THE WINDSOCK

DECEMBER 2020

Editor: Frank Huber | Layout Editor: Deb Huber

The President's Flight Deck

Wow, December is here already! 2020 is almost over and 2021 is right around the corner. I am sure we are all happy to see 2020 in our rear view mirrors! Surely next year has to be more normal! It is easy to dwell on the effects of the pandemic and mourn the opportunities we have missed out on, the gatherings and events that have been cancelled, and of course the passing of friends and family members due to the virus. As a chapter we have not been able to gather in person for meetings, we have cancelled fundraising events, and of course witnessed the cancellation of the annual Air Venture event.

Again, it is easy to dwell on what we missed, but there were many bright spots as well. Our chapter remains fiscally responsible and financially solvent. Our 701 project continues to move forward, and we have a new project waiting in the wings once the 701 is flying. Our membership has grown with the addition of several new members. We have had a successful Young Eagles program this year, with more than 200 kids flown! The Ray Aviation scholarship program continues to be successful with two private pilots added to the flying ranks, and a couple more soon to be rated. Our flight simulator nears completion and will become available to chapter members next year. The Explorer kids were able to get back together and keep their projects going. Our electrical panel has been upgraded in our chapter building, allowing the use of welders and hopefully soon some welding classes. We have been able to add virtual meeting capability to our chapter, allowing us to get together and keep the aviation spirit alive. Even though we will get back to in person meetings, this capability will allow those members, who may be unable to attend in person, to at least attend virtually.

We have had a successful 2020 and are in a great position heading into 2021. This chapter is successful because we have a great membership, involved in great projects and great programs promoting aviation at a local level! I look forward to 2021 and more accomplishments by this chapter. *Wishing all of you a safe and Happy Holiday Season!*

CHAPTER 237 BLAINE, MN EAA

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EAA CHAPTERS GOLD EAA 2019

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If You Go-Around On A Visual Approach Under IFR, Do You Need To Contact ATC Immediately? *by Swayne Martin*

AIR FACTS
the journal for personal air travel—by pilots, for pilots

Go Or No Go: Staying Out Of The Ice *by John Zimmerman*

EAA IMC CLUB

EAA VMC CLUB

SPORTY'S STUDENT PILOT news

Outsmart winter with these cold-weather flying tips *by Bret Koebbe*

AIR FACTS
the journal for personal air travel—by pilots, for pilots

Understanding vb turbulence penetration speed *by O.C. Hope*

boldmethod

This Wintertime Illusion Can Cause Accidents On A VFR Day *by Boldmethod*

GREAT READS for the Aviation Enthusiast

The Unsung Flyers *by Earl F. Nelson*
An L-Bird Flying Sergeant During WWII. The book is a compilation of stories of other L-Bird pilots as well as Earl's experiences.

Liaison Pilot, World War II *by James R. Bryce*
The story of James Bryce's WWII experiences as a Liaison pilot in the Europe Theatre.

Grasshopper Pilot, Salerno to the Yalu *Combat Memories by James R. Stegal*
Jim was a liaison pilot in Europe during WWII and during the Korean War. He was awarded the Silver Star for bravery during WWII along with many other awards during both wars.

Flying Low and Shot Down Twice During WWII In a Spotter Plane *by Joseph F. Gordon*

All of these books were written by WWII pilots, who flew the low and slow L-Birds in combat. I have all these books at my hangar if someone would like to borrow them. Frank Huber

EDUCATION RECREATION

EAA

HOMEBUILDERS

What our members are building, restoring and flying

Robert Olson's Vans RV-9A Project

Chapter member, Robert Olson is building a Vans RV-9A aircraft. The RV-9 aircraft were a follow on to the RV-7 aircraft, offering a longer efficient wing, that provides excellent fuel efficiency at higher cruising altitudes, a more stable platform for easier IFR flying and a high lift wing for short takeoffs and landings. Unlike the RV-7 aircraft, the RV-9 is not stressed for aerobatic maneuvers and has three feet more wing span.

When Bert started thinking about building an aircraft, he wanted a fixed gear, fixed prop stable aircraft for cross country flying at a reasonable cost. He also wanted an aircraft that was reasonable to insure, was easy on fuel and still had a decent cruising speed. The Vans RV-9A fit these requirements nicely. So he started his project by purchasing a used wing and tail kit in April of 2010. These kits are matched drilled, but required full assembly by Bert.

After completing those assemblies, he then purchased a quick build fuselage kit from Vans. The quick build kit, which is assembled by a company in the Philippines, has the full fuselage structure completely built, with just two tops skins, one over the instrument panel area and one aft of the baggage compartment to be installed. Although, there still is a great deal of work to be done inside the fuselage. Bert opted for the sliding canopy setup on his aircraft. He found installing the sliding canopy the most challenging part of the build. You can see from the accompanying picture, he did a beautiful job with the canopy.

He already has a new specially built IO-320, that should put out 185 hp that will driving a three bladed Cato prop. Bert is planning to use two Garmin 3GX touch screens with a GTN650XI nav/com. The plane will be excellent for his planned cross country flying, with a cruise speed around 170-175 mph and a range of 700 miles. With a stall speed of 48 mph, he will be able to fly into most airports around the country.

Bert has been stalled on his project all of 2020 because of Covid-19. His family has had covid in the house twice this year, although he has not been infected. He has been working from home and has more work than he can handle, as his company is operating with two few engineers. So he has only had a few times to even look at his project. He is planning to retire in about a year and to attempt to finish the project in two years after that. He is currently at the stage to install the landing gear and engine. Having seen Bert's work, his will certainly be a beautiful and very well built aircraft when he is able to finish it.

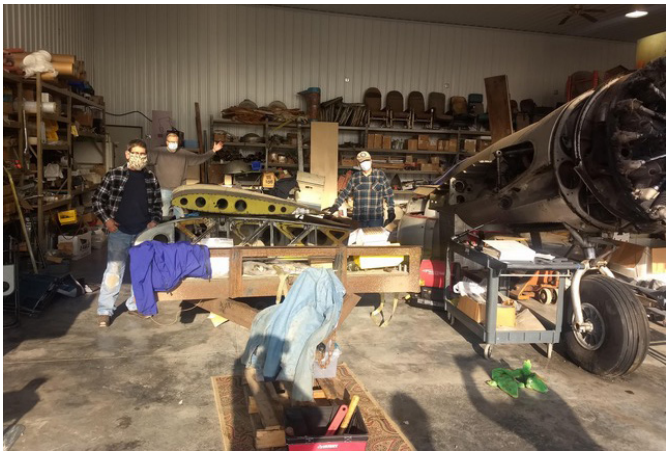
by Frank Huber

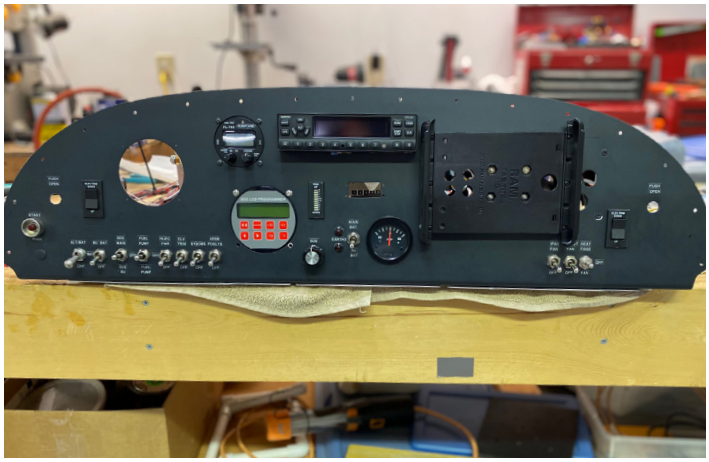
Zenith 701 Chapter Project Update *by Frank Huber*

The Zenith 701 Project crew has been making steady progress. They finished mounting the other leading edge slat onto the left wing. The hardware for the flaperons has been mounted on both wings as well. The wings have now been mounted onto the fuselage, so it is really starting to look like an airplane. The hoses for the cabin heating system have been run from the engine, through the firewall and hooked up to the heater assembly.

The electrical system wiring is complete, except for hooking things up to items to be powered. The instrument panel is coming together nicely, with switches, battery warning lights, SDS control panel, trim switches and position indicator, starter switch, IPad mount and transponder installed. I have begun work on wiring the harnesses for the transponder, com radio and EFIS system. Mark is planning to purchase the com radio and EFIS system gear for the project.

The crew has been volunteering their time the last two Wednesdays, helping with the restoration of a Beech-18 twin engine aircraft. This is the aircraft that sat outside in the grass at KANE for several decades. The project was purchased by a retired Republic/Northwest/Delta pilot, who is undertaking a full restoration of the aircraft. The guys have been helping with the removal of the tail and outer wing panels. Because of all the years the aircraft sat outside, the bolts and hardware have lots of corrosion. So it's been a slow process removing the various parts of the project. Fortunately our chapter members have lots of experience from their work on the EAA B-25 project. If you would like to help and learn with either of these projects, please come out on Monday and Wednesday morning from 9am until usually 12:30 at Mark's hanger at 2155 Kansas on the west side of the field.





2020 has been a good year for the chapter Ray Aviation Scholarship program. Our two 2019 Ray Aviation Scholarship recipients, Charlie Ellingson and Owen Larson, successfully completed their private pilot check rides in July. 2020 recipient, Owen Larson, is completing his training and is schedued for his check ride January 10. He is currently working on papers for college level classes he is taking this semester in high school, so his preparation for the oral portion of his check ride has been held up a bit.

Edward Christian, our other 2020 Ray Aviation Scholarship recipient, should be starting his training later this month. As I explained in last month's newsletter, his training was delayed this year because of Covid-19. He is now attending college at the University of North Dakota in Grand Forks. He has connected with the CAP unit in Grand Forks and two instructors from the UND aviation program, who will be helping him through his training. The CAP unit recently received a Cessna 182 and the two instructors are currently going through a check out in the airplane. So Edward hopes to start his flight training soon.

I will be applying for another Ray Aviation Scholarship for 2021 in January. EAA has a deadline of January 31 for applying, so I am holding off until later in January to give our 2020 recipients time to either finish up or make progress on their training. We have opened up the process for young men and women to apply for a 2021 scholarship, which they can find on the Chapter 237 website. We have received one application so far. *by Frank Huber*

The Chapter 237 Aviation Explorer Post held their elections at the November meeting. Elijah Durkin was elected post president at that meeting. The chapter held a virtual meeting on December 11, due to the new Covid-19 restrictions. They will be hosting a Zoom presentation on Monday, December 14th at 7pm with ferry pilot Kerry McCauley discussing his career as a global aircraft ferry pilot. The covid pandemic and the winter weather have really slowed down most activities for the post.

Post 237

Michael Miller

Chapter Flight Simulator

Although the COVID-19 pandemic continues to put a damper on the chapter flight simulator project, we are making progress. We recently had a demo session with one of the flight instructor members in our chapter. The demo included the three monitors for the scenery plus the touch screen monitor for the instrument panel as shown in the photo attached. The use of the 'knobster' for controlling the instrument and radio knobs was demonstrated and pros and cons were discussed. It was suggested that we should just operate the knobs by touching and manipulating them directly on the touch screen. Perhaps we can just make this an option for each user as they start their flight sim session. It was also suggested that we should have another monitor added to the system for use as an instructor's operating station. This will be considered at some point in the future after the basic system is in use. It was suggested that a manual elevator trim wheel would be best for student practice (instead of using electric trim switches). We will work on getting that set up.

Since the new Microsoft Flight Simulator 2020 (MSFS 2020) has been becoming more popular the question has come up if we should consider switching to that for our chapter flight simulator. While the graphics of the new Microsoft product are awesome, there are other reasons that it might be too early to consider that option at this time. Below is a link to a YouTube video by flight instructor Ryan Koch at PilotWorkshops where he does a comparison between MSFS 2020 and X-Plane 11. You should find this video very interesting. https://www.youtube.com/watch?v=BX1T5uieaG4

You must have an internet connection to start MSFS 2020 but since we have an internet connection in the chapter building, we could probably support running either MSFS 2020 or X-Plane 11 as a user option. Stay tuned for further updates on this project. *by Dave Peterson*

AVIATION ADVENTURES
Out and About In Our Neighborhood

Hello Adventure seekers. Our question for last month offered a picture of a decommissioned Air Force Base near Chicago and asked what this base, Anoka Airport and Superior WI have in common? Frank Huber was the only one to guess correctly, so he will be receiving a commemorative Covid edition AirVenture 2020 patch. The answer is Major Richard Bong, WWII Ace.

I grew up in southeast Wisconsin and we had a summer cottage near Lake Geneva. One of the routes we would take to get there took us by, what I was told, Bong Air Force Base. Now, as a young boy, I just took it for granted. Never saw much more than a grass prairie of sorts, let alone an airplane. As a teenager I came to understand that it was new SAC base that was being built, but was obsolete before it ever really got going. They primarily got the large runway and a heating and power plant built plus a smattering of buildings. The runway was used by locals as a drag strip and the whole area become the Bong Recreational area. When I started flying at 14 I could finally see the runway and it was the first one I had ever seen with a big X on it. I didn't know much about Richard Bong other than he was a WWII ace and flew P-38s just like my uncle.

Fast forward many years to when I moved to Anoka. The commander from my reserve unit had a bed and breakfast in Superior WI. My wife and I went to spend a weekend there and while crossing over from Duluth to Superior, we were on the Richard Bong bridge. Hadn't seen the name in years and really didn't see any connection. It wasn't until a decade or so later when I was back in Superior that I realized there was a museum in Superior dedicated to Richard Bong that had a P-38 named Marge after his wife. MAJ Bong was from Poplar, WI, about 15 miles east of Superior.

The museum honors Dick Bong, America's leading Ace of all time, who piloted a P-38 Lightning through more than 200 missions over the Southwest Pacific in World War II and destroyed 40 enemy planes – the most by any United States pilot before or since. After Major Bong's death a group of businessmen and residents of Poplar formed the Richard Ira Bong Memorial Foundation, Inc., with the goal of raising funds for a memorial, which would include a Lockheed P-38 Lightning, like those flown by Dick. Memorial funds were raised with the help of the Veterans of Wisconsin and other interested groups and individuals. The Richard I. Bong American Legion Post #435 acquired a P-38 from the Air Force and donated it for the memorial.

(continued on next page)

Now for next month. Does anyone recognize this airfield and can anyone tell me what the round circles are for? Send your answers to Bob Henkes at VicePresident@EAA237.org

Funds raised, however, were not sufficient to construct a separate building, and the Bong Foundation merged resources with the expanding school district and the Village of Poplar to build a new gymnasium, a cafeteria, and an adjoining small Bong Memorial Room honoring Dick. The aircraft portion of the memorial was completed and dedicated in 1955 by General George C. Kenney, Dick's commanding officer in the 5th Air Force. People from all over the nation and many foreign countries visited the site to pay respects to the modest Wisconsin farm boy who became a legend in the skies of the South Pacific Theater. In 1957 the State Historical Society of Wisconsin erected an historic marker along highway 2:

As Northern Wisconsin's weather began to take a toll on the memorial's P-38, the Bong P-38 Fund, Incorporated, replaced the Foundation in 1988, with a goal to restore and preserve the Lightning. The aircraft was removed from the pylons and taken to the Minnesota Air National Guard Base at Duluth for restoration and the Bong Memorial Room was eventually closed when the school building was sold to private interests. While the Board of the Bong P-38 Fund was planning a permanent shelter for the plane, the 50th anniversary of the end of WWII was celebrated and the inherent interest in honoring our nation's WWII veterans led to the concept of a World War II Heritage Center, named to honor Dick Bong. The center also would commemorate and educate the service of all who served, both overseas and at home. From this intention was born the Richard I. Bong World War II Heritage Center, which opened to the public on September 24, 2002, on what would have been Dick Bong's 82nd birthday.

The Center quickly established itself as one of the popular attractions of the Twin Ports (Superior and Duluth) as well as an annual stop for many schools within the region. World War II Veterans and their families quickly took to the Center and Veterans from other eras soon began asking if the Center would ever be able to tell their story too. Eventually, the requests for the Center to encompass the story of veterans beyond WWII led the board of directors to adopt a new name for the facility, the Richard I. Bong Veterans Historical Center.

Oh, and what does Richard Bong have to do with Anoka, you ask? When the plane was being restored, it was under condition that it be stored in a safe place until such time that the foundation had a permanent home for her. The safe place was none other than the Polar Air Museum at KANE. The colored photo is of "Marge" on display at Polar with Marge Bong Drucker signing autographs. When Polar shut down, the plane was moved to the American Wings Air Museum.

The museum is a short trip and well worth the time. I enjoyed my visit. The Duluth Chapter of the Commemorative Air Force meets at the museum and has a room of displays on one level. The museum curator tells me they are planning to open a new Korean War and Vietnam war exhibits this winter. It might be worth a 237 trip for a few of us who have an interest in visiting.

Here's a link to Richard Bong's history:
https://bongcenter.org/richard-bong/

Here's a link to the museum history:
https://bongcenter.org/about-us/#our-story

QUICK LINKS

Thinkaviation.net provides weekly aviation tips and tricks, emailed to you after you sign up. You can go to the site at https://www.thinkaviation.net/start-here/. The site is run by Sarah Fritts, who has been involved in aviation for over 20 years. She is a West point graduate, an experienced and decorated Army combat pilot and is currently flying for the National Guard and flying the B-737 for a major airline. She developed this site to help herself and other pilots to reach their full potential as pilots. The Think Aviation site is broken into three parts:1. The Blog, which has an assortment of videos and articles, that focus in all areas of aviation. 2. The Newsletter, which you can receive every week in an email, that provides the latest material from Think Aviation. 3. The Resource Page, which provides a list of books, websites and equipment that are geared to help you reach your full potential as a pilot. You will see a sample from the links I have provided below from a recent weeks email newsletter, Think Aviation provides a lot of great information for the pilot, who wants to be informed and to become a better pilot.

https://www.thinkaviation.net/what-are-the-four-types-of-aircraft-ice/

https://www.thinkaviation.net/how-to-report-aircraft-icing/

https://www.thinkaviation.net/what-should-you-do-if-you-encounter-ice/

FAA Ice Induced Stall Pilot Training https://www.youtube.com/watch?v=NBX84bF2d4U

The massive flyover of Washington D.C. that nobody saw.

The 2020 Arsenal of Democracy flyover was planned to mark the victory in World War II
https://aopalive.aopa.org/?utm_source=altw&utm_medium=email

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Financial and Property Donations

As an educational entity, Chapter 237 reminds you that we are a 501 (c)(3) corporation and gladly accept donations to promote aviation education to our members. For additional information please contact EAA 237 treasurer Mark Heule at treasurer@EAA237.org.

Electric Propulsion

General Aviation Electric Propulsion Projects

Researched by Ronald Borree EAA Chapter 237

Continuing in this article we will look at current "flyable" GA airplanes or commercial/experimental projects under development and describe the technology used.

SkyLab Engineering, out of the Anoka County Airport, is in the process of building a hybrid electric powered airplane which for the purposes of this article will be called the SkyLab Project. Per Steve Schultz at SkyLab, the project is in the build state and completion is projected to be Tuesday. (Most in EAA Chapter 237 will know what Tuesday means; This is a date not yet precisely determined).

The SkyLab project technology summary is:

Overall Specifications: (*Estimated with various values pending as of 12/8/2020*)

- 1,100 pounds empty weight; 1,850 gross weight.
- Five electric motors per current design on each wing powered by a gasoline-fueled genset located aft of the cockpit. As future electric power sources are available the design will allow those options.
- Designed for a range of 500+ nautical miles.
- The back-up onboard battery is not used for general propulsion and is capable of providing power for flight with enough battery power to climb for 2 minutes, or to sustain level flight for 12 minutes, or extend a glide for 20 minutes.
- A cruising speed of 150 Kts IAS is at a percentage power still pending.
- The service ceiling is approximately 10,000 feet with a maximum climb rate pending.
- The takeoff runway distance on hard surface is pending.

Fuselage: The fuselage is composed of 4 parts with one large mold composite construction.

- The nose bowl is composed of 6 parts with one large mold and extensive viewing.
- There is a spring aluminum fixed landing gear.

Blown Wings: Distributed electric thrust is used (which is the engineering term for "tons of little props all over the place") A blown wing is an approach wherein the air flowing over the wing is powered rather than varying with the forward motion of the plane.

Motors: The current design has five electric air cooled motors per wing with the controllers liquid cooled. The motor manufacturer is still confidential and the motors are custom wound on a stock design with approximately 600 volt AC high voltage input (axial flux synchronous motors). Each 7.5 kW electric motor weighs 2.6 kg.

- The electric motor details of manufacturer with estimated overhaul times and lifespan is currently confidential.
- The propeller size and detail will be available at a later date.

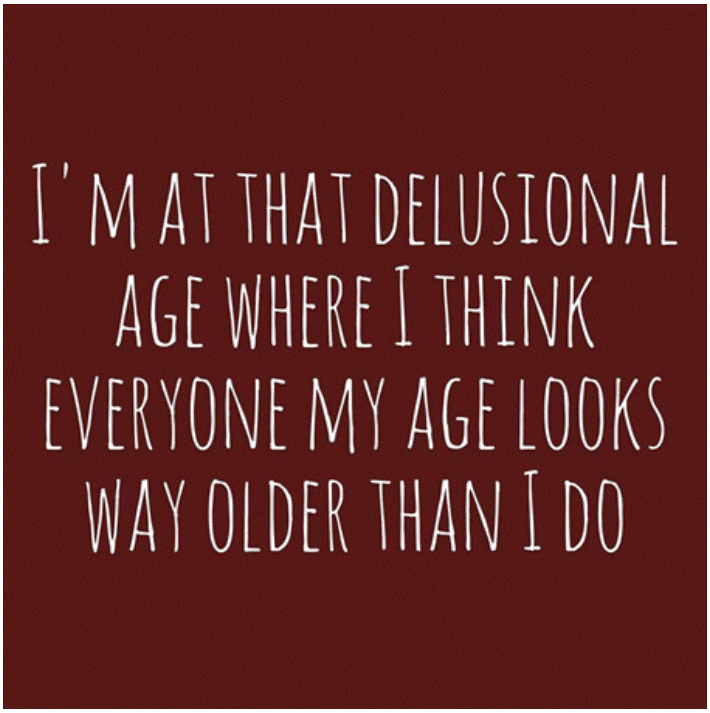
Genset (Generator): The entire genset is assembled by SkyLab with the gas engine, generator and controllers all liquid cooled.

- The Genset generator system is powered by a 4 cylinder gasoline powered engine with the engine detail confidential at this time. The generator unit is an Emrax model 268 with the electric current managed by a controller unit. The controller detail is confidential at this time. The Emrax 268 generator output is about 600 volts AC with a maximum power of 200 kW and a probable used capacity of 100 kW.
- The generator gasoline consumption per hour is pending.

For additional details including the project developers and suppliers of the various components along with other details view the following:

The SkyLab website is www.skylab.engineering

On The Lighter Side



In future Windsock editions, I plan to showcase aircraft that our members are building, restoring and flying. Please email me with the aircraft you are building, have completed building, are restoring or have purchased and are flying. I will follow up with you to provide a questionaire and will come out to take pictures to include with your article.

If you have a story or photo you would like to see in our newsletter, contact Frank Huber | eaap51@comcast.net | 763-245-0170

To view past issues of The Windsock, visit www.eaa237.org and select newsletters.

Articles and photos for consideration in our JANUARY issue are due on or before JANUARY 10.