Next WingNuts Chapter Meeting: ***Sat. August 13, 2022 12:00 PM – Glen's Hangar, Hunter International Air-Field***

Next VMC Club Meeting: ***Tues. August 23, 2022 6:00 PM - Hunter International Air-Field***

WINGNUTS PLANE TALK

Chapter 1321 / South Middle Tennessee

Our Chapter Home Page: https://chapters.eaa.org/eaa1321

REST IN PEACE
Tom Poberezny

https://www.youtube.com/watch?v=Bn-YsOl0Ymo

https://www.youtube.com/watch?v=ZxZQli7ZxQM

Messages From Your Editor:

During an informal conversation after breakfast a few Saturday's ago the question of forming a Flying Club came up. The subject has been broached in the past, but it was suggested that it be tossed around again.

So, some items to think about

- ***Who is interested?***
- ***How many people to share an aircraft?***
- ***Qualifications, Hours?***
- ***Insurance- Aircraft, each member carries there own?***
- ***Obviously, an Aircraft***
  - ***Affordable***
  - ***Type - LSA, Certified, 2 place, 4 place***
  - ***Leased from some benefactor***
  - ***Purchased by Club Members***
  - ***Equity - Amount a member would be willing to pay for a share***
  - ***Non-Equity***
  - ***Price per hour, wet or dry***

Those interested Can email me n3165e@hotmail.com with your interest, thoughts, or suggestions or talk at next meeting

Requesting Input on your Newsletter

I have enjoyed working on the Newsletter, But, it would still be good to have some feedback on the content, ideas of what you would like to see in future Newsletters, etc.

Some thoughts that I have are:

- ***A New Member Introduction page.*** ***Example: A Picture, short biography about themselves such as Background, Interests, How you became involved with aviation, your experiences, projects past and present***

***A Feature on a current member**. Something pretty much like above would provide information about interests, background, how you became involved with aviation, your experiences, projects past and present, pictures, etc.*

If you come across something you find interesting it may very well be of interest to our other members also. So pass it on to me and I'll get it in the next Newsletter.

I would enjoy hearing all ideas for how to make the Newsletter better. Please email your input to me at n3165e@hotmail.com

Upcoming Elections

Probably, everyone knows Glen has let it be known that he wants a break from being President. I also know that he has an idea that it should be me.

If any of you other members are interested in taking a shot at being President, please let Glen know.

Whoever steps into Glen's shoes should know what the Members want and expect in their Chapter.

For what it is worth, here is my (Perception) take our Chapter

For the most part everyone is good with the Chapter functioning as it is.

Most members will come to monthly meetings to socialize and be at the airport for a couple of hours for something to do. But that's about it.

They seem OK with whatever information/program the president prepares for the meeting and don't care one way or the other what it is.

Yet, I have heard rumblings on occasion about (meetings are the same old thing)

Besides coming to the meetings, there isn't much interest in creating new activities other than our couple of cookouts a year and the Christmas Party

There is nothing inherently wrong with a Chapter that is "OK with things as they are" as long as that is what all of the members expectations are.

But, are some members looking for more out of joining the chapter? If so, what peeks their interest? What do we need to do keep them interested? Have we lost people's interest that came a couple of times, but may not have come back?

With all that said, here are the things I see that you, the members, need to think about and discuss no matter who the next President is.

Should the chapter stay as is? If the answer is yes, then you can disregard the stuff that follows!

If you think the Chapter should be more active and involved -

As a group how should we become more active?

Another community event?

Should we try to partner with another chapter or airport to do an event?

What have we done that we can do again and can be done better?

Are there specific topics you would like to see covered at the monthly meetings that would be more interesting?

What about attracting new Members and growing the Chapter?

New members may mean new ideas, more excitement

How should we approach attracting new members, Young and Old?

Once we attract young members how do we keep them engaged and excited about Aviation?

But, we have a down side to more members because our meeting location is already at capacity

(Which may be the reason we chose not to Grow and just maintain the Chapter as it is)

How should the Chapter help Hunter Airport deal with the encroaching neighborhoods?

Lastly, as a way to create more camaraderie and enjoy our infatuation with Aviation, how about picking a place and making Chapter Roadtrips?

Locally, like the Beech Museum, Huntsville Space and Rocket Center – A trip could be in place of our monthly meeting

Or

Long Distance, over a long weekend to places like the Air Force Museum

So, I've given you a lot to consider and your feedback is appreciated.

INSIDE THIS ISSUE

PRESIDENTS CORNER:

Well Karen and I missed Oshkosh this year and so did many of you, but there were a few that attended. I hope they will share their experience with us when we see them next. With the gas prices the way they are I thought attendance would be down, but it was just the opposite. The EAA is reporting record crowds for this year.

Since most of us missed this years Oshkosh we thought a social event would be appropriate instead of our regular meeting agenda. So, we are planning a summer picnic for our families to just come together and enjoy some burgers and hot dogs.

If you would like to bring something that would be great, but not necessary. We will be setting up in my hanger so we will have plenty of tables and chairs. I'll have plenty of fans running to keep things cool.

If anyone would like to help get things set up please let me know. 931-384-0532 texting would probably work the best. I will probably be getting started setting up on Friday. The picnic will be at our regular meeting time on Saturday the 13th at noon. By the way, if you don't already know, my hanger is on the other side of the hangars from the clubhouse at Hunter Field. Hope to see you there.

We will be having our regular meeting in September when we will be holding our officer elections.

For a heads up, October we will have our chili party. Last year we held the chili party at Hunter and this year we will use my hanger, so we have plenty of room.

Glen Smith
President

Secretary's 7/9/22 Chapter Meeting Minutes

Chapter 1321 Met at Hunter Field on July 9, 2022 presided over by President, Glen Smith

19 Members Attended

Samuel Womer, visited our meeting and he's interested in joining the Chapter

Meeting Discussions

AOPA's Poker Run Contest
Making proper Electrical Connections with Butt Splices and using the correct tooling

Members Discussions

Glen Smith talked about reupholstering his Cessna 150 Seats
Ron Hallmark discussed painting the cowl on his Maule
Tom Lewis talked about his engine issues in his ultralight cub
Robert Heller received his first box from Vans containing the tail kit for his RV 10 and is looking forward to getting started
Tom Kemper has an Aerolite Ultralight For Sale
Spense Dowlin has his Piper Tomahawk For Sale – See the attached pdf

Tomahawk For Sale.pdf

Upcoming Chapter Schedule

Picnic in Glen's Hangar, held in lieu of our August Meeting on 8/13 at Noon
VMC Club will meet Tuesday Aug 23rd at 6 PM
Early Elections held during our September 10th Meeting
Chili Dinner in Glen's Hangar, held in lieu of our October Meeting on 10/8
Chapter Meeting will be held Nov 10th
Christmas Party in Glen's Hangar, held in lieu of our December Meeting on the 12/10.

Editors Note: I received a question concerning last month's Newsletter discussion about emergency descents. The article stated

> **"**You should initiate recovery at an altitude high enough to ensure a safe recovery back to level flight, for a precautionary landing.
>
> "As you reduce the rate of descent, Remember to Level the Wings and pull out smoothly to prevent an Accelerated Stall."

So, the question was "How would you recover from the stall?"

My first thought was that if it occurred in the base to final turn there wouldn't be time to recover! But then there are other regimes of flight that an Accelerated Stall could occur, so I went looking for an answer.

You may also remember, during last month's meeting, Glen discussed the Stall/Spin Accident that occurred at a Stoll Competition. So, I thought it would be good to review Stalls in General, Types, When they occur, the Indications of a Stall, and their Recovery Procedures.

What I discovered is, that it is best to prevent a stall in the first place!! Know your aircraft, leave yourself a safe margin, and Don't get in a situation that could result in a Stall

Here are the links to the information I used for the following article

AOPA your freedom to fly

https://www.aopa.org/news-and-media/all-news/2022/january/pilot/proficient-pilot-stall-talk

Aviation Safety

https://www.aviationsafetymagazine.com/features/aircraft-stalling-3-basic-kinds/

Pilot Mall.com

https://www.pilotmall.com/blogs/news/how-to-prevent-and-recover-from-aircraftstalls#:~:text=%20To%20recover%20from%20an%20accelerated%20or%20dynamic,attack%20%28AOA%29%202%20Level%20the%20wings%20More%20

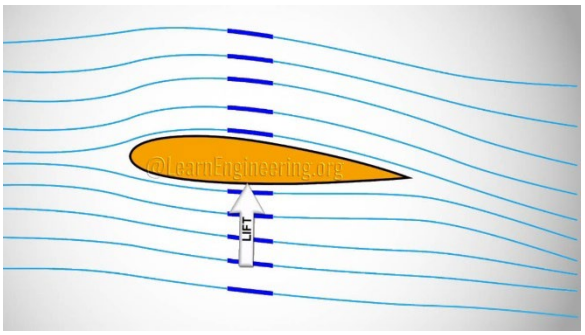
AVweb

https://www.avweb.com/flight-safety/technique/advanced-stalls/

Discussion of Aircraft Stalls

Review of Aerodynamic Basics

An aircraft wing produces lift based on:



The amount of air **(Relative Wind)** flowing around it

The Air flowing around the wing is measured by the Airspeed of the aircraft

Angle of Attack (AOA) of Wing

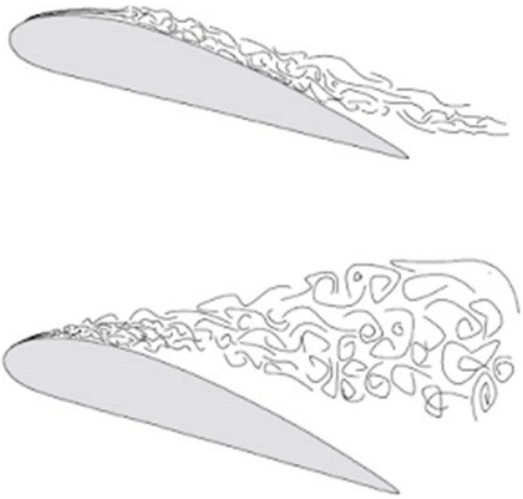
Is the angle at which the wing meets the airflow. This angle is measured by the Chord Line of the Wing and the Relative Wind

At the optimum AOA air flows over the surface of a wing, "sticks" slightly to the surface

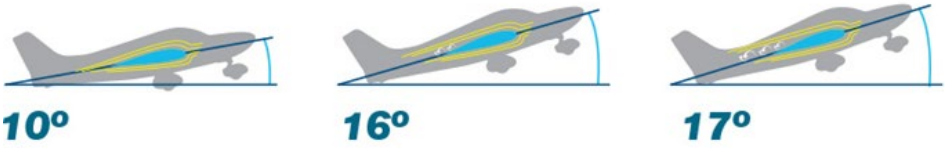
Lift is created at an Airspeed and Angle of Attack determined by the aircraft designer. The amount of lift depends on the speed of the air around the wing and AOA. To produce more lift, the object must speed up and/or increase the angle of attack of the wing.

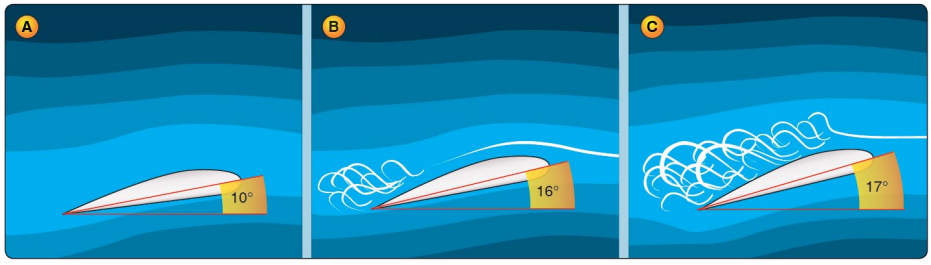
Sufficient airspeed must be maintained in flight to produce enough lift to support the airplane without requiring too large an angle of attack. The airspeed at which the wing will not support the airplane without exceeding this critical angle of attack is called the **stalling speed.** It is determined during aircraft certification and included in the AFM.

This speed will vary with changes in wing configuration (flap position) and/or bank angle



At a specific angle of attack, called the **critical angle of attack, air going over a wing will separate from the wing or "burble," causing the wing to lose its lift (stall).**





For a typical single engine airplane, the average critical angle of attack is often in the range of 16 -17 degrees.

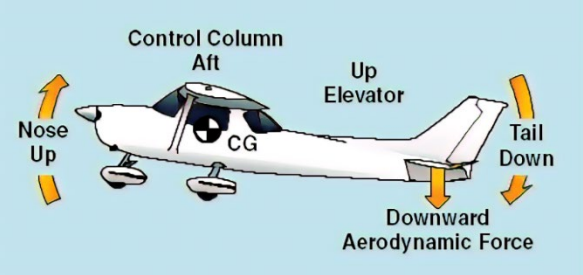
Understanding the affect Control Inputs have on Stalls

Elevator

Controls the aircraft around its Lateral Axis

Wolfgang Langewiesche, author of the classic book, Stick and Rudder.

Wrote in 1944 that the **elevators should be regarded as an angle-of-attack control. A pilot so taught might be less inclined to pull back on the control wheel at a time when he should do otherwise.**



Instead, our basic understanding of Elevator Control is that you use the control wheel (Stick) to raise the nose or lower it.

Pull the nose up to climb and Push it down to descend.

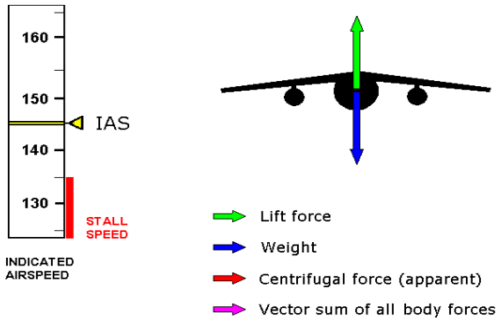
This may be why a pilot might revert to pulling on the control wheel during a stall near the ground. **He tries to do what he has been taught: Pull the control wheel aft to make the airplane climb.**

It could also be said that **the elevator "stalls" the airplane**.

Increased back elevator pressure increases the AOA, which is ok up to a point, because it increases lift.

The increased lift also increases drag.

IF, the elevator pressure raises the attitude of the nose too high it may cause **the airspeed to decrease sufficiently enough to cause a stall.**



Increased back elevator pressure while in a turn not only increases the AOA, it increases the G Load.

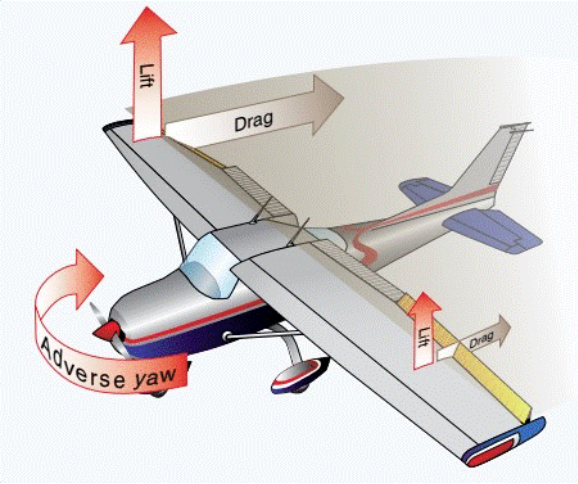
G Load increases Stalling Speed in relation to the increased Bank Angle

Hence, the aircraft stalls at a higher airspeed

The Elevator will also "unstall" the airplane

When the back pressure is released and/or the nose is lowered, the AOA will be reduced and the wing will begin producing lift.

Ailerons



Control the aircraft around its Longitudinal Axis

Used to control the aircraft's rolling motion.

A side effect of using the ailerons for roll control is that they create **adverse yaw**. Causing the aircraft swing about the vertical axis.

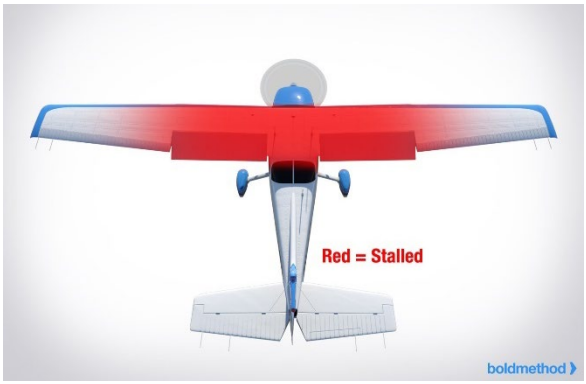
Adverse yaw is created due to the drag differential between the two sides of the aircraft.

The downward moving aileron produces more lift, but also generates more induced drag.

The upward moving aileron has the opposite effect.
The wing experiencing greater drag is forced backward, swinging the aircraft around in that direction.

The slower wing will stall first and drop. Any effort to raise the wing with aileron will add drag and deepen the wing's stall.

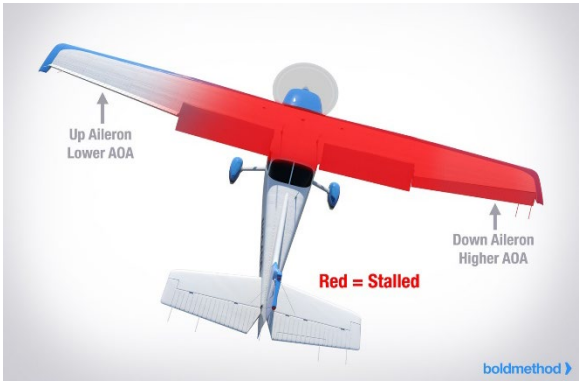
Stall – Ailerons Neutral



Wings are designed to stall at the wing root first and move outward toward the wingtips

By keeping your wingtips in an un-stalled condition, it prevents your plane from aggressively rolling left or right during an incipient or full stall.

Stall – Ailerons Deflected



If the stall occurs in a turn or a wing drops during the stall, how would you raise the wing to wings-level?

Use the Ailerons
OR
Apply the Rudder

Incorrect Answer:

You begin to stall in a right-banking turn, you roll the ailerons left to "help" stay wings-level. As **you deflect your ailerons, you change the angle-of-attack (AOA)** on each of your wingtips. Your left wing is now flying at a lower AOA, and **your right wing is flying at a higher AOA**.

If you add enough aileron deflection, you can push the right wing over the critical AOA, abruptly stalling the entire wing, and **causing your airplane to suddenly roll to the right, entering a spin.**

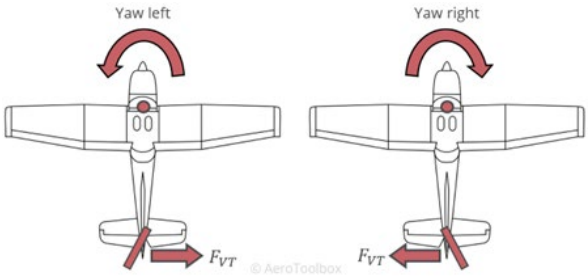
Correct Answer:

Keep it coordinated, or one wing will drop off.

When a wing starts dropping before the other, it probably means that **you're uncoordinated**, and you need to use more rudder to even things out (remember, "step on the ball").

Focus on keeping your ailerons neutral, and use your rudder to do the work. You'll fly yourself out of the stall wings level, while losing a minimum amount of altitude.

Rudder



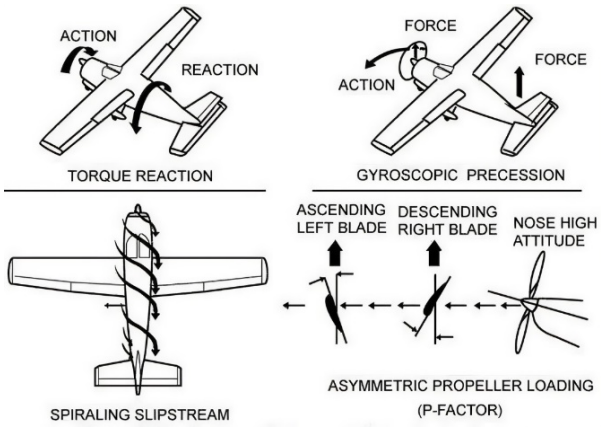
The rudder controls the aircraft around its Vertical Axis. It is used to:

Control the yaw of the plane
Keep Turns Coordinated
Combat Crosswinds

Do you know the causes of aircraft Yaw??

Probably, most will answer, Adverse Yaw is caused by the Ailerons during turns. And they would be correct.

What about the other causes of aircraft Yaw?? Such as an Aircrafts' Left Turning Tendencies.



The Left Turning Tendencies are created by the Propeller

Can you name and describe the different types yawing issues caused by the propeller?

Torque Reaction

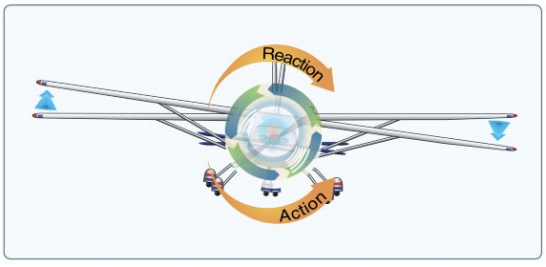


Figure 5-47. *Torque reaction.*

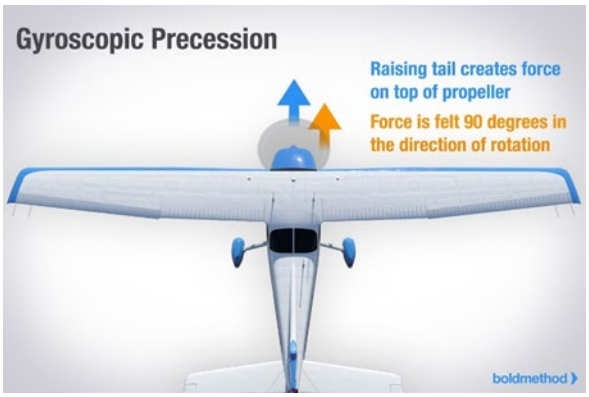
Is the aircraft's tendency for the nose to swing to the left as full power is applied due to the clockwise torque generated by the propeller.

This anti-clockwise torque will push the left wheel down into the runway, increasing the friction on that wheel while relieving friction on the right wheel.

This causes a turn to the left that must be compensated for by the application of right rudder to keep the nose straight.

Gyroscopic Precession

The engine and propeller act as a big gyroscope.



A spinning object tends to precess or move about its axis when disturbed by a force.

Gyroscopic precession has minimal affect on a typical aircraft and is frequently confused with p-factor.

Spiraling Slipstream

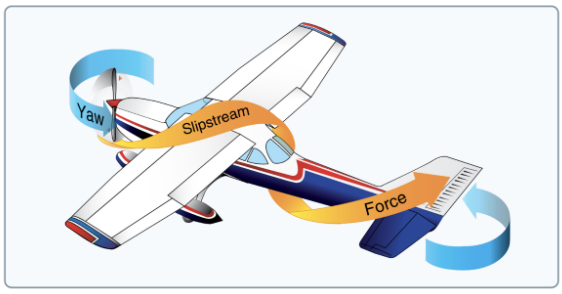


Figure 5-48. *Corkscrewing slipstream.*

A clockwise rotating propeller (as seen from the cockpit) will cause a slipstream over the fuselage that pushes against the left side of the vertical tail causing the plane to yaw to the left.

This prop wash effect is at its **greatest when the airflow is flowing more around the fuselage** than along it, i.e., at high power and low airspeed, which is the situation when starting the takeoff run

If left uncorrected (by application of right rudder to correct), the aircraft will first yaw to the left and then begin a roll as the yaw angle increases.

This tendency to yaw and then roll is most noticeable at high power settings when the aircraft is at a low speed
IE During Takeoff
During a Go Around after an aborted landing

P-Factor

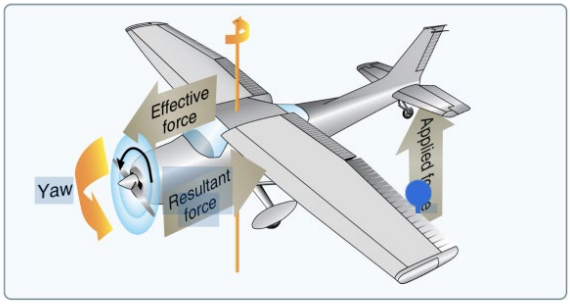


Figure 5-50. *Raising tail produces gyroscopic precession.*

P-factor is the term for **asymmetric propeller loading**, that causes the airplane to **yaw to the left when at high angles of attack.**

Caused by

The descending right side of the propeller (as seen from the rear) having a higher angle of attack relative to the oncoming air

Which generates a higher air flow and thrust than the ascending blade on the left side, which will be generating less airflow and thrust.

Occurs only when the propeller is **not meeting the oncoming airflow (Relative Wind) head-on** **For example**

When an aircraft is moving down the runway at a **nose-high attitude** (in essence at high angle of attack)

Which is why **P Factor is more pronounced in tail-draggers.**

Note: As the tailwheel comes up and the attitude of the aircraft is reduced, the effect of asymmetric thrust is reduced.

Since aircraft with **Tricycle landing gear** maintain a more level attitude on the takeoff roll, there is little P-factor during takeoff roll. **But, the effects of P Factor will become more pronounced at lift off.**

NOTE: P Factor increases the yaw moment to the left anytime the angle of attack and/or power is increased. IE Aborted Takeoff

If the rudder is not used to compensate for the yaw, the plane will turn left.

With increasing airspeed and decreasing angle of attack less right rudder will be required to maintain coordinated flight.

To Sum Up the Rudder

It's used to correct for the yaw effects associated with

- Power (engine/ propeller effects)
- Aileron Input
- Airplane Rigging
- Crosswinds

The rudder can be used to keep the wings level to the relative wind. With wings level a wing won't drop during the stall break. **Keeping the ball of the inclinometer in the centre gives assurance that the tail is following the nose.**

Since A spin can only occur with the addition of yaw in the stall. Using the Rudder to eliminate yaw and keeping the flight controls coordinated, will prevent a spin.

Do You Know?

In what order the flight control surfaces lose their effectiveness during a stall?

The answer is, It depends on

- Which control surface had the higher AOA at the time the wings stalled
  - Elevator or the Ailerons
- How did the plane enter the stall
- How the aircraft was configured

In most situations especially when the CG is forward, the wings will have the higher AOA as the nose pitches downward, so the elevators will remain useful *as long as* the tail isn't caught in the turbulent airflow off the wing.

The order is

You Lose Aileron Control First
Then Elevator Control
Rudder Control is lost Last

IF, there were a sudden pitch-up in an airplane with an aft CG

The horizontal stabilizers and thus the elevators lose effectiveness first
Then Aileron Control
Rudder Control is lost Last

So, as you can see, the **rudder is very effective throughout the stall regime.**

It can be used to "lift" a wing that is beginning to roll off. **For example,**

If you feel the wing starting to roll left, quickly apply some right rudder pressure -- this will stop the yaw that caused the wing to drop, and bring the wing back to level

As you recover from a stall,

You gain rudder control first, then elevator, and ailerons last

Stall Basics

The first and most-important rule to remember about stalls:

A stall can occur at

any airspeed,
in any attitude and
at any power setting, from dead engine through full power.

But the look, feel, entry method and recovery technique vary according to the stall type.

Causes of Stalls

1. **Over-rotation:** A rapid pitch up at liftoff can increase G loading to the point of causing an accelerated stall—in straight, non-turning flight.
2. **Skidding Turn:** Pulling hard and forgetting about the rudder in a steep turn from base to final, as pilots are tempted when they're overshooting.
3. **Faulty Airspeed Control:** Getting too slow on final and trying to correct with pitch input only, instead of also adding power.
4. **Engine Failure:** Failing to get the nose down—now!—when an engine fails after takeoff, or when trying to stretch a glide to the runway.
5. **Mishandling Pitch Trim:** Setting takeoff trim incorrectly, or allowing a steep deck angle to develop during a go-around, can easily result in a stall if we're not careful.

It is important to Always—always!—be mindful of the slip/skid indicator, and **use rudder to keep the wings level.** Let that black ball of the slip/skid indicator move to either extreme during a stall and you invite the mother of all loss-of-control events: a spin. ***Click this link for an explanation*** https://www.boldmethod.com/learn-to-fly/aerodynamics/why-you-should-not-use-ailerons-in-a-stall/

NOTE: If an aircraft stalls in an accurately flown turn, one without yaw, the airplane will simply pitch down as if it were in a straight-ahead, power-off stall. IE NO Spin

No Matter the Type of Stall, there are 6 keys to Stall Recognition

Recognition is the first step to avoidance, and avoidance is the ultimate step in preventing stall-related LOC accidents.

Do you Know the 6 Indications of a Stall?

1. Excessive back stick pressure
2. Nose high attitude
3. Low airspeed
4. Quietness
5. Mushy controls
6. Buffet

There are three basic stall types: Power-Off, Power-On and Accelerated.

Power-Off Stalls (Approach to Landing)

May occur when the throttle is reduced, the engine is producing no or only residual thrust. Or the engine is stopped and you're flying toward a dead-stick landing and the aircraft is in the landing configuration.

Recognition of Power Off Stall

As the engine drops to idle speed, If you begin raising the nose to maintain altitude or to stretch the glide, AOA increases, airspeed decreases, until the stall's onset is signaled by airframe buffet; ideally the aircraft's artificial stall warning system should already be active by this time, be it a horn or light.

Visually, The airplane's nose will be well above its normal pitch attitude in normal operations

> This is always a good time to pay attention to what the slip/skid indicator is telling us, and reacting accordingly. It's always a good idea to stall with the ball centered.

If the nose isn't lowered, the buffeting will lead to the nose pitching down—the stall break.

Prevention of Power-Off Stall

Power-off stalls are often caused by the pilot letting the airspeed to get to slow. Strive to maintain awareness of your airspeed even while you are busy setting up for landing.

Recovery of Power Off Stall

1. At stall recognition, simultaneously reduce pitch, level the wings, add full power, carb heat off, right rudder pressure.
2. Smoothly raise the pitch to climb attitude.
3. Transition to cruise.

Note: as you ease off the back pressure on the yoke, use rudder to keep the wings level and the slip/skid ball centered

Power-On Stalls (Departure Stall)

Power-on stalls can occur during takeoffs, climbs, normal flight, and aborted landings. A power-on stall during takeoffs and climbs can occur from too steep a pitch, too much weight, an incorrect flap setting or density altitude effects on aircraft performance.

Luckily, we don't normally hear of someone stalling on takeoff? (short of a Cessna Seat Sliding Backwards)

BUT, they do occur!!! See this link https://www.avweb.com/aviation-news/two-serious-injuries-in-anchorage-seaplane-crash-video/ to an AVWEB article concerning a Beaver on Floats that stalled and Spun while taking off from Lake Hood in Anchorage, July 26th, with 6 tourists going on a Flightseeing trip.

Click the Link for Video from a nearby Observation Camera
https://s30121.pcdn.co/wp-content/uploads/2022/07/Gilbertoni-Video-Edit.mp4

All Survived! As you can read in the article, "the pilot reported that a gust of wind struck the aircraft during takeoff and he was trying to correct when the aircraft crashed into the water."

Even after that example above, a Power-on-Stall is much **more likely to occur during a Go-Around from a balked landing**. ***Click this link for an explanation***

https://www.boldmethod.com/learn-to-fly/maneuvers/power-on-stalls-happen-where-you-least-expect-them-and-the-aerodynamics-behind-them-go-around/

During a Go Around, the Pilot adds power with full flaps and nose up trim, which increases deck angle and introduces torque and P-factor, causing the aircraft to over rotate, decreasing the airspeed as it climbs.

If the pilot doesn't lower the nose his plane will Stall.

Maintaining coordinated flight becomes more important.

Recognition of Power-On Stall

As you enter a power-on stall

An early indicator of a power-on stall is a change in the sound made by the airflow along the exterior of the aircraft.

Expect to experience decreased responsivity of aircraft controls and some buffeting.

The nose will be at a much higher angle than it would be for a Power Off Stall and the break will be more severe.

Most airplanes will not break until indicating an airspeed well below the power-off stall indication at the bottom of the white arc.

If stall warning indicators are installed, their alarms will go off.

Prevention of Power-On Stall

As you add power to go around, prevent the aircraft from pitching up –

Ease off the Back Pressure on the Yoke
Retrim Nose Down
Slowly Retract the flaps

Avoid flying at minimum airspeeds. Be cognizant of your aircraft's attitude. Be sure the nose isn't too high.

To deepen your understanding of power-on stalls, ***Click the link to watch the AOPA Air Safety Institute's training and awareness video on avoiding power-on stalls.*** Margins of Safety: Avoiding Power-On Stalls - YouTube

Recovery

At the stall recognition

Ease off back pressure on the yoke
Retrim nose down
Retract flaps SLOWLY, one notch at a time
Begin to slowly halt the post-stall descent **use rudder to keep the wings level and the slip/skid ball centered since the airplane may want to roll steeply behind the torque of the engine.**

But, in most instances, it isn't the straight-ahead, Power-Off and Power On stall that poses the greatest risk of a complete loss of control.

When some or all of a wing's critical angle of attack (AoA) is exceeded in attitudes other than straight and level, stalls get more interesting,

The greatest risk of losing control occurs during "advanced stalls" such as an

Accelerated Stall
Cross-Controlled Stall
Elevator-Trim Stalls

Pilots are more likely to encounter these stalls inadvertently, than they are the more-benign, straight-ahead, power-on/off variety.

Common Factors

One of the characteristics of some advanced stalls is; there is a greater likelihood of only one wing stalling, instead of both of them stalling at the same time. **This is because coordinated flight was not maintained**

Whichever wing is experiencing the greater AOA will stall first. With the other **one developing lift, over you'll go into a spin, rolling in the direction of the stalled wing**.

Stalling with power on typically means everything about the stall happens more quickly

Even if a turn is only slightly out of coordination, the effects can be dramatic.

Advanced stalls can result in altitude loss.
Especially if an incipient spin develops

Advanced stalls may lack a formal warning

The traditional buffet many airplanes exhibit may not occur in an advanced version. That's because things happen quickly and, when abused, a **wing can go from flying to stalled before you realize what's happening**.

Accelerated or Dynamic Stalls

A common misconception is that an accelerated stall involves increasing airspeed. It does not. Instead, the acceleration referred to is increased G-loading, beyond that found in straight-and-level flight. **G-loading unavoidably increases in level turns**

The usual cause of an accelerated stall is abrupt and/or excessive control inputs during hard pull-ups or steep turns. The airplane is experiencing higher-than-normal g loading**, causing the wing to stall at a Higher than Normal Airspeed.**

Stalls resulting from "abrupt maneuvers tend to be more rapid, or severe, than the unaccelerated stalls, and because they occur at higher-than-normal airspeeds…they may be unexpected by an inexperienced pilot."

An accelerated stall can occur any time "excessive back-elevator pressure is applied and/or the angle of attack is increased too rapidly," according to the Airplane Flying Handbook.

Click the Link for explanation of Accelerated Stalls
https://www.boldmethod.com/learn-to-fly/maneuvers/accelerated-stalls-aoa/

Recognition
Because dynamic stalls can happen quickly, you may have little to no warning signs that a stall is imminent. In some cases, you may have time to notice the characteristic pre-stall buffet of the aircraft. If you find yourself asking how you got into this stall, you are most likely in a high-speed stall.

Prevention
To minimize your chances of ending up in an accelerated stall, conduct all of your maneuvers smoothly and coordinated, within maneuvering speed (Va) for your aircraft.

Avoid overbanking and pulling yoke back in the turn
Relax back pressure, roll wings level and/or adding power.

Recovery Procedure
Release back pressure on the pitch control and increase power.

This has the effect of reducing AoA and moving it further away from its critical point.

If a wing drops, use a coordinated turn to a wing-level attitude.

Use rudder to keep the wings level and the slip/skid ball centered Level the wings and ease off the back pressure, which reduces the load on the airframe—in turn lowering the stall speed back toward its 1G norm.

If your dynamic stall is the result of a steep turn, for example, you may find yourself going into a spin and needing to conduct a spin recovery.

Cross Control Stalls

May Occur during any of the stalls discussed above.

https://pilotworkshop.com/tips/cross_control_stalls/

Can likely occur if you get out of shape during a turn from base to final.

Caused when a pilot tries to increase the turn rate by using additional rudder input while holding a constant bank angle.

Adding inside—toward the direction of the turn—rudder causes the relative wind past the outer wing to increase, creating more lift. Countering that greater lift and resulting roll moment in the direction of the turn means applying opposite aileron input.

The result is a turn with rudder applied in the direction of the turn but with opposite aileron, plus additional back pressure to maintain the desired descent rate in the resulting skid.

This further causes the airplane to roll. The roll may be so fast that it is possible the bank will be vertical or past vertical before it can be stopped.

The Airplane Flying Handbook again: **"In a cross-control stall, the airplane often stalls with little warning. The nose may pitch down, the inside wing may suddenly drop, and the airplane may continue to roll to an inverted position. This is usually the beginning of a spin. It is obvious that close to the ground is no place to allow this to happen."**

Prevention
Ensure Coordinated Turns – At All Times

If you overshoot the centerline, the correct fix is to increase the turn rate with coordinated control inputs. **Or go around.**

Fly concise traffic patterns. If you get out of shape in the pattern—thanks to traffic, wind or poor technique—**the smartest thing to do is execute a go around rather than try to salvage the approach.**

Recovery - Doubtful if at low altitude
Push Nose Down
Rudder to Level Wings
Slowly Raise Nose

Elevator-Trim Stalls

The classic elevator-trim stall occurs when executing a go-around after a balked landing.

The airplane is trimmed nose-up for the approach's reduced airspeed, and when full or go-around power is added, the nose pitches up, way up.

If the pilot doesn't push—hard!—to get and keep the nose down, an excessive AoA will stall the wing.

Recognition

Nose High Attitude
Excessive Yoke Pressure
Fast Decreasing Airspeed

Prevention

First, don't add full or go-around power abruptly when initiating the go-around

Instead, add enough power to arrest the descent and begin climbing

Push the nose down

Once a climb is established, begin adding nose-down trim until the pitch angle and control forces return to that used for normal climbs.

Retract Flaps slowly

If you're truly concerned about losing control in this situation, reduce power and trim off the nose-up moment before adding it back and achieving a climb configuration.

Recovery

Forcefully (two hands if needed) Push the Nose Down to overcome the control pressure caused by the Nose Up Trim

Re-trim the nose down.

Slowly retract flaps, one notch at a time

Stalls Summed Up

Intellectually we know that stalls are 'truly' a function of angle of attack (AoA).

But, we are taught that stalling is a function of flying a particular speed.

We commonly misunderstand stalls because we are **led to believe that stalls always occur at a very nose-high attitude** by the

Diagrams used in most training materials

and

The way we practice them

Straight ahead Stalls are NOT experienced inadvertently. Exaggerated nose-high attitudes are such effective visual warnings of an impending stall that they almost preclude the possibility of an inadvertent stall.

It is the unexpected/inadvertent stalls, typically entered with the nose relatively low and at an altitude from which the further loss of altitude would be apparent and frightening that are responsible for so many accidents each year is

"During the practice of intentional stalls, the real objective is **not** to learn how to stall an airplane, **but to learn how to recognize an incipient stall and take prompt corrective action."**

Many pilots were taught how to perform stalls rather than how to prevent a stall

Understanding, recognizing and—ultimately—preventing stalls means not placing your airplane in a position from which it's easy to enter one. That means no steep turns when flying slowly, always flying with coordinated inputs so no slips or skids can occur, and managing power application with a healthy push on the pitch control when initiating a go-around.

Failure to recognize and recover from one of these stalls can lead to a spin or an unusual attitude. Close to the ground, as some of these recipes for advanced stalls imply, is no place to be out of control.

We obviously do not practice stalls at low altitude, so it is **difficult to appreciate what it would be like to sense the terrain rushing up to meet us.**

When a pilot experiences an inadvertent low-altitude stall, recovery requires extraordinary discipline.

> **But, he tends to ignore his training and revert to a fatal instinct. Instead of releasing back-pressure on the control wheel, he worsens the situation by pulling back in a counterproductive effort to arrest the descent.**

Which is why an inadvertent, low-altitude stall often results in bent metal and a cloud of dust.

Note: If you haven't been subjected to Spins, Unusual Attitudes, and their Recovery, are you aware there are at least two excellent Instructors right here in middle Tennessee.

> **Catherine Cavagnaro, See Below**
> https://www.aceaerobaticschool.com/
>
> **Ron Dillard in Lebanon**
> http://advancedtailwheeltraining.com/unusual_attitude_recovery

Tennessee Flight Instructor Inducted into Hall Of Fame

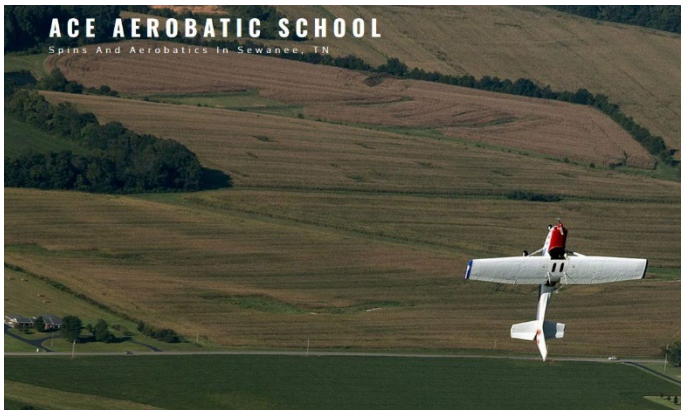
AVweb

Flight Instructor Hall Of Fame Names 2022 Inductees

The Flight Instructor Hall of Fame has named Catherine Cavagnaro and Ron Timmermans to its 2022 class of inductees. The induction ceremony for the 2022 class will take place at the American Bonanza Society (ABS) 14th annual membership dinner, which will be held during EAA AirVenture in Oshkosh, Wisconsin, at the end of July.

Catherine Cavagnaro, began taking flying lessons in 1999, as a anniversary gift from her husband.

She became a certified flight instructor in 2001, and received aerobatic training with "spin doctor" William K. Kershner.



After Kershner's death in 2007 she began operating the "Ace Aerobatic School" he founded in Sewanee, Tennessee.

She is recognized as an expert on spins and aerobatics and holds ATP and CFI-IA certificates.

She is also a designated pilot examiner, FAA lead safety representative for the Nashville FSDO, and is a regular columnist for the Aircraft Owners and Pilots Association,

During her career, Cavagnaro has been recognized many times:

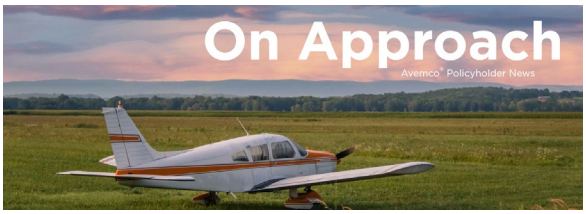
2005 winner of the Amelia Earhart Memorial Scholarship Awards of the Ninety-Nines.

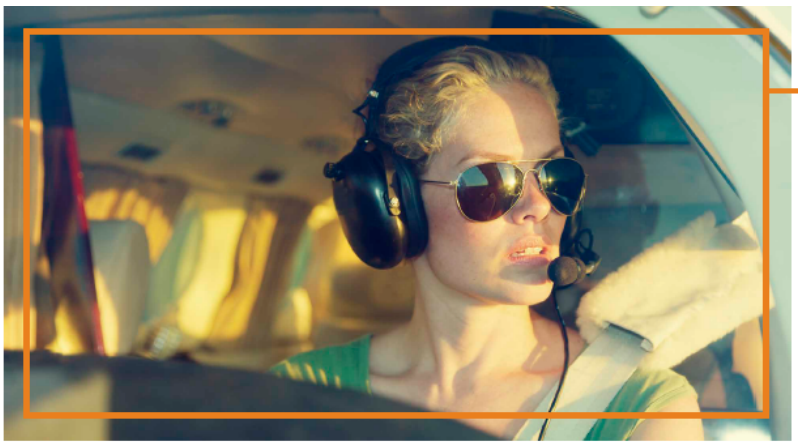
2018 FAA Safety Representative of the Year

2018 Tennessee Aviation Hall of Fame

2020 FAA Certificated Flight Instructor of the Year

Oh, and in her spare time she is a professor of mathematics at Sewanee: The University of the South.





DEALING WITH DISTRACTIONS

By Gene Benson, Pilot and Aviation Educator

I was proudly watching my grandson demonstrate his newly acquired skill at riding a bicycle devoid of training wheels. He was navigating the front lawn of his parent's house quite confidently. That is until the next-door neighbor stepped outside, waved, and yelled, "Hello!" Our young bike rider looked back over his shoulder toward the neighbor and promptly peddled directly into a bush. The rear of the bike rose up, launching number one grandson into a suborbital trajectory with a splashdown on the lawn about six feet ahead of the bush. Thanks to his mom's insistence on a helmet, kneepads, and elbow pads, the only serious injury was to his pride. For not paying attention while riding, his mom enforced a mandatory safety stand down, otherwise known as a timeout. The GBSB (Grandpa Bicycle Safety Board) determined the probable cause of the accident as follows: Collision with a bush resulting from loss of situational awareness by the rider, which was caused by a distraction. Contributing to the accident was the bush.

Distractions continue to result in accidents of all kinds. The young bike rider's mom told him that he needed to pay attention to what he was doing. Of course, that's right, but it's often easier said than done, especially when flying an airplane. We can't eliminate distractions, but we can do some things to help prevent the distraction from becoming a catastrophe.

Distractions can occur both before aircraft movement and while in motion. We should take steps to avoid these distractions. This would include doing preflight planning in a quiet environment rather than at the counter in the airport coffee shop. It would include doing the preflight inspection before passengers arrive and begin asking us questions. It also means briefing passengers on the "sterile cockpit" (no unnecessary conversation during critical operations). We should do this before the doors are closed. We must complete the programming of the GPS or autoflight system before we begin to taxi. And the granddaddy of all distractions can largely be avoided by making sure all latches on doors, luggage compartments, and cowlings are secure. Of course, a well-maintained airplane is less likely to present distractions such as alternators dropping offline or landing gear malfunctions.

But some distractions are likely to present themselves even with our best efforts at avoidance. So, we must also be prepared to mitigate the effects of the distraction when it occurs.

Prior-to-movement distractions can be just as dangerous as the ones that happen while in flight if they cause something to be skipped during an inspection or while running a checklist. Generally, if distracted during a procedure, we should go back three steps from where the distraction occurred.

The old advice of "aviate, navigate, communicate" continues to be valid while in motion. Aviate means to fly or taxi the airplane. That must be first in our priorities. We must discipline ourselves to maintain aircraft control and keep the airplane clear of obstacles and terrain (if in flight) regardless of what else is happening. If ATC calls with the IFR clearance while we are taxiing, we must tell them to

standby until we are stopped. The call from ATC is the distraction, but our response is the mitigation. A passenger becoming ill during flight is a distraction, but our request for another passenger to assist the sick person is our mitigation. In the absence of another passenger to help, our seemingly heartless response that we will help by landing at the nearest suitable airport rather than trying to deal with the sick person is our mitigation. Then there is that unlatched door. There are very few airplanes that won't keep flying with a passenger door, baggage door, or cowling unlatched. The sound of rushing wind or the sight of an access door flapping in the breeze is a distraction to be sure. Our quick analysis that the airplane is still flying and controllable and our resolve to maintain focus on aircraft control and terrain avoidance is our mitigation.

Pilots who fly into bushes while distracted are generally more damaged than grandchildren running bikes into bushes, even if mom makes us wear our protective gear when we fly.

Gene Benson has had a lifetime of aviation experience. He has lived and breathed aviation from his first official flying lesson at the age of 14, to his first solo on his sixteenth birthday, to his 8,000 hours of flight instruction given. He has served as the Dean of Aeronautics for an aviation college, as an instructor for a major domestic airline, consultant to several foreign and domestic airlines, and to business aviation. His academic background includes degrees in psychology, education, and business. His specialty now is the application of human factors to error reduction and safety in aviation and other industries. He is presently a FAASTeam Lead Representative and has recently served as a member of the NBAA Safety Committee. View Gene's work at genebenson.com and register for his aviation safety events at Vectors for Safety.

Getting Together Uneventfully | Bright Spot Schools (teachable.com)

Whats_that_beeping[1].wmv

Click on the Video for an example of An incident caused by Distractions

Well, it certainly has been a HOT couple of Month's. Excessive heat is not only uncomfortable, it can cause some detrimental health issues due to Dehydration and Heat Stroke. I Found this article which provides ideas for preventing you from becoming overheated while flying!!

FLYING

How You Can Stay Cool in the Cockpit

Learn different ways to beat the heat as you take to the skies this summer.

On a hot day the cockpit can feel like a sauna within a few minutes—even with the air vents open. After an hour or two you will start to feel like Icarus flying too close to the sun, as the heat saps your energy and focus. For this reason pilots are always looking for ways to cool down as they fly.

Portable Air Conditioning System

There are some aircraft that have air conditioning as an option. However, most do not—but if your aircraft has an engine-driven electrical system and a back seat, you might want to consider getting a portable air conditioning unit for your aircraft.

Arctic Air makes two portable air conditioning units. They work by blowing ambient air across a coil cooled by ice water. Put the Arctic Air unit—which is about the size of a small suitcase—into the airplane, fill the unit up with ice, and plug it into the cigarette lighter or auxiliary power jack.

Low-Tech Ways to Keep Cool

Heat and dehydration will greatly reduce a pilot's ability to function in the cockpit. The best option is to limit your flight time to the early morning and late evenings. If that isn't practical there are some lower-tech, lower-budget methods for keeping cool.

Frozen Water Bottles

Freeze a water bottle and carry that with you in the aircraft in addition to a water bottle to drink from. This frozen bottle, when applied to the back of the neck and face, is an excellent tool for cooling off. To preserve the ice. place the frozen bottle in a clean tube sock. The sock absorbs the condensation on the bottle and provides a layer of insulation. And, when the ice does melt, you have more drinking water.

The Right Hydration

Drinking water to keep hydrated can help you stay cool. Stay away from sugary and caffeinated beverages as they can increase your thirst.

Air Vents

Show your passengers how to open and close the air vents, and position them for optimum airflow.

Frozen Rags

Take a clean washcloth or terry cloth rag soak it in water then freeze it laying flat. When removed from the freezer, these towels can be folded up and draped over the back of your neck. This is swamp cooling at its finest.

Dress For The Heat

Hot days mean lighter clothing. Wear natural fibers (like cotton or linen) that breathe. Stick to light colors that tend to reflect heat. It is also a good idea to wear a hat or a cap that protects your head and shades your face. It may be tempting to wear short shorts and sandals or flip flops. But, consider the possibility of experiencing an unscheduled off-airport landing in an unimproved area and having to hike out. So, you should dress appropriately.

boldmethod

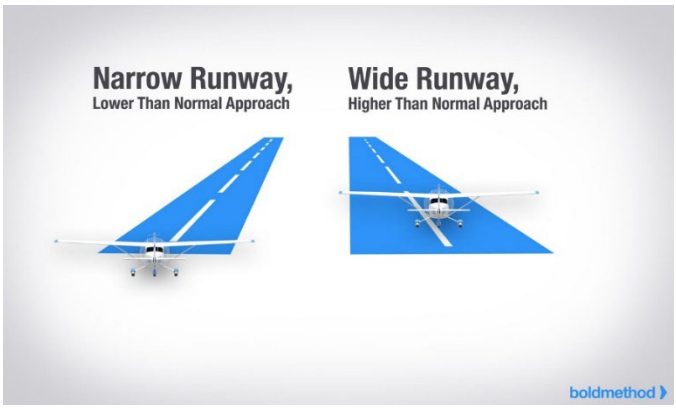
4 Things You Should Know About Runway Illusions, And How To Solve Them

Have you ever flown into an exceptionally wide/narrow runway, or one that has a noticeable slope? Here's what you should know about illusions you could encounter on your next flight...

1) Narrow Runways

A narrower-than-usual runway can create an illusion that the aircraft is higher than it actually is, leading to a lower approach.

2) Wide Runways



A wider-than-usual runway can create an illusion that the aircraft is lower than it actually is, leading to a higher approach.

3) Downsloping Runway

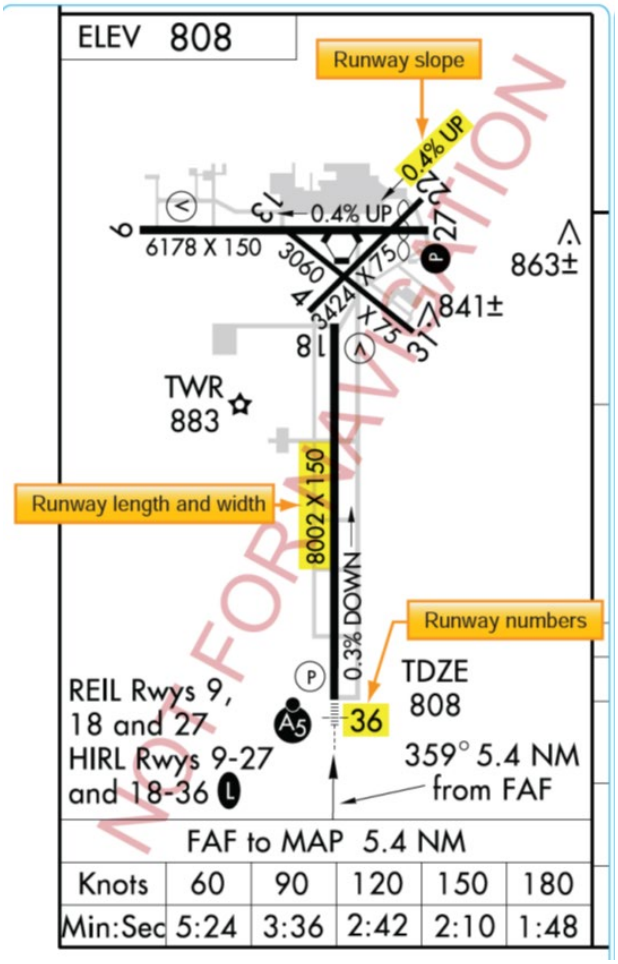
A downsloping runway can create the illusion that the aircraft is lower than it actually is, leading to a higher approach.

4) Upsloping Runway

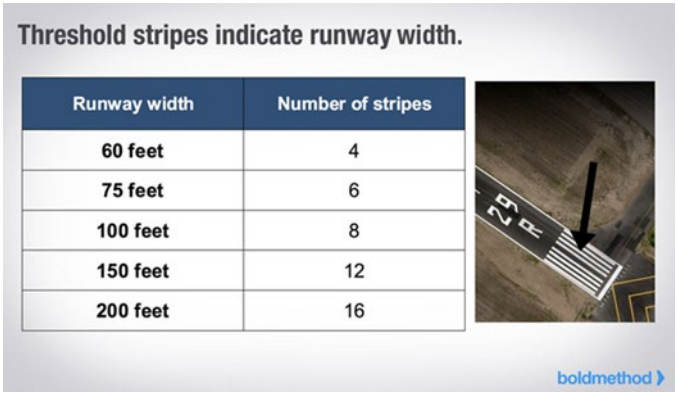
An upsloping runway can create the illusion that the aircraft is higher than it actually is, leading to a lower approach.

So... What can you do to recognize these illusions may be present?

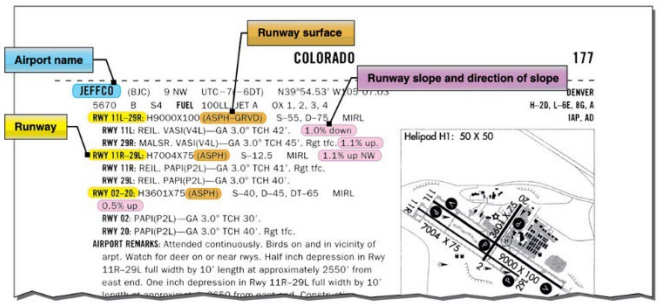
Use airport diagrams or your chart supplement (formerly the Airport/Facility Directory) to Review Runway Specifications During Your Approach Briefing



Runway length, **width and slope,** are shown in the airport sketch on the lower left or right portion of every instrument approach chart



You can also determine the Runway Width by the number of Stripes at the Threshold

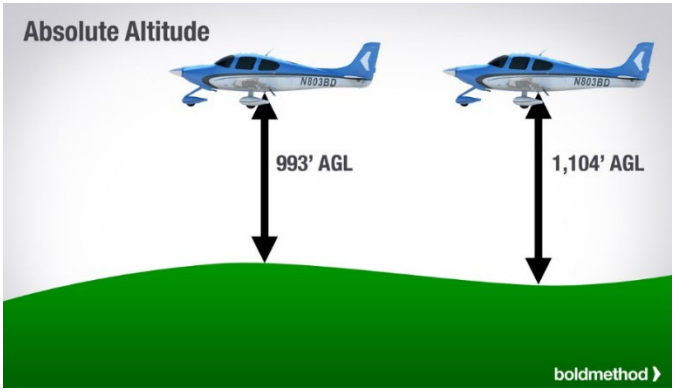


Runway gradients can also be found on the FAA's Chart Supplement.

Use Glidepath References

Use Visual Approach Slope Indicator (VASI) or Precision Approach Path Indicator (PAPI) systems for a visual reference, or an electronic glideslope, whenever they are available.

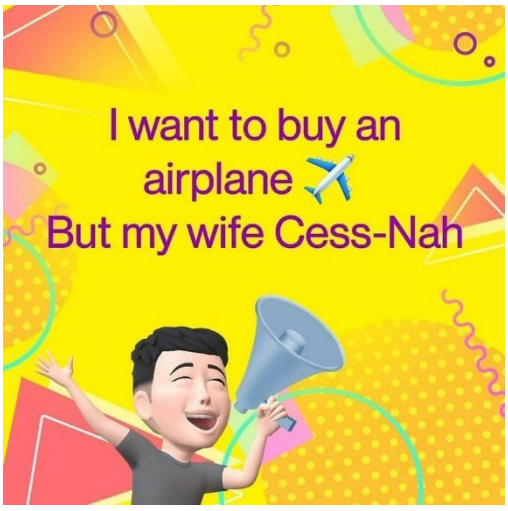
Reference Your Altimeter



As you're in the pattern and on final approach, use your altimeter as a secondary reference to judge height above the ground (compare altimeter to field elevation).

Laughs for the Day

How to Identify a Tailwheel Pilot



Aero Oddity –

Firefighting Planes Nearly Hit by Airborne Tree Branches

Aircraft busy fighting fires in Yosemite National Park are facing the usual risks, including high terrain, smoke-limited visibility, and risk of midair collisions, but this year in the High Sierra, they are also facing a most unusual risk, airborne tree limbs, some of them quite large, big enough that pilots are reporting near misses with the flying vegetation. According to a story on Yahoo News, pilots are very concerned about the safety of flight because of the airborne tree parts. The science behind the phenomenon is well understood. With particularly intense fires, the rising air currents carry debris with them, the stronger the updrafts the greater the weight and size of the objects it can lift up a thousand feet or more, until the updrafts decrease in intensity enough that the objects fall back to earth.

Cool Video

LT Dan flies to 70,000 feet in a Lockheed U-2

The documentary, HIGH FLIGHT - TO THE EDGE OF INFINITY - 70,000 FT UP, documents Gary Sinise's once-in-a-lifetime U2 flight at Beale Air Force Base in June 2011, covering every moment from the day-long training and meetings with the base staff to take-off and landing.

Sinise said "The flight was incredible and the views from 70,000 feet are absolutely breathtaking." **During the flight, Gary Sinise was the highest man on earth!!!!!!!**

Use the link to view the Documentary

https://m.youtube.com/watch?v=N6c3Y_AtXco&fs=e&s=cl

For those that have seen "Top Gun, Maverick" and may have wondered, where do real military pilots go to actually fly low level in Canyons?

See below for Two of the most notable places!! Plus, they are even open to the public!!!!!! So, they may qualify as…….

PLACES YOU MIGHT LIKE TO ADD TO YOUR AVIATION BUCKET LIST:

Do you have a favorite Aviation place that you haven't visited yet? Or, one you have visited and you think that the rest of us would enjoy? A place you think should be put on our Bucket List of things to do/see? If so, why not share it with the rest of us? Send your Aviation Bucket List Place to me and I will put it in our next Newsletter.

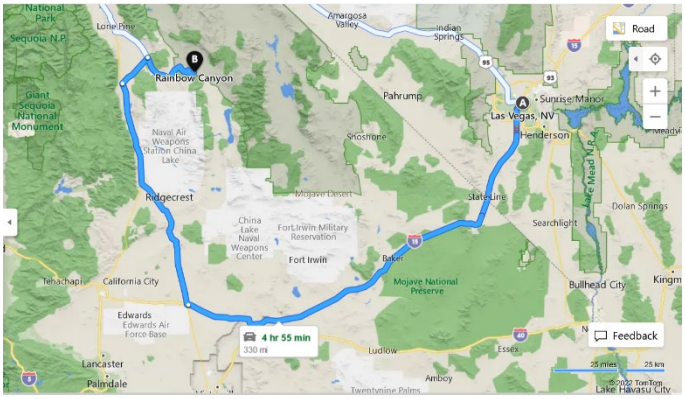
Military Low-Level Routes Observation/Photo Points At "Star Wars Canyon" and the "Mach Loop"

Location 1:

Rainbow Canyon — Death Valley

Better known as "Star Wars Canyon" which is on the Jedi Transition Training Route

Military training flights have used this canyon since World War II.



Located a 4 plus hour ride from Las Vegas, Rainbow Canyon is an excellent full-day trip.

Father Crowly's overlook area has the best panoramic view; however, there are no facilities around. Make sure to fill your gas tank and have enough water and food.

Aircraft watching in Jedi Transition requires a lot of endurance. The flight schedule is never announced and is kept secret. Hours of waiting on an open-air rim may be exhausting. Therefore, avoid hot summer months for your visit and choose the season between October and May instead.

The training area is most often used by fighters such as the F-15, F-18, and F-22, but also by bombers and at least once, a C-17 Globemaster cargo plane.

Foreign combat aircraft such as the Israeli F-16I *Sufa*, Eurofighter Typhoon, and the Sukhoi Su-30 MKI have been photographed or filmed making passes through the canyon.

The Jedi Transition Route is restricted to military training, designed to hone the pilots' skills at flying low and fast to avoid enemy radar and anti-aircraft fire.

Because Rainbow Canyon offers the rare opportunity of proximity to military jets in flight, the National Park Service has made it an attraction with informational signs and a parking lot, though training schedules are not available to the public and flights do not occur every day.

Father Crowley Vista Point- Rainbow Canyon

Located near the western park boundary, this vista point offers a stunning view into Rainbow Canyon, a colorfully striped canyon created by ancient volcanic activity. A short ¼ mile (400 m) walk or drive on an unpaved road leads from the vista parking area to Padre Point, overlooking Panamint Valley.

From Highway 395, you will want to head east on Highway 190 at the town of Olancha for about 37 miles. Eventually, you will see the pull out on the left-hand side as you wind your way up into the hills. There is a large parking lot you can utilize and pit toilets as well. I have never seen it very busy as most people only stay for a few minutes and then move on.

Planes travel through the canyon at 200 to 300 mph and when flying as low as 200 feet above the canyon floor were still only several hundred feet below observers on the rim.

Those standing on the rim can even see the pilots' facial expressions, who, BTW are aware of the audience, and sometimes give gestures or other signals.

Sadly, Star Wars Canyon "below-the-rim" activity was suspended in August 2019, after an accident killed a pilot and injured several tourists. A 1,500 feet above-ground-level restriction was placed on the area.

As of May 2022 the minimum height above the lip of Rainbow Canyon was lowered to 1,000 feet

Click the links to Videos of aircraft in the "Rainbow Canyon"

Star Wars Canyon 2019 - Jedi Transition (4K) - Death Valley Jets

https://www.youtube.com/watch?v=_GQ9M50_0fw

Low level USAF AND USN fast jets, Death Valley, USA (F-18, F-35, F-15, T-38 and B-52)

https://www.youtube.com/watch?v=HxF3HvFBiP0

Location 2:

Is located in the United Kingdom and is known as the Machynlleth Loop i.e. "The Mach Loop"

The Mach Loop consists of a series of valleys in west-central Wales. It is notable for use as low-level training areas for fast jet aircraft along with propeller-driven aircraft.

Click the link for information concerning the Mach Loop

https://machloop.co.uk/

Pilot's fly as low as 250 feet from the nearest terrain.

Viewing Areas

There is only one prepared viewing area that **does not require climbing**. It is located at the **Corris Craft Centre**

Approximate location of Corris Craft Centre

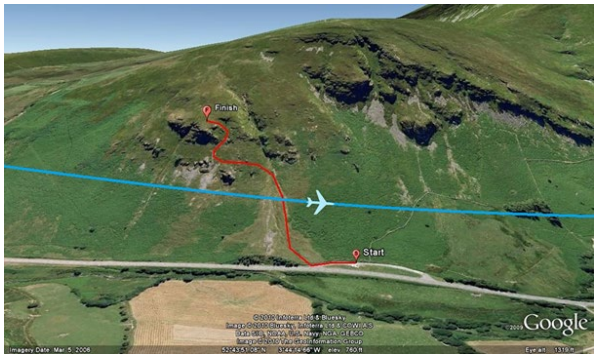
The Corris Craft Centre is in the middle of the Mach Loop and provides a flat area for viewing the aircraft. There's free all day parking. Although you may not get the top-down view, it is still a great opportunity to experience military low level flying.

The other viewing locations listed below are hard to reach, have limited Parking, and require a steep hike up to the viewing spots!!!

The Google images provide a general guide to reach the viewing locations – be sure to take care and follow the safest route for you.

Bluebell

Bluebell sits deep in the valley looking up towards the Bwlch locations.



There is a layby nearby to park which has ample spaces.

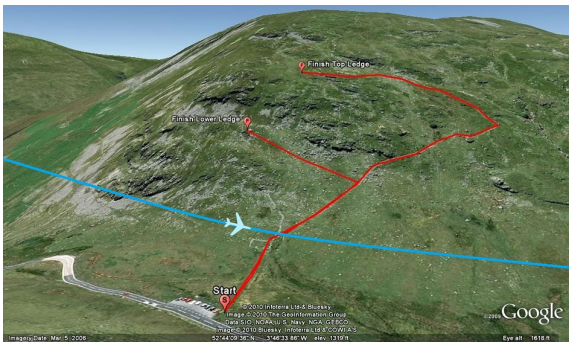
Car park distance: Quarter a mile

Approximate climb: Around 300 feet. Please note that this climb is steep and there isn't a great deal of space when there!

Aircraft approach from Dinas from the right but give very little notice on their arrival. Lighting can be tricky at times but when its good it really can be the place to be.

Bwlch

Is a great location if you want a ‘topside’ or ‘level-pass’ view of aircraft. You also get a few seconds heads-up, as the aircraft approach from your right.



Car park distance: Under half a mile
Approximate climb: Top ledge, around 400 feet. Middle Ledge, roughly 200 feet

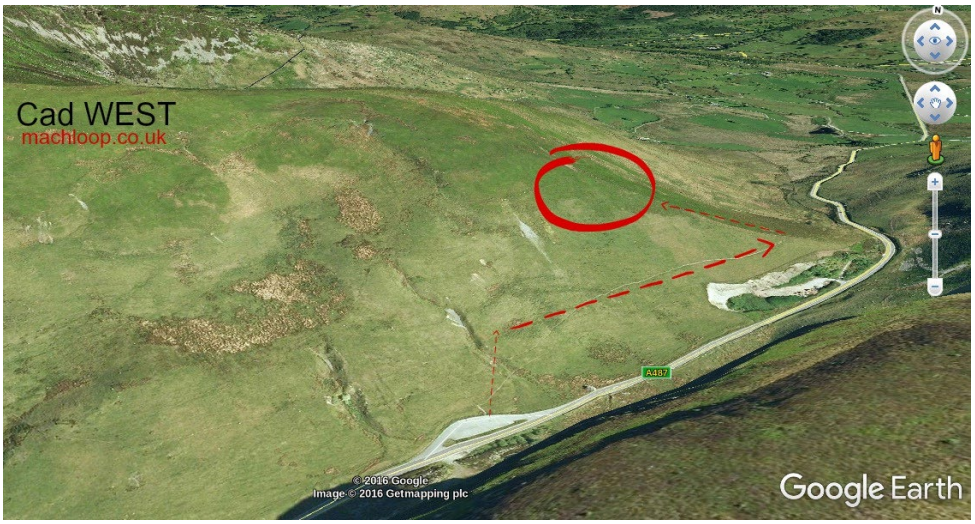
Pictures taken from Bwlch

Cad East & Cad West

Cad East and West, in the Mach Loop, are great locations if you want a ‘topside’ or ‘level-pass’ view of aircraft. There is plenty of room for parking. But, there is a steadily climb as you make your way up the hillside.

Cad West –

Cad West or the 'Fence' as it is also know is a very popular location. The stunning views combined with the opportunity to spot incoming aircraft with plenty of warning can make the 'Fence' almost irresistible to hill climbers.



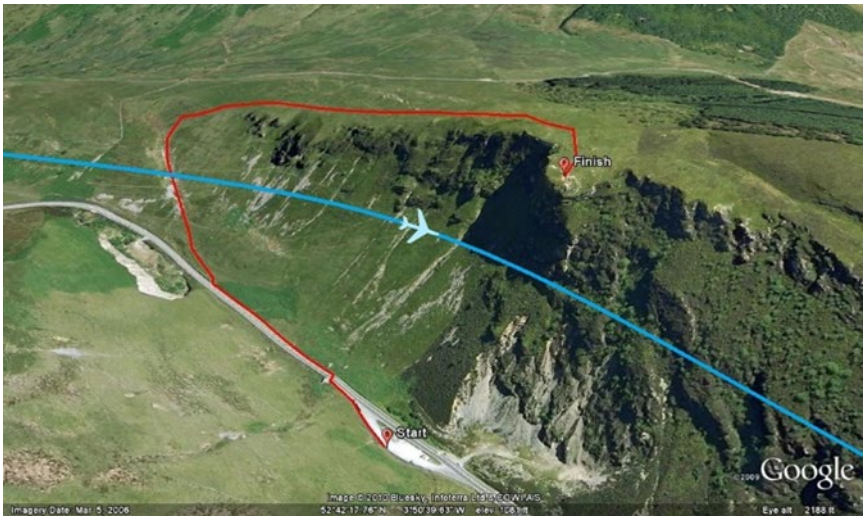
There is enough parking for approx 20 cars about a half a mile hike along a clearly marked path to the location.

It takes around 15 minutes to walk to the lower viewing area. This is a steady 300 foot climb. Perfect for anyone that is averagely fit. You can then venture further up to the higher viewing areas which will offer different viewing angles if you like. The climb really does get a little more intense. This is a real huff and puff hill.

Cad East –

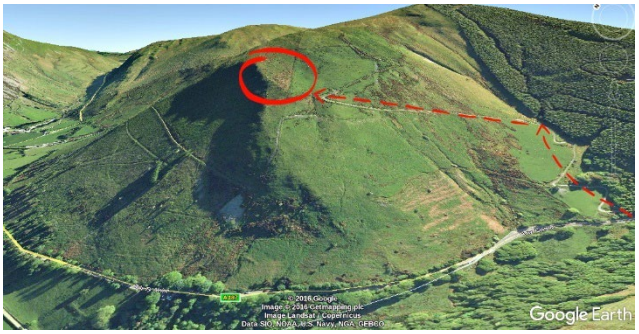
From the rear car park, .90 mile away it's a steady 10-minute 422 foot climb. Climbing up from Cad West's car park isn't something I have done yet. It looks a hard climb though.

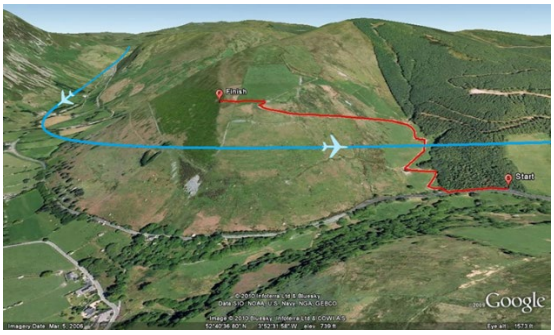
The car parking is also very good as it shares a large layby with Cad west. There is an access road that runs up the back of Cad East which does have very limited spaces for parking.



Corris Corner –

Is located at the south western end of the pass, almost above the lake.





From here the aircraft have 2 options, they can either go straight on over the lake or turn sharp left and follow the valley to Corris offering excellent topside views.

Distance from Carpark : 0.55mile
Height Climbed : 327ft

Tornado picture taken from Corris Corner

The Spur

Very limited parking, 2 cars max with a min climb to viewing point

To the south of the **Mach Loop** there is an area where, at specified times, the aircraft may fly as low as 100 feet.

Published timetables are of little use in determining whether low level flying will take place on a particular day or time.

Click the links to Videos taken from the "Mach Loop"

Low level training in the Mach loop, Wales. From Inside a typhoon

https://www.youtube.com/watch?v=kT7qrYi8R_M

Assorted Aircraft from Raf Lakenheath,

Low-level Flying Mach-Loop with some rare aircraft! - YouTube

F 35

F35s with Some Surprise Visitors - 4K - YouTube

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Interesting and useful websites on the Internet:

NOTE: You may have to copy and paste the address into your browser if the link doesn't work

I have added a few that I use.

If anyone knows of other interesting websites let me know and I will add them to the list

Our Chapter Home Page:
https://chapters.eaa.org/eaa1321

Why We Fly
www.whywefly.org

EAA: Home Page
http://www.eaa.org/eaa

FAA Safety Team FAAST
https://www.faasafety.gov/

FAA Safety Briefing
http://www.faa.gov/news/safety_briefing/

Regular links To Check out:
www.barnstormers.com

www.groundspeedrecords.com

AVweb News:
http://www.avweb.com/
This site also provides daily Newsletters that you can sign up for

Aero News Network:
http://aero-news.net/

Just for Fun Sites:
http://tailwheelersjournal.com/

Weather and flight planning sites:
https://www.lmfsweb.afss.com/Website/home#!/
http://www.fltplan.com/
www.avweather.com
www.skyvector.com
www.airnav.com
www.runwayfinder.com
www.flightaware.com

Travel:
http://www.socialflight.com/search.php
www.funplacestofly.com
www.placestofly.com
www.wheretofly.com
www.100dollarhamburger.com
www.airjourney.com

Little known & Lost airfields:
www.airfields-freeman.com/index.htm

Plane Dealing (Want-Ads, Lost & Found & Notices)