The Ramp Page – December 2024

EAA 323's Monthly Newsletter
Vol 55, Ed 12
Sherman, TX
Celebrating our 55th year of service!

Email: eaa323@hotmail.com Website: https://chapters.eaa.org/EAA323
Like us on Facebook @eaa323

We meet every Third Thursday at 7pm at the Sherman Municipal Airport (SWI)
1200 S Dewey Sherman, Tx 75090!
Please come and be our Guest!

President's Mission Brief:

By Frank Connery

Ho Ho Ho……it's that time of year. Merry Christmas to all Hope you have your Christmas shopping complete. I can't enjoy the season till I get that monkey off my back.

Our November meeting included elections. All current officers and positions were re-elected with the exception of John Horn, who after 10plus years as our very successful Young Eagle Coordinator needed to step down. Thank you, John, for a job well done. John Halterman was elected as the new Young Eagles coordinator. Thanks to John Halterman for stepping up and taking over the reigns. Also, thanks' to the current Officers for trying to keep me on track.

The November gathering also included Bar-B-Que from Crooked Letter Barbecue and Soul Food provided Chopped Beef Sandwiches and they were delicious. As a side note, this was the same group that we had during the Tri-Motor event. They can be found online at https://crookedletterbbq.com/ and are usually located in the Westwood Village. Please check their calendar before making the trip! I think everyone present enjoyed the dinner and the camaraderie.

We had a nice fly out to Sulphur Springs and the Redbarn Café for our first Saturday event. I think the ones that came enjoyed the morning. I hope my flurry of emails didn't scare anyone off. We may have to have some remedial Notam lessons at the next meeting.

As you may have already heard, this month's regular meeting will be at Ross and Paula Richardson's home for our Annual Chapter Christmas party (See page 3 for more details). BYOB is authorized and you can bring a side dish. If you would like to participate, a gift (less than $25.00) to exchange.

The Richardson's are requesting that everyone RSVP so they will know how much food will be needed! Please RSVP to eaa323@hotmail.com if you plan to attend.

Thats it for now. Enjoy the Holiday's.

Frank Connery

Merry Christmas, Everyone! And a bright, safe and Happy New Years!

Texoma Aero Club December 2024

By Mike McLendon, TAC President

Rewind Six years. Texoma Aero Club became Texoma Aero Club: December 2018.

How time flies! And we fly too! Who knows how many miles TAC members have flown in six years?

With Thanksgiving now behind us, and I hope yours was a happy one! It looks like December is going to be very busy in preparation and festivities as the Christmas season approaches. Our monthly meeting is scheduled for Saturday, December 21, but with this date being so close to Christmas, we will not meet. TAC meetings will resume in January on the second Saturday, January 11 at 08:30AM with a Pancake breakfast, meeting and VMC Club presentation afterwards. All Monthly meetings from then on will be conducted on the second Saturday of each month. Monthly meetings will be announced via email.

TAC By-Laws require that the membership annually conduct an election of officers and Board of Directors. December 20 is the deadline for nominations.

Presently TAC Officers are:
Michael McLendon, President, Mary Lawrence, Treasurer, Rick Simmons, Secretary

Board of Directors are:
Rex Lawrence and Nathan Weick. Jim Smisek, a Founding Member, recently resigned. We thank you, Jim, for your all the work and time you devoted to helping establish TAC.

Equipment news:

"Lucy": (N1528Y) We completed the required 100 hour inspection. It took longer than we expected due to #3 cylinder issue requiring replacement. Additionally we removed the vacuum system and AV30's are now in the panel for the AI and DG. Go to You Tube to Familiarize yourself with AV30 operation. Also, the two cylinder EGT was upgraded to a 6 cylinder graphic display! And new carpet is on the way.

"Lilith": (N7689M) 1959 Straight Tail C175. IO360 engine. 210 HP. Lilith is in flight test mode. Let's just say, "Impressive" performance. We still have some minor things to do before she will be available for those of you who have a High Performance rating. Some time with a CFI will be required. We're working out the details.

All EAA members are invited to our January 11th meeting. Bring a friend.

Merry Christmas and Happy New Year to all!

Mike

Needed: Newsletter Editor

By Frank Connery

As has been mentioned before, Ed Griggs is stepping down as the Newsletter Editor in January to give someone else the chance to give the Newsletter a try! No one, including myself, expects anyone to do it exactly as he has done! We are excited to have someone else take over the reigns and make it their own! Ed will be available to assist, teach and/or help out as much as needed, requested or wanted.

For those thinking about stepping up, the only software "tools" that are used are: Microsoft Office, Excel and the Internet!

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EAA Chapter 323 Annual Christmas Party

By Ross and Paula Richardson

EAA Chapter 323
Annual Christmas Party

Its never to early to start planning for the EAA 323 Annual Christmas Party which will be held at the home of :

Ross and Paula Richardson
rprichardson46@gmail.com
2115 Turtle Creek Circle, Sherman
903.821.4277
On Thursday, December 19th, 2024 at 6:30 PM

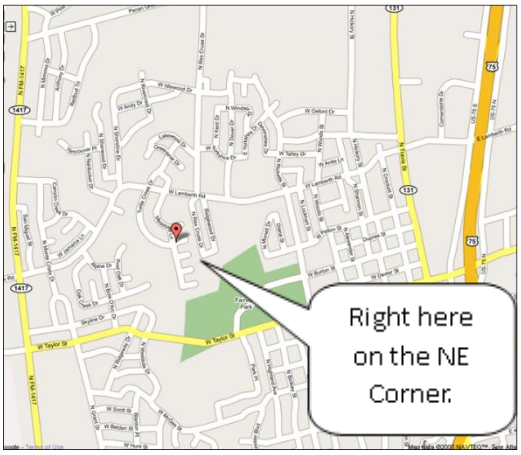
Entrée will be provided. Each family is requested to bring a side dish of your choice. Punch, wine, and soft drinks will be provided. You are welcomed to BYOB. We are requesting that everyone RSVP for the event so that we can get an accurate head-count (to make sure that there is enough of the main entrée'! Please send an email to: rprichardson46@gmail.com to let them know of your plans!

For the exciting gift exchange, each person is requested to bring an unmarked wrapped gift (around $25.00).

Looking forward to a fun filled evening of eating and Chapter fellowship to end the year!

Map to Ross and Paula's Home
2115 Turtle Creek Circle
Sherman, TX 75092
(Northeast corner of Meadow Lane and Turtle Creek Circle)

If you get lost, call approach control at 903-821-4277 for final instructions.



The Logic Behind Class B Airspace

By Swayne Martin, 06/21/2016, https://www.boldmethod.com/blog/article/2016/06/how-class-b-airspace-works/

Class B airspace covers some of the busiest commercial airports in the world, with 37 airports in the United States designated as Class B. Most of the traffic in this airspace is on an IFR flight plan, but you'll find VFR traffic inside, too. So what is the logic behind Class B airspace?

What Is Class B Airspace?

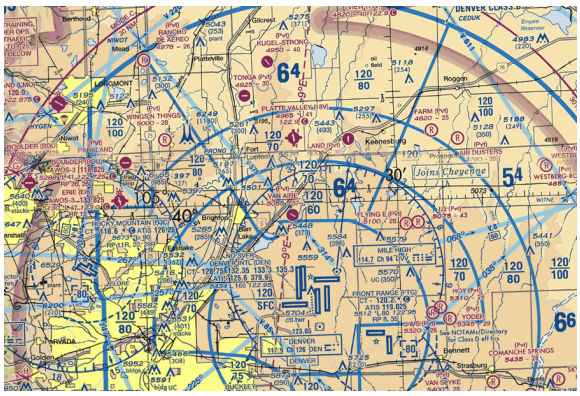
Class B airspace protects some of the busiest commercial airports in the world. You'll find a constant flow of airliners and regional jets arriving and departing, and, no matter what the weather, Class B airspace is always busy.

Add to the mix corporate jets, cargo operations, and personal aircraft on both VFR (Visual Flight Rules) and IFR (Instrument Flight Rules) flight plans, and you've got a busy mess. To accommodate all of these flights, Class B airspace has some of the strictest equipment and communication requirements of any airspace. But, it also has some of the most lax weather minimums. Why? Read on and find out...

It's Highly Controlled

Air Traffic Control makes Class B airspace possible by constantly monitoring and separating each flight in the airspace; that's also why it has some of the most relaxed weather minimums, because ATC always has eyes on you. Approach and departure control transitions aircraft into and out of the airspace, and tower controllers sequence them in for landing and takeoff.

ATC controls everything you do in Class B airspace. As you're learning about the airspace and its requirements, keep in mind that they're in place so that you and ATC remain in constant communication. ATC is always aware of where you're at and what you're doing.

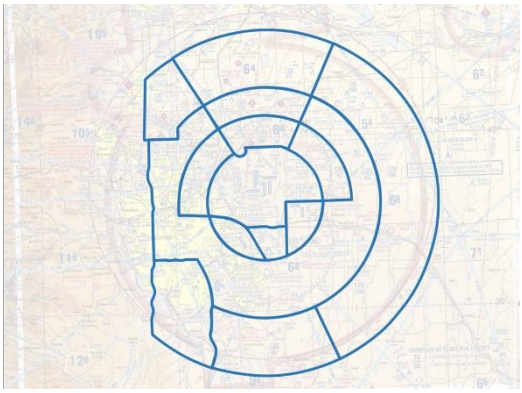


How To Find It

Class B airspace surrounds the largest airports in the United States. Denver International (KDEN), Los Angeles International (KLAX), Chicago O'Hare (KORD), and Atlanta Hartsfield (KATL) are all examples of airports in Class B airspace. Identifying Class B airspace on a VFR sectional map is pretty easy. There are two markings you need to know to identify Class B airspace:

- Horizontal boundary markings
- Vertical boundary markings

The horizontal boundaries of Class B airspace are marked with a thick blue line. Class B airspace typically has lots of different sections, so expect to see lots of thick blue lines that make up the horizontal limits of the airspace. The different sections of Class B airspace often form a perfect circle, but in some cases, the horizontal boundaries of Class B can be all kinds of shapes, due to mountainous terrain, neighboring airports, and other airspace.

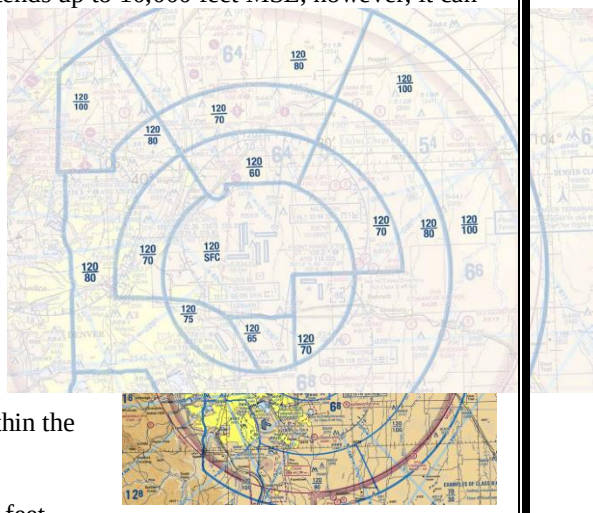


In this example, the west side of Denver's Class B airspace is 'cut-off' because of its close proximity to the Rocky Mountains.

Vertical boundaries of Class B airspace are easy to identify as well. There are two sets of bold blue numbers, separated by a blue horizontal line. **The top number represents the ceiling of Class B airspace in hundreds of feet MSL.** For example, if the top number is "120," it means the ceiling of Class B for that section is 12,000 feet MSL. The altitudes are inclusive, so if you're flying in that section at 12,000 feet MSL, you're in Class B. **The bottom number represents, you guessed it, the floor of Class B airspace in hundreds of feet MSL.** For example, if the bottom number is "080," it means the bottom of Class B airspace for that section is 8,000 feet MSL. So, if you're flying at 8,000 MSL in that section, you're in Class B.

When a section of Class B airspace extends to the surface, the bottom number is replaced with the letters "SFC", for "surface."

But how high does it go? Class B airspace typically extends up to 10,000 feet MSL, however, it can vary. In this example, Denver's Class B goes up to 12,000 feet MSL because it's a high-altitude airport. (Arrival into Denver KDEN shown below)



The Mode-C Veil
Air Traffic Control closely monitors everything that happens inside - and around - Class B airspace. They need to have accurate altitude information on each aircraft in the area to make sure they remain separated from the Class B traffic. Because of that, all aircraft need to use a Mode-C altitude reporting transponder inside and around Class B airspace.

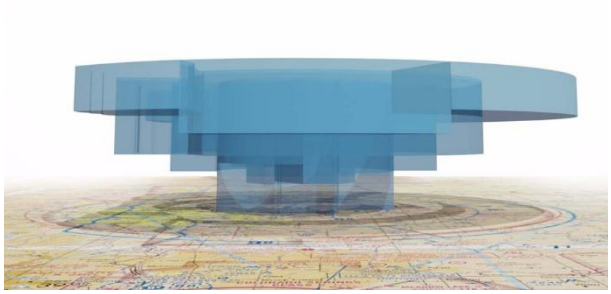
Class B airspace is surrounded by what's known as a "Mode-C veil." The Mode-C veil is marked by a thick magenta ring, with the words "30 NM MODE C" next to it. What does it mean? The Mode-C veil is NOT part of Class B airspace, however, any flight within the veil requires you to use a Mode-C transponder.

But how high does it go? The Mode-C veils extend vertically from the surface to 10,000 feet MSL. It stops at 10,000 MSL because any flight above that altitude requires a Mode-C transponder, regardless of where you are.

So what happens if your airplane doesn't have a Mode-C transponder? Are you banned from flying within 30 mile Mode-C veil? Not necessarily - aircraft not originally certificated with an engine driven electrical system, or aircraft that have not subsequently been certified with a system installed can fly within the Mode C veil, provided the aircraft remains outside Class A, B or C airspace; and below the altitude of the ceiling of a Class B or Class C airspace area designated for an airport or 10,000 feet MSL, whichever is lower.

Why The Funny Shape?
Lots of people say Class B airspace looks like an upside-down wedding cake. While it's not always made up of perfect circles, it is typically narrow at the surface and wide at the top. Take the Denver Class B airspace on the screen for example. There are lots of different sections at different altitudes, but for the most part, it's narrow at the bottom and wide at the top.

As planes arrive and depart a Class B airport, they need to be kept at a safe distance from other aircraft in the area. Many of those planes are lower, slower, and in different airspace around the Class B. The cake shape allows arriving and departing aircraft to remain in the Class B airspace as they transition to what's called the 'enroute structure', or the big and relatively open airspace at higher altitudes. At the same time, lower and slower airplanes can continue operating safely at smaller airports outside (but near) Class B airspace.



Easy Enough, Right?
When you think about it, Class B isn't too difficult to understand. It's simply there to adequately handle a large influx of VFR and IFR traffic arriving into one area. If you understand its shape and purpose, it'll be much easier to plan your flight through Class B.

Looking For More Info?
Want to learn more about airspace? Try our National Airspace System online course. With tons of quizzes and simple explanations, it's an easy way to get ready for your next checkride or flight review.

EAA Chapter 323
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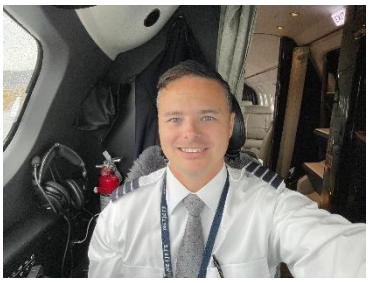
Coming Soon, again – CFI Corner

By Adain Sipe, CFI



When I first moved to the Texoma region back in 2023, I was thrilled to see such an active General Aviation community. Between the Texoma Aero Club (TAC), EAA Chapter 323, and VMC Club, there were more aviation events than I had time to attend. I believe that is a good problem to have. Suppose you're like me and unable to attend all of the monthly aviation activities in our area. In that case, this Newsletter is a great way to get caught up on all the latest aviation adventures, news, and trivia.

I've learned that the demographics of readers and club members are diverse, from aviation enthusiasts and family members to student pilots and professional aviators. Appealing to such a varied group is no easy task. However, Ed Griggs is the mastermind behind this award-winning Newsletter, and he's done a phenomenal job accommodating everyone's interests and experience. I met Ed earlier this year at an EAA event. After discovering that I was an independent flight instructor, he asked if I would be interested in contributing to a monthly column aimed at pilots and student pilots. Having been a student pilot in the not-so-distant past, I enthusiastically accepted the challenge. We're calling it "CFI Corner."

Have you ever heard the statement that a good pilot is always learning? I have! And I believe it to be one of the most accurate statements I've ever heard. Thus, my goal with CFI Corner is to present you with real-world safety tips, lessons learned, and best practices to help you be a safe, smart, and successful pilot. I will approach these articles through the lens of a student pilot or a freshly minted private pilot. However, I can cover more advanced topics found in instrument or multi-engine training upon request. I plan to cover aircraft performance and fuel planning in January's newsletter. If you have an idea for an article or a question you'd like me to answer, email me at Adam.Sipe@Yahoo.com.

While I have had the privilege of meeting many of you at either EAA, TAC, or FAAST events, this is as good an opportunity as any to introduce myself to those who may not know me. My name is Adam Sipe. I moved to Sherman, TX, with my wife and daughter in the summer of 2023 when I took a new job flying on-demand air cargo out of North Texas Regional Airport (GYI). My wife and I fell in love with this area, so we purchased a house and plan to stay for the foreseeable future.

I have always wanted to be a pilot, but flight training is expensive, so I got my foot in the door by cleaning airplanes as a teenager before enlisting in the Marine Corps, where I served five years of active duty as a F/A-18 Hornet crew chief and mechanic. With that experience, I earned my Airframe and Powerplant (A&P) certificates, working as an airplane mechanic while completing my college degree and flight training. Before moving here, I had spent four years flight instructing at an FAA Part 141 flight school in central Florida. Fast forward to today, I now fly for the largest private airline in the world and hold multiple flight instructor ratings and an Airline Transport Pilot (ATP) certificate with several type ratings.

I still enjoy flight instructing through the Texoma Aero Club at GYI and can provide independent instruction. I am a lifelong student pilot; I look forward to learning new things together and hope to see you at an upcoming EAA323, TAC, or FAA WINGS event.

Adam Sipe is a flight instructor and pro pilot based in Sherman, TX. He is available for ground & flight instruction, checkride preparation, and consultation. You can reach Adam by email at Adam.Sipe@Yahoo.com.

The FAA Safety Team: Safer Skies Through Education

By Adam Sipe, FAASTeam Member

I mentioned in the previous column that I am a local flight instructor. However, I failed to mention that I am also an FAA Safety Team Representative. Some of you might ask, "What on earth does that mean?!" Before you pucker up too hard, I am not an FAA employee; I am merely a volunteer who works on behalf of the North Texas Flight Standards District Office (NTX FSDO) to promote aviation safety in our local community. Our mission is to improve the Nation's aviation safety record by conveying safety principles and practices through training, outreach, and education.

The FAA Safety Team, or FAASTeam for short, comprises volunteers who provide aviation training seminars/webinars, consultation, and remedial training. Most of our training is free to attend through local outreach programs, such as EAA events, flying clubs, and fly-ins. There are also hundreds of pre-recorded courses on our website. If you haven't checked it out, I recommend heading to www.FAASafety.gov to create a free account. While there, you can view the archived courses, seminars, and webinars and register for upcoming events. We cover a wide range of topics for pilots of all ratings and skill levels, including airplanes, helicopters, and even UAS.

Participating in these events, either in person or online, not only makes you a safer pilot, but you can also collect WINGS credits that can be used to demonstrate currency and proficiency. The WINGS Program is based on the premise that pilots who maintain currency and proficiency in the basics of flight will enjoy a safer and more stress-free flying experience. These credits can be used to satisfy flight review and other currency requirements. Learn more about the FAA WINGS program here: https://www.faasafety.gov/wings/pub/learn_more.aspx

As an FAASTeam representative, I hold occasional safety seminars and provide coaching and remedial training to local pilots. I was fortunate enough to complete a seminar in October at the annual Cedar Mills fly-in. I look forward to future events in our local area. I plan to hold the first of several safety seminars on Saturday, April 12, 2025, through the Texoma Aero Club.

In addition to the CFI Corner mentioned in the previous column, I will also compose a small column summarizing the FAASTeam Topic of the Month (ToM) and highlight upcoming webinars and seminars.

Topic of the Month: Overreliance on Automation

Automation is a tool designed to reduce pilot workload and increase situational awareness. However, automation is only as effective as the operator interacting with and monitoring it. Technology and automation have indisputably advanced aviation safety, but they have also changed the way pilots interact with their aircraft, and that has created some challenges. Pro pilots are intimately familiar with their aircraft, including automated systems. However, given the lack of standardization in General Aviation, most GA pilots are less proficient. Automation can take many forms, from GPS navigators to electronic flight instruments to three-axis autopilots that fly fully coupled approaches to minimums.

Regardless of the systems in your aircraft, it is your responsibility as PIC to learn and master these systems to their fullest capacity, including all of their functions, limitations, and failure modes. You must also know when and how to use which function. Neglecting to do so will lead to operational inefficiencies and possible pilot deviations or, worse, a fatal accident.

As you master your automation, it is crucial to avoid becoming over-reliant. Humans are notoriously poor at monitoring. We quickly become bored and may miss important information. Monitoring and managing automated systems can decrease the time spent scanning for traffic or following ATC instructions. Although autopilots can fly more precisely than any human, overreliance on them quickly degrades hand-flying skill and confidence. To harmonize automation with hand-flying, you must follow the same proficiency principles that pro pilots use. Pro pilots practice both skills during recurrent training events and normal line operations.

So, just because you have a fancy autopilot, make an effort to practice hand-flying a departure procedure, a level-off, a descent, an approach, and a missed approach. While having a GPS navigator is nice, practice flying with raw data CDI needles. Glass cockpits are sweet, but practice using your standby instruments or partial panel to stay sharp. In short, master your automation but stay proficient with your hand-flying and basic navigation skills.

Upcoming Webinars: Head to http://www.FAASafety.gov to register.

1. "Overreliance on Automation" live webinar will start on Tuesday, December 17, at 6:00 pm CST.
2. "Navigating by Dead Reckoning" live webinar will start on Saturday, December 21, at 11:00 am CST.
3. "3 IFR Alternates You Need in Every Flight Plan" live webinar will start on Thursday, December 26, at 6:00 pm CST.
4. "The General Aviation Airman Designee's Handbook" live webinar will start on Saturday, December 28, at 11:00 am CST.

Upcoming Seminars:

1. Sensible Safety Tips for General Aviation Pilots – live seminar at GYI planned for Saturday, April 12, 2025, through Texoma Aero Club and EAA323.

From the "You never know what you are going to see around Sherman, Tx" department:

By Ed Griggs

Texomans are constantly being entertained by a variety of aircraft and Saturday, Dec 7, it was fitting that a C-130 (J) was doing touch and goes at North Texas Regional Airport. The Aircraft was out of Naval Air Station Joint Reserve Base (NAS JRB) Ft Worth (the old Carswell Air Force Base).

Also seen at North Texas Regional lately has been an oddity (for some) but a historical (1980's) aircraft. The Grob G 520 'EGRETT' is a turboprop-powered long-endurance, high-altitude reconnaissance and surveillance aircraft designed and produced by the German aircraft manufacturer Grob Aircraft. September 1988, it has been the holder of several world records relating to altitude and time to climb. This particular model was built in 1989, is owned locally and maintained at North Texas Regional Airport!

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Pilot's tip of the Month: How to Think About Light Crosswinds

By: Ryan Koch, https://pilotworkshop.com/tips/how-to-think-about-light-crosswinds/

CFII, Director of Product Development

Subscriber question: "I just became a part-owner in a Cessna 182. When I was doing some touch-and-goes in light winds with one of the other owners, he kept saying I was landing crooked and the wheels shouldn't chirp so much on landing. I've flown a 182 before and I know I wasn't looking diagonally across the nose. What gives?" — François B.

Ryan:

"Pilots often touch down a little sideways when winds are light because they're not in 'crosswind landing mode.' Similarly, variable wind direction is going to be a problem for a pilot who thinks in terms of using 'left crosswind technique' or 'right crosswind technique'. Often, pilots describe a landing like this: I have a left crosswind, so I'll be using right rudder and left aileron, and touching down on the left main wheel first.

To me, that describes the result, not the technique. The proper technique on every landing is to use whatever rudder it takes to align the nose of the airplane with the centerline of the runway, and whatever bank it takes to control drift so the airplane itself stays over the center of the runway. Point the nose with your toes, and use the ailerons to move laterally to stay over the centerline. Use that technique on every landing, and good crosswind landings will follow.

This works when there's no wind, when winds are strong or variable, and for everything in between. After touchdown, position the ailerons fully into the wind—they should already be deflected that way as a result of the technique—and keep pointing straight down the centerline with the pedals.

A home simulator can be a great tool for practicing this. The controls won't feel the same, but the concepts are. You can get as many reps as you want in different wind conditions until the relationships between aileron, rudder, drift, and alignment become intuitive."

Aviation Words – "Aviation"

By Ian Brown, EAA 657159, Editor - Bits and Pieces, Board Member, *https://www.eaa.org/eaa/news-and-publications/eaa-news-and-aviation-news/bits-and-pieces-newsletter*

You may have expected the word "aviation" to have always been around. Apparently not!

The word was actually created in 1863 by a French former naval officer and writer by the name of Gabriel La Landelle. He tried to create a new verb, avier, "to fly," but it didn't catch on. The present-day verb is "voler" and a flight is a "vol," but "aviation" did stick and it's essentially the same word in both languages.

The origin of the word is the Latin word for bird (avis) with the common suffix -ation added. Note that's not AVIS, the rental car company.

Maybe his idea didn't work out because there was already a word "avis" in French, meaning "opinion" or "advice.".

Braniff DC-2 Overflying Dallas, 1940

Fantasy Based Energy Management Training for Pilots

By Rod Machado, August 2022, https://rodmachado.com/blogs/learning-to-fly/fantasy-based-energy-management-training

Is it possible that you have no idea how to fly an airplane? Until now, you've probably been flying wrong, and "wrong" is the reason pilots experience loss of control, runway excursions, and other bad things too unmentionable to mention. That's the residual hallucination you are left with after reading the newest chapter in the *Airplane Flying Handbook* titled *Energy Management: Mastering Altitude and Airspeed Control.*

Apparently, using overly simplified and controversial maxims such as *pitch for airspeed and power for altitude* (or visa versa) renders you less capable of mitigating the hazards caused by unsafe or degrading energy states. At least that's what the FAA now wants pilots to think. As the de facto guardian of airmanship truth, the FAA now suggests that pilots dismantle their previous pitch-power behaviors and rebuild new ones on the brick-and-mortar fabulations of energy management.

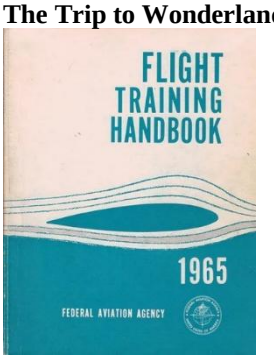
Whoa! Hold on Rocket Pants

Before you surrender to consensus agreement on the FAA's newest recommendations, please consider the following idea. Using elevator or throttle (pitch or power) to control the airplane's airspeed or altitude is a personal *technique*, not a standardized *procedure*. Your pitch-power technique has no bearing on safety as long as that technique is used correctly. To the best of my knowledge, the NTSB has never attributed the crash of a general aviation airplane to the pitch-power technique used to fly it. Instead, these reports often state, "The pilot failed to monitor airspeed," or "...failed to follow proper safety guidelines," or even, "...failed to maintain sufficient altitude." These are general references to procedures, not individual techniques.

Many years ago, the head of McDonnell-Douglas Flight Training told me that she designed two different flying techniques for flying the C-17. One for the US Navy (pitch controls airspeed, power controls altitude) and one for the US Air Force (pitch controls altitude, power controls airspeed). Both techniques worked just fine based on the demand characteristics of the flying environment. No one crashes an airplane because of the pitch-power technique used to fly it. Pilots crash because they fail to use their pitch-power technique properly.

As you'll soon see below, the FAA has elected to shelve its one-time simple, easy-to-understand explanation on using the elevator and throttle to control an airplane. In its place, the FAA adopted another explanation that appears to have been crafted by the light of a crackling fire at a Big Sur Ashram. While I'm not against energy—I am quite fond it—I am against anything that makes training a private pilot more difficult without purpose. This is precisely what the FAA's newest energy management offering does. To better understand the significance of this change, let's examine the historical path the FAA took as it slipped down this post-modern rabbit hole of energy management flying.

The Trip to Wonderland



In its 1965 *Flight Training Handbook* (the precursor to today's *Airplane Flying Handbook*), the FAA stated:

"The angle of descent, or glidepath, should be controlled by throttle adjustment; the airspeed should be controlled by changes in pitch attitude."

The beauty in this decades-old statement is that it was forged at a time when the FAA wasn't confused about how to teach primary students to fly small airplanes. The piloting principles presented in the 1965 *Flight Training Handbook* reflect advice by pilots (many having learned to fly in WW2) that knew something about basic stick and rudder skills. Whether you agree with its 1965 recommended pitch-power technique or fancy another is not the issue. At least at that time, the FAA offered a venerable, solid, and easy-to-understand control technique for new pilots.

In its 1980 *Flight Training Handbook*, the FAA reversed the polarity of its earlier recommendation to read:

"…the pitch attitude is adjusted as necessary to establish and maintain the desired rate or angle of descent, and power is adjusted to maintain the desired airspeed."

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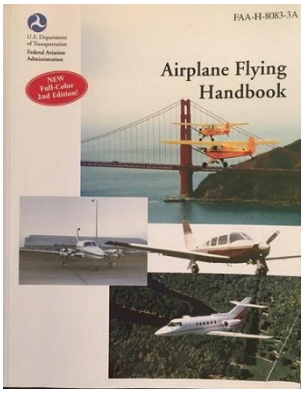
OK, fine. The FAA did an about-face here, but it's still a solid offering, irrespective of whether or not it reflects your technique. Why did the FAA change its recommendation at that time? Apparently, a significantly boisterous portion of the aviation population complained loud enough for the FAA to trim its sails and rewrite its handbook. No, this wasn't an admission that it had recommended the wrong technique over the years. Instead, it was mostly an act of political submission to those in the jet community who felt they knew better about how pilots should fly small airplanes. They don't. In fact, there's almost nothing about flying a jet that pertains to flying a small airplane but almost everything about flying a small airplane pertains to flying jets. I remember these debates because I was teaching flight instructor clinics (circa 1978) when these arguments raged—and raged, they did.

Nevertheless, in the preface to the same 1980 *Flight Training Handbook*, the FAA wrote with great wisdom and stated:

"…it would be impossible to explain all the different [aviation] methods and concepts…. …this handbook takes a selective approach and adopts a uniform method and concept for the purposes of simplification."

In my estimation, this is uncommon wisdom. Had the FAA stood steady as it faced the gale-like force of political pressure and honored this guiding principle, primary training would be better off today. Unfortunately, over the next two decades, a series of unfortunate decisions at FAA headquarters dissolved the once-solid and practical educational foundation on which flight training was originally built.

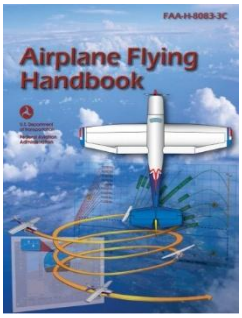


The FAA's Millennial Gift to Pilots, or "Let's Get Vague"
With the turn of the century, control usage recommendations became vague. The FAA's 2004 version of its *Airplane Flying Handbook* (the replacement for the FTH) dismantled its earlier pitch-power control recommendations. In its place, the FAA asked pilots to embrace the following new "let's all get along" airspeed-altitude control advice:

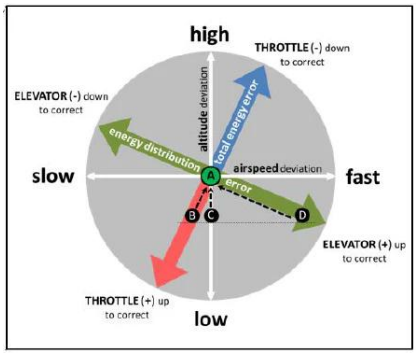
"…the power and pitch attitude should be adjusted simultaneously as necessary, to control the airspeed and the descent angle, or to attain the desire altitudes along the approach path."

Do you see what's happened here? Speaking in the quiet tongue of consensus, this recommendation promised to diminish the debate about how to control an airplane. After all, how can anyone argue about flight control usage if the flight controls do everything together while a single control appears to do nothing?

A Gift With No Return Receipt
This recommendation, having educational contour but no instructional depth, stayed almost the same until 2021 when the FAA published its latest version of the *Airplane Flying Handbook*. In it, the FAA introduced a new chapter titled *Energy Management: Mastering Airspeed and Altitude Control.* This chapter summed up the FAA's newest airspeed-altitude recommendation as follows:



"The descent angle is affected by all four fundamental forces that act on an airplane (lift, drag, thrust, and weight). If all the forces are balanced out such that the net force on the airplane is zero, the descent angle remains constant in a steady state wind condition. The pilot controls these forces by adjusting the airspeed, attitude, power, and drag (flaps or forward slip)."



Stripped from the paragraph above is any hint of the specific elevator-throttle behavior necessary to control an airplane. In its place came vague energy-management platitudes, hydraulic-energy diagrams, and an energy map so cryptic that it encourages primary students to resist its interpretation.

Over a period of 57 years, the FAA went from a practical (how to) pitch-power recommendation to one without any behavioral meat on its bones. In other words, it lacks any specific reference that suggests "push that thing" to change "this thing." It's clear that the FAA has forfeited its original intent of a "… uniform method and concept for the purposes of simplification" and replaced it with one less likely to provoke debate on flight control usage.

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For example, the FAA now defines the throttle as the **Total Energy Controller** and the elevator as the **Energy Distribution Controller**. The FAA states, "…rather than asking what controls altitude and what controls airspeed, a pilot can now ask what controls *total energy* and what controls its *distribution* over altitude and airspeed." Huh? I honestly couldn't make this stuff up if I wanted to. Look out, Alice! You have visitors.

The Ruse of the Rules

To help student pilots assimilate these energy management principles, the FAA now offers three *energy management control rules*, as shown below. Unfortunately, each of these three new rules is sufficiently abstract and vague that neither can stand on its own without referencing its pedigree. Therefore, the FAA was forced to define each rule using similar terms from the elevator and throttle recommendations it originally intended to eliminate.

Rule #1: If you want to move to a new energy state that demands more total energy, then:
Throttle: increase throttle setting so that thrust is greater than drag, thus increasing total energy;
Elevator: adjust pitch attitude as appropriate to distribute the total energy being gained over altitude and airspeed:

To climb at constant speed, pitch up just enough to maintain the desired speed;
To accelerate at constant altitude, gradually pitch down just enough to maintain path.
Upon reaching new desired energy state, adjust pitch attitude and throttle setting as needed to maintain the new path-speed profile.

Rule #2: If you want to move to a new energy state that demands less total energy, then:
Throttle: reduce throttle setting so that thrust is less than drag, thus decreasing total energy;
Elevator: adjust pitch attitude as appropriate to distribute the total energy being lost over altitude and airspeed:

To descend at constant speed, pitch down just enough to maintain the desired speed;
To slow down at constant altitude, gradually pitch up just enough to maintain path.
Upon reaching new desired energy state, adjust pitch attitude and throttle setting as needed to maintain the new path-speed profile.

Rule #3: If you want to move to a new energy state that demands no change in total energy, then:
Throttle: do not change initially, but adjust to match drag at the end of maneuver as needed to maintain total energy constant;
Elevator: adjust pitch attitude to exchange energy between altitude and airspeed:
a. To trade speed for altitude, pitch up;
b. To trade altitude for speed, pitch down.
Upon reaching new desired energy state, adjust pitch attitude and throttle setting as needed to maintain the new path-speed profile.

Do you see the irony here? You must translate the FAA's energy control rules into their throttle-elevator behavioral components before using them. Why insert a topman (the three energy rules) just to make a place for the middleman (elevator and throttle movements)? Why not skip the topman and speak in terms of using the throttle and elevator directly, just like the FAA did in 1965? After reading these energy control rules, you feel as confused as a just-gelded bull. They make the act of primary flight training confusing, confounding, and difficult as a result. Frankly, all three of the FAA's energy control rules above can be distilled into one rule as follows.

Control the glidepath with throttle and airspeed with elevator.
(Or, visa versa, if it pleases you.)

This Is Great Because It's New, Not Because It's Effective or Practical

Perhaps the single most revealing statement in the FAA's confusing energy management philosophy reads as follows:

"An energy-centered approach clarified the roles of the engine and flight controls beyond the simple "pitch for airspeed and power for altitude" by modeling how throttle and elevator inputs affect the airplane's total mechanical energy."

Unable to see the forest for the trees, the FAA unknowingly confessed to sacrificing a "simple" technique—one that worked well for decades and required only seven words to comprehend—for an explanation that requires 7,398 words and 16 graphics in the *Airplane Flying Handbook.* (It should take no more than 300 words and single graphic of a bicycle moving and down a hill to explain energy management.)

Why would the FAA abandon a simple and practical 1965 flight training recommendation for the brain-fogging references of Total Energy Controllers and Energy Distribution Controllers? I suspect it did so because it concluded that disagreement on technique betrays a hidden structural flaw in the logic of airmanship. Well, it doesn't. Disagreement, in this instance, is how pilots express their preference for a technique. It's not a call-to-action for reworking the simple and practical principles of airplane control. Had the FAA offered wise leadership here, it would have cast this disagreement as such. Sadly, the FAA missed a wonderful opportunity to do so. Not surprisingly, it was a *university-published paper* on energy management that led the FAA in this direction.

A Tempting Mistress

The FAA has had a love affair with aviation academia for decades. It almost seems to gush, coo, and get a bit giggly when a major aviation university publishes a paper offering a new perspective on how to fly airplanes. It also appears to make no difference if a paper's proffered principles have ever been subject to the rigors of scientific testing. For the FAA, it's a plug-and-play arrangement where theoretical ideas are implemented without any need for peer review by the community these ideas affect most: general aviation instructors.

For example, in 2015 one aviation university paper suggested that pilots crash airplanes because of the "Failure to manage energy associated with vertical flight path (altitude) and airspeed." In my opinion, it's a fine paper from an academic perspective, not a practical one. The reason being is that the paper offered no proof for its assertions. Its central premise is based on the impression that energy management flying is, apparently, a good idea because it looks like a good idea. The paper then borrows a few hefty terms from the lexicon of physics to rework a simple and once-venerable pitch-power flying technique. The FAA was smitten with the novelty of these ideas. Thereafter, it elevated the paper's principles to policy.

Fantasy-Based Flight Training

This is just another example of what I call, *Fantasy-Based Flight Training*. For instance, imagine what it will be like for students when their instructors say, "You need to change your energy state," instead of "lower the nose." Rest assured that young flight instructors will eagerly adopt the language of energy management and use it on their primary students. After all, this is the lingo that young instructors believe airline pilots use. Young, impressionable instructors will gladly model the behaviors of those they admire. However, this isn't the language student pilots easily comprehend.

When the esteemed Bob Hoover was once asked about the use of energy management in his aerobatic routines, he stated, "It's nothing more than airspeed and altitude control." Nevertheless, the FAA now insists that student pilots be capable of explaining energy management principles (an ACS requirement) in the exalted language of "energy distribution" and "energy control." Common sense suggests that this requirement confuses and confounds any understanding of airmanship's basic principles.

Pitch for speed, power for glidepath should be the inheritance of every student pilot. Implied in the text of those six simple words is the poetic expression of two critical ideas: the elevator controls your proximity to a stall, and the absence of power prevents stretching a glide. Neither of the FAA's three energy control rules alone or together conveys any relationship with *angle of attack* and glidepath (not surprisingly, *angle of attack* is mentioned only once in the Energy Management Chapter).

The FAA's inclusion of energy management flying principles in the *Airplane Flying Handbook* is an assault on clarity and an abrogation of its flight training responsibilities. I do not doubt that the FAA's and the University's intentions were pure and intended to improve aviation safety. However, I've long believed that having good intentions is a highly overrated virtue. It's what you do that counts, not what you intended to do. Common sense suggests that the FAA's new energy management training program won't produce the intended results and will only complicate general aviation training. General aviation training needs wisdom—wise oversight—to prevent these types of excursions into the land of ideology, opinion, and untested recommendations. Alice doesn't need more company.

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Arcane Aviation Texas Fact: Ira Clarence Eaker

https://www.tshaonline.org/handbook/entries/carswell-horace-s-jr

Lt Gen Ira C. Eaker, USAAF, Deputy Commander of the Army Air Forces

General (Honorary) Ira Clarence Eaker (April 13, 1896 – August 6, 1987) was a general of the United States Army Air Forces during World War II. Eaker, as second-in-command of the prospective Eighth Air Force, was sent to England to form and organize its bomber command. While he struggled to build up airpower in England, the organization of the Army Air Forces evolved and he was named commander of the Eighth Air Force on December 1, 1942.

Although his background was in single-engine fighter aircraft, Eaker became the architect of a strategic bombing force that ultimately numbered forty groups of 60 heavy bombers each, supported by a subordinate fighter command of 1,500 aircraft, most of which was in place by the time he relinquished command at the start of 1944. Eaker then took overall command of four Allied air forces based in the Mediterranean Theater of Operations, and by the end of World War II had been named Deputy Commander of the U.S. Army Air Forces. He worked in the aerospace industry following his retirement from the military, then became a newspaper columnist.

Childhood and education

Eaker was born in Field Creek, Texas, in 1896, the son of a Dutch tenant farmer. He attended Southeastern State Teachers College in Durant, Oklahoma, and then joined the United States Army in 1917. He was appointed a second lieutenant of Infantry, Officer's Reserve Corps, and assigned to active duty with the 64th Infantry Regiment at Camp Bliss, El Paso, Texas. The 64th Infantry was assigned to the 14th Infantry Brigade on December 20, 1917, to be part of the 7th Infantry Division when it deployed to France. On November 15, 1917, Eaker received a commission in the Regular Army. He later received a Bachelor of Arts degree in journalism from the University of Southern California in 1934.

Air Service and Air Corps career

Eaker remained with the 64th Infantry until March 1918, when he was placed on detached service to receive flying instruction at Austin and Kelly Fields in Texas. Upon graduation the following October, he was rated a pilot and assigned to Rockwell Field, California.

In July 1919, he transferred to the Philippine Islands, where he served with the 2d Aero Squadron at Fort Mills until September 1919; with the 3d Aero Squadron at Camp Stotsenburg until September 1920, and as executive officer of the Department Air Office, Department and Assistant Department Air Officer, Philippine Department, and in command of the Philippine Air Depot at Manila until September 1921.

Meanwhile, on July 1, 1920, he was commissioned into the Regular Army as a captain in the Air Service and returned to the United States in January 1922, for duty at Mitchel Field, New York, where he commanded the 5th Aero Squadron and later was post adjutant.

Captain Ira Eaker with a Boeing P-12

In June 1924, Eaker was named executive assistant in the Office of Air Service at Washington, D.C., and from December 21, 1926, to May 2, 1927, he served as a pilot of one of the Loening OA-1 float planes of the Pan American Goodwill Flight that made a 22,000 mile (35,200 km) trip around South America and, with the others, was awarded the Mackay Trophy. He then became executive officer in the Office of the Assistant Secretary of War at Washington, D.C.

In September 1926, he was named Operations and Line Maintenance Officer at Bolling Field, Washington, D.C. While on that duty, he participated as chief pilot on the endurance flight of the Army plane, Question Mark, from 1 to January 7, 1929, establishing a new world flight endurance record. For this achievement the entire crew of five, including Eaker and mission commander Major Carl Spaatz, were awarded the DFC. In 1930, he made the first transcontinental flight entirely with instruments.

In October 1934, Eaker was ordered to duty at March Field, Calif., where he commanded the 34th Pursuit Squadron and later the 17th Pursuit Squadron. In the summer of 1935, he was detached for duty with the Navy and participated aboard the aircraft carrier USS Lexington, on maneuvers in Hawaii and Guam.

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Eaker entered the Air Corps Tactical School at Maxwell Field, Alabama, in August 1935, and upon graduation the following June entered the Command and General Staff School at Fort Leavenworth, Kansas, from which he graduated in June 1937. During his time at Ft Leavenworth from June 3–7, 1936, Eaker made the first blind (instruments only) transcontinental flight from New York to Los Angeles. He then became assistant chief of the Information Division in the Office of the Chief of Air Corps (OCAC) at Washington, D.C., during which he helped plan and publicize the interception of the Italian liner Rex at sea. In November 1940, Eaker was given command of the 20th Pursuit Group at Hamilton Field, California. He was promoted in 1941 to colonel while at Hamilton Field.

World War II

Promoted to brigadier general in January 1942, he was assigned to organize the VIII Bomber Command (which became the Eighth Air Force) in England and to understudy the British system of bomber operations. Then, in December 1942, he assumed command of the Eighth Air Force. In a speech he gave to the British that won him favorable publicity, he said, "We won't do much talking until we've done more fighting. After we've gone, we hope you'll be glad we came."

Much of Eaker's initial staff, including Captain Frederick W. Castle, Captain Beirne Lay, Jr., and Lieutenant Harris Hull, was composed of reserve rather than career military officers, and the group became known as "Eaker's Amateurs". Eaker's position as commander of the Eighth Air Force led to his becoming the model for the fictional Major General Pat Pritchard in the 1949 movie Twelve O'Clock High.

Brigadier General Ira C. Eaker in England

Throughout the war, Eaker was an advocate for daylight "precision" bombing of military and industrial targets in German-occupied territory and ultimately Germany—of striking at the enemy's ability to wage war while minimizing civilian casualties. The British considered daylight bombing too risky and wanted the Americans to join them in night raids that would target wider areas, but Eaker persuaded a skeptical Winston Churchill that the American and British approaches complemented each other in a one-page memo that concluded, "If the RAF continues night bombing and we bomb by day, we shall bomb them round the clock and the devil shall get no rest." He personally participated in the first US B-17 Flying Fortress bomber strike against German occupation forces in France, bombing Rouen on August 17, 1942. Eaker was promoted to major general in September 1943. However, as American bomber losses mounted from German defensive fighter aircraft attacks on deep penetration missions beyond the range of available fighter cover, Eaker may have lost some of the confidence of USAAF Commanding General Henry Arnold. To reduce losses to fighters, Eaker was a strong advocate of the Boeing YB-40 Flying Fortress, a B-17 Flying Fortress which carried additional gun turrets and gunners instead of a bomb load and was intended to act as a long-range, "gunship" escort for conventional bombers. However the YB-40 was not a success in combat.

H.M. King George VI and Queen Elizabeth are greeted by Major General Frank Hunter and Major General Ira C. Eaker of the 8th U.S. Army Air Forces on the occasion of their visit to Duxford, Cambridgeshire on 26 May 1943.

Lieutenant General Ira C. Eaker, Major General John K. Cannon, Lieutenant General Jacob L. Devers, and Major General Thomas B. Larkin, 1944.

Eaker also strongly advocated work on improving the range of escort fighters using drop tanks,[4] so that his Republic P-47 Thunderbolts could stay with the bomber formations for longer periods. Eaker strictly followed the prevailing American doctrine of requiring fighters to stay near the bombers, but this stricture was proving frustrating to the fighter groups, who advocated for free rein in clearing the skies of enemy aircraft ahead of the bomber paths. Eaker's air force was bleeding men; from July through November 1943, the 8th lost 64% of its aircrew. When General Dwight D. Eisenhower was named Supreme Allied Commander in December 1943, he proposed to use his existing team of subordinate commanders, including Lieutenant General Jimmy Doolittle, in key positions. Doolittle was named Eighth Air Force Commander, and Arnold concurred with the change. After a rocky start, Doolittle greatly improved on Eaker's record by releasing the American fighter groups to hunt down enemy fighters.

Eaker was reassigned as Commander-in-Chief of the Mediterranean Allied Air Forces, previous commander Tedder having been selected by Eisenhower to plan the air operations for the Normandy invasion. Eaker had under his command the Twelfth and Fifteenth Air Forces and the British Desert and Balkan Air Forces.

Eaker, fifth from right, playing volleyball with Soviet servicemen in Poltava during Operation Frantic

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He did not approve of the plan to bomb Monte Cassino in February 1944, considering it a dubious military target, but ultimately signed off the mission and gave in to pressure from ground commanders. Historians of the era now generally believe Eaker's skepticism was correct and that the ancient abbey at Monte Cassino could have been preserved without jeopardizing the allied advance through Italy. He personally led the first raid of Operation Frantic on 2 July 1944, flying in a B-17 called Yankee Doodle II and landing at a Soviet base at Poltava in Ukraine.

On April 30, 1945, General Eaker was named deputy commander of the Army Air Forces and Chief of the Air Staff. He retired on August 31, 1947, and was promoted to lieutenant general in the newly established United States Air Force on the retired list June 29, 1948.

Almost 40 years after his retirement, Congress attempted to pass special legislation awarding four-star status in the U.S. Air Force to General Eaker, prompted by retired Air Force Reserve major general and Senator Barry Goldwater (R-AZ). Goldwater had originally wanted to simply promote Jimmy Doolittle to four star rank, but was told by Air Force Secretary Verne Orr that this would put Eaker in an awkward position because he "had greater responsibilities during World War II." In order to cure this defect the Doolittle promotion was enlarged to include Eaker. Goldwater first proposed a bill of relief that waived both officers' ineligibility for promotion.[8] However, the legislation stalled in the House, which prompted Goldwater to only seek confirmation via the Senate, which was arguably unlawful because of statutory restrictions on general officers that required them to be in active service.[9] On April 26, 1985, Chief of Staff General Charles A. Gabriel and Ruth Eaker, the general's wife, pinned on his fourth star. Later, in 1986, the Comptroller General ruled that the promotion was unlawful for pay or benefit purposes due to the lack of implementing legislation.

Civilian career

Bust of General Eaker at the Imperial War Museum, Duxford.

Ten days before the Democratic Party primary runoff election of the 1948 United States Senate election in Texas on Saturday, August 28, 1948, Eaker spoke in support of candidate Lyndon B. Johnson. Coke R. Stevenson's campaign attacked Eaker, and Eaker was defended by other prominent military officers and Johnson. Criticizing a prominent military leader so soon after World War II likely had a negative effect on Stevenson's turnout in the election, and in Howard County in particular (which had quartered an Army Air Force Bombardier School during World War II) returned an abnormally high net gain for Johnson as compared to his gains in other areas. 605–606 Johnson would go on to be declared the winner of the election by a small margin.

Eaker was a vice president of Hughes Tool Company and Hughes Aircraft (1947–1957) and of Douglas Aircraft (1957–1961).

While stationed in New York in the early 1920s, Eaker studied law at Columbia University.
Eaker went back to school in the early 1930s at the University of Southern California and received a degree in journalism. With Henry Arnold, Eaker co-authored This Flying Game (1936), Winged Warfare (1937), and Army Flyer (1942). Starting in 1962, he wrote a weekly column, carried by many newspapers, on military affairs.

Eaker was inducted into the National Aviation Hall of Fame, in Dayton, Ohio, in 1970. Over his 30 years of flying, General Eaker accumulated 12,000 flying hours as pilot.

On September 26, 1978, the U.S. Congress passed, and on October 10, 1978, President Jimmy Carter signed, Public Law 95-438, which awarded the Congressional Gold Medal to General Eaker, "in recognition of his distinguished career as an aviation pioneer and Air Force leader".

Eaker died August 6, 1987, at Malcolm Grow Medical Center, Andrews Air Force Base, Maryland, and is buried in Arlington National Cemetery.

Blytheville Air Force Base, Strategic Air Command (SAC) installation, was renamed Eaker Air Force Base on May 26, 1988. Eaker AFB was closed on March 6, 1992, due to Base Realignment and Closure (BRAC) action. Military to civilian conversion began, and public aircraft began using the decommissioned base. The military still uses the renamed Arkansas International Airport.

The airport in Durant, Oklahoma was renamed Eaker Field to honor Eaker, a graduate of Southeastern State College in Durant. Now known as Southeastern Oklahoma State University, the student aviation majors use the airport as the home of the flight school.

What Happens When Your Pitot Tube Ices Over?

By Boldmethod, 12/10/2024, https://www.boldmethod.com/learn-to-fly/systems/what-happens-when-your-pitot-tube-ices-over-airspeed-indicator-failure-scenarios/

Instrument failures may be one of the toughest parts of training, and they can quickly spark confusion if they happen when you're in the clouds.

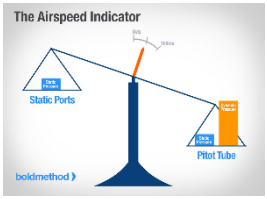
Now that it's getting colder, airspeed failures are a very real possibility, especially if you inadvertently enter icing conditions. What can happen, and how will your airspeed indicator react?

How Your Airspeed Indicator Works

Before you can understand the failures, you need to understand how an airspeed indicator works. It's an incredibly simple instrument, and round-dial and glass-panel systems both use the same principles.

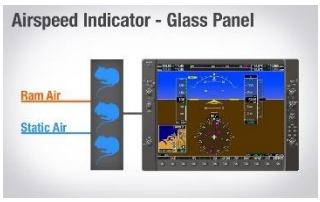
Your airspeed indicator measures dynamic pressure. That's the pressure caused by your movement through the air. However, you can't measure dynamic pressure directly, because static pressure is always in the mix as well.

Your pitot tube measures "ram pressure," which is a combination of dynamic and static pressure. If you're parked on the ramp, your ram pressure only includes the static component. As you start to move forward, ram pressure includes both static and dynamic pressure.



Your airspeed indicator is really a scale, which compares the static pressure from your static ports to ram pressure (static + dynamic) from your pitot tube. The two static pressures cancel each other out, and you're left with dynamic pressure. Dynamic pressure translates into your airspeed.

The traditional round-dial instrument uses an aneroid wafer filled with ram pressure, inside a case filled with static pressure.



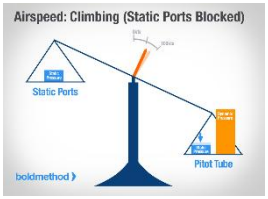
Glass-panel systems use digital sensors, which compare the ram and static air to indicate your airspeed.

Either way, they both compare static to ram pressure.

The Failures

When your airspeed indicator fails, it's usually caused by a clogged pitot tube or static ports. In each case, your airspeed indicator may freeze, drop to zero, or gradually change.

You can figure out what happens by thinking about how the static and ram pressures change on each side.



Scenario 1: Your Static Ports Clog And Your Pitot Tube Is Open

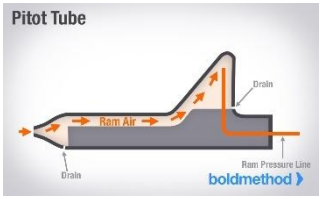
This could happen if your static ports ice over. Your airspeed indicator receives accurate ram pressure, but it compares the ram pressure to the trapped, and unchanging, static pressure.

As long as the barometric pressure doesn't change, and you stay at the same altitude, your airspeed indicator indicates correctly. However, things get wonky if you climb or descend.

If you climb at a constant airspeed, your ram pressure's static component decreases. Since your static ports are clogged, they have too much static pressure. They're stuck at a lower altitude. The difference between ram and static pressure is smaller, and your indicated airspeed decreases. Now you're flying faster than your indicated airspeed. The opposite is true if you descend.

Scenario 2: Your Pitot Tube Clogs, And Your Static Ports Are Open

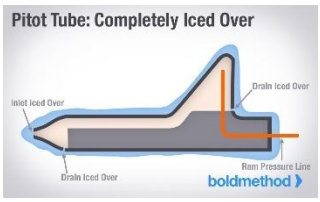
What happens if your pitot tube ices over, but your static ports remain open? There are actually a couple of different scenarios to consider, depending on what parts of the tube ice over.



In the pitot tube above, ram air enters through the front of the tube, flows to the back of the chamber, and flows through plumbing to your airspeed indicator.

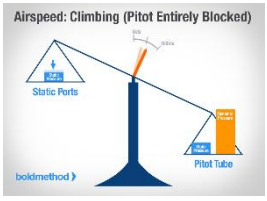
The pitot tube also has drain holes. If water enters the front of the tube or condenses inside the ram air chamber, it can drain out.

Many pitot tubes also include a static port. But, on most IFR certified aircraft, separate static ports on either side of your fuselage measure static pressure. They're more accurate, and the static port on your pitot tube is left unconnected.

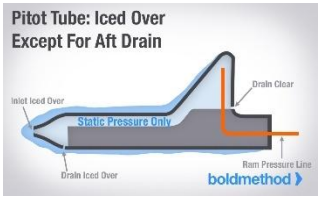


What Happens If The Entire Pitot Tube Ices Over, And The Static Ports Remain Open?

In this case, the ram pressure is trapped. As long as you stay at the same altitude, your airspeed freezes as well.



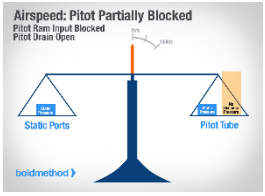
What happens if you climb? Since your static ports are still open, the static pressure will start to decrease. The trapped static pressure in the pitot tube is now greater than the actual static pressure, and your airspeed indicator starts to speed up. You're now flying slower than your indicated airspeed.. The opposite happens if you descend.



What Happens If The Ram Air Inlet Ices Over, But The Drains And Static Ports Remain Open?

In this situation, the pitot tube becomes a relatively inaccurate static port.

Your airspeed indicator is now comparing inaccurate static pressure to accurate static pressure, and would read nearly zero. It may read slightly below zero, or slightly above zero, depending on the drain hole's position.



What Happens If The Pitot Tube And Static Ports Completely Ice Over?

This one is easy: all of the pressure is trapped, and your airspeed indicator freezes. Whether you climb or descend, speed up or slow down, your airspeed won't change.

Keeping Your Ports Clear

Icing isn't the only way to clog a pitot tube or static port, but it's a common one, especially this time of year. Using pitot heat is a great plan, but unless your airplane is certified for flight into known icing, your static ports are probably unheated and vulnerable. Staying out of freezing moisture unless your plane is certified for flight into icing conditions is your best bet.

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AIE Aviation Insurance Experts

Chad Smolik
5713 Comanche Peak Drive
Fort Worth, TX 76179
aviationinsuranceexperts@gmail.com
682-583-0474

Quiz: The Hardest Aerodynamics Quiz You'll Take This Week

By Boldmethod, 12/09/2024, https://www.boldmethod.com/blog/quizzes/2024/12/the-hardest-aerodynamics-quiz-you-will-take-this-week/

Ready to get started? Answers on page 22.

1). When landing gear on an aircraft retract, the amount of drag they produce increases as they approach the airframe, because of...

- Skin friction drag
- Form drag
- Interference drag
- Induced drag

2). Within the troposphere, as you climb in altitude, the speed of sound...

- Increases
- Decreases
- Increases, then decreases
- Stays the same

3) Which statement is true about flaps?

- As flaps are extended, camber decreases
- As flaps are extended, the center of pressure moves forward
- As flaps are extended, induced drag decreases
- As flaps are extended, stall speed decreases

4) You and a friend are in two identical airplanes at the same altitude. You're 300 pounds under max gross weight, and your friend is at max gross weight. Both of your engines quit. You both pitch for your aircraft's best speed to achieve the max lift-to-drag ratio (L/D). What happens next?

- The lighter aircraft will cover less horizontal distance
- Both aircraft cover the same horizontal distance but the lighter aircraft gets to the ground first
- The heavier aircraft covers more horizontal distance
- Both aircraft cover the same horizontal distance but the heavier aircraft gets to the ground first

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5) As the airstream moves aft on an airfoil, the laminar boundary layer...

Increases in thickness; becomes turbulent	Decreases in thickness; streamlines	Increases in thickness; streamlines	Stays the same thickness; becomes turbulent	

6) Which condition describes a longitudinally stable aircraft?

	Center of gravity equals the center of lift	Center of lift is aft of center of gravity	Center of gravity is aft of the center of lift	None of these

boldmethod

Quiz brought to you by https://www.boldmethod.com/

EAA323 VMC Club Question of the month: Dec 2024

By EAA VMC Staff, (Answer on Page 4)

EAA VMC Club Question of the Month

Question: You are flying a single engine aircraft, the POH for which identifies a Demonstrated Crosswind Capability (DCC) of 17 knots. Approaching an airport for landing on runway 24, you check the ASOS to learn that the winds are 300 at 15 gusting to 25 knots. Is it a violation of the FARs to land this aircraft under these crosswind conditions?

EAA323 IMC Club Question of the month: Dec 2024

By EAA IMC Staff, (Answer on Page 4)

EAA IMC Club Question of the Month

Question: You've taken an over-the-counter cold medication containing diphenhydramine, which may cause various symptoms including drowsiness. The dosage is 50 mg every 6 hours as needed. If you plan to fly, what is the minimum time you should wait after taking a dose for the medication to be out of your system?

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Aircraft of the Month: Bearhawk LSA

https://en.wikipedia.org/wiki/Bearhawk_LSA

The Bearhawk LSA is an American amateur-built light-sport aircraft, designed by Bob Barrows and produced by Bearhawk Aircraft of Austin, Texas. The aircraft is supplied in the form of plans or a kit for amateur construction.

The aircraft was introduced to the public at AirVenture 2012.

Design and development

The Bearhawk LSA is a "clean sheet design" inspired by the larger Barrows Bearhawk. The LSA features a strut-braced high-wing, a tandem enclosed cockpit accessed by doors, fixed conventional landing gear and a single engine in tractor configuration. The cockpit is 31 in (79 cm) wide. In 2015 a quick-build kit was introduced at the U.S Sport Aviation Expo.

The aircraft fuselage is fabricated from welded 4130 steel tubing covered in doped aircraft fabric. The aluminum structure wing, covered in flush riveted aluminum sheet, employs a new Harry Riblett-designed airfoil and does not have flaps. The wing is supported by a single strut per side. The engine power range is 65 to 100 hp (48 to 75 kW) and the recommended engines include the 65 hp (48 kW) Continental A-65, 75 hp (56 kW) Continental A-75 and the 100 hp (75 kW) Continental O-200 four-stroke powerplants.

The aircraft was designed for a maximum gross weight of 1,500 lb (680 kg) in the utility category but is limited to 1,320 lb (600 kg) in the US light-sport aircraft category.

Operational history

As of February 2016, four examples were registered in the United States with the Federal Aviation Administration.

Specifications: **Bearhawk LSA**

General characteristics
Crew: one
Capacity: one passenger
Length: 22 ft 3 in (6.78 m)
Wingspan: 34 ft (10 m)
Height: 6 ft 3 in (1.91 m) in three-point
Wing area: 170 sq ft (16 m2)
Airfoil: Custom Harry Riblett airfoil
Empty weight: 720 lb (327 kg)
Gross weight: 1,320 lb (599 kg)
Fuel capacity: 30 U.S. gallons (110 L; 25 imp gal)
Powerplant: 1 × Continental A-75 four cylinder, air-cooled, four stroke aircraft engine, 75 hp (56 kW)
Propellers: 2-bladed aluminum

Performance
Cruise speed: 125 mph (201 km/h, 109 kn)
Stall speed: 30 mph (48 km/h, 26 kn)
Never exceed speed: 140 mph (230 km/h, 120 kn)

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BEARHAWK AIRCRAFT
BUILT FOR THE JOURNEY

EAA323 VMC Club Question of the month Dec 2024: Answer

By EAA VMC Staff, (Question from Page 2)

Considering a 20 gusting 25 knot wind 60 degrees off the nose, the crosswind component exceeds the DCC of 17 knots. However, the DCC is not considered an operating limitation of the aircraft, so in that regard, there would be no regulatory violation. However, flight schools, flying clubs, and flight departments often impose restrictions on the maximum crosswind conditions under which an aircraft can land, which may be imposed by the operator's insurance company, and these restrictions often correlate with the DCC. So while the aircraft and pilot might well be able to perform a landing under the stated conditions, the risk should be carefully considered before attempting such.

EAA323 IMC Club Question of the month Dec 2024: Answer

By EAA IMC Staff, (Question from Page 2)

According to the FAA: Every medicine is different, but a good rule of thumb is 5 times the half-life of the medication. The easy way to determine this is through the dosing interval. If a medication says to take it 4 times per day, the dosing interval would be 6 hours. Therefore the wait time after the last dose would be 30 hours (6 hours x 5 = 30 hours). Other medications may have longer or shorter intervals, which is why it's important to talk to your AME.

Reference: FAA Safety Team Fact Sheet: Pilots and Medications (Pilots and Medications (faa.gov))

Answer's to question from Quiz on Page 19/20

1) Interference drag is produced by the mixing of two air streams around two different aircraft surfaces. The angle between the surfaces determines the amount of interference drag that is created. Interference drag is most pronounced at angles less than 90 degrees. This is why drag increases when landing gear are retracting. Once the gear are in the wheel wells, drag is reduced because interference drag is no longer a factor.

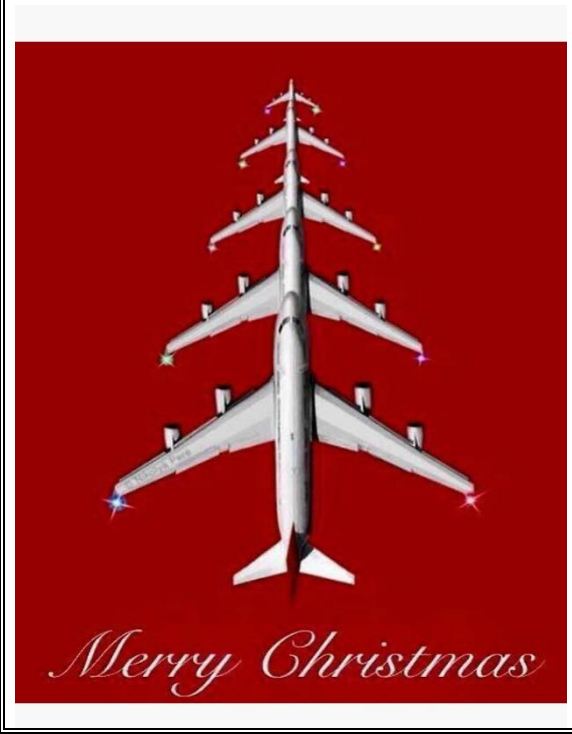
2) The speed of sound decreases as temperature decreases. Because of that, the speed of sound decreases in the troposphere, because as altitude increases, temp decreases.

3) Flaps increase lift, reduce stall speed, and increase drag.

4) When you pitch for best glide, you are converting your airplane's potential energy (altitude) into kinetic energy (speed) in order to optimize the maximum distance you are able to travel in a power off situation. Changes in weight directly affect the indicated airspeed for which best glide is maintained. The heavier aircraft will have a higher indicated airspeed (more kinetic energy) and a higher rate of descent, meaning the heavier aircraft will reach the ground quicker. A lighter aircraft of the same model will cover the same horizontal distance but will take a longer period of time to do so.

5) As the laminar boundary layer moves aft on an airfoil, the air begins to increase in thickness, eventually forming a turbulent boundary layer. This transition from laminar to turbulent boundary layers is rapidly increased as the angle of attack is increased.

6) An aircraft improves its longitudinal stability about the lateral axis (pitch) when the center of lift is aft of the center of gravity.



Supporting Our Community, Shop Local, Shop Texoma:

By Kim and Todd Bass

As the holiday season draws near, there's no better time to embrace the spirit of giving—by supporting the local businesses that make our community thrive. This year, we invite you to make an effort to shop local—whether you're discovering unique treasures, enjoying personalized service, or skipping the crowds, the benefits go far beyond just making a purchase.

Why Shop Local?
When you shop locally, you're not just checking off your gift list. You're investing in the heart of our community.

This holiday season let's come together to support our local businesses and make a difference. Whether it's a cozy coffee shop, a boutique full of unique gifts, or a favorite restaurant, there's a local business right here in our region that's ready to serve you. When you shop local, you're not just buying a gift—you're strengthening the fabric of our community.

Join the Movement and Shop Local Shop Texoma this season!

So, let's show our support, spread some holiday cheer, and invest in the future of our town. Shop local, support your neighbors, and make this holiday season one to remember!

The following Companies have been very supportive of EAA323 and are deserving of our patronage.

FASTSIGNS

FASTSIGNS® of Sherman
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Larry's CB Shop

1816 N Waddill St, McKinney, TX 75069, USA
(972) 562-6898
larryab5kr@gmail.com

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EAA Webinars Schedule:

https://www.eaa.org/eaa/news-and-publications/eaa-webinars

These live multimedia presentations are informative and interactive, allowing the presenter to use slides and audio, while audience members can ask questions and be polled for their opinion. Pre-registration is recommended since space is limited to the first 1,000 registrants.

Tuesday, December 10, 2024, 7 p.m. **Subject: The Piper Cubs**
Presenter: Chris Henry and Amelia Anderson **EAA Museum Series**

It is called the plane which taught America to fly. The Piper Cub is arguably one of the most important aircraft to the development of aviation in this country. EAA museum manager Chris Henry will talk about the bright yellow airplane as well as times when it had to shed that yellow paint and go to war.

Wednesday, December 11, 2024, 7 p.m. **Subject: All About Spins**
Presenter: Catherine Cavagnaro **Qualifies for FAA WINGS credit**

CFI and DPE Catherine Cavagnaro discusses all about spins. Catherine will explain the aerodynamics of how airplanes spin including analysis of spin entry, development, and exit technique. Catherine owns and flies both a Cessna 152 Aerobat and an aerobatic Beechcraft E33C Bonanza, and she provides flight instruction at Ace Aerobatic School in Sewanee, Tennessee. Join the webinar to gain a better understanding of spins to make you a safer pilot. Qualifies for FAA WINGS credit.

Tuesday, December 17, 2024, 7 p.m. **Subject: New Young Eagles Online Registration Tutorial**
Presenter: David Leiting

Join David Leiting from the EAA Young Eagles office as he walks you through the new features on the EAA Chapter Events tool, and demonstrates how to use this tool for your chapter's Young Eagles Rallies.

Wednesday, December 18, 2024, 7 p.m. **Subject: Rotax 9-Series Engines and Sonex Aircraft**
Presenter: Mark Schaible and Casey Cooper **Qualifies for FAA WINGS and AMT credit**

Support for Rotax installation in Sonex airframes is growing. Mark Schaible of Sonex, LLC and Casey Cooper of Cooper Aircraft Corporation will bring you a major update since Sonex's 2022 webinar including details and performance of the Sonex/Rotax Cooling System from Cooper Aircraft Corporation, improved Sonex/Rotax engine mounts from Sonex, support for turbocharged Rotax engines, available accessories, and more. Qualifies for FAA WINGS and AMT credit.

Wednesday, January 8, 2025, 7 p.m. **Subject: The End of Supervised Maintenance?**
Presenter: Mike Busch **Qualifies for FAA WINGS and AMT credit**

On September 3, 2024, the FAA's Rulemaking Law Division issued a legal interpretation that, if allowed to stand as the agency's position, could have a devastating impact on the ability of aircraft owners and apprentice mechanics to perform maintenance on certificated aircraft under the supervision of an A&P mechanic. Known as the "Moss Interpretation," it would eviscerate the requirement of 14 CFR 43.3(d) that the supervising mechanic "personally observe the work to the extent necessary to ensure it is done properly," and would instead require in-person supervision of every moment of the work from start to finish. In this webinar, Mike Busch A&P/IA explains why this new interpretation would make owner-performed maintenance (including owner-assisted annuals) infeasible, and would make it impossible for aspiring A&Ps to gain the FAA-mandated 30 months of practical experience through apprenticeship. Qualifies for FAA WINGS and AMT credit.

Tuesday, January 14, 2025, 7 p.m. **Subject: WWI Aviation featured in the Museum**
Presenter: Chris Henry and Amelia Anderson **EAA Museum Series**

The first World War would see a large amount of new technology growing in the battlefield. Aviation was perhaps the most dynamic of it all. Join the EAA museum staff as they discuss the various WWI aircraft in the museum collection.

Upcoming Events:

Thursday, Dec 19 — EAA 323 Yearly Christmas Party at the Home of Ross and Paula Richardson in Sherman Tx
2115 Turtle Creek Circle, Sherman, TX @ 7:00pm (See Newsletter Page 3)

Officers/Board of Directors/Key Coordinators

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Frank Connery	President	caapt1@aol.com	214-682-9534
Rex Lawrence	Vice President	rlaw@me.com	918-407-7797
Nathan Wieck	Secretary	nathan.wieck@gmail.com	903-821-7640
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John Horn	Young Eagles Coordinator	jhorn@ntin.net	940-736-8440
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Ed Griggs	VMC Coordinator	blueskiesAV8er@yahoo.com	903-436-1405
Ed Griggs	PIO/Newsletter Ed	blueskiesAV8er@yahoo.com	903-436-1405

General Email: EAA323@hotmail.com **Website: https://chapters.eaa.org/eaa323**

From All of Us at EAA 323, Sherman, Tx: We wish you and your family a very Merry Christmas and a Safe and Happy New Year!

High Flight

Oh, I have slipped the surly bonds of earth
And danced the skies on laughter-silvered wings;
Sunward I've climbed, and joined the tumbling mirth
Of sun-split clouds . . . and done a hundred things
You have not dreamed of . . . wheeled and soared and swung
High in the sunlit silence. Hov'ring there,
I've chased the shouting wind along, and flung
My eager craft through footless halls of air.
Up, up the long, delirious, burning blue
I've topped the windswept heights with easy grace
Where never lark, or even eagle flew.
And, while the silent, lifting mind I've trod
The high untrespassed sanctity of space
Put out my hand, and touched the face of God.

John Gillespie Magee Jr., R.C.A.F.
(killed in in WWII)

EAA SHERMAN CHAPTER 323 MEMBERSHIP APPLICATION AND RENEWAL FORM

☐ New Member
☐ Renewal
☐ Info Change

Membership dues for EAA Chapter 323 are $30/year.

Make checks payable to:
EAA Chapter 323

Mail application to:
EAA 323 Treasurer
Ross Richardson
2115 Turtle Creek Circle
Sherman, TX 75092

National EAA offices:
Experimental Aircraft Association
EAA Aviation Center
PO Box 3086
Oshkosh, WI 54903-3086

National EAA Membership:
(800) JOIN EAA (564-6322)
Phone: (920) 426-4800
Fax: (920) 426-6761

Name_____

Copilot (spouse, friend, other)_____

Address_____

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City_____ State_____ Zip_____

Phone Home:_____ Mobile:_____

Email address_____

EAA #_____ Exp date:_____
(Chapter 323 membership requires National EAA membership)

Pilot/A&P Ratings_____

I am interested in helping with:

Fly-Ins

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Newsletter

Young Eagles

Officer

Plane, Projects (%complete) and Interests: