

Squadron III

The only monthly dedicated All-Canard flyers newsletter
for events, resources, updates and more in the canard flying world.

August 2021

Volume XI, Issue 8



Kody Comans Velocity - just some interior work to do.

FAA Developments:

Federal policy if not FAA:

Dean Buyers, Rigby, ID: "I hangar at a small non-controlled airfield with most of the air operations conducted by an agricultural spray operator. He operates two Ag Tractors. He goes through about 2500 gals of Jet A a week. He just had a delivery and the delivery truck driver stated that there isn't a fuel problem (Jet A or Avgas), but indeed a trucking (driver) issue. He stated it's more than just getting qualified drivers, it is also that many drivers are refusing to drive through certain states or through certain cities. This driver stated he wasn't going anywhere, so fuel should always be coming our way. BTW, 100LL is still \$4.50/gal here."

Member Melvyn J Becerra, Long EZ builder in Chile provides notice of an STC for the G100UL fuel:

<https://gami.com/g100ul/G100UL Oshkosh Press Release.pdf>

Rutan Time:

Hours of gazing:

Looking at a Rutan Prototype Lotus ultralight tail number I came upon a very interesting photo essay website of Rutan developments:

<http://stargazer2006.online.fr/news.htm>

Promoting the Breed:

The Velocity Factory put together a flight of 6 into Oshkosh:

<https://www.youtube.com/watch?v=aUlwLoEtgIk>

Calendar – Canard events in Red:

CALENDAR 2021

Things in Red are Canard events

AUGUST 2021

August 21, 2021 10:30am to 4pm The "Canards over Georgia" lunch fly-in



CANARDS OVER GEORGIA

9TH ANNUAL

SATURDAY AUGUST 21ST
10AM - 4PM

Come and enjoy some good BBQ and hangar talk! Lunch is served at 11:30am. Also, you can do some shopping at Aircraft Spruce East or check out the Commemorative Air Force Museum!

**Atlanta Regional Airport
Falcon Field
Peachtree City, GA
Airport KFFC
Parking at hanger T-4**

← **SEE MAP**

FREE BBQ LUNCH



CANARD FLY-IN LUNCH
HANGER T-4
ROOM TO PARK BY
HANGER IN ALLEY

AL SPRUCE

COMMEMORATIVE AIR FORCE MUSEUM

33 31

EVENT SPONSORED BY ERACER AIRCRAFT



sponsored by ERacer Aircraft will be held at the ERacer Hanger T-4, Atlanta Regional Airport, Falcon Field, (KFFC). Please come ROCH LaROCCA 770-298-5001 roch.larocca@gmail.com Peach Tree City Airport (KFFC)

August 21 and 22, 2021. **Arlington** Northwest EAA Fly-in (AWO) www.ArlingtonFlyin.org This will be an evening drive-in event on Saturday August 21. The following day, Sunday August 22, we will host a fly-in lunch event for pilots, sponsored by Spencer Aircraft.

August 21-22, 2021 Wings over Camarillo Every year this is our opportunity to bring the public to the airport and let them enjoy the thrill of aviation up close and in person. Expect multiple aerobatic acts, fly-bys and static displays of just about every aircraft type that exists. There may be a "drone zone" with demonstrations and opportunities to get hands on with a drone. And for the motor-heads, there will be classic cars and motorcycles on display as well! www.wingsovercamarillo.com

August 21, 2021: Mojave Airport's museum *Plane Crazy Saturday!* 10 a.m. - 2 p.m. Free admission! 3rd Saturday of every month.

SEPTEMBER 2021



Photo by Mehran Salamati - who hopes to bring his Berkut to Kanab, first time.

Sep 3-6, 2021 (Labor Day) KANAB UTAH (KKNB) "Hello Canardians and previous Rutan Kanab Fly-in attendees! Many people arrive on Friday (Sep 3rd). Our hotel block is available from 9/3-6 th. Watch for posts in the two weeks leading up to the fly-in. If you prefer to call the hotel directly, that is fine too. Call 1-435-644-8660 (between 7:00am and 10pm Utah time) Please book Canyon's Lodge as the primary hotel before the other two. Identify that you're with the Rutan Fly-in group when you call to make your reservations. If there's anyone you know who may be interested in attending, feel free to forward this to them. The links are included here for hotel booking The Canyons Lodge ~\$99-\$169/night + tax (*includes continental breakfast) 14 rooms available • Canyons Boutique Hotel ~\$179-189/ night +tax (*includes breakfast buffet) 17 rooms available • Quail Park Lodge \$139-149/night +tax (*includes continental breakfast) 8 rooms available (From Prior years: "The three main reasons people say they love coming to Kanab for the fly-in: 1. The laid back atmosphere, 2. The scenery, and 3. The timed event. Every year there seem to be between 20-40 planes that make the trip

to KKNB, along with folks who drive in. A few planned group activities that bring everyone together are typically the outdoor pizza party, a group fly out on Saturday morning, the timed event Sunday morning, early..." There is plenty of free time during the 3 day fly-in to explore Kanab, Kane County, and the 3 major nearby national parks and attractions. I'm learning that people have also made reservations at the old hotel. Please book as soon as you can, because they'll release our block of rooms fairly soon, after all... Summer is peak travel season. The 72 hour/ 3 day cancellation policy will apply to reservations, even though issues crop up last minute. If you'd like to see the properties, the website is www.TheCanyonsCollection.com. I don't know about the Awards dinner location, if it is planned or if the Kane County Visitors Bureau bus will be available. KKNB Kanab Airport 435-644-2299, The Canyons Collection hotels 844-FAB UTAH, Xpress Car Rental 435-644-3408 In charge is Ryan Goodman who has taken over Freeflight Composites. ryan.m.goodman@gmail.com Beagle: If the Canyon lodge is full you can book rooms at www.aikenslodge.com the hotel we started at decades ago. It's about a 3 block walk to the outdoor Pizza dinner at the Canyons Lodge.

September 17-19, 2021 Field of Dreams Tandem Wing Flyin at Enid, OK Enid Woodring Airport (KWDG) member Bruce Crain 580-242-0618 jcrain2@juno.com

"...In the past we have invited all to come a day or 2 early and stayed a day or 2 later as we have had a great time catching up with all of our "old friends" and a bunch of 'new friends'! Come early! Come late! You are welcome any time! I'll leave you all to come up with which is old and which is new! We got Dave Dugas (the g is hard) to play a few songs, on my guitar, over at our house, while we mingled with the "early birds"!! He is quite talented and played some really cool songs! Many times the weather brought folks in early and held them over to clear. We will play with you and show you a great time! Our guys really shine at quips, jokes, puns etc.! Well, you get the point! Here is the URL for the event. Check it out and make your plans to see some of the most beautiful, unusual, fastest, wonderfulness, gooderest airplanes on the planet!"

7/22/21: "...we received word that Vance Airforce Base is sponsoring a "Big Band Dance" on Friday night of our Field of Dreams in the Joint Use Hanger at KWDG so our venue has grown in a most pleasant way! Add that to a KWDG fly in breakfast the next day on Saturday plus a banquet on Saturday night and it proves to be a great weekend for anyone interested in aviation and especially Canards. The officers and students will most likely be all over the Canards as we are a bit eccentric in nature!"

<https://fieldofdreamsreunion.weebly.com/>

Sept 18, 2021: Mojave Airport's museum [Plane Crazy Saturday!10 a.m.](#)

Sept 25-26 at Mather, CA California Air Show
Thunderbirds to perform

OCTOBER 2021

October 12, 2021 all day Ghost Run Air Race, Jasper, TX (KJAS) Race Director Ryan Boyette RyanBoyette@GMail.com The SARL website has the race schedule - <http://sportairrace.org/sarl/>

October 16, 2021: Mojave Airport's museum *Plane Crazy Saturday!* 10 a.m. - 2 p.m. Free admission! 3rd Saturday of every month.

October 23-24, 2021 *LA Air County Airshow* will be at Fox Field in Lancaster featuring the Thunderbirds and F-35 Demo team. www.lacountyairshow.com

Oct 24-29, 2021 Alamos, Mexico pilot Flyin at the big resort south of town. <https://clubpilotos.com/site/events> I've heard no reassuring news on experimentals clearing the "Flag Airports" on the Northern Mainland.

NOVEMBER 2021

November 20-21, 2021 Australian "Canard Muster *is likely to be held the weekend prior to the Avalon International Airshow, as this provides the opportunity for overseas and interstate travelers to couple the Muster, with attendance to Avalon. We did this last time Avalon was on, and was very well received by those attending, with a number attending the Muster and Avalon. The Muster is currently penciled in for 20-21 Nov. The Avalon International Airshow runs 23-28 Nov, with general public admissions Friday after noon until Sunday, and Tuesday to Friday for industry attendees/participants."*

November 20, 2021: Mojave Airport's museum *Plane Crazy Saturday* 10 a.m. - 2 p.m. Free admission! 3rd Saturday of every month.

DECEMBER 2021

December 18, 2021: Mojave Airport's museum *Plane Crazy Saturday* 10 a.m. - 2 p.m. Free admission! 3rd Saturday of every month.

Non-Builder Owner Advice:

Marc Zeitlin to current builders - good advice for all of us:

"Having performed five Condition Inspections in the past week and a half and doing about 30/year along with a number of Pre-Buy examinations, I figured I'd mention an issue that I find pretty regularly on EZ type aircraft, and that's the clearance (or lack thereof) between the aileron mass balance and the lower lip of the aileron cove.

The plans are pretty clear that (at least on LE's and COZY's) that the clearance should be a minimum of 0.08" and a maximum of 0.2". I've rarely seen a plane with more than 0.125" (1/8") but I see MANY planes on which you could barely slide a piece of paper between the aileron and the cove lip when at the closest approach.

Why is this important? Well, the wing bends during high G maneuvers, where high "G" might be >2. And since the aileron and the wing may not bend at exactly the

same curvature, any mismatch between the aileron and the cove could lead to an interference condition if they're very close to one another. So you've wound yourself up in a 3G turn, pulling hard to hold it, and when you try to roll OUT of the turn, the ailerons don't move. Disconcerting, to say the least. Now, unloading the wings (push) will eliminate the issue and allow a roll, but why not just implement the plans required spacing and remove the opportunity for lockup.

I highly recommend that folks pay attention to the clearance requirements for all control surfaces (and there ARE clearances specified for elevators, ailerons and rudders in the plans) so that rubbing, friction, and lockup cannot occur."

Beagle: I would add that I've heard that the ends of the aileron can touch under load too - have someone lift each wing for you while you maneuver the ailerons.

Congratulations:

Member Andrew Mara, North Kingston, Rhode Island

"I've been putting off the rest of the sanding long enough. Time to flip her over and get busy!" https://youtu.be/3MfdQVL1n_Y

Plane down:

Rich Meyer, Millerburg, IN: "I want to report that Cozy Mk IV N1361S, beautifully built by Larry Sligar, protected her pilot and passenger to the end. The end was yesterday, a rough landing on rolling ranchland a few miles west of Gordon, Nebraska. We both walked away, not uninjured, but grateful for the strong structure. (I have compression fractures of my T8 and T9 vertebrae; no surgery, wear a back brace for a month or two.)

Because I am tall, I flew with no back cushion on my seat - just up against the fiberglass. It might have been worthwhile to have put a half-inch slab of memory foam behind me?

The main links in my error chain: I should not have taken off in 91° heat from an airstrip at 3561' in an aircraft that needs cruise speed in cooler air for sufficient engine cooling. Your mileage may vary, but I tried everything with throttle and mixture to no avail. By the time I turned back, it was too late: I overheated the engine beyond any reasonable metallurgical limits, and it seized. I shouldn't have attempted the afternoon departure in this aircraft; I should have spent the night in a hotel and departed in the cool of the morning. Having departed, I should have circled over the airstrip until I established cooling (which I would not have on this day in this plane) or returned to the field."

Plane down:

Our hearts go out to Peter Muller who's new prototype crashed August 6, 2021 in Nebraska.

Craig Westwood, VOBA reports: "Thankfully Peter was not seriously injured. Apparently re-drive failure. [N352TD Flight Tracking and History 06-Aug-2021 \(KMHK - FlightAware\)](#)" Peter Muller has already released his crash report video, and has decided on a two fans on a lower wing - a much lighter structure by putting a second wing above the first and abandoning the pressurized structure. Seems that was all in the works before this one crashed. <https://www.youtube.com/watch?v=u0PvEIgRaZA>



In Memorium:

Our hearts go out to the Ryan Field guys and the rest of the Arizona Bunch for the loss of Dr. Marc Borom who died flying the Long-EZ he built, the only known survivor of a canard midair I am aware of.



I spent some time with him at Punta Pescadero some time back. Indications are that he landed short of the runway, buried his nose and went upside down and was killed. The passenger was rushed to the hospital but came out again in fairly short order.

Builder's Help Desk:

No Spraylat for canopy protection?:

We had someone looking for where Spraylat could be sourced and I provided them a library item on a substitute recommended by member Scott Fish - Discoat. However, Kent Ashton provided this advice:

*"Spraylat acquired by PPG. It appears the new name is Protectapeel
<https://www.protectapeel.com/>"*

Wilhelmson Nose lift hinge point unscrewing:

Marc Zeitlin: "Yeah, I know, I'm not Jack Wilhelmson, but still...

A few days ago, a Long-EZ with the Wilhelmson system installed had a catastrophic failure (on the ground in the hangar - no aircraft damage or injuries) of the side attach bolts that hold the mechanism onto the orange anodized side plates. These are the AN4-12A bolts that we've discussed a number of times as being prone to unscrew themselves on an irregular basis on a high minority percentage of installations.

In this particular aircraft, BOTH bolts unscrewed themselves enough so that they wallowed out the holes in the side plates in which the bushings mount as well as broke off the bolts inside the mechanism sides. Obviously, the system is no longer usable until repairs are effected.

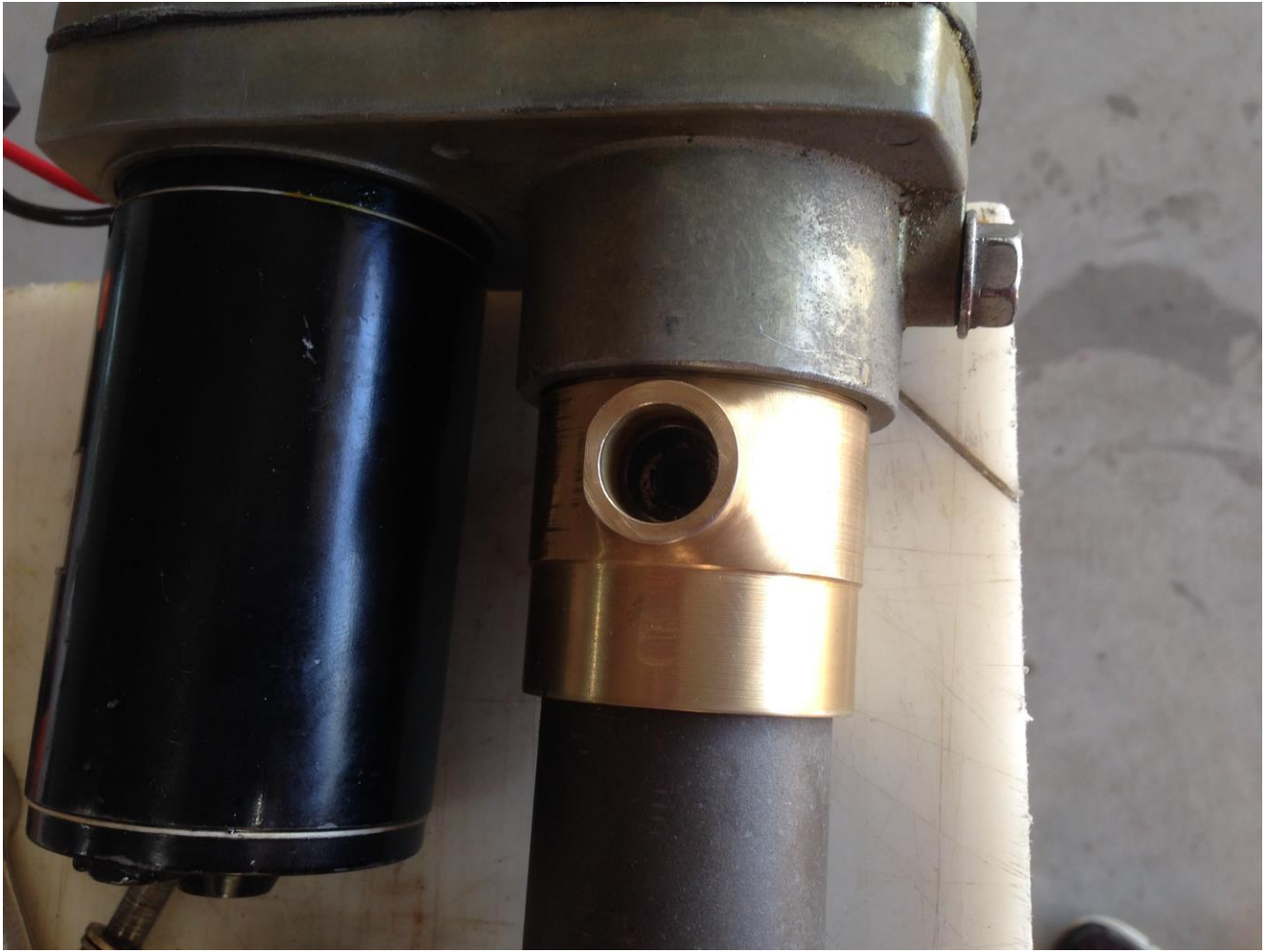
Since this bolt loosening has been an ongoing and known issue for a long time, numerous "fixes" have been attempted:

- Loctiting the bolts per Wilhelmson instructions (doesn't work - too much grease/oil inside the mechanism to allow the Loctite to hold)
- Regular bolt torque checking (variability in loosening times causes this to be an unreliable fix, as well as suboptimal from a maintenance standpoint)
- Jack's star washer/modified bushing fix (poor dimensional tolerance and failure to keep torque even with this fix prevent it from being a solution)
- Using drilled head bolts and safety wiring the two together to prevent unscrewing, if not a small amount of loosening

The ONLY one of these that is guaranteed to prevent bolts coming out is the last - using drilled head bolts (AN4H-12) and safely tying them from one side to the other (or to the side plates, if you'd rather).

I recommend that anyone that has a Wilhelmson system installed in their aircraft immediately check the mounting bolts for loosening, purchase AN5-12A bolts install / safety them for peace of mind. The frequency of these mounting bolt failures (I see it regularly on a large percentage of the customer's planes in which this system is installed) is just WAY too high to rely on them to stay put without some reliable backup."

Dave Ronneberg was not satisfied with the Wilhelmson motor to tube connection or the retention by these same bolts and created a machined unit to fit the Wilhelmson unit - he has had to carefully measure and fit each unit...



Bob Holliston, White Salmon, WA: *"Cutting the top of the rudder at 90 degrees to the trailing edge just doesn't look right. On both LE's that I built I did the top rudder cutout on the waterline, looks like it should (no hate mail, please). I noticed on Klaus' Long-EZ he cut the ends of the ailerons to line up with the airflow, not 90 degrees to the trailing edge. If my plane wasn't painted I'd do that too."* Beagle: I'm guessing that Klaus was planning to put fences along the trailing edge, adjacent the aileron as he did with the Varieze.

The Wing Root Layup - Dale Martin drew a sketch and described a better way to do the wing root layup that he nicknamed the Tar Baby Layup - the plans method being so messy - see Library Item below.

Key Maintenance Tip:

Klaus Xavier, Santa Paula, CA: *"While I was digging in the files I found a pic of some fences I made for a friends Velocity years ago. He had very positive results. Note that it is important that the fences extend past the TE of the wing."*



Requests to Individual Members:

Where is the Squadron Library?

I've had about 5 people ask where on the web the Squadron Library is. Well, the answer is that I've not found a place on the web to install it. However, if you want me to explore how big a "stick" the library would take, I don't mind mailing you a full stick of as much as I can store on it, or you can send me a stick and tell me what focus you want and I'll load it up. Computer sticks are getting more capacious - then there are the large capacity computer backup devices. I started collecting articles in 1982 and for years kept Xerox copies of stuff in Canard Pushers, IVCHC mailings, Squadron I newsletters, Central States, Nat's Cozy newsletter, the Velocity published newsletters where it was interesting to me before I was able to scan stuff in Color - the organization of documents is strictly quixotic - broken down XXAxx (XX are Long-EZ plans chapter order and with AA a code that informs me of the source. And xx, the number of the article from that chapter and source. If interested, first ask for the library bibliography to see if it is interesting to you. If you have a topic of interest, I can wend through the bibliography and try to send articles on topic, sometimes a scanned Xerox page at a time, sometimes saved as a multi-page document with color photos. I can't send you gobs of documents by e-mail. I've been indexing the Canard Squadron III mailings - now back to 2002 - they were amazingly small back then.

Alaska Trip 2022?

I have two slow moving high wing pilots at John Wayne asking about flying to Alaska in summer 2022. I've passed them some of what I know about Jim Price's and my trip up with Terry Schubert's planning and guidance. If you want to be chatting with them and running up to Alaska next summer with some co-horts, just contact Beagle David@CanardFinder.net

What the flyers are doing:

From Oshkosh:

Tom Henry, Firth, NE 7/26/21: *"The emergency aircraft repair area has been crazy busy the last two days even though opening day is today! No issues with canards yet that I've seen so far so good."* (Then heard of a Velocity nose tire issue and local volunteer who could help him if the emergency repair folks couldn't.)

Don Berlin, Tucson, AZ: En route to Osh.

Peter Magnuson, Ocala, FL: Landed 7/26/21

Robert Ibrahim, Hopkinsville, KY to go 7/28/21

Troy Chaddon, Oklahoma City, OK: *"It's a great show this year. Almost too many people attending. The APP they put out this year is a POS. Lots of canards here including the new Turbine powered velocity from Texas."*

Paul Wyckaert, Dentergem, Belgium: *"No Oshkosh for me this year. Terrible weather this summer, so more time to work on the Berkut. I'll send you an update with some pictures soon."*

Member Brian Hauck *"So as many of you know, when I landed at OSH and exited onto the grass and I blew my nose gear tire/tube. This morning I departed OSH and flew to east MI and landed for gas. Upon landing I had a moderate nose wheel shimmy. With my old tire I never experienced any shimmying. I plan to reduce my nose wheel pressure to help dampen it and the tools that I brought along probably aren't sufficient to allow me to tighten nose gear belleville washers. Any suggestions on how to tighten the nut?"* (For non-Velocity guys, there is a large nut that tightens the belleville washers.)

Member Dr. Rene Dugas provided the most elegant response:

I fly Jets with a little known outfit that also does great work. Currently out in Salina KS to study T storms for better fore-casting of these storms."



Member Maurice Orange, San Diego, CA: "Actually, I'm not flying anything at all at the moment. I sold my Lancair about five weeks ago, and the guys who bought it have already cracked it up.

In August 2020, I was involved in a terrible accident. A left turning driver slammed into my motorcycle. I spent four months in the hospital trying to recover from my injuries. For the first two months I was unconscious while doctors and nurses worked on my body and the paralysis of my left arm. After being in the hospital here in San Diego I was told to head toward the Mayo Clinic in Minnesota where I had my left hand amputated.

The great news is that I am back at work, with no resulting additional injuries. While I love flying, I doubt that I will ever own another aircraft. I will be heading back to Minnesota during the month of September to be fitted for my new arm and hand with fingers."

Andrew Stanley-Jones, San Francisco, CA - plane in NY: To my question about his flying..."Hey hey. No nothing: (Long-EZ's a hanger queen at the moment. Family life, kiddo, and job taking precedence at the moment."

Member Maj. James Nelson, Palmdale, CA: "Yeah it's been a while indeed, too long. I still follow the canard group, best group of aviators in the home built world, you guys hang tough and do great things.



RS Ryan, San Diego, CA: Asked what he had ready to go - Ryan takes in canards and refurbishes them: *"No I don't have anything to offer at this time, wish I did. Just sold my Dragonfly Mk2."*

Looking for a complete Cozy-3 in need of work or 99% finished. I have an engine. All fiberglass must be done, I am not a builder. I can do finish work, sanding, painting. My current plane is a DA20-A1 Diamond Katana. I really miss my E-Racer. Covid has us at EAA14 at loose ends also. EAA14 Hangar manager."

Dave Jewell, Olivehurst, CA 95961: "I am flying my canards - (Long-EZ:N291P is currently down, I am installing a new transponder and ADSB as well as going through every piece and part. I figure some of the crucial flight control surfaces have never been removed so I am taking it all down and verifying correct tolerance for hinges and such. Replacing every bolt with new as well. 35 years and counting for most of the components so I am just being cautious. Probably has around 3500 hours on the airframe- the engine is solid at 1200 hours. The Velocity N136LC was having an oil overheating issue that's pretty typical with the franklin engine. I installed an aftermarket part that took care of the flow issue and have been playing with the oil pressure. ADSB install planned for fall. About 200 hours on airframe and engine. Not flying it as much as I want- my ultralight business has been busier than normal. Averaging 20 hours a week flying ultralights so I don't have much time for regular planes!" (Owner: Blue Sky Powered Paragliding)

Dave Paiement, giving elder care at Inyokern, CA:

"Not much action up here in high desert. I still have two Long-EZs 3/4 built. And I have 5 dynofocal EZ mounts to sell. Haven't seen much of the Spencers flying the V8 Long-EZ either. A friend from California City flies up in a Varieze sometimes, and Ben who was building a Long-EZRG with a Rotax engine, moved to Oregon."

Tom Smith, Suisan, CA: Frankly, Tom surprised me with this comment - as I'd heard of nobody else using it after the initial articles in the 1980s: "Been flying over 20 years 1500 hours on mostly auto and mo gas, no problems. Running Teflon fuel lines, no leaks in tanks. Over 90% of all fuel in my tanks Auto or mo gas on Safetypoxy, No liner required. Also no crap in gascolator of fuel filter."

So Beagle asked: Anything done to make the engine alcohol resistant? I had heard engine gaskets and the like were the MoGas issue more recently.

Tom's Response:

"Keep an eye on rubber products. They don't do well after many years, or sometimes months."

Keith Spreuer, Flagstaff, AZ: "I finished the install of my new carbon cowl and did the first test flight today. The cowl is an Aero Composites standard Cozy IV cowl but the first one they did in Carbon Fiber. It is very light even compared to my old CF cowl but that was large for the Subaru. I estimate I cut at least 40 lbs. between the cowl and the removal of the Subaru bumps and the P-51 inlet and the Oil Cooler inlet. Should have been a large drag reduction and some improvement of prop inflow, but first test didn't show that. As expected the cooling would be just like others who first fly #3 and #4 were a bit warm. # got up to 450 of climb out in a 75 degrees F morning but cooled down when I enriched the mixture and lowered power. I know there are still areas to improve on the baffling. I have ramps but they may need tweaking too. Thinking of VGs in front of the NACA. How tall? Just behind landing brake? My oil temps are low so perhaps more air is going there than needed. The after pictures are attached. I'm still doing the fill and sand and am thinking to fly it to my friends in Compton (LA) to re-paint. I forgot how painful filling and sanding are! Looks like KANAB is on for me."

Member Lawrence Smiley, Indianapolis, IN: "I'm in the process of installing a ROTAX 915 iS on my LongEZ N724DT. I've designed and fabricated a new engine mount, since the 915 sets a couple inches lower than a O-235-L2C Lycoming. I've also designed and manufactured molds (tomorrow I'll be knife trimming the Radiator Diffuser Mold) for underwing diffusers and nozzles for the radiator (the 915 is water-cooled) and Intercooler (also turbo-charged). I'm mounting the oil cooler at the outlet of my belly NACA duct.

My 1/4" fuel lines must be replaced with 3/8" lines to handle the fuel injection system (requiring higher fuel flows with fuel returns to both strake tanks). Also a 4-way fuel tank selection valve along with dual electric fuel pumps will replace my original fuel selection valve. I've essentially had to re-engineer from the firewall back and make (including the upper & lower cowlings).

Other upgrades include a hydraulically-driven MT 3 blade Variable Pitched Propeller (engineered by MT to absorb the 140HP produced by ROTAX's 915 is Engine).

An RS Control Module will monitor the position of the pilot-controlled throttle, the outside air density, set the necessary engine operating parameters and the pitch of the propeller to most efficiently power the aircraft.

It is my goal to have my Long-EZ in the air by the end of December 2021. I'm looking forward to flying in front of my ROTAX 915 Is! If anyone would like to follow my progress, you can do so at: www.OnWingsofGlass.com."

From our fastest guy:

Klaus Savier, Santa Paula, CA: "One of the rarely mentioned measures of aircraft performance is the ratio between max speed and minimum speed that can be achieved. Bruce Charmichael has a lot to say about this in his book : "Personal aircraft Drag Reduction"

A > 4:1 ratio is excellent but rarely possible. If your airplane has a ratio of less than 3:1, well, that is not a good performer in my book regardless of how fast it is.

The TE flow fences (and vortilons) significantly lower the Vmin by reducing the span wise flow that occurs on All swept wings.

The AoA and high wing loading also make the span wise flow worse.

The VE has more sweep and typically a higher wing loading than those airplanes with LE type wings so it benefits the most from fences and vortilons.

If you live on an airport with greater than 6000' runways, you might never slow down to the lower speeds where the fences are effective. I operate from a 2600' airport and I have expended great effort to make sure I can land at minimum excess energy with good control. The Determinator has a ratio of just above 4:1, The Delaminator achieves about 3.6:1."

Asked for clarification by this nit-picking editor: "Are you talking about max full power level flight, gear up, vs. Gear down touchdown speed or final speed or canard stall speed?"

"It also does not matter if you measure your Vmin,Vmax ratio with your gear in or out, just measure it and try to improve it. Actually I don't think that Vmin changes with the deployment of the brake or gear since it does not change max

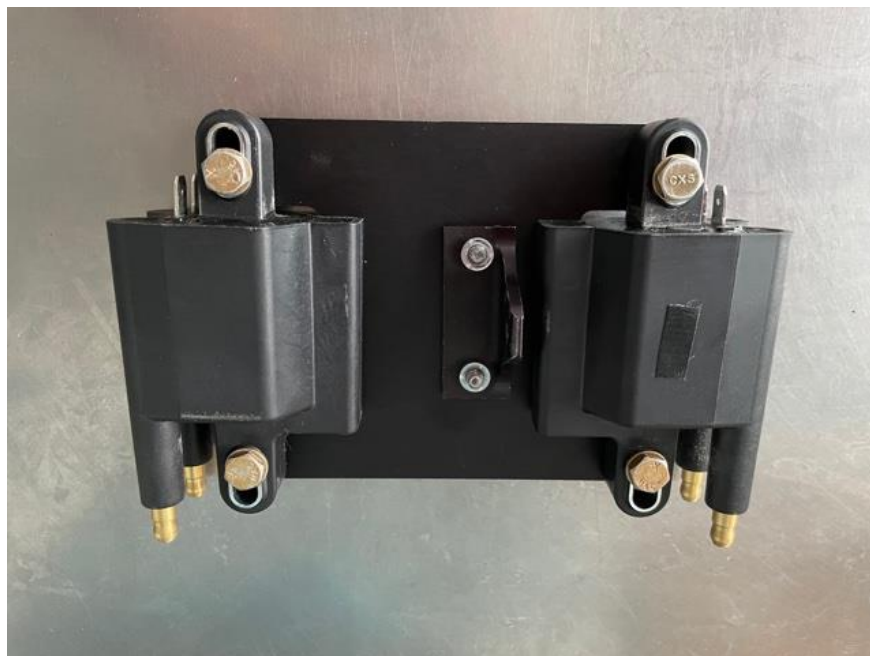
lift much. V_{min} is driven by weight over lift. Flaps are different since they provide some lift (but rarely increase the L/D).

As I mentioned before, the Canard fleet average speed is going down because people are adding weight and make poor choices in aerodynamics (your and Rich Lambs wing/winglet intersection mods for example)."



Here a Wing fence and the wing/winglet fillet Klaus is discussing.

Speaking for Lightspeed: "We have introduced new, more robust and more powerful coils almost a year ago. They are working great and allow a larger plug gap, 0.040", I am using 0.50" on my 10:1 engine. There is a very small power increase from the bigger gap and a noticeable improvement LOP. I used to operate the engine at an AFR of 15.6. With the new coils and larger gap I was operating at AFR 16.3-16.5. That resulted in a 4% increase in mileage and range! The new coils are \$125 each and might require different length plug wires."



Member Tim Fisher, based Modesto, CA was on hand to help out Izzy Briggs, who elected to land there with engine trouble



They were able to get the plane on a rented trailer and get it on the road to Marc Zeitlin's hangar at Tehachapi, driving through the night – another 193nm as the bird flies.



The event per Izzy Briggs, Concord, NH: *"Antonio asked me to look over his new purchase and to help him assess his readiness to fly it out of his short home field."*

I flew to Corvallis, looked it over and advised him not to fly it. The engine had a rough idle. There were other issues too. An experience driver might be able to manage but Antonio has 100 hours in Cessna 172's.

I offered to take it to KTSP (Tehachapi) so Zeitlin could do a deep Condition/Prebuy level inspection and get it straightened out enough to fly.

I noticed the cold cylinder before I made the decision to land. What got my attention was the engine missed, then missed again a few moments later. RPM started to roll back from 2650 to something less than 2,500. Something had changed, something was wrong, I'm not the kind of pilot that will spend time in the air with a passenger trying to figure it out. I picked Modesto, called the tower, called Pan, Pan, Pan and explained I had an unreliable engine and needed to land.

The plane was holding altitude so remained at 9,500' until I was over the airfield, then proceeded to circle right overhead to 28R. Landing was uneventful.

Oil was all over the cowling. Before we left Corvallis, the dipstick showed 7 quarts. At Tim's hanger it was showing 4 quarts.

*It's possible the plane would not have made it to Tehachapi. I stand by the decision to land at Modesto." **Beagle - here, here!***

New Members:

New Area Codes in the Address List:

As I had to re-arrange my e-mail lists, I discovered we have a number of Minnesota and Wisconsin guys in the same area codes - so I've rearranged the address blocks for area codes: 507(MN; 763(MN); 262(WI); and 920(WI).

Joining:

21 MALDONADO, LEOPOLDO "BUCK" 6709 Band Dr., Paramount, CA 90723-3738 562-405-9007 Leos76c15@GMail.com Long-EZ:NX407MN (N407MN)1310 hrs., O-320 Compton Airport (KCPM)

Joining:

21 RYBCZYNSKI, DOUGLAS R. 110 Sutter St. Apt 46, Tehachapi, CA 93561-2433 908-655-5792(Cell) [661-] dougrybs@gmail.com Bought: Varieze:N88KL 0-200A 540hrs Tehachapi Airport (KTSP)

"Funny enough, I've actually had the plane for about a year (and 70 or so hours) now but it took the FAA two iterations of losing my paperwork and check to get me registered. As for (a nickname), I generally just go by Doug, and am pretty well surrounded by people with call signs so it's probably a small miracle I haven't stepped in one yet."

Joining:

21 BECERRA, ANTONIO 14515 Corvallis Rd., Monmouth, OR 97361 541-908-0776 [541-] antonio@altezafilms.com Cozy IV:N287R 450 hrs. IO-360-A1A Corvallis Airport (KCV0)

"I'm very excited to be an active part of this community, and to maybe even use my skills as a cinematographer and photographer to help promote canard aviation. I'd be happy to look over any suggested reading you have. I'll be pouring over the POH and the basics for a while though. My current goal is to be ready to fly to Kanab this year. I have family in Orange County and head down there a few times a year and I'm sure that will only increase now that I have a Cozy." I hope the Zeitlin touch makes this a good plane to fly.

Joining:

21 POOLER, TIM 111 Hospital Dr. Apt#8, Watertown, WI 53098 920-988-5510
sai702team@gmail.com Cozy IV:[N319AJ] Ch. 16 Watertown Municipal Airport
(KRYV)

*"Thank you for reaching out...It's nice to get input from other canard builders and flyers. My progress has been slow and steady, but progress none the less.
(Beagle mentioned the convenience of lakes in Wisconsin for engine out landing.)
At least in the desert you're warm in winter. Winters can be long a brutal here in Wisconsin."*

Joining:

19 GOODMAN, RYAN [719-] ryan.m.goodman@gmail.com Has a TriQ Runs
homebuilder group on Facebook. Running Freeflight Composites. Meadow Lake
Airport (KFLY) **Ryan has volunteered to take over the Kanab Flyin...**

Joining:

20 SIVAKUMAR, VIBISH 5535 Westlawn Ave, Apt 149, Los Angeles, CA 90066
646-717-6967 656-717-6967(cell) VibishS@GMail.com Emeritus, Student Pilot,
wants to build Long-EZ Santa Monica Airport (KSMO)

Joining:

21 PAPSON, JOHN & LIN 2 Bradford Pl., Melville, NY 11747 631-708-6535 631-
427-6511(H) WB2Cik@GMail.com Emeritus Wants to build Long-EZ, was toying
with idea of a Mazda Engine Farmingdale-Republic Airport (KFRG)

Changes in E-mail:

Drew Chaplin, Bluffton, IN drewc@cozy1200.com

Changes in Address:

16 SOLIS, DAN 8153 N. Cedar Ave Apt 218, Fresno, CA 93720-1864 559-499-
3488 dan.solis@rocketmail.com Has Long-EZ:N8HA O-320-D2A & Varieze:N8MR
809 hrs. O-200 Sold E-Racer project Reedley Airport (O32)

12 REEDER, ZACH 6790 Bonny Doon Rd, Santa Cruz, CA 95060 661-754-1544
[831-] zachcheyenne@gmail.com RV8:N38ZC restored N187RR: Catbird
Watsonville Airport (KMHV)

99 BOWSER, STEVE "**CRUSTY**" 2242 Fickle Hill Rd., Arcata, CA 95521-9058 707-822-8803 707-845-6813 stebowsr@GMail.com Long-EZ:N55LZ 2462 hrs., O-320 Partner Hinkley, in VA with Long-EZ and Velocity Rohnerville Airport (KFOT)

04 WILSON, TIMOTHY "**DARKSIDE**" 3005 Monterey St., San Mateo, CA 94403-3248 404-507-2376(cell) [650-] tim@darkoaksoftware.com **FOUND:** Long-EZ:N68MB O-320-B2C 600 hrs. Instructor San Martin (E16)

16 FIERRO, JOSE "**Chief**" 1146 Pembridge Dr., San Jose, CA 95118 843-597-4533(Cell) [408-/669-] Jose.R.Fierro@GMail.com Velocity XLFG:Ch20 O-540 300 hp Placerville Airport (KPVF)

Added to the Squadron Library:

17CZ4: July 2021 Modifying the Davenport pitch spring for more nose up authority by Marc Zeitlin

17CZ5: July 2021 Example of Davenport combined with Fergelli electric trim by Trevor Howard

19CA1 Aug 2021 Doing the wing root layup - the Tar-Baby layup by Dale Martin

22SIII28 Aug'21: Questions on short radio range and a compendium of possible solutions gathered from Squadron publications...

23MS88 Apr 2006 Evaluating cooling on RV by C. Zavatson

23SIII30 4/17 - 6/21 Cooling the Beast. A running log of the efforts to cool the O-540 Cozy IV by David Orr

27SIII15: Aut 2021: Takeoff and Landing high altitude by the Colorado Squadron members and the 70/50 rule

Not so Trivial:

Member Shawn Brenneman of Mountain View, CA: *"After years of setbacks, San Carlos Airport's FBO finally got their Swift Fuels truck operational yesterday, the first in California."*



This morning, I was their first UL94 customer, adding 10 gallons to my Cozy IV's left tank.

The line folks checked to make sure that the aircraft had the appropriate placards for the fuel (I pointed to the giant EXPERIMENTAL label, which is sort

of like a universal STC), and also that the engine was on Swift's [list](#) of approved engines (my plane has an IO-360.)

I did my run up and takeoff on the right tank, using the known-good 100LL fuel, and switched to the UL94 tank at an appropriate time mid-flight. There was, as expected, no discernible change in performance. That was with a roughly 40% mix of 100LL, so I wouldn't say the new fuel experiment is complete, but the initial test was reassuringly uneventful.

A couple extra observations:

- Avgas prices are pretty high in California right now, so the Swift was actually ten cents cheaper per gallon than 100LL. They say they're going to try to keep the price competitive, we'll see what happens.
- Swift UL94 isn't dyed, so when mixed with 100LL the fuel color becomes "very pale blue." Gami's new unleaded fuel is dyed yellow, hopefully Swift follows suit so that it's easier to detect water contamination.
- Swift are promising a 100 octane formula "real soon now." And for folks who need STCs for their planes, they will upgrade the UL94 STC for free when the new formula is certified.

Between this and Gami's newly certified G100UL, it's starting to look like unleaded Avgas could finally become a real thing, merely 25 years after tetraethyl lead was banned for road use in the US. A full rollout might take another 25 years, but I'm optimistic that it's happening at all.

Oh and Trivia:

"HOUSTON - July 26, 2021 - FlightAware, the largest global provider of flight information and actionable aviation intelligence, announced the launch of [Aviator](#), the ultimate flight tracking suite for piston airplane pilots and operators.

FlightAware's [Aviator](#) is an inexpensive subscription-based software, accessible via the web and iOS. Any subscriber can register multiple aircraft, including rentals, and unlock indispensable features like Ready To Taxi™, Premium Weather and Map Layers, Surface Visualizations, FBO Scheduling, and ETAs automatically updated via FlightAware's powerful machine predictive technology, Foresight™.

"Aviator was created by FlightAware pilots to share advanced flight tracking features with other piston airplane pilots. Over the years we've gone from flight tracking to becoming the central data hub for both the business and commercial aviation industries. With Aviator, we're bringing a product with robust tools and processes developed for the most sophisticated flight departments and commercial airlines, right to the GA pilot." said Daniel Baker, FlightAware CEO.

With Aviator, family, friends, and FBOs can receive alerts from preflight and taxi out, through landing and taxi in. Communications are coordinated as stakeholders stay informed. From surface visualizations displaying taxiing planes and surface movements to comprehensive airborne flight tracks, Aviator also provides monthly history reports for pilots and operators to review critical flight details.

About FlightAware

FlightAware is the leading provider of real-time and historical flight information and insights to the global aviation community. FlightAware serves all segments of the aviation marketplace through best-in-class applications and data services that provide comprehensive information about the current and predicted movement of aircraft. Through the collection, interpretation, and enrichment of hundreds of sources of data, including data from FlightAware's own proprietary terrestrial ADS-B network with tens of thousands of receivers spanning seven continents in 200 countries and territories, FlightAware transforms millions of raw flight data elements and delivers them as coherent, easy-to-consume flight stories. As a single source of accurate and actionable data for aviation players large and small, FlightAware is Central to Aviation™.

<https://flightaware.com/commercial/aviator> FlightAware is privately held, with headquarters in Houston and sales offices in New York, Austin, Singapore, and London.

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~~\$200.00~~ \$140.00 annually

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