

EAA Chapter 691 Newsletter
January 2022



President: *Will Fox*

Secretary: *Jared Haney*

Newsletter Editor: *April Fox*

Vice President: *Marc Bonem*

Treasurer: *David Young*

Web Editor: *Brian O'Neil*



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Upcoming Events

Chapter "talks"

- **Taming Tail Wheel Shimmy** - Will Fox, February 19, 2022, KLAM Terminal/Zoom - 10:00AM

- **Chapter Fly-out to Questa** - Marc Bonem, March 19, 2022, (KSAF/KLAM) - 8:00AM

Letter from the editor

by April Fox



Looking forward to a year full of fly-in's and fly-out's. We've got a great team on the board this year who are planning a jam-packed year of flying and aviation themed talks, events, and gatherings. As the newsletter editor, I want to hear from you- your contributions are what make the newsletter, so please send them in!

Best,

April



Boy, Do We Have Plans For 2022

“It does not do, to leave a live dragon out of your calculations, if you live near him.” J.R.R. Tolkien.

As I’m writing this note to you, the latest surge in Covid-19 cases in New Mexico is approaching twice the previous peak that we had back in December of 2020. That’s the bad news. The good news is that the death rate is considerably lower than it was during the last peak, in fact about 4 to 5 times lower. Many experts believe that this year Covid-19 will become endemic in the US, and therein lies the hope that we can get back to some sense of normalcy in our daily lives before too much longer. Given that backdrop we are planning Covid-19 safe Chapter activities for the next few months with the goal of shifting to more normal Chapter activities as the year goes along. Here is what we have in mind.



Courtesy of University of Chicago.

We want to focus on building our membership this year and make being part of EAA Chapter 691 more fun and rewarding. Our February meeting will be a Zoom presentation titled “Taming The Tailwheel Shimmy” by yours truly. In March we are planning a “Brunch On The Ramp” Fly-out to Questa where our members can get out and enjoy some flying, fresh air, and camaraderie all at the same time. More on that as the time gets closer. Later in the year we are planning some more Fly-outs as well as some Fly-ins including a pancake breakfast and an Airport Open House at KLAM.

We also plan to have another flying event like a Spot Landing contest or a flying Poker Run. We would like to encourage members with airplanes to share rides with others when possible so all our members get a chance to get into the air.

We want to do some things to help reduce the cost of owning an airplane for our members. To do this, we want to dedicate a couple of our meetings to helping our members develop some airplane building skills, like composite or sheet metal work, or even welding. We also want to show them how to do common owner maintenance activities that are allowed by the FAA like changing their oil or a tire. We are fortunate to have a couple of EAA Technical Counselors and A&Ps in our Chapter plus some experienced builders, so why not put them to work teaching members how to do stuff.

We also want to get our communities more involved in aviation. We plan to do that by getting folks out to an Open House at KLAM this coming year to learn more about what goes on at the airport and what kind of opportunities it brings to the community. Speaking of learning more about aviation, we also plan to get some youth STEAM activities going this year as well.

We will continue to bring our members presentations by experts on relevant aviation topics and have a few more of those on the schedule for this year. Lastly, our membership dues help support all these activities, so let me encourage you to renew your Chapter membership this month. The fee is \$25/year and you can pay it by sending a check to our treasurer David Young along with a membership application (see last page) or go to our website at eaa691.org and use [PayPal](#). Happy flying.

President’s Report

by Will Fox



From Our Members

Paragliders and airplanes can be a bad mix....



Watch Out for Paragliders!

If you fly into E14, be alert to paragliders. On a recent Sunday afternoon, I was on a 45 to left downwind for 16 and passed 100-200' over two of them a mile or two from the airport. Good thing I was still descending; if I'd been at pattern altitude it would have been a very close call. As I was leaving the runup area to depart after fueling, they were on short approach to landing just east of the runway.

A few months before while getting fuel there, I noticed people practicing inflating a canopy on the ramp, which may have meant a training activity. I called the airport manager after my inflight encounter and he was aware of the paraglider activity. He said they shouldn't be there, but the airport is public access and he'd talk to the paragliders if he saw them. Hmm.

I'd been attracted to E14's fuel price, but it's up to \$5.25 now. Think I'll go to Sandia Park.

There is no NOTAM about this and nothing in the AFD.

-John Graham

Meet Jared Haney- EAA 691 Secretary

Interview by April Fox



AF: Tell us a little about yourself, where are you from, how did you find yourself in Los Alamos...?

JH: I am originally from Lufkin Texas. After living and working in Dallas for a few years my wife and I decided we wanted to get out of the city. We made a list of things that were important to us and started looking for places that fit. Los Alamos really stood out to us as a small mountain town with great access to outdoor recreation and a good employer. Its hard to find all of that in one place. We spent a week in Los Alamos in December of 2019 and decided we would like to live here. After that I applied for a couple jobs and was fortunate enough to land one.

AF: How did you get into aviation?

JH: I have been interested in aviation for as long as I can remember. I looked into flight schools in college, but always had some excuse to not start flight training. First it was the cost, then after college the nearest flight school was an hour and a half drive from my house. I lived in China for a couple years and thought I would have plenty of time for flight training there. Turns out China has a law against training foreigners to fly. Finally when we moved to Los Alamos, I could see the airport from my back porch. I decided there were no more good excuses.

AF: What brought you to the EAA?

JH: Even living so close to the airport flight instruction was not easy to find. Asking around at work a colleague recommended that I join the local EAA chapter to be more involved at the airport. Through the chapter I was able to find a CFI and a plane to train in.



AF: What kind of flying do you like to do, and what are your "future" aviation plans?

JH: I am still early in my training, so it is hard to say. I am really drawn to the idea of backcountry flying for the scenery and secluded airstrips.

AF: If you could offer any advice to members interested in beginning their flight training, what would it be?

JH: Stop making excuses. Set aside a couple hours a week and get started. All of the stress about cost or time goes away when you line up at the end of the runway and push the throttle in.

AF: Where do you see general aviation headed in the next 10 years, and what are your thoughts on how the EAA can help make it more accessible and affordable to future generations?

JH: Because of the cost of newer certified aircraft I see kit built planes as a great option for mechanically inclined pilots. I suspect experimental aircraft will continue to grow in popularity. I would like to see more electric aircraft, but that is largely dependent on not yet existing battery technology.

AF: What's your dream airplane?

JH: Only one? I really like the bearhawk 4 place, but I suspect my preference will change as I fly more and figure out what I really want from an aircraft. For now I am still excited about my 65 year old Cessna 172.

Member Project Updates



Marc Bonem's RV-9A:

Though this is a kit, a Vans RV-9A, it is quite challenging. It utilizes traditional rivets installed with a rivet gun or squeezer rather than the easier blind or pulled rivets. Some rivets are impossible to set with only one person. Today I installed the four ribs in the left horizontal stabilizer with modest success. One side required me to rivet *left-handed*, which I never practiced. They came out okay, which must be a holiday miracle.

Marc

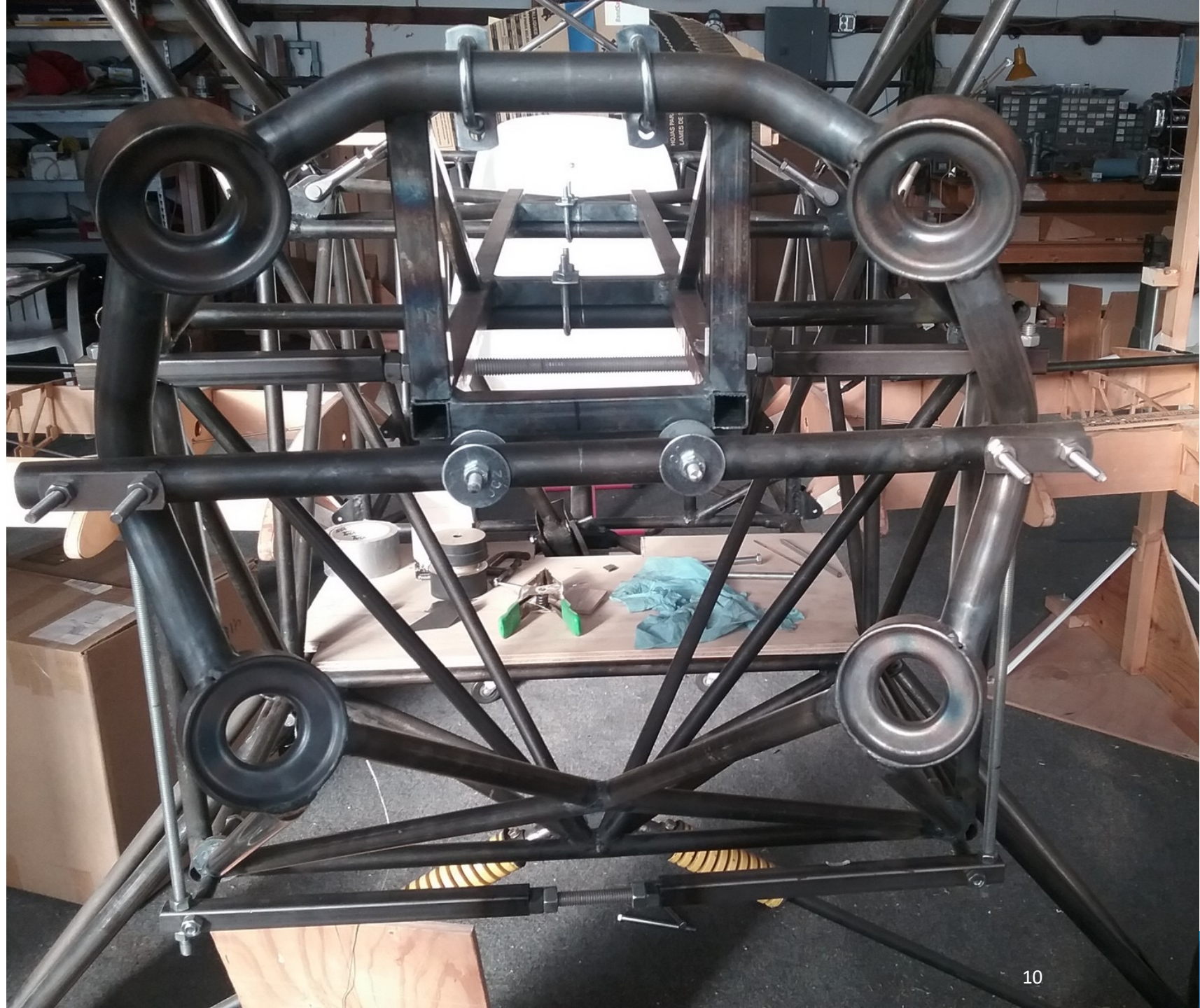
Skip Egdorf's AcroSPORT-II

I finally decided to tackle the engine mount on the AcroSPORT. It has turned out fairly well I think.

The AcroSPORT plans specify the tube sizes and positions of the structure that make up the mount. My mount follows the plans closely. The tubes (3/4" SAE 4130) are typical for a mount like this. Tubing sizes on a typical RV or Cessna are usually .049 wall thickness. The AcroSPORT uses .058 wall thickness as befits an aerobatic aircraft. When Paul Poberezney designed the AcroSPORT he used lots of advice from his good friend Curtis Pitts and the AcroSPORT engine mount is a near duplicate to that used on the certified Pitts Special.

The really critical part is the Dynafocal ring that matches with the engine. I purchased this from Aircraft Spruce. These are made in factory jigs and match the engine properly. I didn't want to try to reproduce all that precise jiggling myself.

The mount back from the ring to the fuselage attach points is matched to my specific fuselage and its specific bolt pattern. While there is a defined bolt pattern and dimensions on the plans and there are places who will sell an engine mount built to those dimensions, it is almost impossible to match the fuselage attach points and the engine mount without a single jig to build both. The four bolts really need to align properly. I think it is best for the home builder to use the fuselage itself as the jig to align the fuselage mount bolts to the engine mount. So the mount is built in place.





One jig that is necessary is a solid piece to hold the Dynafocal ring firmly in position as the various tubes are cut, fit, and welded in. As with many construction steps, a good solid jig is the secret to success. I put more work into building a very straight and square jig to hold the Dynafocal ring in place during construction than I did in the construction of the mount itself. I believe that the effort paid off with a straight and square result!

As shown in the figure above, the bolt points between the jig and the Dynafocal ring allowed me to shim and adjust the position of the ring prior to construction. As each tube was added and as the welds progressed around the mount I was able to continuously measure and monitor any movement and allowed corrections while such corrections were possible.

Welding a structure like the engine mount is tricky because each weld heats the joint and tubes under construction. These tubes and joint expand with the heat moving and twisting the whole structure.

The procedure for the welding was to have all the tubes in place and then move around the mount with a very small tack at each joint. If anything moves, it can be corrected fairly easily. Then another tour around the mount is performed adding another small tack to each joint until the mount is relatively solid and any movement caused by the welds has been compensated.

Only then after everything is solidly tacked and square is a final pass made doing finish welds on all the previously tacked joints. One final check with the big square and measure brings a smile. The engine will be straight and true. Now for the firewall and all the firewall forward bits. Progress!

Tech Corner

by Will Fox



Offhand Flying

The flight didn't go well. Newbie had just finished building a side-by-side, high performance experimental aircraft and was about to begin his Phase 1 test program. His buddy, Whiz owned the same type of aircraft and was an experienced pilot in type, so Newbie asked him if he would take him up and give him some pointers. Whiz admitted that he wasn't a flight instructor, but would be glad to take Newbie for a flight. It was a beautiful day with light winds when the two taxied out to the runway for takeoff. Whiz figured he'd let Newbie sit in the left seat, same as he would when he test flew his own plane. Whiz hadn't flown his plane from the right seat before, but he had a lot of hours in it so he didn't think it would be a problem. The plan was to let Newbie do the first takeoff with a little help from Whiz if necessary. As the takeoff roll began and Newbie pushed the throttle all the way in, the plane started drifting to the left. When Newbie didn't seem to correct it, Whiz yelled "right rudder" causing Newbie to push harder on the right rudder, but that only slowed the drift to the left. Whiz then got on the rudders with Newbie and over corrected causing the plane to swerve back to the right. Jabbing at the rudders, Whiz managed to get the plane more or less centered on the runway until it lifted off. Whiz thought, "that was uncomfortable", as he raised the gear. The two pilots climbed to altitude to fly around a bit so Newbie could get a feel for the plane and that seemed to go alright although it looked to Whiz like Newbie was having trouble getting the plane aligned with the flight path while he was maneuvering. After a little while they headed back to the airport for some pattern work.

Newbie was going to make the first landing with Whiz coaching him. The approach was not very stable and Newbie seemed to be having trouble controlling his speed and lining up with the runway. Then he flared too hard, over corrected, and bounced the landing. He tried to recover by adding power, but it was too much and it pulled the nose to the left. Whiz said, "I've got it" and did a go around. Whiz told Newbie that he would demonstrate the next landing while Newbie watched. Whiz was fast on the approach because he couldn't see the numbers on the airspeed indicator very well, that was way over there on the left side of the panel. He was also having a difficult time getting lined up with the runway for some reason. As he began the flare, the aircraft ballooned up and drifted to the right. Easing it back down, Whiz tried to put the plane on the ground but it bounced, and with the departure end of the runway rapidly approaching, wisely decided to go around again. Whiz didn't know exactly why he was having so



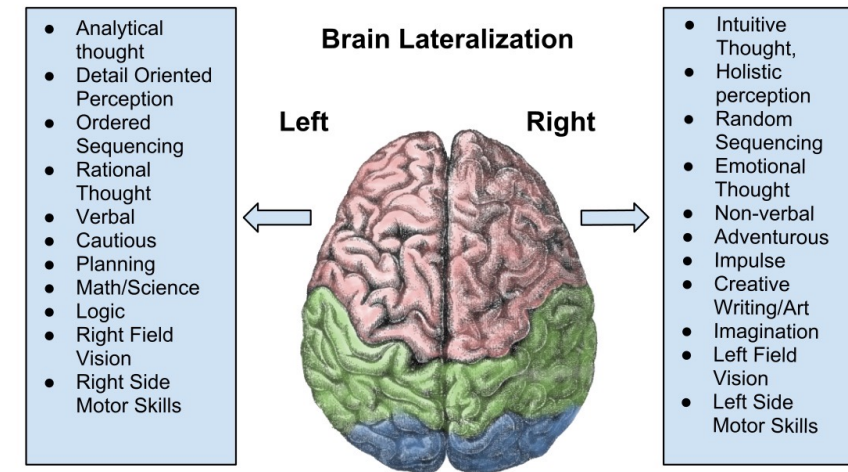
Right seat flying takes some practice. Courtesy of [Brian Noles](#).

much trouble landing the plane but things sure looked and felt different sitting in the right seat. So much so, that he began worrying about if he could land the plane without bending something. Distracted, Whiz forgot to raise the gear until he was well into the crosswind leg of the pattern. That was it; he clearly wasn't on his game today, so he told Newbie that this would be a full stop landing. Newbie nodded rapidly in agreement. Whiz flew an extended downwind to give himself plenty of time on the approach. He also asked Newbie to read out his airspeed on approach. Even with Newbie calling out his airspeed, Whiz was a little fast over the numbers and he floated a ways down the runway before touching down. It was a smooth touchdown on the mains this time, but the plane was slightly crooked and veered to the right as the nose came down. Whiz over corrected again, but not as badly as before, and after a wobble or two, he had the landing under control but had to brake aggressively to make the turn off at the last taxiway.



True story. I know the pilots. I watched it all from the ground and it was a bit of a rodeo. So what happened? Have you ever tried to hit a baseball with the opposite hand? It can be pretty difficult if you haven't done it before. What if your life depended on it? Might be a little stressful don't you think? Well, that is sort of how it feels to fly an airplane from the opposite seat if you haven't done it before, particularly in a high performance aircraft with light and responsive controls. So why is that the case? It all has to do with your brain.

The human brain has about a hundred billion neurons and weighs about 3 pounds. It represents about 2% of the mass of the human body, but consumes 20% of the energy generated. The left and right side of the brain share information and are interdependent, but they also specialize to some degree in what they do. This is called lateralization. In most of us, one side of the brain or the other is dominant. The left side of the brain controls the right side of your body and vice versa. Handedness (which hand is dominant) usually indicates which side of the brain is dominant. Around 90% of the population is right handed indicating that the left side of their brain is dominant. Individuals that are left brained, show a propensity for things such as language and linear thinking. Approximately 10% of the population is left-handed indicating right brain dominance. Right-brained individuals show a propensity for visuospatial skills and creativity. But the left and right side of the brain talk a lot and share information. For example the left side of the brain is primarily responsible for language skills, but we use the right side of our brain to interpret the speaker's emotions. About 1% of the population is ambidextrous and can use either hand interchangeably. Their brains tend to have less lateralization, as do many left handed people. There also appears to be more communication between the left and right halves of their brains and this can have advantages in terms of neural plasticity. Neural plasticity is a measure of the brain's ability to adapt to new situations and rewire itself as necessary.



The left and right side of the brain share a lot of information, and duties, but they do specialize in some functions and this is called lateralization. [Split brain](#) experiments have shown how certain behaviors demonstrate this.

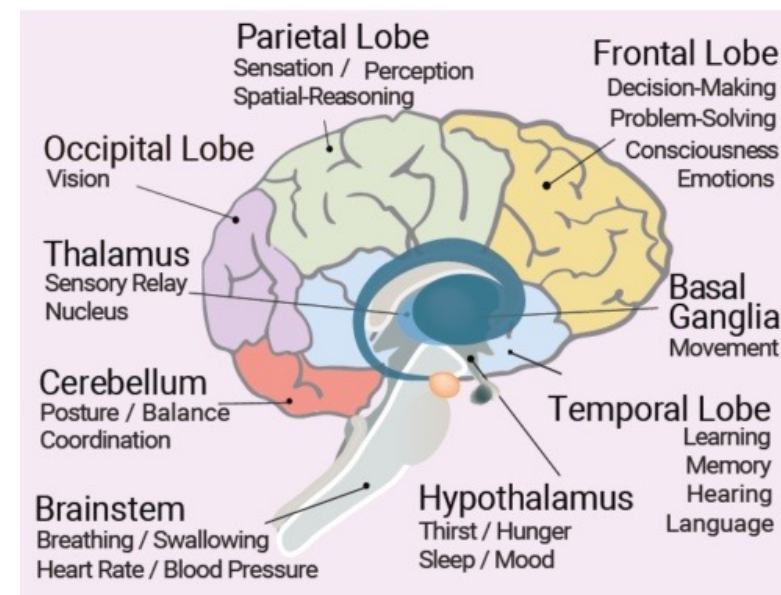


Turns out, most brains aren't symmetrical. The left side of the brain tends to be slightly larger than the right side in right-handers and that is a [genetic trait](#). Left-handers don't have that gene, and their brains tend to be more symmetrical. Scientists think that the much higher prevalence of right-handedness is an evolutionary trait to make the brain more efficient, since many activities only require precise muscle control in one arm or hand. This allows the other half of your brain to focus less on muscle control and more on other things. This trait is found throughout the animal kingdom, from dogs to parrots to primates but appears to be more prevalent in humans.

As pilots, we know that good eye-hand coordination is important in flying, but particularly so during maneuvers, takeoffs, and landings. In order to provide that coordination, the brain needs to process the visual images that a pilot receives correctly and turn those into the appropriate muscular responses. A big part of learning to fly an aircraft is teaching your brain to produce the correct muscular responses for a particular visual image. Several parts of the brain are involved in accomplishing this, but one part in particular is responsible for fine motor control and muscle memory, and that is the cerebellum. The cerebellum ("little brain" in Latin) is located at the bottom of the brain behind the brain stem. It is split into two halves called the cerebellar hemispheres that sit on either side of the brain stem and are connected by the vermis. The right hemisphere provides fine motor control for the left side of your body and the left hemisphere does the same thing for the right side of your body. Although the cerebellum is only 10% of the brain volume it accounts for over 50% of the neurons in the brain. It is responsible for coordination, motor learning, motor memory, and some cognitive functions. It is the [cerebellum](#) that allows you to coordinate the muscular response for things such as hitting a baseball, writing a letter, and flying an aircraft precisely.

Above the cerebellum and brain stem sit the left and right [cerebral hemispheres](#) of the brain. These are separated at the top by a groove that is called the median longitudinal fissure, but lower down are connected by the corpus callosum that is a nerve bundle that allows the two halves to communicate. On the back of each hemisphere is a region of the brain known as the occipital lobe. Within each occipital lobe is the visual cortex and this is the area of the brain that handles the information sent from the eyes. Information from the right visual field of each eye is sent to the left visual cortex and vice versa. The visual cortex processes information about shape, color, movement, location and spatial organization. When we talk about sight picture, it is the visual cortex that generates it for us. Each cerebral hemisphere also contains a motor cortex that is located in the front half of the hemisphere that acts as a control center for movement of the body. Put them all together and they provide the eye hand coordination that is so important to pilots.

So, what does all this have to do with flying from one seat or the other? Well, for one thing, we know that most of us have a preference for which hand we use to fly the airplane, and for most of us that will be our dominant one. If we want to use the other hand to fly the airplane, we will need to train our brain to do so, and unless we have, we can't



Brain researchers have determined the approximate locations of some of the brain's functions, but how they interact with other parts of the brain to accomplish these functions is still not completely understood.

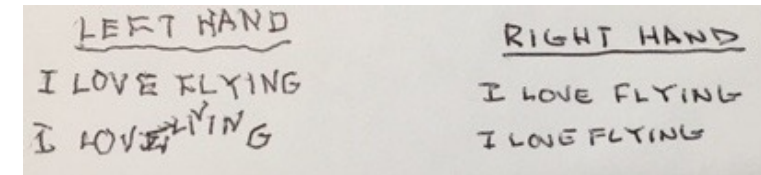
expect to have that same level of coordination and fine motor control. Secondly, we will naturally have more strength in our dominant arm, so if we are using the other arm to fly the plane, we should expect it to be a little harder and more tiring to do so. Finally, the sight picture will change as we move from one seat to another, and we will need to train our brain to recognize a new sight picture and respond to it with the correct control movements.



I think it is useful for a pilot to be able to fly the airplane from either seat. For one, some day you may be faced with a problem with the seat you normally fly from, and it is nice to know that you can easily fly from the other seat without it being unfamiliar or distracting. For another, it will improve your skills as a pilot by allowing you to learn to fly your airplane with a different sight picture, a different feel, and get an idea of what it's like for the other guy to fly the plane. I'll give you an example. If you are an instructor, you need to understand differences from one seat to another, otherwise you won't be able to understand why a student might be having a problem and how to correct it. If you happen to be letting a friend try a few landings in your plane, and are letting them fly from the left seat while you are in the right seat, you need to know what the correct sight picture should be for your buddy as well as for you should you need to control the airplane. This was not the case in the story I told you at the beginning of this article and as a result made for a much more exciting flight than was intended. There is another reason to learn to fly from both seats. It will expand your mind, literally. In the process of doing this, you will develop a set of new fine motor controls in your cerebellum, because you will be using parts of the brain that you don't normally use, and this is a good thing. It will grow your brain by making connections that did not exist before, and it could also increase your neural plasticity. Also who knows, you may come to like the right seat and become an instructor; we certainly need more of them.

May I suggest though, that you don't just jump in the right seat and go fly the plane without some instruction. Get an instructor to go with you the first couple of times, or make it part of your next Flight Review. It only takes a couple of hours of training to get you to the point that you can go out and practice without scaring yourself. However, it will take several hours, depending on the airplane, to get comfortable to the point that you can be comfortable flying at night or taking off and landing in a strong crosswind from the other seat.

Finally, here is an easy test you can do to see how ambidextrous you are. Get a piece of paper and with your dominant hand write the following sentence, "**I love flying.**" Now underneath that, write the same sentence over again, this time with your eyes closed. Now do the same thing with your other hand. Next show it to your spouse (or significant other) and once they stop laughing, have them tell you which grade the child was in that wrote each sentence. If all the sentences are high school or better you are ambidextrous. If they are kindergarten or lower you should be a doctor, not a pilot 😊



Try writing with your left and right hand with your eyes both open and closed to see which is your dominant hand. You can also see the difference in fine motor control training between the two halves of your brain. In the example above, the top sentence is with the eyes open and the bottom sentence is with the eyes closed. Two things are clear. First, the writer is right handed and therefore left brained. Second, he better keep his eyes open when flying with his left hand 😊

Pilot Quiz

Retrieved from <http://www.exams4pilots.org>



1. How much colder than standard temperature is the forecast temperature at 9,000 feet, as indicated in the following excerpt from the Winds and Temperature Aloft Forecast?

FT600090000737-041043-10

- A)3 °C.
- B)10 °C.
- C)7 °C.

2. Which approach and landing objective is assured when the pilot remains on the proper glidepath of the VASI?

- A)Continuation of course guidance after transition to VFR.
- B)Course guidance from the visual descent point to touchdown.
- C)Safe obstruction clearance in the approach area.

3. During departure, under conditions of suspected low-level wind shear, a sudden decrease in headwind will cause

- A)no change in airspeed, but groundspeed will decrease.
- B)a gain in airspeed equal to the decrease in wind velocity.
- C)a loss in airspeed equal to the decrease in wind velocity.

4. What wind conditions would you anticipate when squalls are reported at your destination?

- A)Rapid variations in windspeed of 15 knots or more between peaks and lulls.
- B)Sudden increases in windspeed of at least 16 knots to a sustained speed of 22 knots or more for at least 1 minute.
- C)Peak gusts of at least 35 knots combined with a change in wind direction of 30° or more.



Chapter Links

– Do you have a link you'd like to share?

EAA 691 Website

<http://eaa691.org/>

New Mexico Pilots Association

<https://www.nmpilots.org/>

LiveATC – Listen to the Santa Fe Tower and Ground Frequencies

<http://www.liveatc.net/search/?icao=ksaf>

LiveATC – Listen to the Albq Tower and Ground Frequencies

<http://www.liveatc.net/search/?icao=kabq>



Clickbait

<https://www.avweb.com/multimedia/best-of-the-web-pilot-sucked-out-of-airplane/#comment-24598>

AirFacts: How To Fly Safely When You're Low And Slow

<http://airfactsjournal.com/2016/08/how-to-fly-safely-when-low-and-slow/>

Flying Magazine: Unusual Attitudes: A No-Excuses Screw-up

<http://www.flyingmag.com/unusual-attitudes-no-excuses-screw-up>

AVweb: Hello, Tech Support

<http://www.avweb.com/news/features/Hello-Tech-Support-226817-1.html>

Pilot Quiz Answers



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EAA Chapter 691 Membership Application/Renewal Form



Please mail this form along with \$25 to our Chapter Treasurer, Checks can be made out to EAA Chapter 691:

David Young
819 Gonzales Rd
Santa Fe, NM 87501

Name: _____

Spouse/partner's Name: _____

EAA #: _____ Expiration Date (MM/YY) ____ / ____

Address: _____ City: _____ State: _____ ZIP: _____

E-mail: _____

Home phone: _____

Work phone: _____

Cell phone: _____

Please list your currently flying A/C and any finished or in-progress projects: