

# Congratulations Elisabeth

October 2021



Home of the  
"Panhandle Pelicans"

Squawk 485

EAA 485



## President

John McKiernan Contact: [John](#)

Hello Everyone,

In September we had a very good VMC/IMC meeting and a well attended chapter meeting following. During Ralph Moser's Ray Scholarship/Young Eagle briefing we first learned that Elisabeth Mass had completed her FAA PPL oral briefing and was flying her practical. A short time later we learned via text she became EAA 485s newest Private Pilot. Craig Spoke sent Ralph a photo a little later and using the magic of today's technology displayed it on our large TV for everyone to see to another big applause.

Following the conclusion of the meeting several of us were still hanging around and in popped Elisabeth with a huge smile. A very good day indeed!

## New Members

Please welcome new members **Karlis Burton** and **Tanner Matheny**. Tanner already has immersed himself by helping out with the Chap-pie James graduates displaying his beautiful Navion and flying Young Eagles. **"Welcome Aboard" Karlis and Tanner!**

## VMC/IMC Club

We'd like to encourage people to attend our VMC/IMC meetings normally conducted at 0830 before our monthly meeting. Donna and DeWitt do a great job facilitating the discussions. The format is quite different where we discuss an actual event that happened and give our opinions to "what we would do?" There is no right or wrong answer and there's always time for short "Sea Stories" from the group.

Donna and DeWitt are soliciting scenarios from our members to discuss during the meetings. Please join us!

Next Meeting Oct 30th at 1000  
At Our Clubhouse  
Details

IMC/VMC Club Meets at 0830-0930

[Details](#)

## The Journey Begins Again #5



## RAY AVIATION SCHOLARSHIP UPDATE

[Ralph Moser](#), Chapter 485 Coordinator

**Ray #4 is finished, Ray #5 is already flying !**  
Much has transpired since our September meeting. As we all monitored at the meeting, Elisabeth Maas took and passed her private Pilot check ride Sept. 11<sup>th</sup>. She has been flying steadily ever since. On the morning of Sept. 16<sup>th</sup>, the day of SERFI, several of us experienced pilots flew IFR to Evergreen, shot an instrument approach to minimums, saw nothing (of course, the forecast was 1500' scattered, 2500' broken...), went missed approach to the holding pattern, waited unsuccessfully for the weather to lift, and then flew home. Meanwhile, Elisabeth waited until mid-day, the weather cleared, and she flew VFR into Evergreen. Go figure!

Someone at the last meeting suggested we write an article about our chapter's Ray scholarship success and submit it to EAA national for publication. Well, that issue solved itself. EAA is writing a generic article for future publication in



Pensacola FL



Sport Aviation about the program's success, and wanted to quote our chapter as one of the shining examples. So Nick, Brian, Mariah, and Elisabeth are in the process of doing telephone interviews with Sam Oleson, assistant editor of Sport Aviation. Look for some great press for Chapter 485 in a future issue.

Ray #5: Briefly, during the last seven weeks, we were awarded another \$10,000 Ray Scholarship! William Curd is the recipient, and along with family and friends, he will receive the formal award at the Oct. 30<sup>th</sup> 10:00 meeting. We wasted no time; he is already flying. The first EAA \$4000 check is "in the mail" as I write this. I'll cover a few more details at the meeting, and Craig Spoke will get the pleasure this time of presenting the award. This makes a total of \$49,000 awarded for flight training by Chapter 485 over the last three years, \$44,000 from the Ray Foundation and \$5000 from an anonymous chapter donor. The Chapter 485 "Ray Factory" is alive and well!

Speaking of flight training scholarship money, you've heard me mention that there is a lot of it out there, including for adults. If you are interested, be sure to look at the websites for EAA, AOPA, WAI, 99s, AIM HIGH, and others for details and application deadlines. For example, AIM HIGH applications for summer 2022 at Milton airport close on Nov. 5<sup>th</sup>. The current EAA quarterly application window closes Nov. 1<sup>st</sup>. And the AOPA annual application window is open Nov. 1<sup>st</sup>, 2021-Feb. 11<sup>th</sup>, 2022.

### Young Eagles Program

We FINALLY flew the Chappie James graduates on Sept. 25<sup>th</sup>. And a few parents and the Pensacola Chief of Police as well! The prior weekend, we put on a weather day program for their group, followed by pizza. You can look at great photo coverage of both events (thanks to Doug Francisco) on our eaa485.org website under "Event Archives".

Thank you to all Chapter 485 volunteers who helped make both of these days a success. A special shout-out to Tanner Matheny, a brand-new chapter member whose nice Navion now resides in the hangar across from the clubhouse. He helped make both of these events possible. I

Also want to thank Mariah Stebbins, Ray #3, who is reworking and updating our Chapter 485 Young Eagles Facebook page.

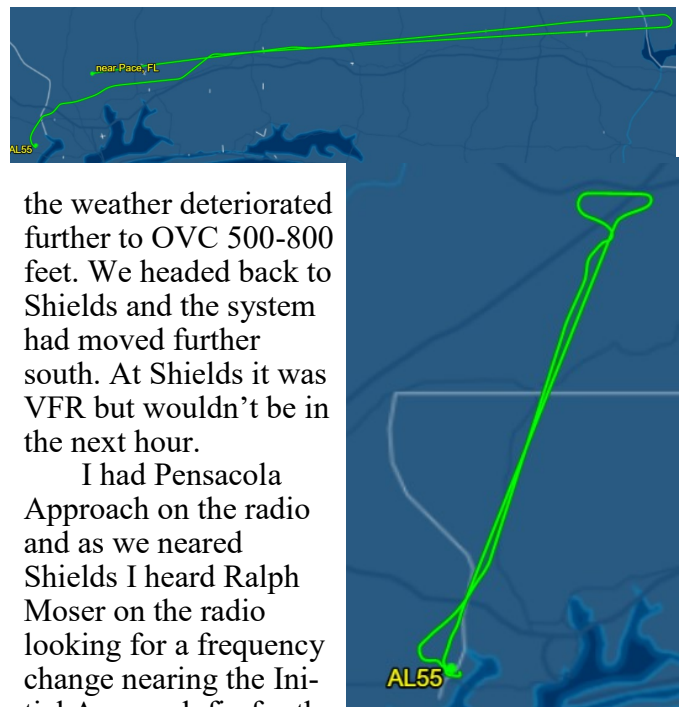
I'll have more to say at the Oct. 30<sup>th</sup> meeting about near-term plans for our Young Eagle program.

### Thomasville, GA / SERFI Fly-Ins

I flew to Thomasville, GA and the following week to SERFI, never landing at either airport. Both events were socked in with overcast skies and fog. Yup! The temp/dew point spread wins every time. The weather cleared at both events past noon.

Tanner Matheny got into Thomasville after holding for about 1 hour above the airport in line for an instrument approach.

Jose and I flew up to Evergreen in my RV-7. It was a nice ride but about 20 miles north of Shields the handwriting was on the wall. The further north we flew, the thicker the layer became finally becoming overcast at Evergreen. We flew a circuit around looking for a hole but



the weather deteriorated further to OVC 500-800 feet. We headed back to Shields and the system had moved further south. At Shields it was VFR but wouldn't be in the next hour.

I had Pensacola Approach on the radio and as we neared Shields I heard Ralph Moser on the radio looking for a frequency change nearing the Initial Approach fix for the GPS01 approach at GZH. Steve Foerster and Ralph left Shields about 45 minutes after we departed. I figured that they should get in. After landing I called Drano who asked "Where I



was”, chuckling. I asked if Ralph made it in and he said “No. There’s only 3 planes on the ground that came in yesterday.” Drano had driven up and was manning the registration booth. **Thanks Drano!**

About 40 minutes after my phone call, Ralph and Steve landed at Shields. They didn’t see anything on the approach to Evergreen, executed a missed approach and headed for home.

At the end of the day they had about 15-20 aircraft at SERFI. Thomasville faired much better but had many airplanes overnight. They officially released the count of over 130 planes at the 3 day event. It’s unknown how many planes landed on Saturday.

I just looked at the Triple Tree Fly-In site located in Woodruff, SC. They already have the dates listed for their 2022 fly-in Sep 19-25 next year. From Shields it’s a 377 nm flight. They had 1,349 aircraft operations this year. Any Takers for 2022?

## Chapter Officer Elections

It’s been way overdue for our Chapter Officer Elections. The term is two years and we need all officers replaced and it would be great if we can have a separate Secretary and Treasurer.

Please think about nominating someone including yourself for a position. Our current officers have been serving many years and it’s time to get some new people involved in our leadership

Nominations will take place at our meeting and elections will be held the following month in November. In addition to the 4 Officer positions there are an additional two Board Members that need to be filled. Members in good standing (currently 58 people) will be getting a separate email about elections.

If our members can’t attend the meeting We’ll accept nominations via email sent to [Mark Rogers](#). If you send an absentee nomination that someone seconds from the floor. That nominee will be listed on the ballot. John

## Aviation Briefs

### Looking for a Kit? Get On Line Meet the Jetson

A Swedish company has unabashedly adopted the pop culture name synonymous with flying cars and is now taking orders for what might be

a viable personal eVTOL. The production model [Jetson One](#) was unveiled last week and the 12 ultralight and drone-like single-seat aircraft being built in 2022 have already been sold at the introductory price of \$92,000. The company’s brazen adoption of the name of the iconic space age cartoon family made popular in the 1960s is also reflected in its mission statement. “Our mission is to make flight available to everyone,” the company said in its news release. “The Jetson ONE is an electric helicopter that you can own and fly. We intend to make everyone a pilot.”

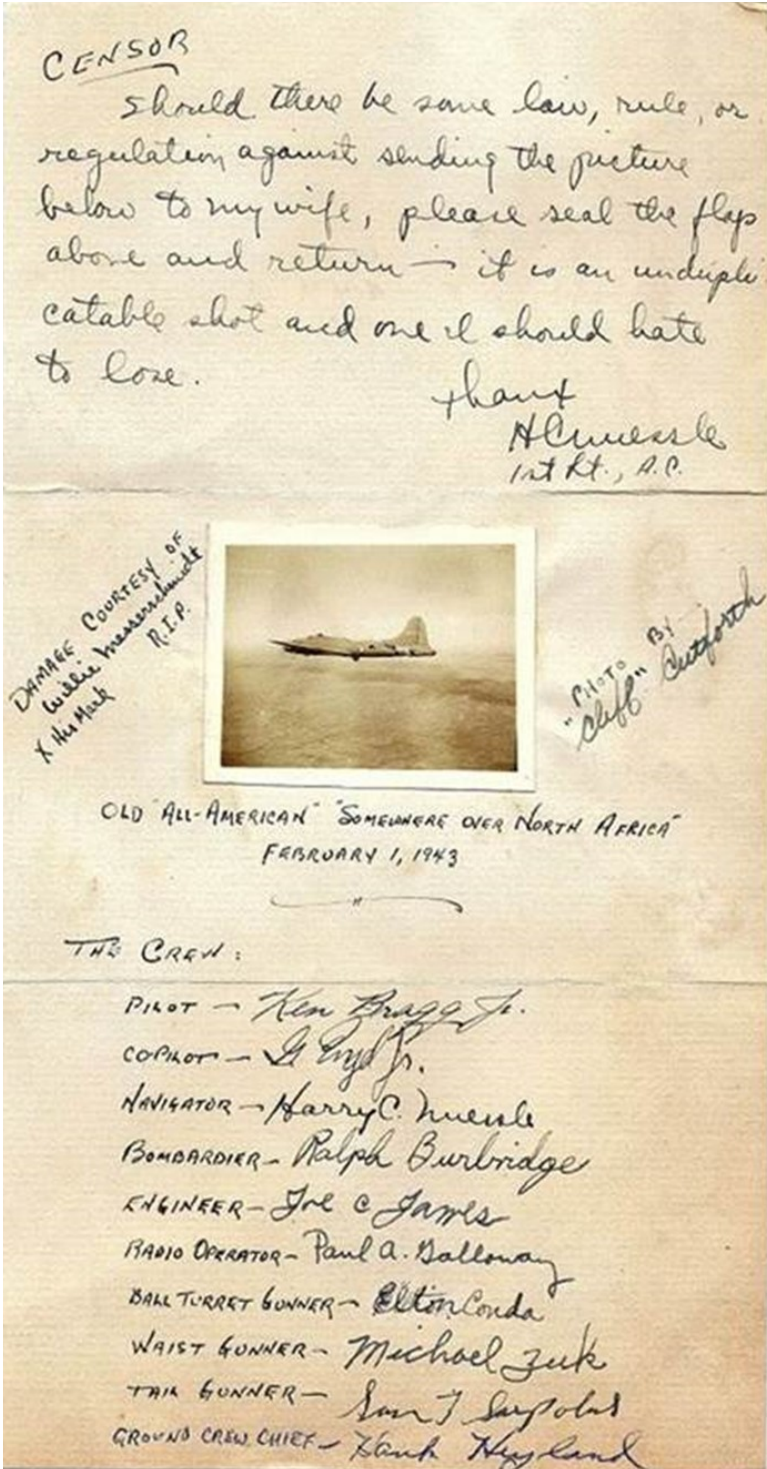
The actual operation of the aircraft blurs the line between passenger and pilot, however. The occupant steers and decides how fast to go (up to a limit of about 50 knots) but the computer looks after mundane details like keeping it in the flight envelope and away from objects thanks to a suite of LiDAR (Light Detection and Ranging) sensors. Like a drone, the aircraft will automatically hands-free hover over a point. Endurance is about 20 minutes. Because it’s an ultralight, no certificate is required. The Jetson has eight motors and rotors and can fly with one motor out. If things get more serious than that, a ballistic parachute is standard equipment. It comes as a 50 percent kit that has “detailed build instructions” but the company doesn’t say how long it takes to complete. [Click Here](#).



You start with a bag full of luck and an empty bag of experience. The trick is to fill the bag of experience before you empty the bag of luck.



### Unbelievable WWII Aircraft Story



**B-17 "All American"  
(414th Squadron, 97BG) Crew**

- Pilot- Ken Bragg Jr.
- Co-pilot- G. Boyd Jr.
- Navigator- Harry C. Nuessle
- Bombardier- Ralph Burbridge
- Engineer- Joe C. James
- Radio Operator - Paul A. Galloway
- Ball Turret Gunner- Elton Conda
- Waist Gunner- Michael Zuk
- Tail Gunner- Sam T. Sarpolus
- Ground Crew Chief- Hank Hyland

In 1943 a mid-air collision on February 1, 1943, between a B-17 and a German fighter over the Tunis dock area, this became the subject of one of the most famous photographs of WW II.

An enemy fighter attacking a 97th Bomb Group formation went out of control, probably with a wounded pilot, then continued its crashing descent into the rear of the fuselage of a Flying Fortress named "All American", Piloted by Lt. Kendrick R. Bragg, of the 414th Bomb Squadron.

When it struck, the fighter broke apart but left some pieces in the B-17. The left horizontal stabilizer of the Fortress and left elevator were completely torn away. The two right engines were out and one on the left had a serious oil pump leak.

The vertical fin and the rudder had been damaged. The fuselage had been cut almost completely through . . . connected only at two small parts of the frame. And the radios, electrical and oxygen systems were damaged.

There was also a hole in the top that was over 16-feet long and 4 feet wide at its widest; the split in the fuselage went all the way to the top gunner's turret.

Although the tail actually bounced and swayed in the wind, and twisted when the plane turned. And all the control cables were severed, except one single elevator cable still worked, and the aircraft miraculously still flew!

The tail gunner was trapped because there was no floor connecting the tail to the rest of the plane. The waist and tail gunners used parts of the German fighter and their own parachute harnesses in an attempt to keep the tail from ripping off and the two sides of the fuselage from split-



ting apart.

While the crew was trying to keep the bomber from coming apart, the pilot continued on his bomb run and released his bombs over the target.

When the bomb bay doors were opened, the wind turbulence was so great that it blew one of the waist gunners into the broken tail section. It took several minutes and four crew members to pass him ropes from parachutes and haul him back into the forward part of the plane.

When they tried to do the same for the tail gunner, the tail began flapping so hard that it began to break off. The weight of the gunner was adding some stability to the tail section, so he went back to his position.

The turn back toward England had to be very slow to keep the tail from twisting off. They actually covered almost 70 miles to make the turn home.

The bomber was so badly damaged that it was losing altitude and speed and was soon alone in the sky. For a brief time, two more Me-109 German fighters attacked the " *All American*" .

Despite the extensive damage, all of the machine gunners were able to respond to these attacks and soon drove off the fighters. The two waist gunners stood up with their heads sticking out through the hole in the top of the fuselage to aim and fire their machine guns.

The tail gunner had to shoot in short bursts because the recoil was actually causing the plane to turn.

Allied P-51 fighters intercepted the "*All American*" as it crossed over the Channel and took one of the pictures shown. They also radioed to the base describing that the appendage was waving like a fishtail . . . and that the plane would not make it and to send out boats to rescue the crew when they bailed out.

The fighters stayed with the Fortress, taking hand signals from Lt. Bragg and relaying them to the base.

Lt. Bragg signaled that 5 parachutes and the spare had been "used" so five of the crew could not bail out. He made the decision that if they could not bail out safely, then he would stay with the plane to land it.



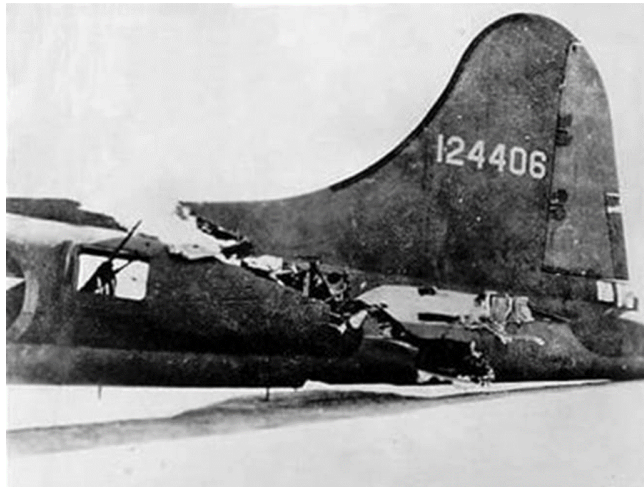


Two and a half hours after being hit, the aircraft made its final turn to line up with the runway while it was still over 40 miles away. It descended into an emergency landing and a normal roll-out on its landing gear.

When the ambulance pulled alongside, it was waved off because not a single member of the crew had been injured.

No one could believe that the aircraft could still fly in such a condition. The Fortress sat placidly until the crew all exited through the door in the fuselage and the tail gunner had climbed down a ladder, at which time the entire rear section of the aircraft collapsed.

This old bird had done its job and brought the entire crew home uninjured.



## Not Just the Air Force (Part II)

Safely on the ground at Mildenhall RAF we thoroughly looked over the aircraft and ascertained that we would need an engine and prop replacement. The Ops officer of the base had me fill out some paperwork. He also assisted us in getting our engine scheduled to be flown up on the daily C-141 from Naval Station Rota, Spain to Mildenhall. MAC confirmed that we would have an engine and prop tonight. The plan was to get the engine inspected and set up for an early am installation. I called our squadron and provided them with the aircraft update and they patched me to my CO. I gave the Skipper an estimate that we should be able to complete the install and test flight by tomorrow afternoon.

Our missions had scheduled lengths of 10 1/2 hours which started when we could assume the mission (airborne) and ending when relieved. They averaged 11.3 hour flights. Layovers consisted of 21 hours (double mission time) with one layover during the mini-deployments of 42 hours (4 times mission length). Since we had flown our mission till the end the cycle of us and other aircraft was re-arranged. They switched us to a 42 hour layover in Mildenhall to get back up. At the time it seemed a long way off, No Problem.

The Air Force would tow our plane to a hangar where we would do the engine change and they offered the crew help with the swap which we gladly accepted. We determined which personnel would be involved with the engine change and who would be on our minimum crew for the test flight. I told them I would give "Cookie", our #1 engineer a call when the engine arrived. We got rooms on base and everyone got some rest, that is until my phone rang about 3 hours later.

It wasn't good news! It was the Air Force Command Post informing me that the C-141 aircraft didn't get our engine loaded. WHAT?? It would be arriving the following evening. That meant we wouldn't meet our next scheduled mission time. I needed to make some phone calls and put on my flight suit and went to the Command Post. I didn't wake anyone because there was no plan. The only other person who knew was my Co-pilot Donny Conover who was my roommate.



I was told at the Command Post, The problem with the transport was some interservice paperwork issue that had now been corrected. I called the squadron to let them know the bad news. Their response was; “Let us know immediately when you’re mission capable.”

The next day in the afternoon we were informed that the engine was delayed once again due to priority issues. After another call back call back home, the decision was made to send all non-essential crew except the minimum 4 required to fly the aircraft and we would ferry the plane to Rota on 3 engines the next morning. They began processing paperwork for a diplomatic clearance to fly through French airspace, which was normally closed to our military aircraft.

We sent crew to Rota except for Cookie the engineer, an aft observer and Donny and myself. The Air Force wasn’t thrilled with the plan to make a 3 engine takeoff. We went over to base ops to workup a preliminary flight plan since we were not familiar with French airspace. Nearly half the 1100 nm flight was going through the middle of France. We also would be lower and slower than normal making it a 6 hour flight. Our Herc’s had an empty weight hovering at 100,000 lbs due to all the built in “stuff”, with a max takeoff weight of 175K. We figured our fuel reserve and burn required 32,000 lbs of fuel keeping us below a 2 engine max weight of 140,000 lbs. We also could dump fuel if necessary. We planned to cross the Pyrenees mountain range located at the Spanish / French border on the lowest MEA (Minimum Enroute Altitude). This would provide us with the most separation from the granite.

We also talked to our Lockheed Squadron Rep, Jim Baker who sent us some 3 engine ferry data. They had no data on a 3 engine takeoff at this weight, however, “they” said “it wouldn’t be a problem.”

Wait not so fast! The OPS Officer wanted Airlant in Norfolk to send a message authorizing the 3 engine ferry. I left it to the big boys to hash this out and ultimately everyone signed off. The message authorized my crew to perform a 3 engine takeoff and ferry flight, blah, blah and that the aircraft commander was responsible for conducting the flight IAW our C130 Natops manual,

Opnav 3710 (Navy Aviation Bible) and any other guidance. Thanks!

The next morning we filed our flight plan and had a diplomatic clearance in hand from France. Re-briefed our 3 engine takeoff procedures. Our plan was to bring engines 1 and 4 to takeoff power and feed number 2 in after brake release. My co-pilot was Don Conover (AKA “Mole”) ironically was an older brother to a pair of twins I went to college with and Navy flight school.

Donny was pretty laid back and didn’t get excited about too much. This morning he was no different. We went through the checklists and then began our start sequence on the outboard right engine #4. The start button latched and popped almost immediately. Our aft observer was monitoring our start on headset outside. He said he heard a rush of air but the starter isn’t engaging. We thought possibly our APU was not producing enough bleed air so we went and started the left inboard #2 first. Then using both APU and #2 bleed air we attempted to start number 4 but only got a very slow turn that wouldn’t spin fast enough to initiate the start sequence. We shutdown #2 and got a check stand.

Cookie said he’d manually opened the start valve. Once setup we attempted another start and the engineer said we’ve got a problem. The valve is opened and very little air is entering the start valve. He tried something else and that didn’t work. We would discover, Up in the horse collar, inside the engine attach point was a “T” in the pneumatic bleed air system that tied the engine to the rest of the pneumatics and this part had a split seam and was leaking almost all of the pneumatics. We were hard down.

There was talk about doing a 2 engine windmill start on the number 4 engine. Which would consist of accelerating on the runway to 100kts and let the wind start the propeller rotating and Allison engine through a start. The problem is that we didn’t have a good engine on the right side and couldn’t compute how much runway we would use attempting this. Another option was to get a KC-135 or another Herc to assist by powering up near takeoff thrust an engine directly in line with our #4 engine providing enough airflow to get the prop turning and engine started. The Air Force wouldn’t allow either scenario. Our



biggest concern was we would have no deicing capability on the starboard wing.

It was a fiasco getting this part and 2 days later our own Skipper delivered the part on one of our C130s. It took hours to change with lots of help, defueling and fueling and finally after a successful start we were back up. We rescheduled for the next morning Day number 8 or 9.

So with everybody's blessing, especially our Skippers we blasted off at 66 tons just past day-break. The takeoff roll was long but with our lower than normal mission weight we used about 2500 more feet of runway. Climb out seemed to take forever to 12,000 ft. The French controllers were difficult to understand and weren't friendly at all. Little did we know they would get nasty just before leaving their airspace.

Nearing the Pyrenees mountain range the French controller issued a climb and route change requiring a higher MEA. We had already step climbed enroute and couldn't climb any higher. The route we selected would give us a 6,000' cushion above the nearest granite. "Standby", was our response. The controller repeated the same clearance.. "Unable", Donny told him "we are unable due to an engine shutdown, and we need to stay on our cleared route." While Donny tried to explain the situation once again to the controller, he asked us where we came from. When he said "Mildenhall", the controller said "I suggest you turn around and go back where you came from." OK, I'd had enough, Donny monitored the French controller but I told him not to respond. We weren't changing our route. I began trying Santiago Radio on another radio. After 10 minutes we were passed the peaks of granite and finally Santiago responded. In a very accented voice the controller said "Sir, you make the French man very upset... He call Four times on the telephone". He asked what he could do for us and we said "direct Rota??" "Cleared direct Rota". A couple hours later we had rejoined our crew and they got busy with the engine change.

Back home, I filed a mission trip report including the episode with the French controller. I had filled an entire "Green Memo Book" with notes of the Mildenhall experience. A few weeks

later the Skipper wanted to see me in his office. He handed me a document from the French airspace authority about a failure to comply with a clearance issued on our flight. Oh boy! Underneath was an Airlant request for more information investigating a violation from the French airspace authority about a failure to comply with a clearance issued on our flight. The incident was included in our mission report in detail and they had a copy. In the report I submitted I referred to it as a language problem with the French controller and his issuance of an unsafe, unacceptable routing change during our flight.

I had to contact Airlant to clear the matter. I looked at the skipper. He said relax it's a formality. I wondered? I called and was routed a few times and finally speaking with a Navy Captain. I got very nervous a Navy Captain, I thought a little overkill for a formality. He could hear the anxiety in my voice. He had me go over what took place in my own words, then simply said we're done. I asked him if he needed to talk with Donny or the engineer and he said "no. Consider the case closed" and added, "It's now in the circular file." He actually used some other words.

As Paul Harvey would say "And now you know the rest of the story"

## Let's Talk Sparkplugs

Getting your "Pink Slip" for your experimental aircraft is your reward for the hours of research, building, taking things apart, putting them back together, getting a minor degree in being a contortionist, well, you get the message.

The big day comes when all the panels are put back on and you conduct a very thorough pre-flight in preparation for your "First Flight". The aircraft is rolled out of the hangar and as you strap in you're both excited and a bit nervous. There are many things bouncing around in your head. Some small little naggy things continue to slip in and you flush most of them from your gray matter.

You start your engine and the mighty overhauled Lycoming that you've started only a few times springs to life. But after the normal slight roughness of a possible over rich cylinder doesn't smooth out, you wonder. You're already on high key alert status. Any little out of the ordinary



item gets all of your attention, it's even amplified. You go through a list of fixes and but you can't clear the roughness. Disgustedly, you pull the mixture to cutoff and shutdown the aircraft.

The troubleshooting begins and you figure it's a sparkplug(s). You just buttoned up the engine and now it's all got to come back off. The only benefit is you've already had practice doing this multiple times. The top cowling is easy, the bottom not so much. They all have quirky personalities and temperamental places when you put it back together. However, you're thankful that this is a conventional gear Vans aircraft vice a tricycle one, saving some extra work.

The bottom plugs are oily so it sheds some light on the problem but that's pretty normal. You have a very nice engine monitoring system in your big screen EFIS. It bombards you with overwhelming information including looking at all four cylinders and displaying all of your EGTs and CHTs. You may have looked at it while the event happened but really didn't use it. It's new to you and today unfortunately, not in your useable toolkit. Too bad, it may have told you where exactly the problem is.

After multiple plug removals and engine starts you have now narrowed it down to a single plug. You perform a resistance check on it. Normally looking for below 3,000 Ohms, you're test is 1650. It's good and now where are you?

You've done so many things trying to find the problem that your starting over and realize that the situation is spiraling out of control.

You take your "stuff" to a mechanic at the airport that has a sophisticated spark plug machine. The resistance checks good but the machine tells the tale. The plug is making a spark but very weak and it's only lighting up one side of the negative electrodes. He believes the porcelain may have a crack, possibly causing some internal arcing.

Your aviation plugs are very different plugs and you only can see the very end of the insulating porcelain. You "borrow" a used replacement plug and voila you're Lycoming is happy and so are you. You cowl back up and think back on all the work for one sparkplug. You're ready to go but it's getting late. The first flight will have to

wait till another day. "Sweet Dreams"

Here is a homemade very simple rig to check



your sparkplug resistance. It uses an insulated copper tube with a soldered pin to clip an ohmmeter lead to. This assembly is inserted in a block of wood and clamped in a vice.

You slip the terminal end of the sparkplug over the tubing and touch the other ohmmeter lead

to the center electrode and read the ohms. It sure beats a lot of alternative ways to check plug resistance. You can measure all of your sparkplugs quickly. It's not a bad idea to write the resistance on the plug with a sharpie as a baseline. Spark plug resistance checks should be performed every time they are removed. With this nifty little tool it makes the job a little easier.

### Why is there resistance in a spark plug anyway?

It's there for basically two reasons. It allows for less erosion of the electrodes by limiting the duration and supplies a hotter crisper spark. This is why it is important to check the resistance of the plugs whenever they are pulled. A plug can have proper resistance as in this case and still be bad. The rule of thumb is if you drop one of these on the floor replace it.

#### Normal range of spark plug resistance.

New Plugs 500 - 4,000 Ohms - normally are less than 1,600 Ohms  
Used Plugs over 5,000 or less than 400 ohms should be replaced.

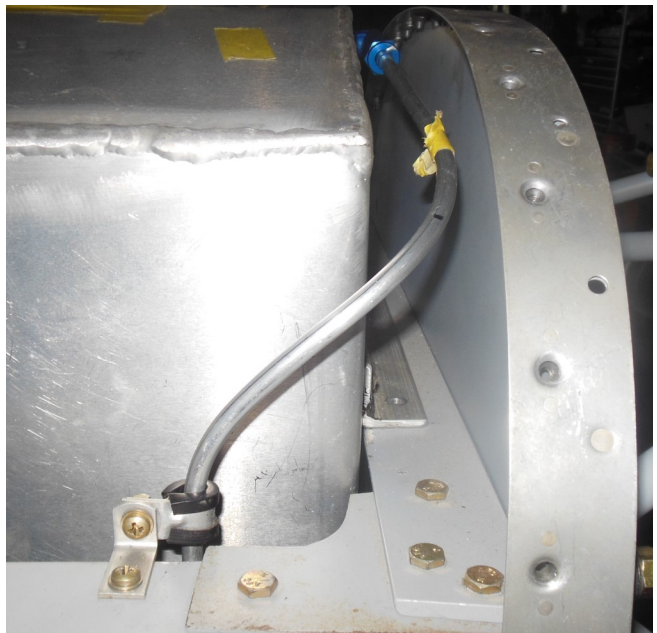
When resistance of the plug is high not only are you getting a weak spark but possibly no spark at all. This puts stress on the mag. The energy that the mag produces has to go somewhere. If the plug isn't firing The energy in the mag will possibly dissipate internally eventually causing damage.

## Spark Plug Rotation

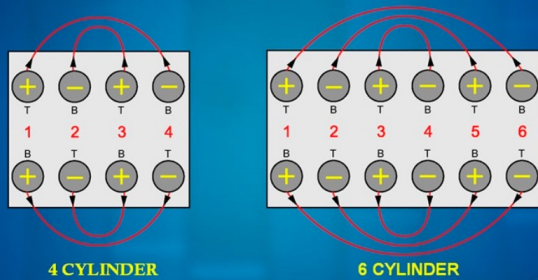
To extend the life of your spark plugs it's important to rotate them. Just going from bottom to top is OK since you reverse the firing polarity of the plugs. Moving the plug to another cylinder helps equalize overall resistance to the plugs due to different harness wire lengths. The longer the wire length the more resistance is introduced to the plug.

The magneto has a magnet with a North and South pole that rotate past a coil. On one pulse the magneto is triggered by the north pole and fires in one direction. As the south pole passes the coil it triggers the mag to fire in the opposite direction. Each plug has either a negative or positive firing based on its position located within the cylinder. This causes electrode wear on either the positive or negative electrodes. By rotating plugs we change the firing path from negative to positive and visa versa which will yield much less degradation of the sparkplugs. The following is an excellent chart of plug rotation for both 4 and 6 cylinder engines.

thru the left forward fuselage side wall and then was bent forward just behind the cowl cheek. Our solution was to come from the tank on the right side and go down through the floor on the opposite side from the engine exhaust pipe. After passing through the floor the vent is bent forward enabling a slight positive pressure on the fuel system in flight.



## PROPER PLUG ROTATION



# Thatcher

The fuel system aft of the firewall is complete. The final lines have been fabricated. A line from the Facet pump to the gascolator was made using #4 aluminum tubing.

We decided to deviate from the plans on the fuel tank vent line. The original location passed

The final piece of the fuel system will be the flexible hose connecting the carburetor to the gascolator once we hang the engine.

Back to the canopy. We needed to develop a locking system that is workable from inside and

outside. Additionally, on the “wish list” is an external locking device and an outside lift attachment. A mock up handle and mount were made piece using some light gage aluminum and threaded rod. Here is the finished locking device in the locked position.



When the handle is pushed forward the rods push through the canopy frame and slide into a receptacle securing the canopy. The pivot shaft ultimately will extend outside and be keyed into the lever and a small handle attached outside. A built in lifting handle (angled aluminum) will be attached to the canopy externally. Externally we'll create some type of simple exterior lock. Here is a picture of the canopy inside handle.



With the clevis located the same distance from the pivot point on the handle , the throw is equal between the aft and forward rods. #10 (3/16”) x 32 pushrods rods are used to save weight and space and are easily replaceable. The threads are helpful to fine tune the adjustment forward and aft and will be covered with heat shrink or plastic tubes..

The rods are slightly tapered where they pass through the canopy frame. On the forward side there are 8 pieces of steel the rod passes through. Once everything is aligned some pull rivets will be added securing the canopy frame to the 4130 posts. Additionally, we're planning on bonding the canopy to the frame using Sikaflex which will add rigidity to the entire structure.

The tubes were drilled in place on the forward canopy frame and windshield frame. For the aft side holes the canopy was removed and the frame needed to be drilled off the aircraft. It seems to work well. We also needed to set a 1/8” spacer on the canopy rail to simulate the height of a seal prior to drilling the front bow and aft bulkhead. When the canopy is closed and locked it is rock solid. John

If you'd like to get involved in building the Thatcher, we normally do this on Tuesday evenings. Just let me know and I'll put you on the email list.

## Chappie James Young Eagles





October 2021



After multiple cancellations for weather we couldn't ask for a better day. Thanks to all our volunteers and beautiful aircraft. The Young Eagles and parents that flew will never forget the experience. Thanks to Doug Francisco for taking the pictures. More to see at [eaa485.org](http://eaa485.org)

Pensacola FL



## 2021 Officers and Committee Chairmen

**President/ Newsletter/ Tech Counselor** [John McKiernan](#) (850) 291-4134

**Vice President:** [Robert Ermer](#) (850) 417-9277

**Secretary/Treasurer:**

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**Young Eagles/ Ray Scholarship Coordinator**  
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**Flight Advisor:** [Mark Rogers](#) (251) 228-0356

**VMC Club / IMC Club** [Donna and DeWitt Barker](#)  
(850) 572-0288

## 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](#)

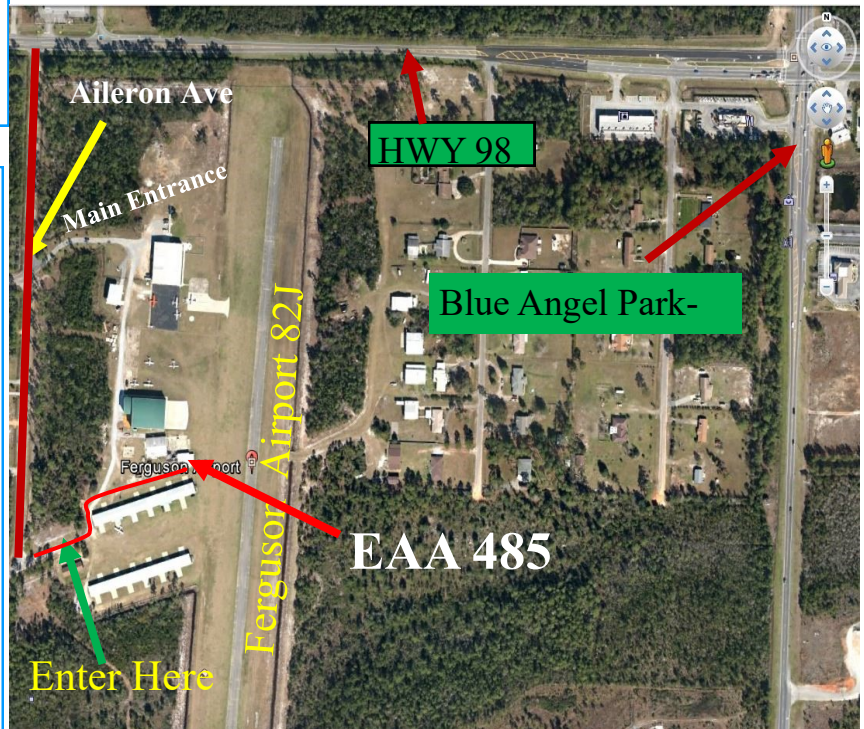
50 South E St  
Pensacola, FL  
850 434-7103

Located on E street just south of Barrancas  
Tell them your from EAA 485

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



Visit our website at [eaa485.org](http://eaa485.org)



Home Of The  
PANHANDLE PELICANS

## EAA 485 Pensacola, FL

### Rock & Roll Trivia

The Beatles gave their first live US television performance on The Ed Sullivan Show on 9 February 1964. It was an instant hit with approximately 73 million viewers in over 23 million households. The US Population was 192 million then

### EAA 485 Ball Caps

We have chapter ballcaps for sale for \$15. These are high quality hats and are embroidered with the chapter logo.

### Preventative Maintenance FAR Part 43

The Federal Aviation Regulations (FAR) Part 43, Maintenance, Preventive Maintenance, Rebuilding, and Alteration, permits the holder of a pilot certificate issued under **FAR Part 61** to perform specified preventive maintenance **on any aircraft owned or operated** by that pilot as long as the aircraft is not used under FAR Part 121, 127, 129, or 135. FAR Part 43, Appendix A, Subpart C, Preventive Maintenance, lists the authorized preventive maintenance work. One restriction on such work is that it cannot involve complex assembly operations.

The list of preventative maintenance items is fairly extensive. Note that the authority applies not only to the owner but also to the licensed pilot that operates the aircraft. It does come with a caveat that a self-analysis whether the person doing the work has the ability to perform it and also a logbook entry is required.

Some Items Include:

- Removal installation and repair of tires
- Changing hoses with the exception of Hydraulic
- Servicing/replacing Spark Plugs
- Replacing bulbs
- Replacing/Servicing batteries
- Fabric Patches not requiring stitching.

We'll talk more about Owner Maintenance in a future training session.

John

## 2021

### Events Calendar

**Chapter Meeting October 30th at 1000**

**VMC/IMC Club at 0830**

### Agenda

**Pledge**

**Introductions**

**Guests**

**William Curd Ray Scholarship**

**Leigh Jordan Eye Care Presentation**

**Ralph Moser Ray/Young Eagles**

**Chapter Officers**

**Nominations for:**

**President, Vice President**

**Secretary, Treasurer 2 Board**

**Members**

**Christmas Party Sunday Dec 5th**

**Spanish Cove Clubhouse Lillian**

**Chapter Baseball Caps \$15**

**Member Projects**

**New Business**

**Adjourn**

**No lunch**

**Future Meeting Dates:**

November 13th Alternate Nov 20th

**Fly Ins**

**Unknown**