



January 2025

# THE SLIPSTREAM

THE NEWSLETTER OF GREEN RIVER EAA CHAPTER 441 KENT, WA

Volume 27 issue 1



Next Meeting

**Thursday, 23 Jan. 7 PM**

This Month's Program

## Risk Mitigation in Flight Test

Ross Mahon will discuss how he plans the flight testing for the Gweduck amphibian to maximize safety while establishing its performance.

*If you no longer want to receive the newsletter, email me at [ron@wanttaja.com](mailto:ron@wanttaja.com)*

## President's Column

## After the Solstice

Late December in Puget Sound is sooooo dark. And cold. Even though Jake refers to winter as "workshop season" (as opposed to "flying season"), it's hard for me to get motivated to go the cold hangar and work on the cold airplane parts.

But now we're beyond the Solstice. Days are getting longer, with more daylight (and even lower temps as you've seen this week). The TV weather people say that by the end of January, we'll have gained an hour of daylight. I have not noticed, yet, but hope springs eternal. I'm told we're gaining about 3 minutes/day, and by the time we get to the Equinox in March, the increase in daily sunlight will peak.

I hope everyone is making plans for the upcoming "flying season". I keep reminding myself that if I do all the "workshop" things now, I can maximize the "flying" things come Spring. I'd like to think I'm paying attention to myself.

I know that Steve Cameron is working on making our Young Eagles participation at Auburn even more efficient than in the past. Mark is working on some recognition for those who participate, and we're lining up a great set of programs for our meetings.

Remember dues will be due at the January meeting. Steve will come with his notebook and keep his list. It's all of \$20. to be a member of 441 for the whole year. What a bargain!

Stay safe (and warm)!

Brian

## Chapter Officers

President: Brian Lee  
(253)-639-0489

Vice-President: Mark Owens  
(206) 390-0520

Secretary: TBD

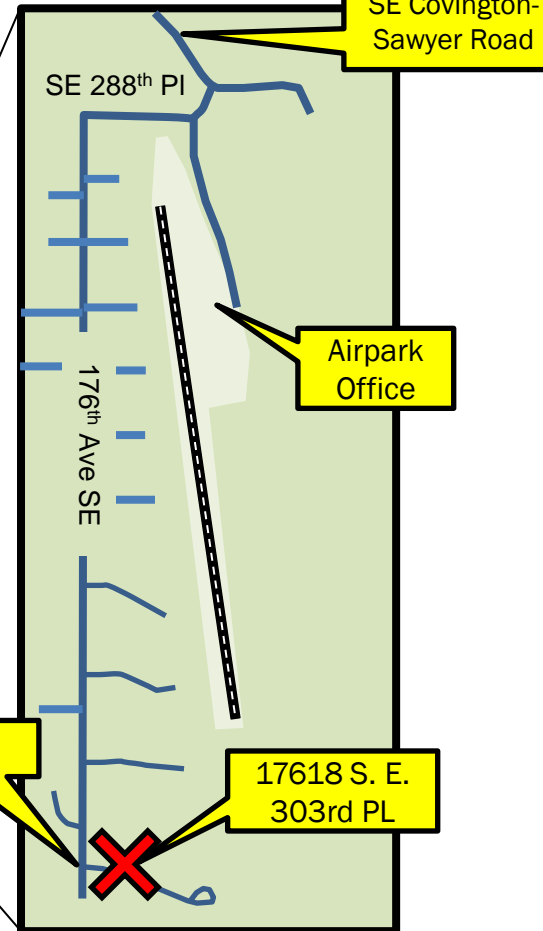
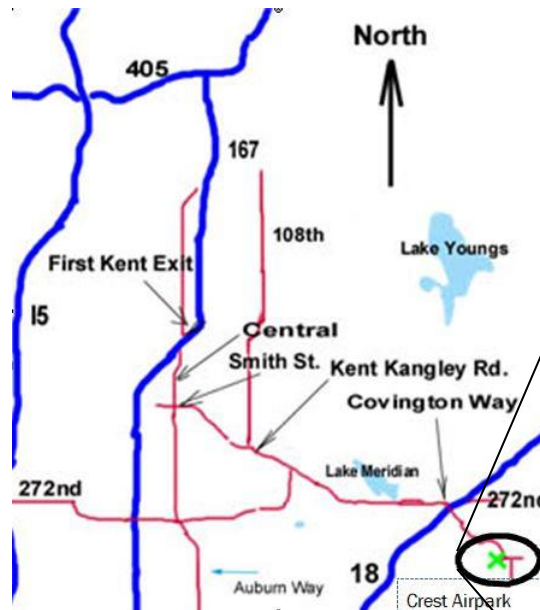
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Dave Nason  
Jonathan Lee (253) 508-1376

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(253) 833-7394  
ron@wanttaja.com

Meeting Address:  
17618 S. E. 303rd PL  
Kent 98042

## Getting Here



What did we talk  
about Last Month?

**Held the Christmas party!**

*Note: Deadline for Newsletter articles is  
Sunday evening before the meeting.*

Park along side of road at 303<sup>rd</sup>, meeting is  
at the second house. Walk down the driveway  
between the garage and the house, and go  
downhill to the hangar



## Homebuilders Week – Online Event Starts January 27th

*30 online sessions to expand your knowledge of building your own aircraft*

By Charlie Becker, EAA Homebuilt Community Manager

Homebuilders Week is an online opportunity to carry on the founding mission of EAA by sharing as much knowledge and information about building your own aircraft as possible in five days. We start on Monday, January 27th, 2025, and end on Friday, January 31st, 2025. Each day, we offer six live webinars running back-to-back, starting at 11:30 am central time and running every hour and a half until the last session at 7pm central. The sessions are live and allow time for questions. To sign up for the sessions, visit [www.EAA.org/HomebuildersWeek](http://www.EAA.org/HomebuildersWeek)

The topics cover something for everyone, whether you are just considering the idea of building an aircraft, are knee deep in a project or getting ready for test flying. We even have EAA president Jack Pelton lined up on, January 30th, to talk about EAA's Advocacy efforts on behalf of the homebuilt members.

EAA Homebuilders Week follows immediately after the anniversary of the founding of the Experimental Aircraft Association on January 26th, 1953. I can't think of a better way to recognize our organization's founding than to spend 5 straight days learning about homebuilding.

EAA Homebuilders Week is made possible through the generous sponsorships of Aircraft Spruce & Specialty Co., Dynon, Scheme Designers, and Van's Aircraft.

Visit [www.EAA.org/HomebuildersWeek](http://www.EAA.org/HomebuildersWeek) to sign up.



# EAA Homebuilder's Week Schedule

Time CST	Monday 1/27/25	Tuesday 1/28/25	Wednesday 1/29/25	Thursday 1/30/25	Friday 1/31/25
11:30-12:45	Building an Aircraft: What You Need to Know - Charlie Becker	Wiring Basics - Dick Koehler	Flight Testing 101 - Paul Dye	EAA Advocacy Update: Top Homebuilding Issues and the Impact of MOSAIC - Sean Elliott, Rob Hackman, & Jack J. Pelton	Staying Alive: Analysis of Homebuilt Fatal Accidents - Dave Nelson
1:00-2:15	Sheet Metal Basics - Mike Dooley	TIG Welding - Charlie Becker & Shaun Walker	Composite Construction - Mark Forss	Amateur-Built Aircraft Certification Process - Joe Norris	Liability of Selling Your Homebuilt - Kathy Yodice
2:30-3:45	Fabric-Covering Basics - Nate Hammond	Getting Your Project Finished and Flying - Vic Syracuse	Buying a Used Homebuilt - Vic Syracuse	Sonex Highwing Update - Mark Schaible	Zenith Aircraft Kits & Plans - Sebastien Heintz & Roger Dubbert
4:00-5:15	The Need for Speed: Kitbuilt Options - Dave Forster	Hardware for Homebuilts - John Cox	Advanced Flight Systems - Rob Hickman	Garmin Experimental Avionics Solutions - Brad Brensing	Weight and Balance - Joe Norris
5:30-6:45	Panel Planning and Wiring - Marc Ausman	Dynon Avionics - Michael Schofield	Engine Selection Basics - Dick Koehler	Gas Welding - Budd Davisson	Working With Wood 101 - John Egan
7:00-8:15	Rotax 9 Series Installation & Operation - Phil Lockwood	Designing the Perfect Paint Scheme and Its Impact on Budget - Craig Barnett	Data-Driven Diagnosis of Engine Issues - Mike Busch	Van's RV Aircraft Kits - Greg Hughes	Common Builder & Maintenance Errors - Vic Syracuse

Sponsored by

[www.EAA.org/HomebuildersWeek](http://www.EAA.org/HomebuildersWeek)







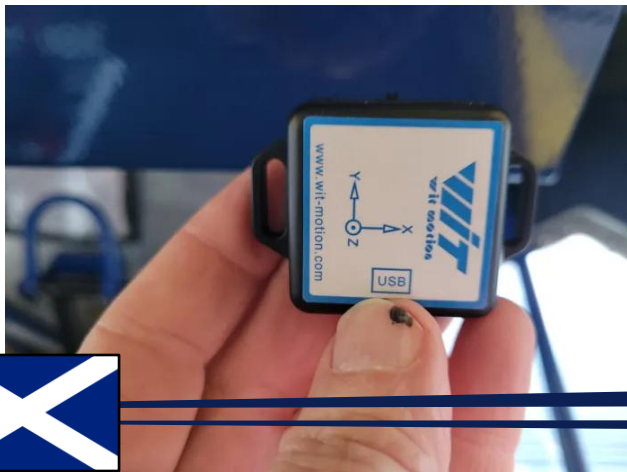
After the lab analyzing my engine oil recommended that I change oil because my engine environment was too tough for the Mobil 1 Racing 4T 10W40 oil I had been using, I switched to another one recommended by other Apex users: Schaeffer 9000 Supreme 5W50. Both are synthetic oils. Two things happened: 1) after about 6 hours with the 5W50 oil, I suddenly sprang oil leaks that I traced to hose fittings after confirming no hose or fitting cracks. My hangar neighborhood IA/A&P told me that switching to the thinner oil sometimes could cause leaks at fittings where none had been before. It ultimately took switching back to worm drive hose clamps from the spring loaded ones I had been using and I had to re-tighten them after every flight for a couple flights before the leaks stopped (fingers crossed), and 2) engine oil analysis at the 11-hour point (recommendation of my lab) showed a huge jump in Molybdenum. It turns out Schaeffer uses some double-secret, patented type of moly in this particular blend of oil. So, all is normal now with my engine oil.

In the universe of gearbox oil, I also had good news. [I use an external Skytrax gearbox specifically made for the Apex engine. 3.48 to 1 reduction.] I had switched from Dextron VI ATF fluid (Skytrax recommended) to Lucas Oil Racing Gear Oil L-9, based on the experience of other people flying the Apex. The first oil sample after 25 hours showed a scary amount of iron and the oil turned black as sin after just a few hours of flying. The lab said it could have been because I didn't get all the Dextron VI out of the system when I replaced it with L-9. They recommended a flush. I was spooked enough that I followed their flush procedure and switched back to Dextron VI. After 11 hours (they recommended a resample 10-15 hours), their analysis shows gearbox is completely happy with Dex VI and the fluid stays essentially a cherry red (the original color).





My current completely unnecessary, but fascinating project: When Black Friday came around and the spectre of tariffs on Chinese products loomed large, I had a weak moment and bought a nifty little vibration sensor. I was interested to see if I could measure the effectiveness of my mechanical prop balancer (i.e., does it really do anything or am I just imagining slightly smoother operation?) and maybe even spot any gearbox issues. It measures frequency, displacement, and speed in all 3 axes for frequencies less than 100 Hz. This means it can monitor my propeller/gearbox speed, but not my engine speed. I flew it on several flights, attached to different parts of the airframe to get some baselines and to understand which axis is the one to measure for propeller balance. I'm going to use the standards for prop balancing, which are based on speed of the vibration in inches/second. Still a long ways to go on this, but so far I've observed: 1) The sensor really needs to sit on one of the major structural tubes most directly connected to the engine mount. The vibrations were weaker when I attached it to flat panels, like I show in the picture. 2) the frequency of the longitudinal axis vibration is about 2x more than either of the other two axes. (possibly the result of having a 2-bladed prop) 3) I have a low and high cruise setting (7,000 and 8,000 engine RPM... 1,993 and 2,320 prop RPM). Oddly, the vibration frequency in the vertical (down) direction INCREASES (like almost double) when RPM is decreased from high to low cruise. Bottom Line: this should be fun to explore over the next few months. Once I get a good baseline, I'm going to fly with and without my prop balancer.









The time has come where I'm out of viable reasons to delay wing installation.

On New Years Eve we had a wing install session and found that 5 people and a couple of stands works pretty well for the job. Thanks to all involved and particularly Steve Cameron for finding a few minutes to take pictures that actually have people in them.





One item of particular note is that on a Comanche the wing sits so low to the ground that there isn't an additional boarding step needed. Accordingly the flap is designed so that when fully up it can be stepped on... with the probably predictable result that now that I'm using the wing to get in and out of the RV I need to consciously remember to step over the flap. A piece of tape made a good interim reminder, but I decided it was worth doing something a little more permanent - so I broke out the design software and cut a "no step" stencil to paint on the flap. I figured if I was going to pull out the airbrush and play with paint I might just as well also do my tank markings at the same time.



This Month





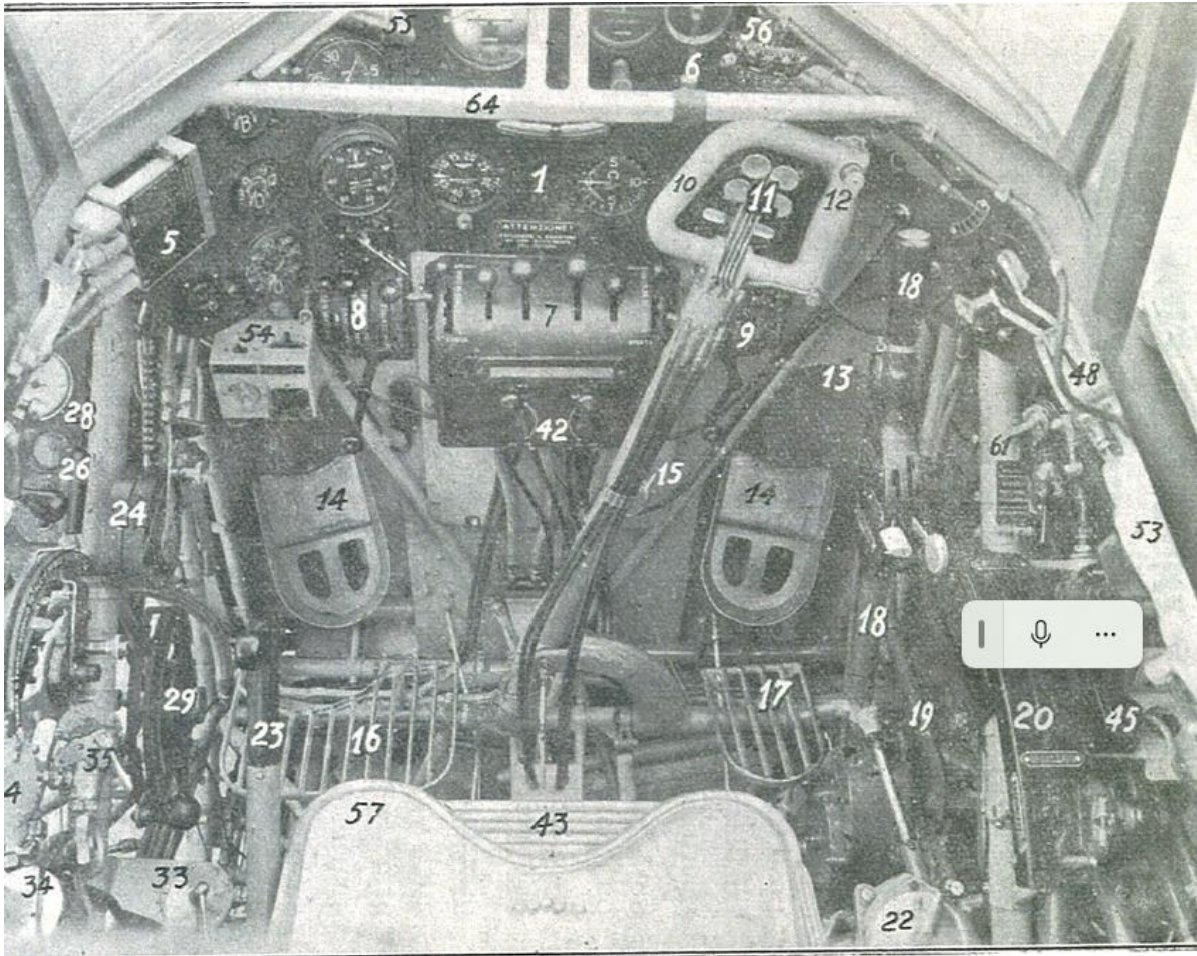
**Bonus Guess that Airplane!**







This Month



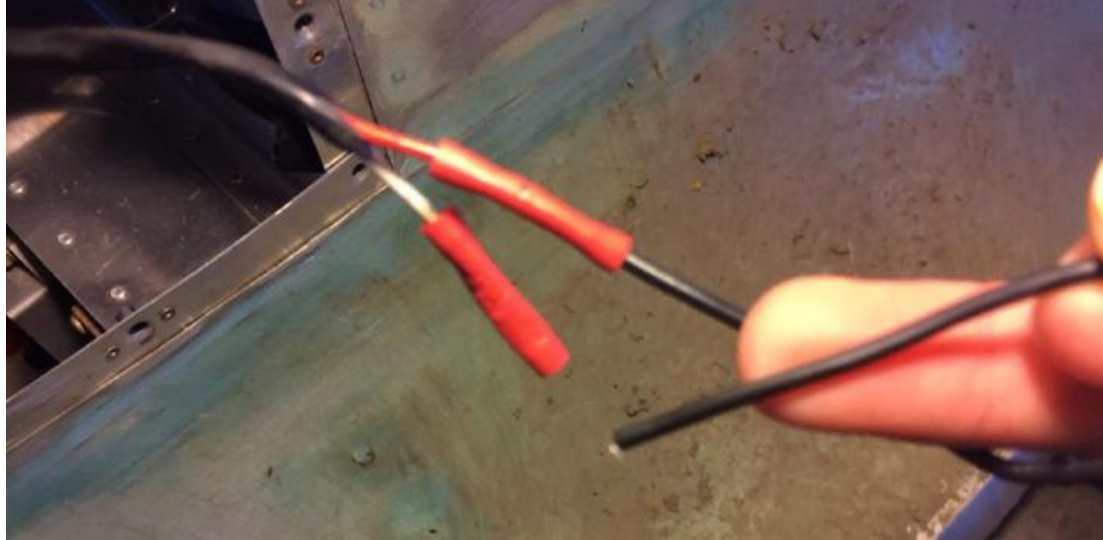
**Lancair Evolution – California:** While in cruise flight at 25,000 ft, the airplane's windshield shattered, immediately followed by a rapid decompression of the cabin. The pilot shut down the engine, entered an emergency descent, and navigated to a nearby airport. During the approach for landing, the pilot received an anomalous landing gear indication and chose to perform a gear-up landing. The airplane touched down with an 8-knot tailwind and slid along the runway until it impacted a fence, continued across a road, and came to rest in dirt. Both wings were substantially damaged.

Postaccident testing showed that the relay modules responsible for opening and closing circuits to the left main landing gear were dislodged when the windshield shattered, resulting in the anomalous gear indication. A portion of the windshield that remained attached to the frame exhibited a fracture consistent with pure tension loading, likely from internal pressurization. Due to the curvature at that location, the fracture area was likely one of high stress on the windshield. Examination of the windshield fragments and frame did not show any evidence of impact from a foreign object, but showed significant structural flexing of the fuselage due to delaminated wet-layup plies during construction, as evidenced by extensive cracking at the aft engine cowlings. (5/15/2017)



**BD-5B – Indiana:** The purpose of the test flight was to obtain rate of climb data on the airplane, which had recently been completed. Following the sixth climb of the flight, the engine began to run rough. The pilot turned back toward the airport and entered the traffic pattern, and the engine experienced a total loss of power. The pilot determined that the airplane would not reach the runway and performed an off-airport landing in a field. The field was soft and contained high vegetation, which resulted in a ground loop during landing.

The pilot noted that, during the flight, the No. 1 cylinder exhaust gas temperature and cylinder head temperature had dropped, indicating that the No. 1 cylinder was not firing properly. It was after the No.1 cylinder quit firing that the No. 2 cylinder also quit firing. A postaccident examination of the engine revealed that the wire in the No. 1 cylinder connector between the engine control unit and the fuel injector was not properly crimped at the connector, which allowed the wire to be pulled back. In addition, a wire to the No. 2 connector was found broken where the wire had been spliced. This wire most likely separated at the spliced area due to engine vibrations after the No. 1 cylinder ceased operating. (5/26/2017)





**Zenith CH-601XL– North Carolina:** The builder reported that the airplane was in cruise flight when the engine experienced a total loss of power. He noted that the right fuel tank was empty and that the fuel selector handle was on the left tank. He attempted a restart; however, this was unsuccessful, and he performed a forced landing in a field. The nose landing gear collapsed during the landing roll, resulting in structural damage to the lower fuselage and engine firewall.

Examination of the wreckage revealed that the fuel tank selector handle was on the left tank but the fuel valve remained on the empty right tank. Further examination of the hardware revealed that a threaded metal rod that the pilot installed to connect the tank selector handle to the fuel valve "twisted like bubble gum" when rotated and would not turn the fuel valve. The pilot, who was the airplane builder, used a thinner rod than specified due to an interference problem. The pilot reported that the handle/valve assembly had operated normally during initial testing. (5/29/2017)





Hi fellow EAA members,

I am currently selling my unfinished S-18 project. No engine. Considerable amount of aluminum sheet and tubing included. \$12,000. If you or someone you know who is interested, please contact me at:

Norm Pauk: Tel: 253-561-4801

Email: [Npauk@msn.com](mailto:Npauk@msn.com)



I have an extensive RV12 project for sale. Thank you for sharing this information with your members. Here's what's included:

Wings are completed, including landing light and strobes

Tail group and fuselage cone are completed

Fuselage is 80% complete, including controls, wiring, canopy

Panel completed, including Avidyne/Garmin/ELT package with 2 axis autopilot

Finishing kit includes landing gear, brakes, tires, fairings, wheel pants, control cables, seat belts, plexi, etc. (This the most expensive kit on the airplane).

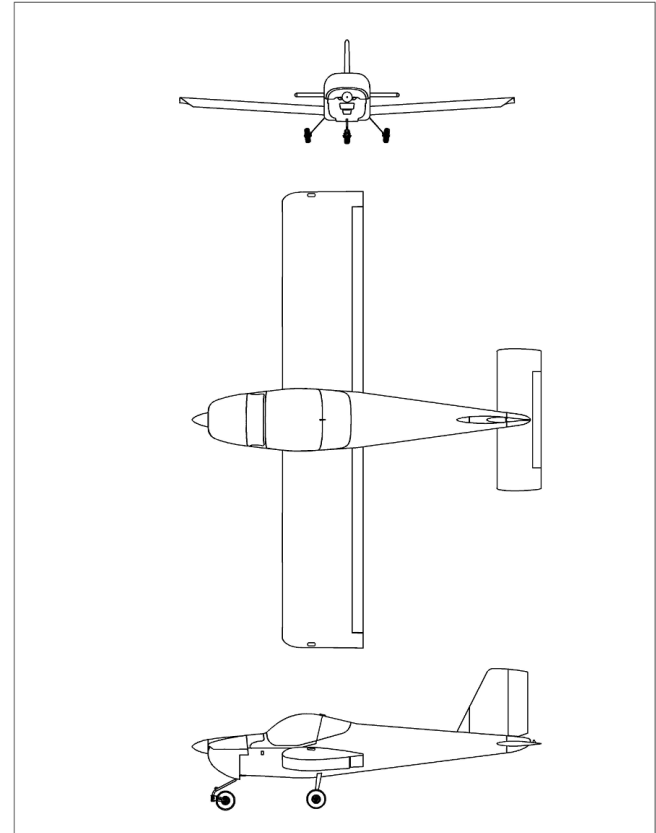
Factory built fuel tank.

Interior kit ....upholstery, side panels, sound proofing.

This is RV12 #616. It is designed for the carbureted 100 HP Rotax, and cannot be converted to the injected version. The kits were purchased 2011/2013. My cost was over \$50K. Duplicating today would be over \$75K. Price for all is \$45K.

Project is safely stored and available for thorough viewing in Anacortes.

Jeff Robinson  
360-961-2482





EAA 441 has a dedicated online forum using the Discord server. It's a free service without ads or spam content, and can be accessed via mobile apps or on your PC via a web browser. To sign up, email Edwina Sharp: ebsharp@centurylink.net.

EAA 441

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# project-updates

# introductions

# announcements

# resources

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# calendar

# general

# help-needed

# tips-and-tricks

# trading-post

# project-updates

# flight-reports

# young-eagles

VOICE CHANNELS

General

February 15, 2023

Steve Cameron

02/15/2023 11:53 AM

So, my big honkin' capacitor showed up... I thought it would have the screws included, but didn't. Headed to Tacoma Screw to get some short M5 screws and washers. Also, now I think I need to make some sort of nifty box to hold it for mounting, given the external side is negative polarity. It is way bigger in person than I had thought!

Mark Owens

02/15/2023 11:55 AM

It is huge.... I am sure a physically smaller one will work.... Adel clamps or hose clamps mount them nicely

@Mark Owens

It is huge.... I am sure a physically smaller one will work.... Adel clamps or hose clamps mount them nicely

Steve Cameron

02/15/2023 12:06 PM

Thanks!

Mark Owens

02/15/2023 12:10 PM

Would you like to test with this one

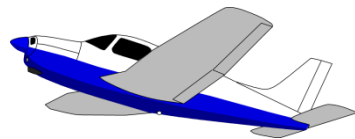
Message #project-updates

+

Message #project-updates

Ron Wantt...

#7534



Chapter 441 is fortunate to have two tech counselors. Feel free to call Brian (253)-369-0489 , or Dave Nason any time. You don't need to wait for some significant milestone in your project.

Remember, this is not an "inspection". The shop doesn't need to be cleaned for a visit. All are quite used to looking at pieces, parts, and assorted bits, and will be happy to answer questions, offer advice, and generally talk about projects, building, flying, or whatever.