden Gate bridge, low over Market Street in SF, and blew the clothes off an Oakland woman's clothesline. Bong flew P-38s in the Pacific theater and scored 40 aerial victories. He was a hero and Distinguished Service Cross recipient when he returned home on leave at the age of 23 and met his wife-to-be, Marge, in Superior. Shortly after his return to theater, Marge was mobbed in her classroom by newscasters after an AP Photo showed Bong's P-38 with Marge as nose art, which was news to her. Bong perished stateside as a test pilot in an early P-80 fighter jet in the waning days of the war. You can access, and I can recommend, the presentation replay if you have an online registration with the EAA website.



On a related note, Minnesota native Don Beerbower, from Hill City, was considered by many to be the greatest fighter pilot in the European theater during WWII when his life was cut short there flying a P-51. That suggests the deadliest allied fighter pilots in both the Pacific and European theaters were both young men from small towns within 75 miles of Duluth. There is an excellent but little read self published book entitled The Oranges are Sweet about Beerbower's life published a few years ago by Beerbower family friend and MN author Paul Sailer which I can also highly recommend.

Fuel Efficient Flight

My interest in my own aircraft type, a Rutan canard derivative called a Cozy, led me to several webinars and Zoom meetings, recordings of which might be of general interest to others.

The canard flying community has a sizable portion of experimenters who are focused on build practices or modifications that lead to greater speed and efficiency, and many of these folks participate in CAFE (Competition in Aircraft Flight Efficiency) racing. Two of the big influencers in this community are **Gary Hertzler** who hand builds propellers for these aircraft (including mine), and **Klaus Savier** who in many races has the fastest and most efficient canard aircraft and who is the designer and manufacturer of the Lightspeed Plasma

line of Electronic variable timing ignition, which many canard owners, myself included, employ for an ignition system and greater fuel efficiency.

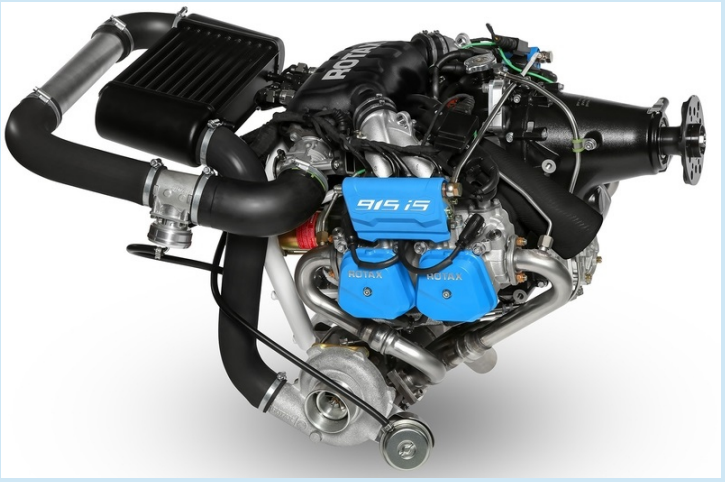
Gary Hertzler is featured in this recorded meeting (pass code `?Px3qB*q` required) of a recent weekly Cozy builder's Zoom call, where he describes how he designs and builds his high performance wood laminated propellers. Skip 2:45 - 8:15 to avoid 5+ minutes of presentation debug. Klaus Savier also presented recently to this same Cozy builders group, but a recorded meeting is unfortunately not available online.

Klaus Savier often starts his packed Oshkosh efficiency seminars by describing his flight the previous day to Oshkosh, 1750 miles non-stop from Santa Paula, CA (KSZP) in his Long-EZ, typically accomplished in under 7 hours with a little over 40 gallons of fuel. At one of his OSH seminars about 4 or 5 years ago, he was presenting data he had collected on engine HP output and EGT/CHTs vs. ignition timing, fuel mixture, fuel flow, and manifold pressure. He lamented that most new production piston aircraft are still delivered with fixed ignition timing (magnetos) and manually adjusted fuel mixture, an indication of the large investment required to solve the complex multivariable problem of performance optimized ignition, mixture, turbo, and prop pitch control for an application that needs redundancy and high reliability, an investment that is almost impossible to amortize over the relatively low volume characteristic of aircraft engines. Adjusting fuel mixture to lean of peak EGT for optimal efficiency flirts with detonation combustion which can quickly destroy an engine.

Klaus said he's done enough work trying to solve the problem of fully automated control integration to understand how difficult it is and how expensive it would be for an aircraft engine manufacturer to develop and certify this technology, but he noted that an ideal solution had actually been developed by a private company over the prior decade with funding from the US government -- to provide a highly reliable and fuel efficient engine for military drones that need to loiter at high altitude over targets sometimes for days. Klaus said that technology would shortly be made available in a commercial certified engine from that same company. He commented that any aircraft or kitplane manufacturer paying attention should really be

designing an aircraft around this engine to take advantage of this public investment (peace dividend?) in fuel efficiency. In the few years since then, that has occurred:

Rotax rolled out their 83 cu.in. liquid cooled geared 141hp FADEC Turbocharged 915 iS a couple of years ago. And while a number of manufacturers are designing around this engine, one appears to have a jump on the competition with a blank sheet aircraft design available today as a kit, including quick build and factory build assist options. I was curious to learn more about this aircraft, so I watched the EAA webinar on Sling Aircraft, which I found to be entertaining and well done. It is available on replay from the EAA.



The Sling TSi is a 4 seat aluminum aircraft design (RV-like) that weighs, and burns the fuel of, about half of a Bonanza while carrying the same number of people with as much elbow room and at almost as much speed. Sling Aircraft Inc. was built by South African Mike Blyth who seems cut from the same cloth as a Dick VanGrunsven or the Rutan brothers: smart, driven, organized, methodical, and adventurous. He has circumnavigated the world with three models of his Sling aircraft, and flown them twice to the airshow in Oshkosh from his factory near Johannesburg. The Sling TSi will cruise 180mph true on 7 gph (mogas or 100LL), or beyond Vne at 12 gph, and it will climb out of an airport like Telluride (9000'+ msl) fully loaded almost as if at sea level. Anyone thinking of building a 4 seat 540 cu.in air cooled direct drive RV-10 really owes it to themselves to look at this aircraft as well. I also found this nice walk-around & demo flight video of a just completed Sling TSi that a Michigan homebuilder and four time Mooney owner chose as a modern alternative to replace his most recent Mooney.