THE WINDSOCK

Editor: Frank Huber | Layout Editor: Deb Huber

The President's Flight Deck

I hope this month finds all of you safe and well. The corona virus is still affecting our daily activities, as was witnessed at our recent chapter meeting. The physical attendance was low, but completely understandable and expected. Fortunately, we had good weather and were able to safely distance in the parking lot in front of the chapter building. We want to keep our members safe and thus we also offered a virtual meeting for online attendance. Technically the virtual meeting worked, but we did get some takeaways on how to offer a more polished production next month. Food service is yet to be determined as we need to work out details on how to do that safely since buffet lines have been discouraged across the country by health officials. I think it is safe to say for the foreseeable future we will be attending virtual meetings. We are always looking for presenters at our chapter meetings, but more so now that we are meeting virtually. Send any ideas my way and we will see what we can present.

We had hoped to offer a fly-in event in conjunction with Lynx FBO during the month of July, but with the spike in coronavirus cases that event has been tabled. We will see what the fall months offer and perhaps the event can be held. We know there is pent up demand for a fly-in event but how to offer it safely is the concern. Fly-ins across the country have been cancelled for similar reasons. Suggestions on operating an event safely are appreciated.

An important purpose of our chapter is to offer social engagement around aviation. Whether it be support for someone taking flying lessons or words of encouragement for someone working on a project, the social interface is important. Since we have been quarantining for the past four months or so, I encourage you to reach out to a fellow chapter member and see how they are doing. A simple phone call may be all someone needs to rejuvenate their interest in their project, or perhaps your own project!

As a final note, we acknowledge the passing of Al Eke, a chapter member loved by all and an inspiration for many builders. His presence, knowledge, experience, and dry sense of humor will be missed for sure, but we can be certain he's working on a project in the great workshop in the sky! To honor Al, we will be hosting a celebratory get together at the chapter building on Saturday evening, September 20. Details and a sign-up genius for volunteers and attendance estimate will be out shortly.
Hope to see you all soon! Kevin

YOUR CHAPTER BOARD OFFICIERS

Kevin Sislo, President
Robert Henkes, Vice President
Lyle Peterson, Secretary
Mark Heule, Treasurer
Charles Jasicki, Director
Michael Grzincich, Director

Contact the Board at: board@eaa237.org

Young Eagles July Update

Michael Grzincich, Young Eagles Coordinator

Wow, what a year. We haven't had a YE Rally since March and won't have one in July, but we're trying to pull things together for an August Rally at Lynx. I've just spoken with EAA-HQ to get an update on process and procedure for flying kids in this unprecedented time. At the beginning of the year, June was forecast to have 10,700 kids flown. The actual was just over 200 kids. Nationally, there were no YE Rallies during June.

With our early year Rallies and individual pilots flying, EAA237 has 88 kids flown so far for 2020. Pilots are encouraged to get out and fly, we don't want you to be only three landings in since March when we restart our program. As we get back in the swing of things, consider flying kids as an individual pilot before our rally. Masks are encouraged, surfaces are to be wiped down, group sizes are to be limited.

National has posted guidelines for Young Eagles flights here: www.eaa.org

I will have the date and plan together for August by July 15. We're going to need more time between flights and more ground folks to help clean the planes, tables, and other surfaces. Stay tuned – we're going to need your help! Questions? Young.Eagles@EAA237.org

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Because of Covid-19, we will not be holding IMC Club and VMC Club meetings. In the mean time, I will be providing links to articles that will cover areas of interest for both IFR and VFR pilots.

This link will take you to an Air Facts article that presents 7 INSTRUMENT APPROACHES YOU HAVE TO SEE TO BELIEVE. You will see sometimes terrain plays a big role in how instrument approaches are created. Take a look and see what you think: airfactsjournal.com

The link below will take you to Sporty's Student Pilot News, VFR Flight Following-a Pilot's Guide. This guide is a comprehensive look at using flight following. It covers what VFR flight following is, how to do it, some dos and don'ts and most importantly, why you should use it. Sporty's Student Pilot news has lots of other great information through articles, videos, and quizzes which you can access through the site this link will take you to. Also, you can sign up to get the regular Student Pilot News emails. The best part of all this information is that it is free. Visit: StudentPilotNews.com

EDUCATION RECREATION

HOMEBUILDERS

What our members are building, restoring and flying

JEFF MULLIN'S PEGAZAIR PROJECT

Chapter member Jeff Mullin is building a Pegazair STOL aircraft. The Pegazair was developed by Canadian, Serg Dufour beginning in 1985. Pegazair is a two seat in side-by-side configuration, strut-braced, high-wing monoplane. The wings employ full length flaperons and leading edge slats that deploy automatically.

Jeff made the decision to build the Pegazair about 15 years ago. At that time there were no Carbon Cubs or many other bush type planes on the market that also had decent speed compared to a Super Cub. His planned mission with the aircraft is to fly to Alaska and Canada and retrace an abandoned pipe line running 400 miles through Canada that his grandfather worked on during WWII. After that he plans on doing bush flying in the Western states and after retirement, touring the rural parts of USA, low and slow.

Jeff began building the Pegazair in August of 2008 and, except for a one year hiatus, he has been working on the plane almost every day for 12 years. The most difficult part of the project was the custom titanium spring gear he fabricated to replace the Cub like bungee gear as called out in the plans. It took him months of work to fabricate the bending die. The plane is a scratch built aircraft, although a kit is also available. The fuselage is made of welded 4130 chrome-moly covered with Oratex fabric, with the rest made from 6061-T6 aluminum. Because he will be mostly flying in spots, which could have few emergency landing options, he has also added a ballistic recovery system parachute.

Jeff is currently working on the firewall forward installation. Specifically, the last six months he has been doing fiberglass work to modify a James Aircraft RV-8 cowl to fit the Pegazair. The whole front of the cowl had to be reworked to get the cowl to line up with the prop flange and to increase the size of the air intakes for the much slower flying Pegazair. He just finished up making a custom fiberglass cooling plenum and intake diffusers to mate the front of the cowl with the plenum. He also added two custom servo controlled cowl flaps for added cooling and a taxi light integrated into the front of the cowl.

Jeff's Pegazair will be powered by a Superior XP-360 Lycoming clone. The engine has roller rocker lifters and a cold induction forward facing sump. It will have a Simple Digital Systems (SDS) electronic ignition and electronic fuel injection. There will be two electrical systems for redundancy. The aircraft will have a Whirlwind Aviation STOL 200-CS 77" wide cord, constant speed, composite, two bladed prop.

Jeff's instrument panel will be equipped with a Garmin G3X with a Garmin G5 back up instrument, a Garmin audio panel and auto pilot. The Garmin G3X links via bluetooth to Foreflight, which will then give a third screen for backup on an iPad. He will also be installing a Garmin GTN650 nav/com and a remote mount com radio for backup, in addition to a Garmin remote mount ADS-B in/out transponder.

The Pegazar has a cruise speed of about 120 knots running lean of peak at 10,000 feet. The top speed on the plane is 140 knots at full power. Full flap stall speed is 30 MPH (26 knots) and stall speed in ground effect is around 25 MPH (22 knots). The wide speed range is due to the retractable leading edge slats, custom titanium spring gear, and constant speed prop. Fuel capacity is 37 gallons. Endurance using 7 gallons an hour will be about 4 1/2 hours with a half hour of fuel reserve. Range with reserve at normal 120 knots/7gal/hour should be about 540nm. Gross weight is 1800 lbs. with a useful load of around 700 lbs.

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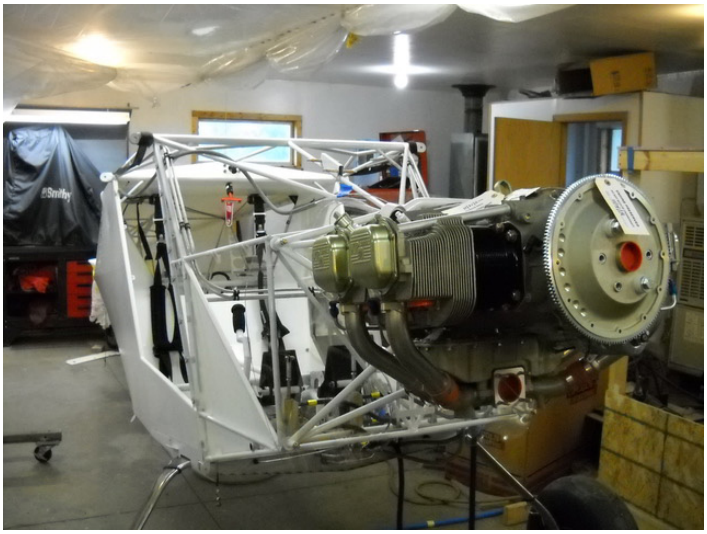
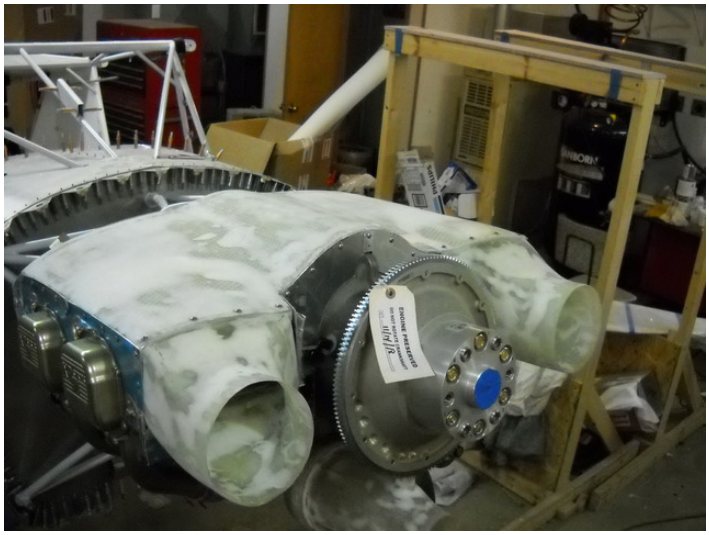
Jeff is clearly building a very capable and well equipped aircraft for the type of flying he plans to do. He hopes to have it completed and ready for his airworthy inspection later on this year.





ALAN PATCHIN'S ROTOWAYEXEC162 PROJECT

Alan Patchin is rebuilding his Rotoway Exec 162 helicopter and expects to have it flying before the end of summer. He fabricated a new tail boom last year with the help of Dick Pugh and other members of the chapter. He also replaced the drive belts and has received the new rotor blades. Alan is anxious to start flying his helicopter again this year.

Post 237

Michael Miller

The Aviation Explorer Post 237 is a part of the Boy Scouts of America and is sponsored by EAA Chapter 237. Exploring is for young men and women, ages 14 - 21, and our particular post focuses on aviation. Whether you want a career in aviation or just like to be around aviation, we have something for you. Our goal is to introduce youth to many different aspects of aviation. Exploring is run by the youth for the youth, all the leadership positions are held by the youth and the youth do all the planning with minimal input from the adults.

We have done several tours, including MSP control tower, FCM control tower and maintenance facilities. We had a behind the scenes tour of MSP Airport Operations as well as Target Corporate Flight Operations at MSP. Other places we have visited in the past are the Sun Country maintenance facility, the Cirrus factory in Duluth, and everyone had a chance to try out the Redbird Crosswind simulator at Hummingbird Aviation at FCM.

We are currently in the process of building our own RC plane and were just starting to work with the RC Sim before COVID-19. When we start meeting again, some of our goals include working the Young Eagle events at ANE, learning aircraft marshalling techniques, planning additional tours, completing our RC build, and we're already planning on joining Aviation Explorer Posts from all over the country at AirVenture next year. Explorer Posts volunteer at the event every year and provide assistance parking aircraft, pedestrian traffic control across the active runways, and other areas as needed. If you know of any young person that has expressed an interest in aviation, please tell them about the Chapter Aviation Explorer Post. Contact Michael Miller at millerm2512@comcast.net

QUICK LINKS

Weekly Flight Lessons

Thomas P. Turner offers a Weekly Flight Lesson for free. Flying Lessons uses recent mishap reports to consider what might have contributed to accidents, so you can make better decisions if you face similar circumstances. Readers are encourage to offer you suggestions and experiences that may be of value to other pilots. I have been reading the Weekly Flight Lessons for years and have found them very informative and valuable to my flying. Thomas's extensive experience as an instructor pilot and writer make Weekly Flying Lessons well worth the time to read.

Thomas has a B.A. History, Ohio Wesleyan University, 1983 and a M.S. Aviation Safety, Central Missouri State University. He was inducted into the National Flight Instructor Hall of Fame in 2015, was 2010 National FAA Safety Team Representative of the Year and was 2008 FAA Central Region CFI of the Year. He has had Master CFI accreditation, 2006-2008, 2008-2010 and 2010-2012. Thomas has published numerous aviation training books and was Technical Editor, American Bonanza Society Magazine, 2003-2010 and has been the Editor-in-Chief, American Bonanza Society Magazine, 2010-present. He is a ATP/CFI/CFII/MEI with 4400hrs+ TT, 2600hrs+ Dual Given and 775hrs ME PIC. http://www.mastery-flight-training.com

• What's-behind-the-FAA's-switch-from-student-to-learner? https://www.aopa.org
• PROFICIENT PILOT: PSYCHOBABBLE? NO MORE 'STUDENT' PILOTS?

Electric Propulsion

Ronald Borree, EAA Chapter 237

As Bob Dylan from northern Minnesota once wrote in a song some of us remember…"The Times They Are a' Changing"…Enter electric propulsion in its various forms that all use batteries.

In this section of the newsletter we will start to explore and create a resource area for members to peruse various states of electric flight technology. For the motivated person, various technical data is linked to or presented.

We will start with the battery technology for the X-57 NASA electric experimental aircraft that is getting close to first flight status and is intended to be a centerpiece as part of FAA certification for electric aircraft. Batteries are a huge component for safe, durable and effective electric flight. The NASA X-57 battery evolvement is significant as an intense project to develop safe and efficient batteries. The full NASA power point presentation on the X57 battery development, which contains the technical analysts detailed charts and tables, can be seen by clicking this link: http://hdl.handle.net/2060/20180005737

Here are the highlights of this current battery development: • The X57 aircraft battery has been developed and tested over the last 3-5 years.

- The battery packs are two 60 KW subsystems totaling 120 KW using Samsung INR18650-30Q individual 3.6 volt cells for a total nominal voltage of 461 volts.
- The battery chemistry is NCA (Nickel Cobalt Aluminum). Total weight of both battery packs is about 850 pounds.
- NASA and its partners researched and tested the overall battery designs for the following conditions with reliable end results:
  - Cell temperatures, voltage and current during charge and discharge cycles in simulated use.
  - Battery capacity usage during various stages of startup, takeoff, cruising at altitude to landing and hanger storage.
  - Thermal runaway issues by a cell without damaging adjacent cells or components and containment to the battery module.
  - Cooling and temperature mediation of cells.
  - Containment of gases and particulates.
  - Thermal management and overall containment to battery enclosures.
  - Redundancy of propulsion power from battery modules.

Oshkosh Work Parties

The Chapter 237 Berlin Express Volunteer Group was a major contributor in the restoration of EAA's B-25 Berlin Express. Their efforts were honored at the 2019 Air Venture with a special brick at the EAA Fly-in Convention Brown Arch. *Congratulations! (Because of Covid19, EAA is not hosting any work parties.)*

EAA SportAir Workshop *by Jay Jones*

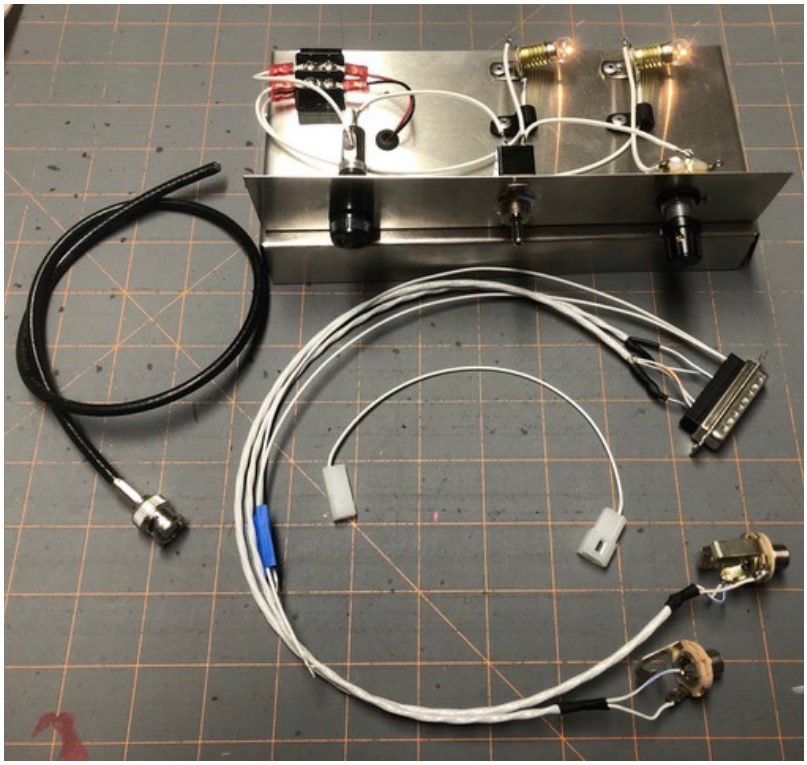
I am a first-time builder with a Rans S-21 on order. Since we do this for "education and recreation," I have been working on the education side of things as I wait for my kit to arrive. In January, I traveled to Oshkosh WI for the "Aircraft Electrical Systems and Avionics" SportAir Workshop. This was the first SportAir Workshop I have attended and it sold out quickly, so sign up six to eight weeks ahead to ensure you have a seat. Attendees varied from someone who had never touched a soldering iron before to people well along with their builds.

The class was taught by Dick Koehler, who is well known for his many "Hints for Homebuilders" videos on the EAA website. He teaches what you need to know without getting too deep into the weeds of electrical theory, and Dick's many years of experience are passed down throughout the weekend. The comprehensive tutorial covered electrical wiring, antennas, components, grounding, connectors, troubleshooting, and more. Each topic included a project which allowed supervised practice of various tasks from splicing wires, attaching BNC connectors and building a small circuit which simulates a portion of your instrument panel. On the down side, the class doesn't really get into avionics, so that is a bit of a misnomer. Lunch was available through the local EAA chapter as a fundraiser. This is very convenient as you don't have to leave to find food and all in my class took advantage.

Upon completion of the class you have a working knowledge of what it takes to wire your aircraft, your completed projects, a Certificate of Completion, and a discount coupon for Aircraft Spruce and Specialty. The 2-day weekend class was $319 and includes all materials for the projects, as well as an 84-page guide book with all the slides used in the presentation. I highly recommend attending if you have questions about your ability to complete the electrical system of your project.

Other SportAir classes are: Composite, Fabric Covering, Sheet Metal, TIG Welding, Gas Welding, Fundamentals, RV Assembly, Fiberglass Techniques for RV Aircraft, and What's involved in Kitbuilding. Click on "SportAir Workshops" under the "Aircraft Building" tab at EAA.org for more information or to sign up for classes.

Editors note from EAA: *As we navigate the COVID-19 situation, we have temporarily placed the EAA SportAir Workshop program on pause. We are planning on restarting the workshop offerings (in-person and virtual) later this year. Watch for details to be announced in the near future.*



Chapter Flight Simulator

As Dave Peterson discussed in the May Windsock, there is a great deal of progress being made getting the system set up and operating, creating a operating manual for chapter members to use the simulator, establishing procedures for meeting sanitation requirements in this Covid-19 environment and how to accomplish the hands-on orientation, instruction and checkout that will be needed by each authorized chapter member to safely use the simulator. You can see from the picture that Dave and his helpers are creating a first class simulator for the chapter members to use to practice and improve our flying skills, use for training new pilots and for use with our youth programs.

EAA 237 Coming Events

- The July chapter meeting will likely be a virtual meeting, unless the weather permits an outside meeting in the parking lot.
- The chapter is planning to celebrate Al Eke's life on Saturday evening, September 20. Details to follow.

(continued on next page)

- EAA is hosting a Brining EAA Together on-line in lieu of Air Venture, which begins on July 21 through July 25. They have over 200 events that we can take part in as well as other activities. The link below is the Bringing EAA Together link.

Bringing EAA Together Link

Chapter Board Meeting Minutes

Minutes of Meeting | June 2, 2020 | Online with ZOOM
Attending: Kevin Sislo, Robert Henkes, Lyle Peterson,
Mark Heule, Charles Jasicki, Michael Grzincich

- Business: Chuck M. moved, Kevin second, Chapter to provide $500 for plaque on Memorial Wall at Oshkoh for Al Eke, Don Berndt and Don Laurence. Motion passed. Then there was discussion of who should actually be honored. Kevin will contact families to see what they want to do.
- Motion by Mark H., second by Chuck J. to continue using Slack for communication. Motion carried.
- Lyle moved, no second to adopt bylaws suggested by EAA that included conflict of interest language. No second.
- Meeting adjourned when ZOOM session ended.

Emeraude Status

Hopefully by the time you read this, the final survey for the Emeraude acquisition is in your hands. A second visit to the project took place on June 20 and the attending members were duly impressed. The project owner presented the project to the chapter on June 22 and several questions were raised and subsequently answered by Clem. The Emeraude acquisition will be completely independent of the flying club formation.

amazon Smile Donations

Do you purchase items on Amazon? If so, please consider using Amazon Smile for your purchases as our chapter is a supported non-profit organization. You pay exactly the same price for your purchase, and our chapter receives a .5% donation from Amazon. To use this service, simply choose https://smile.amazon.com/ while searching for your next purchase. When asked for the charitable group, enter *Chapter 237 Experimental Aircraft Association* and it should appear. You can use this service with your existing Amazon account. Here is a link for additional information on how to use this service on all devices. https://smile.amazon.com

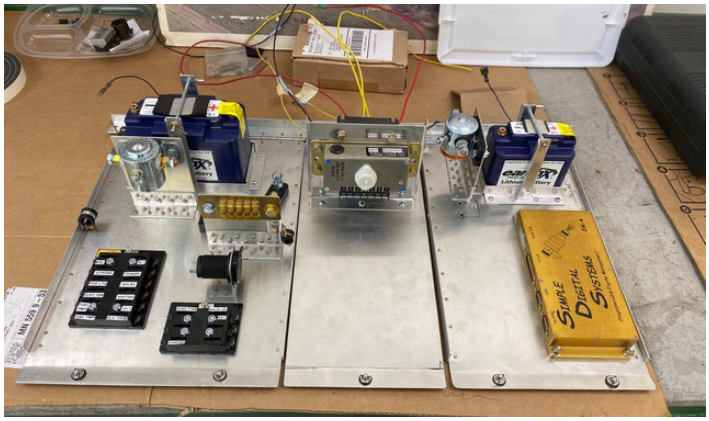
Financial and Property Donations

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.

Zenith 701 Chapter Project Update *Frank Huber*

The Zenith Chapter Project has been making very good progress. Work on the cowling was wrapping up this past Wednesday, with the installation of the Skybolt fasteners. The entire cowling has been fabricated with aluminum, which required lots of forming of many pieces. That project began last fall, under the guidance of Al Eke. As you can see from the picture, there was a great deal of metal forming to create the finished cowling. With the engine now mounted, there has been a lot of work done on hooking up the accessaries, running the wiring for the electronic ignition and fuel injection systems up to the cockpit. Also the electrical system and the SDS electronic ignition and fuel injection system control panel have been mounted on three hinged trays, which fasten to the bottom of the instrument panel. This set up will allow for easy access and maintenance of those systems. The two electric fuel pumps have been mounted behind the cockpit and all the fuel lines have been run up to the engine.

The layout of the instrument panel has been finalized and the work to cut all the holes for mounting switches, instruments, radios, etc. will begin next week. Once that is completed, wiring from the electrical system tray to the various switches and then to the items to be powered will be done. The plan is to move the project to Mark Huele's hangar sometime in September so the wings can be mounted and additional work can be done to move the aircraft to the completion phase. Les Crawley has volunteered to do the painting once the project is nearing completion. The tentatively planned paint scheme will be similar to that of an Army L-19 Birddog. We have a great cadre of volunteers who have been showing up most every Monday and Wednesday morning since work on the project began. We are all looking forward to getting a chance to fly this aircraft, which will be licensed in the Light Sport category. From what I have read about it's flying characteristics, it is a very stable flying aircraft. It has a cruise of 98 mph, a stall speed of 28 mph and a takeoff roll of 60 feet. We encourage any chapter members who would like to be a part of the flying club that will be formed after the aircraft is completed to stop by the chapter building and take a look. It will be affordable flying and Light Sport for those who don't have a pilot license yet. There will be no requirements to have worked on the aircraft to become a member of the club.



2019 Chapter 237 Ray Aviation Scholar,

Owen Nitz, successfully completed his Private Pilot check ride on Thursday, July 9. Owen recently graduated from Princeton High School and is scheduled to attend North Central University this fall, pursuing a business degree. He also plans to continue his aviation training towards an aviation career. Owen is considering becoming a Naval aviator after college and is looking into a Navy ROTC scholarship to pursue that dream.

Our other 2019 Chapter 237 Ray Aviation Scholar, Charlie Ellingson, will be finishing up his private pilot check ride within the next ten days.

2020 Chapter 237 Ray Aviation Scholar,

Owen Larson, will be a junior at Princeton High School in the fall. He had been a part of the Build A Plane program for almost five years. Owen has already begun his flight training with John Johnson through the Build A Plane flight club. Owen has already soloed and successfully completed his Private Pilot written exam in June. As a result of those two accomplishments, he was recently awarded a Lightspeed noise cancelling headset through the EAA Ray Aviation Scholarship program. Owen turns 17 in December and plans to finish his private pilot training at that time. Owen plans to pursue a career as a professional pilot.

First F-117 Stealth Fighter parked at Davis Monthan AFB

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 August issue are due on or before August 5.

While I had a broad idea for our newsletter, my wife, Deb, who has a background in electronic production, is responsible for our new look and layout.