May 2021

Home of the "Panhandle Pelicans"

EAA 485

Squawk 485

Next Meeting May 8th at 1000
At Our Clubhouse
Details
IMC/VMC Club Meets at 0830-0930

Details

President

John McKiernan

John

Cell - (850) 291-4134

Hello Everyone,

Last month we had our second weather cancellation and sustained a broken window on the large glass on the northeast side of the clubhouse during the early morning. The window had a crack for years and survived Sally and some other big storms previously. I had cancelled the meeting already when the broken window was found by Brian Harris and fortunately there was no other damage done. Good Job Brian! Most of the window is intact and only about an 18" triangle piece came out. It's a bit problematic to repair due to its size 46" x 51" but I believe we have a solution in hand.

So we're going to try again to get this chapter jump started on May 8th with both the VMC/IMC club and our normal chapter meeting. As you'll see in Ralph Moser's updates we've invited some special guests to attend the meeting. We will not be having lunch following the meetings. We've got some good info to pass along to you and as always look forward to your inputs. I hope many of you can attend. John

Chapter Dues

If you haven't paid your dues for 2021 please bring $25 to the meeting or if you can't attend send a check made out to **EAA 485** add in the memo area **2021 dues** and mail to:

Mark Rogers

22959 Carnoustie Dr.
Foley, AL 36535

The Journey Begins Again #4

RAY AVIATION SCHOLARSHIP UPDATE

Ralph Moser, Chapter 485 Coordinator

WE DID IT AGAIN!

As I write this, we are one week short of closing out applications for our 2021 Ray scholarship. I personally attended four functions this spring to do recruiting. They included the Argo Flight Club, Escambia County School District Aviation Advisory Committee (with Craig Spoke), Civil Air Patrol Cadet Squadron drill (with Bill Diaz), and Women In Aviation International Gulf Coast Chapter meetings.

We have six applicants. I am almost through verifying that all applicants have completed all pre-requisites. We have given three applicants (16&17 year olds) Young Eagle flights, and one 19-year old an Eagle flight.

Thanks to Nick Hanssen for doing the flying, and Steve Foerster for providing his Cherokee 140. The other two applicants already had Young Eagle flights. This is a desired credential in EAA's eyes for a scholarship applicant. One ap-

Pensacola FL

plicant has the FAA written completed, and the others have been encouraged to get started on Sporty's or some other form of online private pilot ground school.

The six candidates are being invited to our May 8th chapter meeting, to meet chapter members and see what we do. After the meeting, Bill Diaz, Craig Spoke and myself will meet with our former Ray winners to take inputs and finalize interview details.

All interviews are planned for Saturday, May 15th . Please cooperate with us by avoiding the clubhouse that day.

Then I notify the winner ASAP after the interviews, coordinate with John and Mark to make the individual a complementary chapter member if not one already, and sit down and complete the application to EAA with the winner.

Our goal is to get it submitted by the end of May, and formally award the scholarship at the June chapter meeting. Flight lessons must start within 60 days of the award. As soon as the winner is determined, we help develop a ground school plan specific to the individual's needs, in coordination with the flight school.

Young Eagles Update

Ralph Moser, Young Eagles Coordinator

While it is not yet safe or smart to put on a full-blown Young Eagle rally, we are carefully getting back into the business. As you read in my Ray update, we gave our scholarship applicants Young Eagle flights on a one-on-one basis, to enhance their application status. And based on a request from the Chappie James Flight Academy to give rides to a limited class of 10 students on June 18th, we discussed it with the chapter officers, and committed to this. This is not open to the general public, and we intend to do it with careful COVID-19 precautions. We can discuss this more at the May 8th chapter meeting.

Meanwhile, for those of you who have intentions of flying Young Eagles for this event, or later in the fall when we hope to put on a rally, here is a refresher of the pilot requirements off the EAA website. You can find your EAA national membership status after you sign in to eaa.org under "My Account", and your Youth Protection Policy 3-year currency status at My Account>Personal Information>Training Information.. Ralph

As Ralph has stated we are not conducting chapter Young Eagle rallies and continue to evaluate when we will be able to. This in no way prevents our "qualified" chapter Young Eagle pilots from conducting one on one flights. Follow Ralph's guidance on determining your currency status with the EAA Youth Protection Policy. We'll also address this during our May 8th meeting and go over the Young Eagle registration process. John

Mark & Brenda Rogers RV-14
Up Up and Away

The ink was barely dry on the "Pink Slip" from the DAR and Mark successfully completed the first flight in N120MB. Early in the morning of May1st the Lycoming IO-390 swiftly lifted the aircraft off runway 36 at Foley Airport for an uneventful first flight and later a second flight.

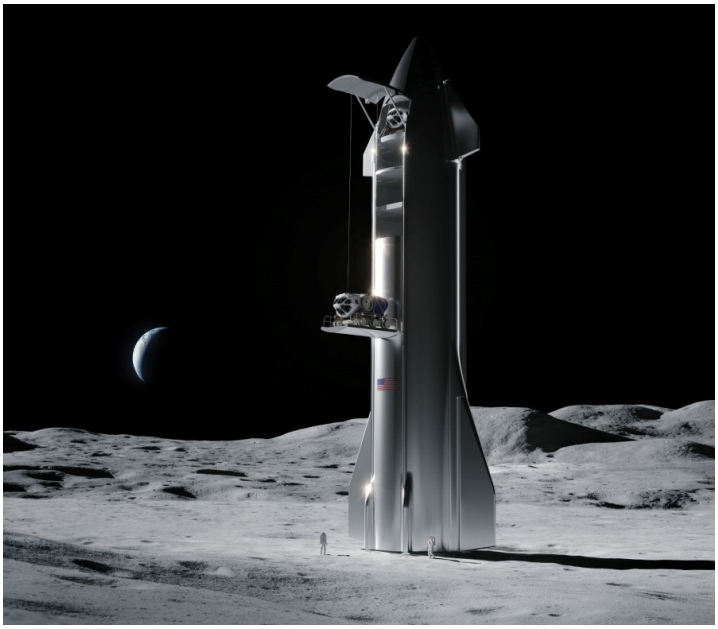
"Flights yesterday were "nominal", pretty much what I expected . 1800 fpm at 95 kias on departure was pretty nice!

Mark has a lot of flying and testing to go, flying off 40 hours of Phase 1 requirements. Getting acclimated to a new aircraft as well as a very sophisticated EFIS, electrical and other aircraft systems aboard is no easy task. We'll get Mark to talk about his test program. It's never too early for anyone building an aircraft to begin thinking about the test program. The aircraft you build in the Experimental world is your creation and no two are built the same. That's what makes it a fantastic experience and Mark and Brenda are repeat offenders.

Space… The Final Frontier

SpaceX Pulls A Lunar Lander Out Of The Hat

Paul Bertorelli April 18, 2021



In the early days of the space program, a famous quote was attributed to multiple astronauts, but Alan Shepard's version was the most succinct. When he was asked what he was thinking about sitting atop the fueled Redstone rocket, he replied, **"The fact that every part of this ship was built by the lowest bidder."**

The astronaut candidates primed for the next Moon mission—inspirationally planned for 2024 must be thinking the same thing now that SpaceX has been awarded the lowest-bid contract to develop the next lunar lander. They must also be eyeing SpaceX's impressively consistent record of exploding rockets down in Texas, because that's the very flight hardware they'll be riding to the lunar surface. Or at least some version of it.

As we're reporting, SpaceX was awarded a $2.9 billion contract last week to develop the lunar lander which it proposed to base on its Starship concept that it hopes will fly humans to Mars. The award was, evidently, a surprise given that a year ago, NASA was least impressed with SpaceX's initial proposal and found it technically wanting. Two other companies - consortiums, really—were awarded more seed money than SpaceX got.

Blue Origin, teamed with Lockheed Martin, Northrop Grumman and Draper, was given the most at $579 million, with Dynetics, partnered with Sierra Nevada, $253 million. SpaceX got a paltry $135 million. NASA had its reasons. In a report, then-NASA Associate Administrator Steve Jurczyk found that SpaceX's proposal was developmentally and technically complex and failed to recognize the potential for delays. Besides its astonishing achievements, pyrotechnics notwithstanding, SpaceX and Elon Musk are famous for missed deadlines.

But low bid is low bid and evidently, SpaceX left quite a bit on the table. Blue Origin's bid was said to be substantially higher and Dynetics' was substantially higher than Blue Origin's. No specific values were reported, other than SpaceX's winning bid. This not being NASA's first barbeque on big contracts, it had initially wanted to keep all three companies engaged in a competitive process, but Congress awarded only one quarter of the requested budget, so SpaceX was awarded the sole contract.

During the initial proposal phase, NASA thought Blue Origin's proposal was the most highly developed and it was thought to have the inside track. What changed, evidently, was that NASA liked the Starship's capacity to put a lot of weight on the lunar surface—as much as 100 tons—and the agency was impressed with technical progress made on the necessary landing technology. Even if the rockets are reliably blowing up now on landing, NASA probably assumes—rightly—that further developmental work will sort all that out. After all, SpaceX blew up Falcon boosters before it figured out how to land them reliably for reuse. (It has landed 79 and reused 40.)

All three companies proposed different approaches to a new lunar landing. Dynetics was kind of an upgraded version of the Apollo-era Lunar Module, with more capacity and reusability. Blue Origin's Blue Moon was similar, but larger and more modular for flying different kinds of missions. SpaceX's version is the giant among the three, towering 160 feet high with a 30-foot diameter. (That's twice the height of Al

Shephard's Redstone and almost six times the diameter.)

The overarching program here is called HLS for Human Landing System and the Moon portion of the project is called Artemis, who was Apollo's sister and the Greek goddess of the hunt, wilderness and the Moon. (And also of chastity, but I'm not sure how NASA PR will handle that.) The program is designed to put the first woman and the next man on the lunar surface.

Like Apollo, it will use lunar orbit rendezvous, but a little differently. SpaceX's Starship would be launched ahead of time and a crew would dock, having flown from Earth in the new Orion crew capsule. (Parts actually available.) The Starship would then land on the lunar surface and be capable of launching itself to reverse the trip. With a 100-ton payload capacity, the astronauts can have a pretty ambitious camping trip.

Artemis 1, with the Lockheed-built Orion, is scheduled to launch this year, but it's not clear that it will. Just as a reminder, the Starship we've been watching blow up in Texas is the actual landing vehicle; a version of its technology will be used as the Artemis lander. But eventually, that system will be a super heavy launch vehicle itself. Orion, by the way, is intended to launch on NASA's new SLS—Space Launch System—whose … parts aren't yet available. But they're supposed to be before the end of the year for the unmanned Artemis 1 mission. NASA just had a successful hot fire of the SLS engines.

So the $2.9 billion question is whether SLS, Orion and the Starship can all come together for a mission to the Moon in 2024, as proposed by the Trump administration. If it were the very last day of 2024, that leaves about 43 months. Place your bets. I think it's doable, but my bet is it won't happen. The schedule will slip past that at least into the following year, if it isn't canceled altogether.

And judging how Boeing has stumbled with its Starliner crew capsule, I don't have much confidence that it would bring much to the party to grease things along. The Orion capsule itself has been in development for more than 15 years. Good thing we haven't been in a hurry. I would love to have been a fly on the wall for NASA's discussions about awarding the SpaceX sole contract. It could be quite a gamble if it goes south and the other two contractors have gone cold. I'm not sure I would want to own the decision. Then again, sure I would. I'm not worried about my government retirement.

We've been talking about a trillion here and a trillion there so often that $2.9 billion seems like a piddling sum for SpaceX's lander. It's about the cost of a Virginia-class submarine or a little less than a fifth the price of a Ford-class carrier. But how does it compare to the Apollo-era hardware? Interesting question.

Grumman developed the original Lunar Module with a contact awarded in 1962 for about $350 million. It first flew, manned, in early 1969. Adjusted for inflation—wait for it—that's about $3 billion in 2021 dollars. I'm sure they're scratching their heads at Lockheed Martin over how Elon Musk pulled that off.

Of course, he hasn't yet. But the check is in the mail.

Chapter Clubhouse Field Day

This has been way overdue. My thinking on this is to schedule on a weekday instead of a weekend. I estimate a crew of 6 to 8 people that have some flexible availability will work fine.

The clubhouse needs a thorough indoor and outdoor cleaning and some painting. There are new lights to install in the eating area and we need some organizing of the hundreds of magazines which we need to get to our local schools. We have a box of stickers to place on the covers of the magazines with info on our EAA chapter and Young Eagles. .

This will be a topic of discussion at the meeting and we'll have a signup sheet for people volunteering.

"If you push the stick forward, the houses get bigger. If you pull the stick back, they get smaller. That is, unless you keep pulling the stick all the way back, then they get bigger again."

RV-7 Instrument Panel (Morphing)

Part 1

The initial panel in my RV-7 served me well. It consisted of a Dynon FD-180 EFIS/EMS, Trio roll and altitude autopilots, Garmin 300XL and a Garmin SL-30 Nav/Com. It also had a backup Avmap EKPIV GPS and a very old transponder and audio panel

Time to upgrade: I had a Dynon D10A from another project and it would replace the airspeed indicator and talk to my FD-180 allowing mimicking the capabilities of the 180 and could also act independently as it's own EFIS display. I also found a good deal on a used Garmin GNS 480W to replace the aging Garmin 300XL. I purchased a Dynon SV intercom that allowed replacing my audio panel and intercom and also added an Appareo ESG ADSB-Out transponder. The Avmap EKP IV was swapped with a tablet to display charts and ADSB-In and a Garmin 496 for a backup GPS. Later I built a Stratux dual channel ADSB-In receiver with remote antennas located behind the tablet using a remote GPS receiver that works off ships power. The last piece of the upgrade was a Dynon HS 34 ARINC 429 module integrating precision approach capability located on the glareshield. It also allows setting baro, hdg and course on the FD180/D10A with it's dedicated knobs.

Panel update #1 circa 2018

In 2020 I got a very good deal on a never installed Advanced Flight Systems AFS 4500 EFIS system. It was the last of their legacy EFIS systems but very advance having a good sized screen, Synthetic Vision and Highway In the Sky. I even will display ADSB-In on its map. I wasn't sure if I wanted to go through a panel upgrade but my original Dynon FD-180 was nearing 13 years in service and the D-10A was right behind it. I also got an unbelievable deal on a complete Trio Pro-Pilot autopilot with servos. I already have servos but it's nice to have spares.

It's now 2021 and I've been tinkering with a Pandemic Panel Update for a while. Yes, let's just call it a PPU for short. To install all of this would take a new panel and I just happen to have a spare RV-7 panel. As you can see I've got a lot of switches and the wiring harnesses moving electrons through the switches are nicely laid out behind the panel and don't allow much wiggle room. So switches will need to remain close to their present location. Another area of "don't mess with this" is the engine controls. Although the mounting bracket they run through will be disconnected and reinstalled on the new panel, the actual cables will not be touched since this would become major surgery. The 3 cables would have to be disconnected from the engine and all clamps etc. along the way would have to be removed requiring easily an all day project or longer. The goal here is to minimize the damage and time the aircraft is out of service.

So with that in mind I started with a clean slate panel and printed paper pictures to scale of what I wanted to do. I needed to be sure I could realistically cram all of this "stuff" into the panel without encroaching on any prohibited turf.

Using Turbocad 18 and a Van's furnished RV-7 Tip-Up instrument panel file I began setting up a new panel. Virtually everything is available on the internet including avionics installation manuals and plenty of pictures of avionics gear. Next step is prioritizing items beginning with the big stuff. The radio stack would need a 2" extension in height and has over 100 wires connected to the gear. Obviously this is "verboten" territory but I only need to lower the stack about 1/2" so it's doable. Next the AFS-4500 was placed where it allows a good view and

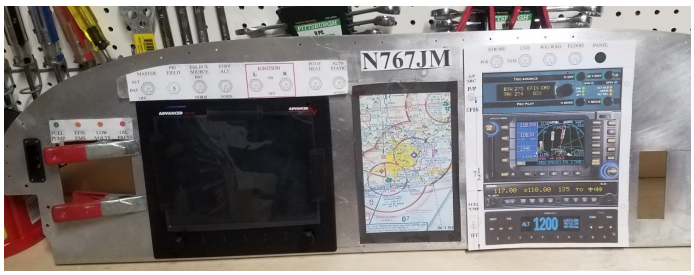
doesn't encroach to much on the switches above it. I set the switches up with some standard displacements and added additional items. Fortunately, I've done this before and have many files from my earlier "dream" panels. The placement of the 4500 interferes with a panel support rib that will require surgery and hopefully be relocated about 5" inboard. I've made a replacement rib just in case

Wait! I found more unused space so we can't have that. I decided to buy a Garmin G5 EFIS as a backup. I used a recessed mount which took some delicate work on the panel since the actual outside of the instrument slides thru the panel opening and captures behind it. To make matters more challenging the recessed mount is larger than the instrument making centering difficult.

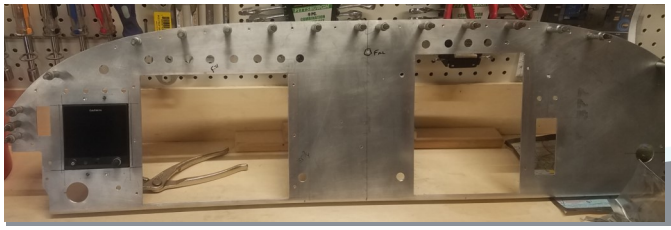
Here is the panel setup in process.

Next is to print to scale templates

Here the big hacks have been made and the AFS 4500 is installed by clamping its tray.



The Garmin G5 fits nicely.



The clecos are holding a 42" piece of angle 3/4" angle for panel rigidity that gets rivetted. I remember doing this on the original panel and it's still tedious work.

Next time hopefully this project will be well underway.

I forgot something. My RV-10 project got a little jump start and QB wings should be in my hangar before the next newsletter. Oh and my Avid Mark IV needs new wing fabric and well, you get the idea. John

Zenair Founder Chris Heintz Dies

One of general aviation's most prolific aircraft designers and a pioneer of the modern homebuilt movement, Zenair founder Chris Heintz died at his home in France on April 30. He was 82. In his more than 40 years as the head of Zenair, Heintz designed at least 12 aircraft that became acclaimed kits and plans-built aircraft. "Best known in aviation circles as a prolific and talented aircraft designer, aeronautical engineer, innovator, builder, entrepreneur, lecturer and author, Chris has touched the lives of thousands throughout his exceedingly productive professional life," the company said in announcing his death on May 1.

Heintz started Zenair in his garage in Midland, Ontario, in 1974. He designed a new aircraft and the kit parts to build it every few years and to date more than 10,000 have been completed. The company built a U.S. plant to serve that growing market and the company remains in the family. Heintz was inducted into the EAA Hall of Fame in 1999.

AN Hardware

AN refers to the specifications of the hardware which originally was named for **A**rmy-**N**avy. The basic system is relatively easy to understand and it's just another way of calling out hardware. Below is a handy chart that gives you the bolt diameters AN3 =3/16"(#10) thru AN8 1/2" and there lengths. Notice there is some tolerance on both the Grip (shank) and Length.

AN bolts will always have markings on the heads. These vary from individual manufacturers. Sometimes they can be confused with Grade 5 or 8 bolts. For more information about AN hardware click the following link. Ron Alexander's: [Aircraft Hardware - What You Need to Know Part 1]

AN BOLT DIMENSIONS

AN No.	AN3		AN4		AN5		AN6		AN7		AN8	
Diam.	3/16" (.186 -.189)		1/4" (.246 - .249)		5/16" (.309 -.312)		3/8" (.371 - .374)		7/16" (.433 -.437)		1/2" (.459 - .499)	
DASH NO.	GRIP +1/64 -1/64	LENGTH + 1/32 - 1/64	GRIP +1/64 -1/64	LENGTH + 1/32 - 1/64	GRIP +1/64 -1/64	LENGTH + 1/32 - 1/64	GRIP +1/64 -1/64	LENGTH + 1/32 - 1/64	GRIP +1/64 -1/64	LENGTH + 1/32 - 1/64	GRIP +1/64 -1/64	LENGTH + 1/32 - 1/64
3	1/16	15/32	1/16	15/32								
4	1/8	17/32	1/16	17/32	1/16	19/32						
5	1/4	21/32	3/16	21/32	3/16	23/32	1/16	45/64	1/16	23/32		
6	3/8	25/32	5/16	25/32	5/16	27/32	3/16	53/64	3/16	27/32	1/16	27/32
7	1/2	29/32	7/16	29/32	7/16	31/32	5/16	61/64	5/16	31/32	3/16	31/32
10	5/8	1-1/32	9/16	1-1/32	9/16	1-3/32	7/16	1-5/64	7/16	1-3/32	5/16	1-3/32
11	3/4	1-5/32	11/16	1-5/32	11/16	1-7/32	9/16	1-13/64	9/16	1-7/32	7/16	1-7/32
12	7/8	1-9/32	13/16	1-9/32	13/16	1-11/32	11/16	1-21/64	11/16	1-11/32	9/16	1-11/32
13	1	1-13/32	15/16	1-13/32	15/16	1-15/32	13/16	1-29/64	13/16	1-15/32	11/16	1-15/32
14	1-1/8	1-17/32	1-1/16	1-17/32	1-1/16	1-19/32	15/16	1-37/64	15/16	1-19/32	13/16	1-19/32
15	1-1/4	1-21/32	1-3/16	1-21/32	1-3/16	1-23/32	1-1/16	1-45/64	1-1/16	1-23/32	15/16	1-23/32
16	1-3/8	1-25/32	1-5/16	1-25/32	1-5/16	1-27/32	1-3/16	1-53/64	1-3/16	1-27/32	1-1/16	1-27/32
17	1-1/2	1-29/32	1-7/16	1-29/32	1-7/16	1-31/32	1-5/16	1-61/64	1-5/16	1-31/32	1-3/16	1-31/32
20	1-5/8	2-1/32	1-9/16	2-1/32	1-9/16	2-3/32	1-7/16	2-5/64	1-7/16	2-3/32	1-5/16	2-3/32
21	1-3/4	2-5/32	1-11/16	2-5/32	1-11/16	2-7/32	1-9/16	2-13/64	1-9/16	2-7/32	1-7/16	2-7/32
22	1-7/8	2-9/32	1-13/16	2-9/32	1-13/16	2-11/32	1-11/16	2-21/64	1-11/16	2-11/32	1-9/16	2-11/32
23	2	2-13/32	1-15/16	2-13/32	1-15/16	2-15/32	1-13/16	2-29/64	1-13/16	2-15/32	1-11/16	2-15/32
24	2-1/8	2-17/32	2-1/16	2-17/32	2-1/16	2-19/32	1-15/16	2-37/64	1-15/16	2-19/32	1-13/16	2-19/32
25	2-1/4	2-21/32	2-3/16	2-21/32	2-3/16	2-23/32	2-1/16	2-45/64	2-1/16	2-23/32	1-15/16	2-23/32
26	2-3/8	2-25/32	2-5/16	2-25/32	2-5/16	2-27/32	2-3/16	2-53/64	2-3/16	2-27/32	2-1/16	2-27/32
27	2-1/2	2-29/32	2-7/16	2-29/32	2-7/16	2-31/32	2-5/16	2-61/64	2-5/16	2-31/32	2-3/16	2-31/32
30	2-5/8	3-1/32	2-9/16	3-1/32	2-9/16	3-3/32	2-7/16	3-5/64	2-7/16	3-3/32	2-5/16	3-3/32
31	2-3/4	3-5/32	2-11/16	3-5/32	2-11/16	3-7/32	2-9/16	3-13/64	2-9/16	3-7/32	2-7/16	3-7/32
32	2-7/8	3-9/32	2-13/16	3-9/32	2-13/16	3-11/32	2-11/16	3-21/64	2-11/16	3-11/32	2-9/16	3-11/32
33	3	3-13/32	2-15/16	3-13/32	2-15/16	3-15/32	2-13/16	3-29/64	2-13/16	3-15/32	2-11/16	3-15/32
34	3-1/8	3-17/32	3-1/16	3-17/32	3-1/16	3-19/32	2-15/16	3-37/64	2-15/16	3-19/32	2-13/16	3-19/32
35	3-1/4	3-21/32	3-3/16	3-21/32	3-3/16	3-23/32	3-1/16	3-45/64	3-1/16	3-23/32	2-15/16	3-23/32
36	3-3/8	3-25/32	3-5/16	3-25/32	3-5/16	3-27/32	3-3/16	3-53/64	3-3/16	3-27/32	3-1/16	3-27/32
37	3-1/2	3-29/32	3-7/16	3-29/32	3-7/16	3-31/32	3-5/16	3-61/64	3-5/16	3-31/32	3-3/16	3-31/32
40	3-5/8	4-1/32	3-9/16	4-1/32	3-9/16	4-3/32	3-7/16	4-5/64	3-7/16	4-3/32	3-5/16	4-3/32

Aviation Briefs

Bridge Stunt Leads To ADS-B Revocation

Russ Niles

A well-known Ohio pilot and aviation columnist may be the first to run afoul of a new regulation triggered by the ADS-B mandate enacted in 2020.

Martha Lunken, 78, who pens a popular column in *Flying Magazine* and is a fixture in Midwest aviation, flew under a bridge near her home airport, which bears her name, in southern Ohio in March of 2020, an impulsive and "immature" stunt she told *AVweb* she knew was wrong. But she said a coincidental malfunction of her Cessna 180's transponder with ADS-B-Out may have resulted in her being slapped with an emergency revocation of all her certificates instead of the suspension that normally accompanies such transgressions.

Lunken said that after she'd crossed flying under a bridge from her bucket list she headed home and checked in with Cincinnati Approach and was told her transponder was off. She said she reset it and set a new code and it resumed working. In their subsequent investigation, FAA officials said that she'd shut it off on purpose to stop the system from tracking her while she threw caution to the wind. Lunken, a longtime former FAA safety inspector and veteran flight instructor, vehemently denies the charge. "I know what I did in that cockpit and I did not turn it off," she said.

The agency used a new section of its Legal Enforcement Actions guidebook for FAA staff, which calls for revocation of a certificate for "operating an aircraft without activated transponder or ADS-B Out transmission (except as provided in 14 C.F.R. § 91.225(f)) for purposes of evading detection." The section was added in a package of other amendments in January of 2020, just after ADS-B became mandatory in most controlled airspace and about two months before Lunken's flight of fancy. The section is on page 9-14 at the bottom.

Lunken said she took the 180 to her avionics tech, who said the transponder seemed to be loose in its mount when he took it out. It tested fine on the bench and after it was re-installed.

The FAA interviewed the tech. Lunken said the tech was unable to tell them whether the device was malfunctioning during the flight. She said now it's her word against the FAA's on whether the intermittent ADS-B Out signal was a malfunction or a deliberate violation. She said radar tracks that were part of the evidence against her showed the ADS-B signal from her aircraft to be intermittent. She speculates she jarred the connections loose during a few bone-jarring landings in gusty crosswinds. "I had made several rather brutal landings at OH77 (the 32' wide, concrete, crosswind strip just north of the bridge) and it was bumpy at low levels," she said. "I did not turn it off."

Lunken, who has spent 60 years flying in that area, said that if she was trying to prevent Big Brother from watching her do something, there are myriad easier and virtually undetectable ways to do it. The FAA declined comment and suggested *AVweb* submit a Freedom of Information Act request to review the agency's evidence supporting their findings. A spokesman said that's agency policy on legal matters.

As for the stunt itself, which has been the focus of most of the social media attention and reaction, Lunken said it was just a silly spur-of-the-moment thing. "I looked over my left shoulder and I saw the bridge and I thought 'I just have to fly under that bridge before I get old.'" The Jeremiah Morrow Bridge is 239 feet above the Little Miami River Gorge and Lunken said she didn't have to draw very heavily on her 14,000 hours of experience to get to the other side. "It certainly didn't take any skill," she said.

As for it being a reflection of her attitude toward safety and the regs, she said nothing could be further from the truth. "It is not part of a pattern of behavior and I am not an irresponsible pilot," she said. "I would never have put anyone in danger."

A security camera snapped a picture of her passage and the FAA sent her a letter a few weeks later saying they were investigating. She said she expected to be sanctioned, thinking she might have to sit out for a period of weeks or months. FAA enforcement guidelines call for a period of suspension of 30 days to four months

for the bridge stunt, which is a violation of altitude and distance-from-objects regs. “I knew it was illegal and I did it anyway,” she said. “I’m 78 and I’m still not very mature and I hope I never am.” When she didn’t hear anything after six months, she thought the FAA had dropped the matter. The emergency revocation letter was delivered March 19. Lunken said she’s considered appealing the revocation but her lawyers estimated the cost at $25,000.

Instead, she’s spending her time watching from the ground while others fly and hitting the books to reclaim her private pilot certificate. Revocation cancels all certificates and ratings (she was an ATP) and she has to start over to get back in the air. So far, it’s been an eye-opener as she studies for the written. “A lot has changed in 60 years,” she said. Normally, a revocation prevents the guilty party from taking flight training for a year but her legal team negotiated a three-month reduction. “I’ll be a student pilot in December.”

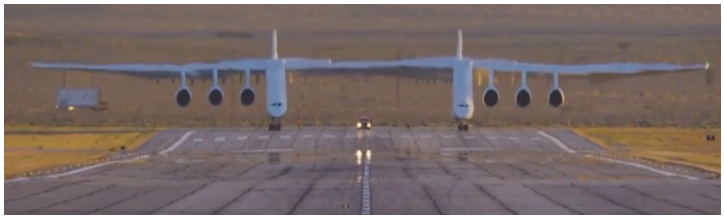
Lunken will also be on hiatus from *Flying* for an unspecified period of time but will write a column in the August issue explaining the incident. She said she has kept her editors informed of all developments in her case, which *Flying* officials confirmed.

Chapter Website Update

We need to update our chapter website with photos of members and information about ratings , aircraft and projects. Our members projects are woefully old and need updating. You can send photos of projects or of yourself to Doug Francisco to update our website.

Stratolaunch Worlds Biggest Airplane

It’s enormous with 6 747 engines and a 385’ wingspan with a 220 ton payload capability. With initial goals of building an aircraft for launching satellites mid-air, the company’s new owners who bought Stratolaunch in October 2019, shifted the immediate vision for the behemoth plane to be a launch platform for hypersonic vehicles that travel five times faster than the speed of sound. Watch Video



ASTRONAUT, PUBLIC SERVANT MICHAEL COLLINS MOURNED

APOLLO 11 COMMAND MODULE PILOT WAS 90

NASA astronaut, former Smithsonian National Air and Space Museum director, and National Aviation Hall of Fame member Michael Collins has died at age 90. After the Apollo 11 command module pilot left the space agency, Collins ushered in the opening of the museum in 1976, which has since set the standard for large exhibits.

The National Aviation Hall of Fame, which enshrined Collins in 1985, reflected “with much sadness and admiration” during a tribute to the Apollo 11 command module pilot who orbited the moon as he dispatched Neil Armstrong and Buzz Aldrin to the lunar surface on July 16, 1969. Though Collins wasn’t able to set foot on the surface of the moon, his duties orbiting above the Sea of Tranquility were essential to the mission’s success.

The National Aviation Hall of Fame wrote that Collins “carefully maneuvered the *Columbia*” and secured it for docking after Armstrong and Aldrin completed their lunar experiments and rocketed the *Eagle* landing module from the surface of the moon to the rendezvous. Collins jettisoned the service module and skillfully turned the command module so the blunt end heat shield faced forward as Apollo 11 began its fiery approach to the re-entry corridor. The crew safely splashed down near the USS *Hornet,* completing their mission and securing the United States’ outer space accomplishments for future generations and countless history books. Collins also flew aboard Gemini 10.

Thatcher

Mark Rogers came through with some goodies for our CX-4 Project. We now have a mixture control that is a ratcheting type. I painted the knob red so that completes the cockpit controls.

We've also made good progress with the tilting canopy. Bobby Hargrave tig welded our stanchion to accept the "EMT" canopy frame tubes. Here is a picture of the unit cleco'd together.

Temporarily, taping the tubes to the stanchions will allow us to adjust the height of all six tube ends to allow good alignment with the canopy, turtledeck and front windshield. At least that's the plan.

We needed a method of supporting the canopy while open. There isn't tremendous space in the turtledeck area for some type of mechanism and this needs to be "automatic". Jonathan came up with a great idea using a retractable key chain. This would work with some modifications to the basic units. Most of them extend 18-24" and as you can see by the picture We would probably need something around 12" in length. This system would be used only for brief periods of use. We also will incorporate a manual system for long term support such as doing maintenance in the cockpit. The canopy can be easily removed by removing the two hinge pins. Here we've removed some inside eyes to allow for two shorter pins to be used. I used this method for my flap attachment on my RV-7.

This cockpit was built using the tall and wide Thatcher plans. This called for different seat ribs that are lowered from the original and also trimming the cockpit area longerons to allow about 1" more space. One inch doesn't seem like much but it really makes a difference.

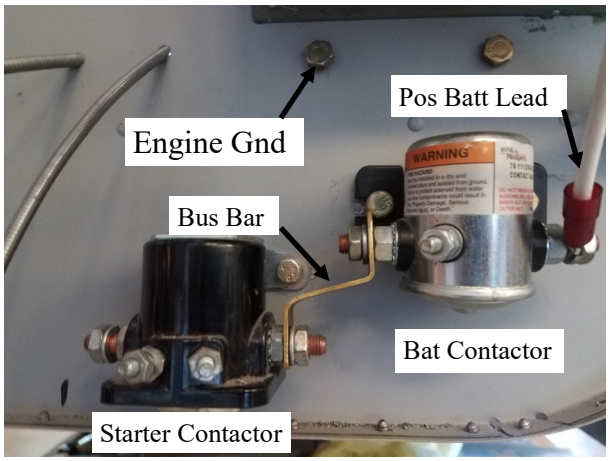
Since that was done all of our canopy rails need to conform to that shape including our hinge on the right side. Here the hinge side is marked and the opposite side has been trimmed. This trimmed side has an aluminum wedge attached below to allow a slight tilt to the angle aligning it with the turtledeck and front shield. The hinge on the right side makes the alignment possible.

We have new bolts for the firewall mount and mount to engine. We've had the rubber insulators, sleaves and washers for mounting the engine for quite a while. It's getting close to mounting the engine temporarily while we finalize our firewall connections and check clearances. Even on a simple engine installation there are a lot of connections. We have a throttle, mixture, alternate air all cable controlled and inside we have a cable controlled cabin heat valve that needs some final touches.

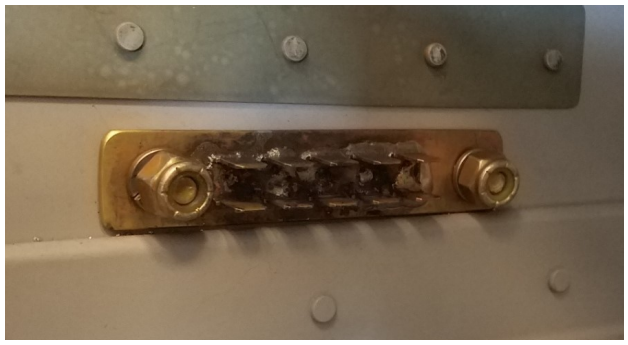
We still need to do some plumbing from the fuel tank to the gascolator and from there to the carburetor. The plans call for a Facet fuel pump

located in the system, however, The inlet to the carburetor is located about 16" below the fuel tank. I'm not sure if this is actually necessary. In our early engine runs we used a fuel pump to get fuel out of a can to only initially prime due to its location. The engine ran fine without the fuel pump running. I imagine in an extremely nose high attitude the head height pressure could reduce significantly however the suction pressure is still available.

We also made a couple of electrical components. Even in the Volkswagen engines small starter, we could see a momentary 100+ amps on initial engagement requiring a fairly fat wire. This makes it much cleaner and takes up less real estate.



Using some brass stock and soldering 10 faston tabs on a bar to act as our aircraft main grounding point and ground connections for anything electrical. This allows an engine ground connection firewall forward so the entire aircraft is at the same ground potential. The location is accessible from an access cover in the left forward skin.

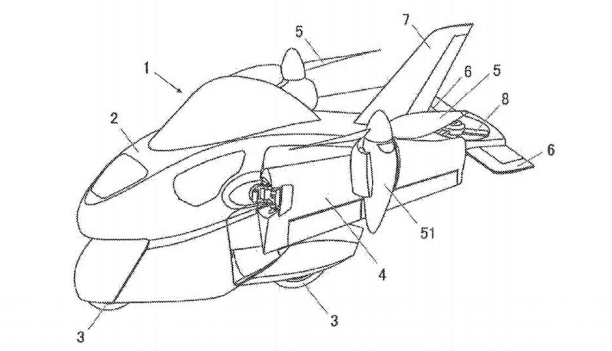


What Could Possibly Go Wrong

In life and aviation we see many things that make you think of this phrase or possibly, "You've got to be kidding me." I'd like to place this column in the newsletter monthly and ask for submissions from our readers for aviation items that you've seen or read about. Links to stories or video as well as pictures are welcome. Even scanning something if it's clear and can be copied into the newsletter. Don't send items that need to be re-typed. Honestly, I get enough practice doing that.

If you enter "flying Motorcycle" you'll see some pretty weird things.

Subaru Is Designing a Flying Motorcycle, a New Patent Suggests [Click here]



Oh my! It's a B-52 Motorcycle.

There is some serious money being thrown at this drive and fly concept. Obviously something with vertical takeoff is more adaptable than having to find a long runway. We're still looking at the Samson Switchblade which is classified as a motorcycle. In addition to a pilots license you'll need a motorcycle rating also. John

May 2021

EAA 485 news

2021 Officers and Committee Chairmen

President/ Newsletter/ Tech Counselor John McKiernan (850) 291-4134

Vice President: Robert Ermer (850) 417-9277

Secretary/Treasurer:

Mark Rogers
22959 Carnoustie Dr.
Foley, AL 36535
(251) 228-0356

Tech Counselor/ Webmaster Doug Francisco (850) 453-5501

Young Eagles/ Ray Scholarship Coordinator

Ralph Moser (847) 736-4603

Flight Advisor: Mark Rogers (251) 228-0356

VMC Club / IMC Club Donna and DeWitt Barker (850) 572-0288

Normally meetings will be held at Ferguson Airport **(82J) (Uni 122.8) on the Second Saturday of each month at 10:00 AM unless otherwise posted. If flying in, check NAS Pensacola (KNPA) NOTAMS for possible TFRs and the Ferguson Airport website under the Arrivals tab for important arrival and departure information.**

Driving: From Hwy 98 go past the main airport entrance and take the next left. Go thru the gate and make a left on the gravel road. Make a right past the T hangars you'll see our building down on the left side. Anyone interested in sharing general aviation, aircraft building, maintaining and restoring is welcome.

For more info contact:

John McKiernan 850 291-4134

EAA and Local Chapter Sites

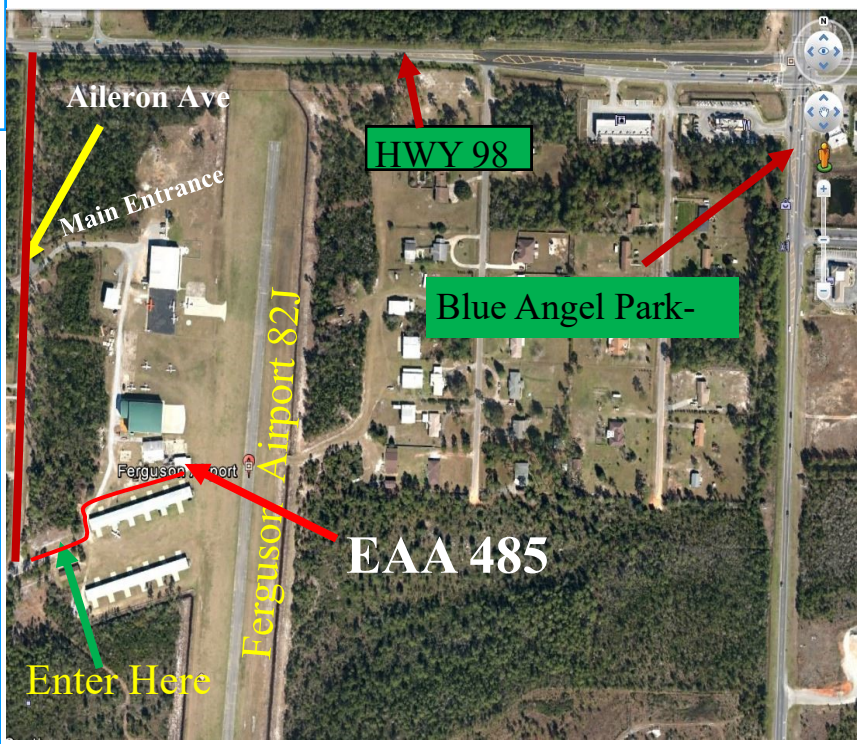
EAA 485 EAA 1265
EAA HDQTRS EAA 108
Lite Blue Angels EAA 105

Interesting Links
Blue Angel 360 Way cool
Making the First Airbus 220 Time Lapse
Jetman Unleashed in Dubai
F-18 Low Level

Miscellaneous
FAA Notams
Thatcher Build Site
Barnstormers
Skyvector.com Flight Planning, Charts
AirNav.com Airport info, Fuel Prices

Local Aviation Supplies
Johnson Supply Company

50 South E St
Pensacola, FL
850 434-7103
Located on E street just south of Barrancas
Tell them your from EAA 485



Visit our website at eaa485.org

Home Of The
PANHANDLE PELICANS

EAA 485 Pensacola, FL

Rumor has it that Ferguson Airport may be starting up their monthly pancake breakfast in the near future.

Roy E Ray Fly in Saturday May 1st had a very good turnout. Lots of airplanes and fly-bys.

Check out the baggage compartment. Saddle Bags and even a bedroll.

In 1968 a song had the following lyrics
"**Someone left the cake out in the rain.**"

Name the song?
Who sang it? Remember "A Man Called Horse"

The setting was a park located in Los Angeles and was the site of the composer/songwriter Jimmy Webb's end of a love affair. All items in the song are actual things that he saw including the cake left out in the rain.

It was originally written for The Association but they turned it down

One last tidbit:

The park originally was named Westlake Park built in the 1880s. It was renamed for General Douglas MacArthur

2021
Events Calendar

Chapter Meeting May 8th at 1000

VMC/IMC Club at 0830

Agenda

- **Pledge**
- **Introductions**
- **Guests**
- **Ralph Moser Ray/Young Eagles**
- **Chappie James Academy June 18th**
- **Dues It's that time of the year**
- **Bylaws (Review)**
- **Chapter Officers**
- **Fly Ins**
- **Member Projects**
- **New Business**

Adjourn

No lunch

Future Meeting Dates:

June 12th
July 10th
Aug 14th

Fly Ins

Air Venture Jul 26 - Aug 1st

Thomasville, GA **Oct 9 - 11th**

SERFI TBA

MacArthur's Park 1968 (#2 Billboard Hot 100)

Richard Harris