

Pittsburgh-Butler Region Experimental Aircraft Association - Chapter 857

EAA 857 NEWSLETTER



A prime example of the homebuilt traditions of the EAA! This Pietenpol "Skeeter Eater" was seen at AirVenture 2024 at the Homebuilts Venue.

The 2025 Homebuilder Week seminars, January 27-31, will feature great educational information for the prospective homebuilders out there.

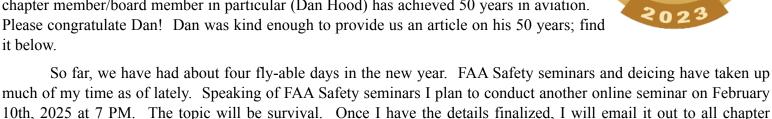
see schedule on page 15



Presidents Message

Hello EAA Chapter 857,

Welcome to a new year! We welcome Chuck Warren and Mario Dandrea into their new roles within the chapter. We are sure to keep them busy! Chapter officers from the prior year will receive service pins and certificates at the January meeting. One chapter member/board member in particular (Dan Hood) has achieved 50 years in aviation. Please congratulate Dan! Dan was kind enough to provide us an article on his 50 years; fin it below



In local news, Grove City EAA Chapter 161 has officially moved to New Castle. I am working as their coordinator for using the New Castle facilities and attended their first and most recent chapter meeting at New Castle. Some of their members may be visiting us during our open house. Their chapter hopes to socialize with us, join in our chapter as well and learn from us. Let's make them feel welcome. They meet regularly on the 2nd Sunday of each month at 2:30 PM.

Kindly,
Joss Slagle
Chapter President

members





Note: Chapter membership dues are \$25 for 2025 and **are now due and payable**. You may add a family membership for an additional \$10. You <u>must</u> be a member of the national EAA to join EAA Chapter 857.



Pittsburgh-Butler Region Experimental Aircraft Association—Chapter 857 Minutes of the November 19, 2024 Regular Meeting

Opening: President Josselyn Slagle called to order at 8:02 P.M. and led the members in the Pledge of Allegiance.

Meeting attendees: 16 members were present and 1 visitor.

Previous Meeting Minutes: The minutes of the prior meeting are in the newsletter. Motion to accept the minutes put forth by Kyle Riedel and seconded by Destinyjay Maletta.

Treasurer's Report: The Treasurer's report submitted by email from Frank was reviewed. Motion to accept by Kyle Riedel and seconded by Ted Merklin.

Newsletter: The November's newsletter was distributed and uploaded to the chapter website. Newsletter contributions are always welcome!

Website: Enter https://chapters.eaa.org/eaa857 in your browser to view the site.

Tech Advisor: N/A

Next Regular Meeting: Tuesday, January 21st, 2025

VMC meeting: IMC Temperature Inversion

Young Eagles: The new software is out. The old system will go away at the end of December. First event next June 14th, 2025.

Air Academy: Ted Merklin checked that Carter Straub's parents received the document packet; the deposit was made.

Ray Aviation:

- New scholarship committee: Daniel Michaels and Mario Dandrea. Motion to accept made by Josselyn Slagle and seconded by Frank Szczerba.
- Sam Burke passed her written in October. 3 hrs prep for her check-ride.

New Business: Local chapter in Grove City decided to relocate to Newcastle. They have said that any airplane that is hangered at Grove City, if it does not have a current annual inspection will be removed.

Old Business: New Slate of Officers were elected for 2025: Motion to accept by Mike Neuman and seconded by Kyle Riedel; all present voted in favor of the motion.

- President Josselyn Slagle
- Vice President Mario Dandrea
- Treasurer Frank Szczerba
- Secretary Destinyjay Maletta



- Board Members are:
 - * Chuck Warren new 3 year term
 - * Danny Michaels 2 year balance of term
 - * Dan Hood 1 year balance of term
- Volunteered positions
 - * Website / Newsletter Ted Merklin
 - * Young Eagles Coord Ted Merklin
 - * Ray Aviation Scholarship Kyle Riedel

Give it till the end January for the board to decide whether we are going to continue to lease or return the hanger space to KBTP.

Closing: The meeting was adjourned by Kyle Redial and seconded by Mike Newman at approximately 8:40 P.M.

Respectfully submitted:

Destinyjay Maletta, EAA 857 Secretary

Fifty Years of Flying

Dan Hood

I had no intention of ever leaving the ground as a kid. I was afraid of even climbing a short ladder.

I did enjoy building models, mostly cars, but a few planes. A friend that I grew up with was interested in airplanes, but it didn't interest me. That friend was and still is Bob Severns.

Fast forward to after high school. Bob was drafted into the Army and I was devastated. When the draft lottery was created my birth date came up, I think # 7. To avoid being drafted I made a long shot attempt to get into the Air force Reserves. As luck would have it, the same morning that I was sworn into the Reserves, my draft notice was in the afternoon mail. I'm in the Reserves. Now what?





I guess I'll have to get on an airplane. I should mention that I had several chances to go for airplane rides as a friend of my dad had a plane at the old Bridgeville Airport. I was nervous as I stepped onto an airplane for the first time at 20 years old headed to Lackland AFB for my haircut/basic training. IT WAS FANTASTIC, not the haircut, the flight.

Now forward to after the military. I was back home long before Bob got back as he finished his military in Washington state. He joined a military flying club while he was there, and when he got back home he had the commercial and instrument sel tickets. HE TOOK ME FOR A RIDE in an old Skyhawk that I probably would not get into today. But, I liked it.

He found a flying club at AGC and we would fly often. As time went on he would give me more and more to do until I was doing everything. Finally he said you may as well get a license; you are doing it all.

Let the lessons begin. 3/9/1974 first lesson. I felt comfortable in 70L(an old Skyhawk; this is what we had been flying. 70L was sold after lesson 2. Enter Grumman American Traveler. This is what I finished my PPL in. Passed PPL 10/28/1974. Over the club years we had the Traveler, some Skyhawks a few Cardinals and a Skylane. By this time I had the commercial and instrument tickets. I did no flying from spring of 1992 until we bought the Archer in June of 2002.

When the flying resumed I did a lot of flying with Bob again. We got involved with the Volunteer Pilots Association. flying patients to and from AGC for medical follow up and such. As a gear head we flew to car shows, OSH, museums, airshows and other fly-ins. Marsha and I mostly fly to eating places or fun events and to our daughters place (ABE) or our sons (CMH) where he is an air traffic controller.

I did build a Mustang ll kit from the firewall aft and sold it. I didn't think I would live long enough to finish it.

I have1100 hrs logged. I have not used my commercial at all and have not been instrument current in a looooong time.

Memorable flights, each medical flight was memorable in its own way. I scared my self on a couple single pilot instrument flights back when, and then there was the bird (flock) strike.

Favorite airplane, I love our Archer, the Skylane was not too shabby.

The EAA, I was a member of chapter 68 for a while, there were 2 Mustang II builders there. When chapter 857 was formed out of some 68 members I moved with them as a charter member. I did a term as President at 857 and currently serve on the board.

I have also been flying Young Eagles since owning the Archer.

I am flying under BasicMed now and at 75, who knows.

Dan Hood asks:

For some reason I did not receive issues # 950, 951 or 952 of **Flying** magazine and they have no back issues. If anyone has them and is done with them I would like to buy them.

Thanks!



Off-Airport Landings The Fries Technique

Jim Knights, ATP, CFII
EAA 377639

Dr. Ian Fries, a pilot and aviation medical examiner, has a simple technique to teach transitioning to a glide after an engine failure. The pilot maintains altitude as long as possible by trimming slowly toward full nose-up trim rather than by moving the yoke. According to Fries, airspeed control is just as precise as pitching for best glide speed, but pilot workload is drastically reduced. He notes that most light single-engine aircraft will stabilize slightly slower than maximum glide airspeed when full nose-up trim is applied. Try it for yourself and see how well it works in your training aircraft.

Announce on 121.5: Mayday! Mayday! Mayday!

Set transponder to 7700

Selecting a "Best Field"

It may be difficult to see over the nose once in the power-off glide attitude. Dr. Fries advises not to pick a landing spot that you can see over the nose. You aren't likely to make it.

Instead, scan to the left side if you're in the left seat. In addition to providing a better sight picture, it's also the direction you'll likely be turning to make the desired landing spot. Aim for the middle of intended landing zone if it's large enough, but be flexible and adapt. You will have what you will have.

S.L.O.W. Down

The next time you're out flying, look around and consider where you might land if you had a sudden engine failure. Forced landing field selection is an often-neglected topic. Don't let a real engine-out emergency be the first time you consider an off-airport landing.

Try the mnemonic S.L.O.W. to assess a potential forced landing site. It covers;

Surface

Length

Obstructions

Wind direction

Separating Fuel and Spark

It is critical to shut off fuel and electricity in the event of an off-airport landing. The key is separating the avgas or Jet A from the potential ignition source (electricity) prior to an emergency touchdown.

Even with this done, fire is possible after any forced landing. Be ready to evacuate.



Prepare the Cockpit for "Rough Stuff"

The primary cause of aviation accident injuries is blunt force trauma from impacts with the panel, glare shield, aircraft structure, or items inside the aircraft. Make sure you get used to keeping seat belts snug for normal flights, and even tighter when practicing emergencies.

Before an off-airport landing, prop the doors open to prevent them from becoming jammed by structural deformation of the airframe, unless your AFM advises otherwise.

Evacuation!

Every aircraft has more than one emergency exit path, even if it's a baggage door or window. The time to locate it is before you need it.

Dr. Fries also recommends practicing emergency egress in different types of clothing, so you can see where your clothing may snag and interfere with exiting the aircraft.

Prop open doors prior to touchdown.

ELTs

After landing, make sure the ELT is activated. It's surprising how many pilots don't know how to locate the ELT transmitter unit to manually activate it or deploy the secondary antenna. Make sure you do!

The unit should be activated by impact or a sudden deceleration, but many newer aircraft have a manual activation switch within easy reach of the pilot. Use it on the way down!

After Touchdown

S.T.O.P. and Think

To organize your thoughts in a survival situation you'll need to S.T.O.P. and consider what to do, and in what order.

Stop

Think

Observe

Plan

Remember to dress appropriately for the environment and weather.

Have a first-aid kit and survival kit close at hand. Remember you may not have time to grab them if you're evacuating from a burning airplane.

Admitting there is a problem and thinking about it in a positive, productive, creative fashion increases the chances of a good outcome.

Control your fears and avoid panic. Decide to live!



SO, WHAT'S THE ANGLE?

A Review of Angle of Attack

Jim Knights, ATP, CFII
EAA 377639

The purpose of this article is to get back not just to the basics, but to the real foundation of flight: Angle of Attack. Understanding the concept of angle of attack is the key to fully comprehending almost everything else about the behavior of airplanes.

As is generally taught to student pilots, angle of attack is the angle between the wing's chord line—the imaginary line drawn the between the wing's leading and trailing edges—and the relative wind (see Figure 1). Put another way, the commonly held view is that angle of attack is the angle between the wing and the air through which it is moving. At constant airspeeds, lift will be increased if the wing is inclined to a greater degree, thus increasing the angle of attack. If the wing's angle of attack continues to increase, lift will continue to increase until the air can no longer move smoothly over the upper surface of the wing and begins to "burble," or separate from the wing. This is the point at which lift decreases dramatically and the wing stalls.

The issue here is the often-oversimplified statement that angle of attack is the angle between wing and the air striking it. Before we discuss that, let's take a look at another aspect of conventional instruction.

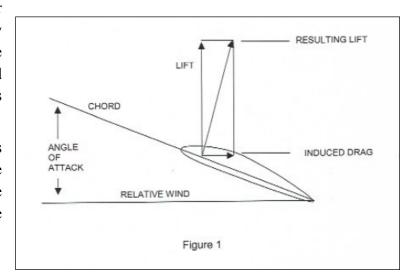
It's taught that lift generated by the wing is perpendicular to the relative wind, but that the induced drag created as the result of the generation of lift (separate from parasite drag) acts rearward parallel to the relative wind. Put simply, as the wing moves forward, lift is "straight up," and the resultant induced drag is "straight back" (or rearward).

However, as a result of induced drag acting rearward, the effective lift is actually not "straight up," but is itself inclined slightly rearward (see Figure 1). Since lift is not acting "straight up" from the wing, it's effectively reduced (as it would be if the airplane were in a bank). That much is true — but why?

The problem is that the definition of induced drag—and how it's responsible for this rearward inclination of lift

—can easily be misunderstood by new pilots. Consider the concept of "relative wind." What does that really mean? Yes, lift really is generated perpendicular to the relative wind, but at what angle is the relative wind meeting the wing? This is the crux of the issue — what is the true angle at which the oncoming air meets the wing?

Here's the answer: In subsonic flight — the rules change in the realm of trans- and supersonic flight — the angle at which the oncoming air molecules approach the wing changes—it decreases just prior to contacting the wing.





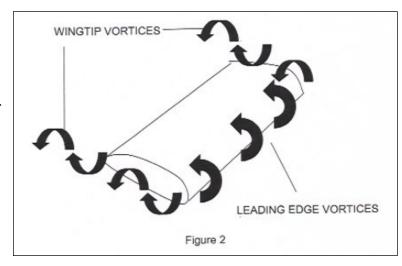
The angle of attack actually *decreases* as the air begins flowing around the wing.

Here's why: As the wing moves through the air, low pressure exists above the wing as a result of the venturi effect while high pressure exists below due to the deflection of air off the bottom of the wing. Since nature abhors an imbalance (remember high school science class?), she tries to correct it by forcing air from the area of high pressure to the area of low pressure, i.e., from the bottom of the wing to the top. This happens at the wingtips, the leading edge, and the wing root. Since this occurs while the wing is moving through the air, the net effect is the creation of small horizontal vortices trailing behind the wingtips and—to a lesser extent—rearward from along the leading edge and root of the wing (see Figure 2). This, as we all know, is why we avoid flying in the wake of a heavy aircraft.

Now this next part is important: These wingtip, leading edge, and wing root vortices alter the airflow around the wing in such manner as to decrease the angle at which the air molecules strike the moving wing.

The difference between the apparent angle of attack—what it looks like it "should" be—and the effective, or actual, angle of attack resulting from the vortices' alteration of the airflow around the wing and consequent loss of lift, is the induced drag. Hence, the vortices are the source of induced drag.

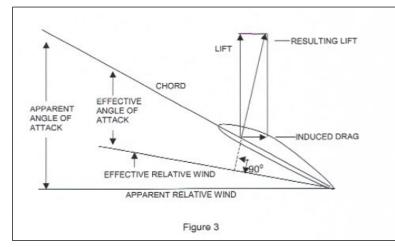
As can be seen in Figure 3, lift actually is generated perpendicular to the relative wind, but the



angle between the relative wind and the wing has been *decreased* by the action of the vortices, resulting in a *reduced* angle of attack. The result is a reduction of lift. Remember earlier when we said that the traditional definition of angle of attack didn't explain how the induced drag managed to incline a wing's lift rearward, thus resulting in reduced lift? That rearward inclination of lift is actually lift being generated at a right angle, or perpendicular, to the relative wind *after* its flow around the wing has been altered by the vortices.

In a nutshell, induced drag is the decrease in lift that results from the reduction of the effective angle of attack caused by the wing's vortices. This is how induced drag is product of lift.

OK, so what? What good does knowing all this do for us? Well, consider this for a moment: Those pesky vortices are actually making the wing less efficient, right? They're preventing the wing from generating as much lift as it could, aren't they? What if we could somehow eliminate or reduce the vortices and, hence, the induced drag, and allow the wing to develop more lift at the same inclination, or the same amount of lift at a decreased inclination? Well, this actually happens each and time an airplane lands. It's called "ground effect" and, coincidentally, is sometimes still not fully and





clearly understood by new pilots since in order to understand ground effect one must first have a thorough understanding of angle of attack.

As the airplane approaches within one wingspan of the runway, the runway surface begins to block the vortices. The closer the airplane gets to the runway, the more completely the vortices are blocked, thus progressively reducing the effect the vortices have on altering the airflow around the wing. This results in a reduction of induced drag. From the discussion above, it can easily be seen that with the weakening of the vortices, the effective angle of attack is being increased, and, necessarily, so is lift. This is why an airplane may tend to float during the flair, especially if the approach speed is too high. As the airplane nears the runway, induced drag is being reduced, the effective angle of attack is increasing, and the wings are able to produce more lift. This is also why many high-performance airplanes are equipped with vertical winglets at the wingtips. The winglets help provide more lift by blocking the wingtip vortices that cause induced drag.

Ground effect is *not*, as it is so often repeated, the "cushioning effect" of the air being compressed beneath the wings as the airplane nears the runway.

How else does angle of attack influence an airplane's flight? The answer is: Adverse yaw.

Student pilots are still often taught that adverse yaw is the result of the "drag" of the downward deflected aileron forcing the upward moving wing rearward. The discussion is often left there because it's considered a sufficient explanation for the student's purposes, but it's not correct, or not fully correct. Yes, "drag" is responsible, but what type of drag—parasite or induced—and how?

The answer is induced drag. The parasite drag created by an upwardly deflected aileron has the least to do with adverse yaw.

Remember that the wing is moving forward and is subject to induced drag. Then, with one aileron deflected downward and the other upward, it effectively becomes a *different* wing and it's rotating in one direction or the other while still moving forward, consequently the angle of attack at both ends of the wing will be altered differently from one another.

Instead of going into the math and complex diagrams, both of which are beyond my skill level, we can take a look at Figure 4 representing a wing entering a banked turn to the right.

Remember that an aileron is simply a device for increasing angle of attack. The lowered left aileron increases the lift by increasing the angle of attack and the wing begins to rotate upward. As a result of increased lift, *induced drag* also increases resulting in a *more rearward* lift vector, pulling the wing opposite the intended right turn.

More interestingly, as the raised right aileron decreases lift and that wing moves downward, the changing angle of attack has the opposite effect: Induced drag is reduced and the new angle of attack results in the wing's lift vector tilting *forward*, pulling the wing against the turn. (Remember also that the upwardly deflected aileron does extend into the airstream as much as the downwardly deflected aileron.)

This is important to know because as the angle of attack on the upward rotating wing increases, it gets closer to the stalling angle. As we all should know, when practicing stalls and a wingtip drops, you must *never* correct with aileron (you must always correct with rudder). The wing is already close to the stalling angle of attack to begin with.



Lowering the aileron will almost certainly push the wingtip past the stalling angle of attack and over the top you will go into an unexpected spin. If, at the time, you happen to be on base to final your chances of recovering before impact are nil.

Instructors have a responsibility to provide their students with a complete understand of the forces acting on an aircraft without trying to turn them into aerodynamicists. Yet, in attempting to keep the technical side of flying digestible, there is a real possibility of failing to give students the tools they need to be able to operate the airplane safely. As has been said many times, if you want the airplane to go up, pull back the yoke. If you want it to go down, pull back the yoke some more. Also, sadly, base-to-final stall-spin accidents continue to claim lives. *It's all about angle of attack*.

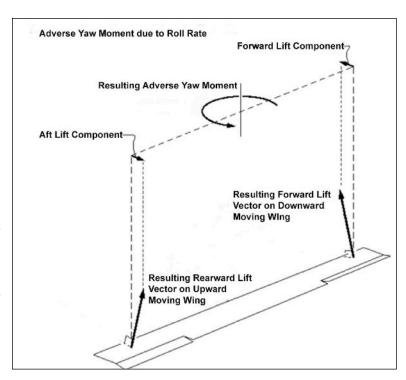


Figure 4

We have been flying airplanes for 122 years, yet it seems many of us still don't understand angle of attack in all its nuances. Stall-spin fatalities still occur with lethal regularity. According to AOPA, they account for 28% of fatal general aviation accidents. The NTSB and FAA have enough to do. Be considerate and don't add to their workload.



Young Eagles 2024 Stats

Data recently shared by David Leiting from the Young Eagles office.





IMC/VMC Club Schedule

In 2025, I look forward to serving the Chapter's pilots and aspiring pilots as a coordinator for EAA IMC/VMC Club. My goal is to offer these vignette-driven scenario discussions on an alternating schedule, so we appeal to all types of flying. Through discussion of the vignettes, we all grow as pilots, especially by viewing each scenario from our own flight experience.

The sessions will be offered after each of our regularly scheduled meetings and will last 15-25 minutes (based upon the level of pilot interaction). Like 2024, if there is an FAA Safety Seminar that occurs at the same time, we will participate in those events since they are more detailed in topics. Additionally, most of them offer Wings Credit.

Members and non-members are all invited. Chapter 857 offers the IMC/VMC as another good reason to join our Chapter and to grow as pilots.

January's scenario is title: "Wrong Altitude." Hope you can attend and participate.

IMC Club Months

January

March

May

Jul

September

November

VMC Club Months

February

April

June

August

October



Thanks for your Support to the Chapter and the Ray Aviation Foundation

Huge thanks to all the donors for the Ray Scholarship. These donors allowed the Chapter to transition to a guaranteed scholarship under the 25%/75% match program meaning that the Ray Foundation would give us \$9,000 if we raised \$3,000 (which we did). We have already received notification that we are pre-approved for this \$12K scholarship and we also have multiple applications ready for review.

A special thank you to these individuals, their families, and Google for its support of our local aviation community.

Kyle Riedel

Ray Scholarship Coordinator

Anonymous Donor
James Daniello
Karen Listisen
Danny Michaels
Kyle Riedel
DestinyJay Malleta
Gary Marsico
Robert Sedgewick
Frank Szczerba:
Google
Ben Wahl
Chuck Warren
Naomi Wigley



Homebuilders Week





Ultralight Days

More seminars of interest coming up in February!



Join us February 18-20 for the FREE online educational event, EAA Virtual Ultralight Days!

Subject matter experts will present a variety of topics on the lighter side of aviation including getting started; ultralight how-to information and overall educational topics such as maintenance, airport operations, safety inspections, and more!

Don't miss out, reserve your spot today!

See the Full Schedule

Tuesday, February 18

Getting Started in Ultralights

1:00-2:15 PM CST Presenter: Timm Bogenhagen

Register >





Annual Oshkosh AirVenture Bus Trip

July 22 - 26, 2025



When: Tuesday, July 22nd to Saturday, July 26.

<u>Trip includes</u>: Transportation on coach bus (Campbell Bus Company), 4 nights lodging at Ripon College

in Ripon, WI, breakfast each morning, and the opportunity to travel with aviation minded folks.

Cost: Double Occupancy/person: \$440.00

Private Room / person: \$550.00

This is the 35th Bus Trip to Oshkosh. We leave from the Butler Farm Show grounds on Route 68 at 7:00 a.m. on July 22nd and return on July 26th around 10 p.m. Cars are parked within the fenced area. We spend three great days at the air show and arrangements will be made for those who want to see the night show on Wednesday. Participants are responsible for purchasing entry tickets to the Airshow.

If you would like to be a part of this wonderful adventure, then a \$100/ person deposit is needed along with the completed registration form below. Checks should be made out to Kent L. Shoemaker and sent to: Kent L Shoemaker 225 Glade Run Rd. Renfrew, PA 16053 If you have questions or need additional information, please call, text or email me at: 724-766-5847 or kentLshoemaker@gmail.com. Go to EAA AirVenture for entry prices.

Name:	Cell phone:								
Address:									
Circle your choice: Pvt. Room Double Occupancy									
Roommate (if	applicable)								
Deposit Amt. \$ Bala					e due	· \$	Pd. In Full \$		
T shsirt size:	You	S	М	L	XL	XXL	XXXLL	(circle size needed)	
	Poommata:	c	Λ/	,	VΙ	VVI	VVVI	(circle size needed)	





EAA 857 - Chapter Meetings and Events for 2025

Meetings are held on the third Tuesday of the month at 7:00 PM in the Conference Room at the Pittsburgh-Butler Regional Airport.

Chapter Meetings Tuesdays January 21

February 18
March 18
April 15
May 20
June 17
July 15
August 19
September 16
October 21
November 18

IMC / VMCClub - TBD

International Young Eagles Day - June 14, 2025

EAA 857 Fly-In and YE - TBD

2025 National Events

 Sun 'n Fun April 1-6, 2025

 Sentimental Journey June 17 - 21, 2025

 AirVenture Oshkosh 2025 July 21 - 27, 2025

EAA 857 Chapter Officers for 2025

Use contact@eaa857.org to email the Chapter President. Your request will be forwarded to the appropriate individual.

President Josselyn Slagle
Vice President Mario Dandrea
Treasurer Frank Szczerba
Secretary DestinyJay Maletta

Board Members Chuck Warren 2025-2027

Danny Michaels 2025-2026

Dan Hood 2025

Website / Newsletter Ted Merklin
Young Eagles Coord Ted Merklin
Ray Aviation Scholarship Kyle Riedel