
EAA Chapter 32 News

The official publication of Experimental Aircraft Association Chapter 32 - St. Louis, MO (Jim Bower, Editor)

November, 2020



There's an old saying that the only time you can have too much fuel on board is when you're on fire. Read mr. bill's article to find out one man's quest to ensure his fuel gauges are accurate.

Newsletter Contributions and Deadlines

Anyone wishing to submit articles, advertisements, rants, etc. to the newsletter should send them to your friendly editor on or before the Saturday before the scheduled meeting. Send contributions to newsletter@ea32.org.



Congratulations to our Ray Scholar, Louie Puder! He passed his check ride and is now a

PRIVATE PILOT!!! YESSS!!!

The new Ray Scholarship window is now open, so we need to start working on selection of our next candidate. I'd like us to work on more mentoring of these candidates as they go through their training and bring them into Chapter 32 with open arms!

Congratulations also to the crew of Resilience and SpaceX/NASA on the successful launch of Dragon Crew 1 to the ISS. The U.S. is back in the human space launch business!

On October 24th, your Board of Directors had a very productive meeting at the ARC in which we discussed some of our upcoming programs. We'd like to have a Young Eagles Workshop later in the 2021 season so we can build towards it. An important concept we want to include going forward is to build a path from Young Eagles to full EAA National and Chapter 32 membership. Headquarters has some programs already available to help with this. We're going to look into these and plug in as much as possible.

Locally, our membership committee will develop a New Chapter Member Orientation Program. This will include educating new chapter members about what resources are available to them within the chapter, both advisory and items at the ARC. We want members to learn how to use the equipment at the ARC and get "checked out" on it prior to using it so they can operate it safely and without possibly damaging it. The orientation program will also seek to recruit new members to join a committee or two. It will include information about what classes and workshops are available within the chapter.

President's Corner

by Bill Doherty

Speaking of classes and workshops, we will have our first Aircraft Electrical Workshop with Bob Murray this month after the meeting. If you signed up for this, you're going to learn a lot! Bob's a great teacher!

We've been contacted by a couple people with opportunities for the chapter. The first one fits in with our ideas of working with the community and working on aviation construction projects. This one includes a dose of history too.

How would you like to help build a P-51 Mustang??? Curious? Bill Stanard from the St. Louis Science Center is working on such a project with the group Youth Exploring Science and is looking for some assistance. Hopefully, he'll be able to attend this month's meeting so he can fill you in on the details. From what I know of it so far, it sounds very intriguing and would be a great opportunity for them and for us.

I also heard from Rick Junkin, who has a KR2-2S project he may want to donate to the chapter. I hope to have more info about this before the meeting but from what I know now he is relocating out of the area and has made the decision to part with his build project. He has it in a hangar at Spirit and is trying to be out of there by the end of the month. Short notice, yes but maybe I can take a few pictures of it by the time we get together this Saturday. Maybe a possible composite workshop piece???

Chapter member Mike Schwarzkopf has a fundraising opportunity for the chapter with Shop With Scrip. This is similar to the food cards we use except it's with many other retailers. Anybody doing any holiday shopping??? This could benefit the chapter while you do.

And I've been cleared in hot to remove a bunch of wood pallets from my employer. These will come in handy as I want to mount as much of the shop machinery in the ARC as possible on reinforced pallets so when the river starts threatening again, (and it will) we can quickly forklift them into a truck and bug out easier.

Lastly, this is the November meeting/gathering and that means Officer Elections. So...last call for anyone with a desire to run for Chapter President or Secretary. I've volunteered to stay as your President and Dave Deweese is willing to stay on as Secretary.

As we move into the last month and a half of the year please consider joining one of our committees. We always need assistance with Membership, Fundraising, Facilities, and of course Young Eagles.

As always, check out the EAA.org website for upcoming webinars and other programs. Here's a link where you can find this month's Chapter Video with Charlie Becker. In this month's Chapter Video Magazine, Charlie discusses the launch of Homebuilders Week, a virtual event starting January 26, 2021 and the restart of the SportAir in person workshops, also in January in Oshkosh. Don't forget,

this year's annual Wright Brothers Memorial Banquet is a livestream event on December 10 at 7:00PM and will feature Astronaut Jim Lovell speaking about Apollo 13.

AddThis Sharing Buttons

<https://eaa.org/videos/chapters>

That's all I have this time. I'll see you at the ARC or maybe around the pattern!

Until then stay vigilant and fly safe!

***C.A.V.U!!!
Bill Doherty,
Interim President
EAA Spirit of St. Louis Chapter 32***

October Meeting Minutes

Dave Deweese

October's meeting began with the Pledge, Bill Doherty presiding.

If you have some skills and would like to do a workshop please contact Bill.

We didn't play the chapter video this time: not much to report outside of some personnel news.

Airport upgrades are progressing.

The St. Charles Flying Service Pumpkin Drop has been "uncancelled", but will not be an airport open house event, no food sales.

Approved last month's minutes as published in the newsletter.

Don Doherty gave the Treasurer's report including checking, savings, and Ray Foundation balances. We returned the balance in the Ray Foundation account not used up by Kyle. Louie's check ride is postponed due to wind concerns.

One visitor today, Jacob, has his PPL for around 2 years and has been in the area for 6 months. He's interested in a Long-EZ project, first concern is hangar space to store it.

Mississippi river level is safe and slightly falling. It officially floods at 20 feet and is at 15.5 as of today.

Chris and Bill have heard some talk of another scholarship, Chris has heard nothing further.

Rick May reported on last week's Young Eagles event: we flew three kids and made five flights. Louie was there and flew in both Ron's Luscombe and Don's Cessna. He mentioned Young Eagles workshops, Bill watched a webinar on the subject. A kit is \$35 and covers 10 participants: a sheet metal exercise that makes a cell phone holder. We're planning to get one kit for evaluation. Rick also covered topics for aviation PowerPoint presentation modules. The Young Eagles workshops are distinct from Young Eagles rallies: we might charge for the former to fund materials. Also, we have around \$1,500 left worth of credits to use in the next two months.

Jim Hall spoke about Explorer Scouts. Andrew is spending more time in Chicago, he's doing a Zoom meeting with them next week and has sent an invitation to all our members. They're sending some information to the group on choosing aviation career paths: there's some concern around lack of pilot opportunities due to Covid but there are lots of other needs.

Ron Burnett has Dierberg's cards, he'll be gone next month. Normally Bill handles this in Ron's absence, he's looking for a volunteer to act as his official substitute. Bill reminds us of amazon.smile as we approach the Christmas shopping season.

Board of Directors meeting will happen here at the ARC, next Saturday, at 11:00 a.m.

Officer elections are next month, per by-laws the candidate report is due this month. Don let us know that everybody else stepped back. If anyone's interested in running for president or secretary let us know before the election next week.

Bill listed upcoming webinars.

No electronics workshop today, Bob reports that Frank, who is working with Chris on the Zenith cannot attend today but will be available next month and will help with the presentation. Reschedule for next month after the meeting.

After the meeting check next door: there are some older military vehicles, Jeeps and the like.

Chris reports that the wings for his Zenith are out being wrapped. He purchased a tool for punching holes in an instrument panel: that and wiring is up next. He's planning to finish everything before buying and installing the engine, which will be a Rotax.



Chris Ward's Zenith Cruiser Project



Jonathan, my oldest son, working on the wing of my Cruiser. He will start back flying once my project is finished. He first started taking lessons when he was about ten years old.



The wings have now been wrapped and look a lot better. This is how the wing looks today on the stand built by Frank.



This is the first stands that I build to hold my wings. This stand I called my wing tree.

Learning as we Go

“How Much Fuel Is in Your Tanks?”

mr. bill

It is not often that I get a little nervous in EXPERIMENTAL airplanes that I fly in. As I wrote previously, back 30 years ago at the start of the EAA Young Eagles Program, most flight instructors would not get in a homebuilt airplane. I have been in most of the models and the builders and pilots are awesome. It is the same in this case. A lot has changed in those years. What really has changed is how highly technical glass flight deck instrument displays have become. All the information that is displayed on these new, large display screens has sooooo much information, that is easily read, and so “ergonomically” displayed. Wow.

When I was hired at TWA in 1989, I was a flight engineer (a systems specialist sitting behind the captain and co-pilot) on the Boeing 727. All those round gauges were a lot to take in. Passengers would look in the flight deck and always asked if we knew what ALL THOSE GAUGES do! The usual answer was, “We have learned most of them!” Now some 32 years (in January) later, our EXPERIMENTAL aircraft are more sophisticated than the airline jets. While my instrument panel on Boeing B-737-800 NG is the latest and greatest flight instrumentation, the overhead systems panel is STILL the same panels that I had on the Boeing 727-200.



Boeing 737NG electrical panel

Can you see that the panel has removed the number 2 engine generator display from the B727 panel to use for the B737 panel?



Well the other day I was in an EXPERIMENTAL aircraft (With A GREAT pilot and it is a GREAT plane) to test hop a new propeller unit on the aircraft. I DID NOT check the fuel tanks for the fuel content. I did know the tank quantity from the aircraft fuel display panel BUT this was also a new display unit (Garmin.) Looking in the tanks I would have known there was fuel but really had no clue the amount of fuel. So I trusted the pilot, his plane AND the fuel gauges. It got a little interesting after 30 minutes of flying and none of the gauges showed LESS fuel than when we took off. As we started a climb up to a higher altitude for a little trip to the northwest it was then that I noticed that the fuel pressure indicator started to lose some fuel pressure. It was either a failing fuel pump or a loss of fuel itself to the pump. We decided to switch tanks to the LEFT tank after we leveled off from the climb that was when the RIGHT gauge rolled back to indicate 6 gallons.

Well after another 30 minutes more of flying time on the RIGHT tank, which included some steep turns for a photo op, that the left tank STILL indicated 10 gallons. REALLY?

As we headed back to Smartt Field and arrived into the traffic pattern it was then that the LEFT gauge rolled back to indicate 7 gallons of fuel. Interesting!

The other purpose of this flight was to burn fuel out of the tanks so we could drain the remaining fuel out of the tanks upon landing to set the fuel gauges for this new Garmin unit. Here is what we found as we carefully drained the fuel (notice the grounding wires from the tanks to the plane and to the ground bolt in the hangar floor) from the fuel tanks.



The left tanks 7 gallons (indicated) that was actually 5 gallons.



Volksplane 1 Fuel system???

How much pressure do you think is at the inlet to the gascolator which is on the engine side of the firewall?

When the fuel gets to the half tank level, I highly doubt there is enough pressure to keep the engine purring.

I flew in a newly rebuilt plane one day that had a "new and improved" fuel system several years back. During a take off after several touch and go's, the engine started to lose power. I made a quick 180 turn, and we landed back on the runway we had just taken off from. The people on the ground were waving stating that the engine was trailing black smoke out the airplane. OK. We thought the float in the carburetor was stuck OPEN and the mixture was RICH. Time to overhaul the carburetor.

After overhauling the carburetor and assuring there was the proper amount of brass weigh on the float in the carburetor, it was determined that ALL WAS GOOD! It was until I swung the tail of the airplane sharply to center up with the runway after the "fix" and OPPPSS....the engine quit again! Back to the drawing board. Let us LOOK at the whole system. There is the problem. The fuel line! At the bottom of the 17 gallon header tank behind the instrument panel, that is now 1/2 empty (or half full) there was a 90° fitting aimed towards the backside of the cockpit firewall. Then there is another 90° fitting attached, turned towards the left top side of the cockpit firewall. Then another 90° fitting attached downward towards the gascolator opening. Then a 90° fitting thru the firewall. Then a 90° fitting out of the firewall into the gascolator. Then a 90° fitting out of the gascolator to the side of the carburetor. Then a 90° fitting into the side of the carburetor! At each turn the fuel (head) pressure was dropping and that was why the engine was quitting with a half tank of fuel.

(Continued on next page)



The right tank's 6 gallons (indicated) that was actually 4 gallons.

After a zero-ing of the fuel gauges, (and a quick weighing of the aircraft for the new Weight and Balance) we put in fuel at 5.0 gallon intervals to the fuel tanks and set the gauges. Now with this approved process the fuel indicators WILL read with more accuracy. A good thing to have!

Another situation I have seen in the past concerning fuel systems is the "90 degree rule." The fuel systems for a Volkswagon engine suggests that the fuel tank bottom should be 12" to 14" above the carburetor and have very few 90 degree turns. Take a look at this installation that is installed in a Volksplane 1 airplane. How many "90's" do you see?

Learning as we Go (Continued)

TADAH! One straight line fitting from the fuel tank to the LONG 90° fitting thru the firewall provided adequate pressure. A flex fuel line from the gascolator to the straight fitting inlet of the carburetor made all the difference.

With only two gallons of gas in the fuel tank we were able to keep the engine running on the ground. So problem solved!

BIG JETS FUEL SYSTEM

Several years back on the way into O'Hare airport an MD-80 on short final with 3,500 pound (about 525 gallons) in each wing tank when the right engine flamed out! What could it be? There was plenty of fuel, RIGHT? Seems that for some reason the fuel sumps that were to be "sumped" on a regular basis, were NOT and micro-organisms started to grow in the tanks and on the fuel indicator sending unit causing them to read inaccurately. This caused the flight deck indicators to display more fuel than the tank was holding. So when the indicated there was 525 gallons or 3,500 pounds.....there was NONE.

I HOPE THIS HELPS YOU DO A THOROUGH PREFLIGHT IN YOUR AIRPLANE, WHATEVER IT IS.

Q? What great Woman in Aviation passed away November 01, 2020?
A: Audrey Poberzny, EAA's First Lady and Co-Founder of the EXPERIMENTAL Aircraft Association
Q? At the early meetings of EAA in Paul and Audrey's basement, what treat "brought them back?"
A: Paul's Mother-in-Law would bake donuts for each meeting. She claimed that was what brought people back to the meetings.

A2Z Aircraft

Do you need something from Aircraft Spruce? Would you like to support EAA32 and save some money at the same time? Of course you would!

Just go to <https://a2zaircraft.com/> to place your order for anything that Aircraft Spruce sells. You will get a discount and EAA32 will get a donation.

Dave McGougan's Kitfox Project

Here are two pictures of the first door completed and hung for the third time. It's a long story but after a couple tries I had to give up making new doors and went back to the originals and reworked them. I still have to put latches and etc hardware on but one down and one to go.



Executive Committee Meeting Minutes

October 24, 2020

Attendees: Jim Hall, Jim Bower, Dave McGougan, Dave Deweese, Rick May, Chris Ward, Don Doherty, Bill Doherty - In person, Dave Doherty online

We need to reconstitute some committees, we also need some fundraising to support workshops.

Membership, fund-raising, facilities. Young Eagles is a going well and is a good model. Other groups need to meet regularly outside of general meetings.

Membership is pretty split up: Bill does door codes, Don collects money, processes could be defined better. Membership application needs to be reviewed and standardized: no date field, paper form used to have text on the back. Next chapter meeting Bill will send sign-ups around for committees that are defined in by-laws.

Workshop-wise prior welding classes were going well: people were progressing and developing skills.

Jim Bower mentioned that he's still maintaining several lists, an Outlook mail list, an Access member database, newsletter recipients, and a Google list set up by Andrew. We need to standardize.

Bill, Don, Jon Thayer, Jim Bower are on the membership committee.

Question: does the EAA platform Laura uses for our site have a database feature?

Ron Burnett, Dave Doherty are the fundraising committee.

We'll restart 50-50 meetings. We could raffle off items, used to do this in the old days. The committee could look into donations that we could raffle. Bill started up a relationship with CostCo before the flood for possible Young Eagles food donations. Rick suggests that whoever runs the workshop should detail materials required, using this we can set a fee. Don had a fee for the welding workshop.

Discussed how chapter funds are going, Don notes that there will be no Christmas party and we lost money last year. The hangars are a drain, one has only one occupant. Chris's plane is a possibility, he suggests that if the whole chapter pitched in to finish it up he'd have it done quickly. We lost the Pumpkin Drop food service funds this year. Funds jump at the start of the year with membership.

Rick notes that in past years we've gotten a lot of interest in the chapter from Young Eagles rallies. He's thinking about adults who are interested in further flights, anything that relates to interest in the chapter. He considers maintaining a mailing list and following up to bring them in. Some sort of process would facilitate this, a path to membership. Rick is thinking of an informational package that will list a number of things: chapter membership, eagle flights, etc.)

Don suggests a formal new member orientation. This lead into training on proper use (versus damage to) chapter power tools. Dave McGougan the contents of the membership packet when he used to give the out.

Chris asks if we should go with the 50% or 100% Ray Foundation scholarship. Chris suggests going with the 100%: we've had two get licenses and feels that will increase our chances. Bill's aware of another scholarship, Chris is aware of another as well but nobody's giving out information.

Bill asks if Rick needs additional support for Young Eagles. Rick hopes we can restart rallies in 2021. Some chapters are doing Young Eagles activities and we need to figure out how. HQ suggests appointment times, Jim Bower recalls trying this in the past and having problems. Jim Hall proposed blocks of time: early morning, late morning, etc., versus exact times. Rick also mentioned another Young Eagles program that's more around educational presentations versus flights, he listed 12 presentations (kits) that are available. Workshops may involve cost so they shouldn't be at the same time at YE events which are free by definition. This makes scheduling a

consideration. Bill proposed 2-day events. Don brought up location: ARC, Admin building? We don't want to tie up the ARC and interfere with aircraft construction. Attendance? 20 max.

Rick got a note from Tim Dempsey about our Young Eagles programs and would like to meet, Jim Hall suggests regional events: maybe an event at another location. Don mentioned other aviation groups besides EAA that we could meet with to discuss pooling resources. Dave Doherty says we'd need to be the organizers, Don says we need specific contacts and concrete commitments to incentive attendance.

Chris spoke on knowing out chapter members and reaching out. He invites people to come out and work on his plane, in our last meeting a current member offered a new member a ride.

Jim Hall on Aviation Explorers: if we want to restart the group we need to reform the adviser group. They'll need more parental involvement and members running the group. Chris and Andrew are both actively involved now. Chris asked if there's any impact related to current Boy Scout lawsuit news. Evidently the Missouri scouts are not caught up in this.

Jim asked about a workshop to address refurbish the Sonerai for events.

Bert is having physical/illness issues and is very conscious of the pandemic. He intends to get back on his aircraft project when he feels safer.

Greetings From EAA Headquarters

Good Afternoon, from EAA HQ in Oshkosh!

My name is David Leiting, and I am EAA's Manager of Membership Development. I recently moved into this role. However, for the past 4.5 years I was on the Chapters team. Since moving into this new role, one of my hopes was to work closely with the EAA Chapter network. Having seen the strength of the network, while also recognizing the support EAA HQ can provide, I knew there were plenty of opportunities.

Well, today I am sharing an article with all the Newsletter Editors within the chapter network. Being a former Newsletter Editor for Chapter 1342, I understand there is always a need for more content, so I hope you find this article helpful. The article goes into detail about EAA's new Legacy membership campaign, which encourages current members to gift an EAA membership to someone they know is deserving to carry aviation's touch. My thought has always been that introducing a new member to EAA via a local chapter is the best way to show them what the EAA community is all about.

If you are willing to share the attached article in the November newsletter, I would be extremely grateful. In addition, this would go a great distance in helping share the magic of EAA with the next generation of members. Again, I hope this article also helps you in your search for content for the November newsletter.

Thank you for your continued support of your local chapter, and for being an EAA member!

Please, let me know if you have any questions.

Tailwinds,

David Leiting Jr., PPL ASEL, EAA Lifetime #579157,

*EAA Warbirds #596249, EAA Vintage #724081
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*See you at EAA AirVenture Oshkosh 2021 — July 26
to August 1, 2021*

A Challenge to Members to Share the Gift of EAA

*By: David Leiting, EAA Lifetime 579157
Vice President of EAA Chapter 252
EAA Membership Development Manager*

The past 10 months have flipped the world upside down for many of us, but they have also allowed us to spend more time focusing on our families and our passions. For all of us, the shared passion is aviation. It is what brought us together, and has been the one constant we can look to when the days get rough.

The flying club I am a member of shut down operations for 90 days as we evaluated how we could safely operate amongst the COVID-19 pandemic. It pained me to stay out of the cockpit for more than three months. This was the first time since I passed my private pilot check ride that I was out of my 90-day currency! Additionally, my local EAA chapter put all of our events on hold. Although we were able to conduct virtual gatherings and board meetings, it wasn't the same as our usual in-person events.

This lack of aviation activity caused me to reflect on my passion for aviation, and remind myself how easy it is to take for granted the aviation opportunities afforded by EAA. Like many of you, much of what I use to fuel my passion for aviation has come from EAA. EAA AirVenture Oshkosh, my Young Eagles flight, the relationships built through my local chapters, and the educational opportunities. Without EAA, I am not quite sure where I would find myself on my aviation journey.

One of the great pillars of EAA is the opportunity to give back, and pass the torch to future members. Perhaps you have given a Young Eagles flight that led to a career aviator, or lent a helping hand to a friend building their own aircraft. There is also a great chance that you have benefited from the generosity of a fellow EAAer. It is the lifeblood of our organization!

We all remember our mentor who introduced us to aviation and are forever grateful for the gift they gave us. That mentor may still be a close friend of yours within your EAA chapter. EAA is now asking you to join us in helping to preserve the legacy of EAA Founder Paul Poberezny, and of all our past and current members, by gifting an EAA membership to someone you feel will continue to carry on EAA's mission within The Spirit of Aviation.

It is EAA members such as yourself that can bring aboard the next generation of members. Your involvement in your local chapter is even a greater reason to introduce them to EAA.

Chapter members are the most engaged and passionate members you'll find within EAA. There is

no better group than a local chapter to welcome a newcomer to EAA.

Once you identify whom you'd like to sponsor, simply visit www.EAA.org/Legacy to register EAA's newest member. After you gift this membership, invite the individual to your chapter, and

show them the opportunities and community that exist in their own backyard. By gifting a membership and becoming a Legacy sponsor, you will receive a Legacy sponsor pin and patch.

EAA cannot thank you enough for your continued support of the organization, and especially of your local chapter.

Chapters are the lifeblood of EAA, and without them the impact of EAA would be fraction of what it is today. Enjoy your holiday season, and we hope to see you in Oshkosh this July!



EAA CHAPTER 32 NEWS
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Check out our fantastic Web Pages at
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Laura Million, Web Designer
While you're there, take time to join the
Yahoo Groups to help you stay abreast of
Chapter happenings!

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