Next WingNuts Chapter Meeting: ***Sat. Mar 12, 2022 12:00 PM - Hunter International Air-Field***

Next VMC Club Meeting: ***Tues. Mar 22, 2022 6:00 PM - Hunter International Air-Field***

WINGNUTS PLANETALK

Chapter 1321 / South Middle Tennessee

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

INSIDE THIS ISSUE

PRESIDENTS CORNER:

Spring is almost hear and the weather will be getting better day by day. Daylight is longer with each day also. In fact we will be going on daylight savings time on the 13th.

You may say that's nice but big deal. Well for me and I hope for many others it means longer and better flying conditions. For one the Sun will start to be less of a hinderance landing on runway 23 around four or five in the evening about the time I get back when I'm out flying during the week.

It does get a little windy during spring but that just makes it a little more interesting. I think the improving conditions will give us all a chance to get out and do more flying.

To help get back in the flying mood come on out to the airport (Hunter Field) for our next EAA Chapter meeting this Saturday at noon. I won't be there this Saturday, but your Vice President Scott LeVeque will be leading the meeting and I know you will all enjoy the change of pace. I won't be back for the April meeting either but don't worry your newsletter editor, Craig Bixby will be heading up that meeting for the chapter. I'll be back for the May meeting.

Glen Smith
President

Reminder, Anyone that hasn't…….

Editor's Note

I value your input on our newsletter! So, I would like your feedback on the Design, Layout, Content, etc.

This is your chapter and your newsletter should fit your needs. Not, just consist of whatever stuff I find that I "think' is of interest to everyone.

Though it is a little late, I would like to add a "New Members Page." So those of you that joined in the last six months or so please send me a bio to introduce yourselves, tell us your interests, goals, etc. n3165e@hotmail.com

I think it would be great to have a section devoted to hearing about your projects and flying adventures. If you have a story and/or a photo/s you want to share, let me know and I'll put it on a "Member News Page."

Also, the Newsletter and/or our Facebook page would be a good place post information about anything aviation-related you might have for sale.

The deadline for content is the first Friday of each month. You can email me, n3165e@hotmail

As you may have noticed, this month I have added a **Table of Contents** to the Newsletter, I am also attempting to create an Index listing the articles contained in our past Newsletters.

I look forward to your input! If I don't receive any feedback I will continue to provide more of the same type of material in the upcoming Newsletters.

WINGS & WHEELS

Flight Review and FAA Wings

Is your flight review an "Every two year, check-the-box" exercise? In airplanes, does your CFI/buddy give you a sign-off after reviewing part 91 over a cup of coffee at an airport 30 minutes away (conveniently a one-hour round trip in order to meet the Part 61 flight time requirement)? In gliders, three quick tows into the pattern? Is your recurrency an obligation to be met and not an opportunity for learning?

FAA Wings Program

If so, you are missing out on perhaps the single best opportunity to maintain proficiency and education throughout the entire year, not just at flight-review time. The FAA Wings Pilot Proficiency Program is a comprehensive educational and proficiency program designed to build a continuous feed of Activities, Courses, and Seminars to allow you to maintain proficiency, provide continuing education opportunities, and to also allow you to meet the regulatory requirements of 14CFR Part 61.56 as a byproduct of staying current and proficient.

The Wings Program is administered by the FAA at the FAAST (FAA Safety Team) website www.faasafety.gov. Any pilot (even students!) or technician can set up an account. By creating a profile of interests and their location, pilots can get a customized list of content tailored to their interests and the local area.
The Wings Program has been around for decades. However, in 2007 the program went from a locally administered paper program to a national FAA initiative which expanded its scope and effectiveness.

As a result, there is a much greater variety of programs available to pilots, leading to many more opportunities to expand proficiency.

The Wings program is broken up into Flight Activities and Seminars/Courses. To earn a "Phase" of Wings and satisfy the 61.56 Flight Review requirement, a pilot needs to accomplish three flight activities and three courses in a 12-month period. The flight activities are proficiency-based and are typically taken from a PTS (or ACS) at the certificate level of the pilot being trained. So, if you are a commercial pilot, the three flight activities could include Slow Flight and Stalls, Commercial Maneuvers, and precision landings all at the Commercial level. The performance criteria for those topics are taken directly from the ACS Areas of Operation and can be accomplished in as few as one flight if the pilot performs to the ACS performance level.

FAASafety Seminars

Complementary to the Flight Activities are the seminars that the Wings Program is well known for. The FAA has a complete library of online courses, but the richest content comes from its in-person and online live seminars. Given by representatives from the FAASafety team, typically CFIs, the seminars can dive into specific topics of immediate or local interest like runway safety, local airspace, or special emphasis topics.

Make the Wings Program part of your ongoing commitment to knowledge and proficiency. Talk to your instructor about performing a phase of Wings, take a course, or attend a seminar. Make a commitment to lifelong aviation learning. To learn more about the Wings Program visit www.faasafety.gov, and read advisory circular AC-61-91J. The Wings Program is available to all pilots, including student pilots. In fact, it's great to get students signed up and using faasafety.gov early in their flying career to start good learning habits even before the private pilot checkride.

Multi-ratings and FAA Wings

Since participation in the Wings Program satisfies the flight review requirement of Part 61.56, there has been discussion in our community about completing a Wings phase in gliders for transitioning power pilots who may not have a current flight review so they can solo in gliders. The feedback I have gotten from the FAA is that Paragraph c.3 of Section 5 of AC61-91J precludes this.

"Pilots with multiple aircraft ratings select the category and class of aircraft in which they wish to receive training and demonstrate their flight proficiency. Pilots may demonstrate all proficiency requirements for any phase of the WINGS Program in the same category and class, or may demonstrate those skills in any category and class for which they are rated."

FLYING
THE DAILY NEWSLETTER

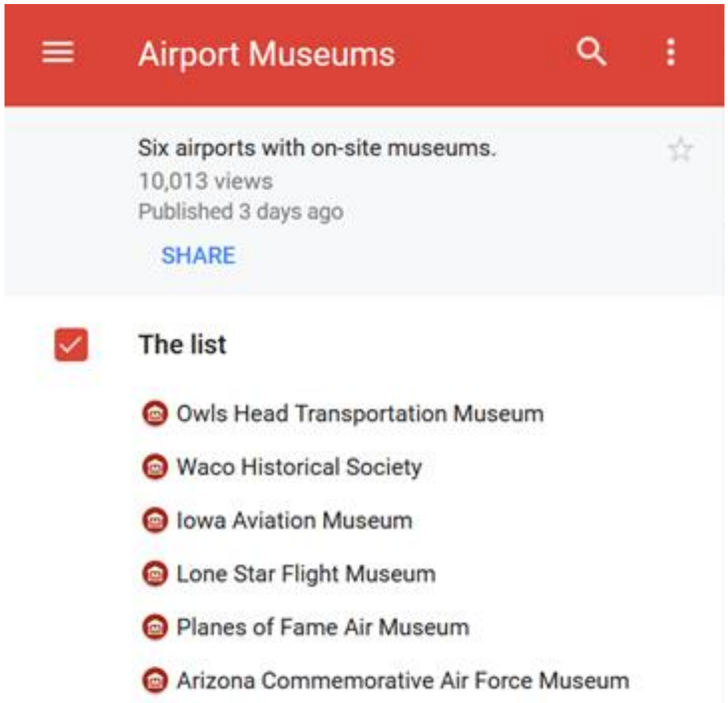
Six Aviation Museums Where You Can Land and Linger

Off the beaten path, museums at airports often house rare gems.

When people want to see historic aircraft, they often head to the Smithsonian National Air and Space Museum in Washington, D.C. That's a good thing, because the huge collection there—housed in the original museum on the Mall and at the Udvar-Hazy center out at Dulles—chronicles aviation history like no other.

But if you are looking for something a bit smaller, more manageable, and closer to home, or a place you can fly into, opportunities abound. Many airports across the country have on-site air museums that you can get through in an hour or less, often while learning about makes and models of aircraft that you never knew existed.

Most of these places are run by volunteers and some have limited or irregular schedules, so it always helps to call ahead. Many host special events, from airshows to pancake breakfasts and barbeques as fundraisers. They might even offer rides in vintage airplanes. Of course, you might find it is best to visit during off-peak times so you can enjoy quiet time while perusing the exhibits. Below are six airport museums that you should include in future flight plans. Or if you must, you can always drive.


Airport Museums
Six airports with on-site museums.
10,013 views
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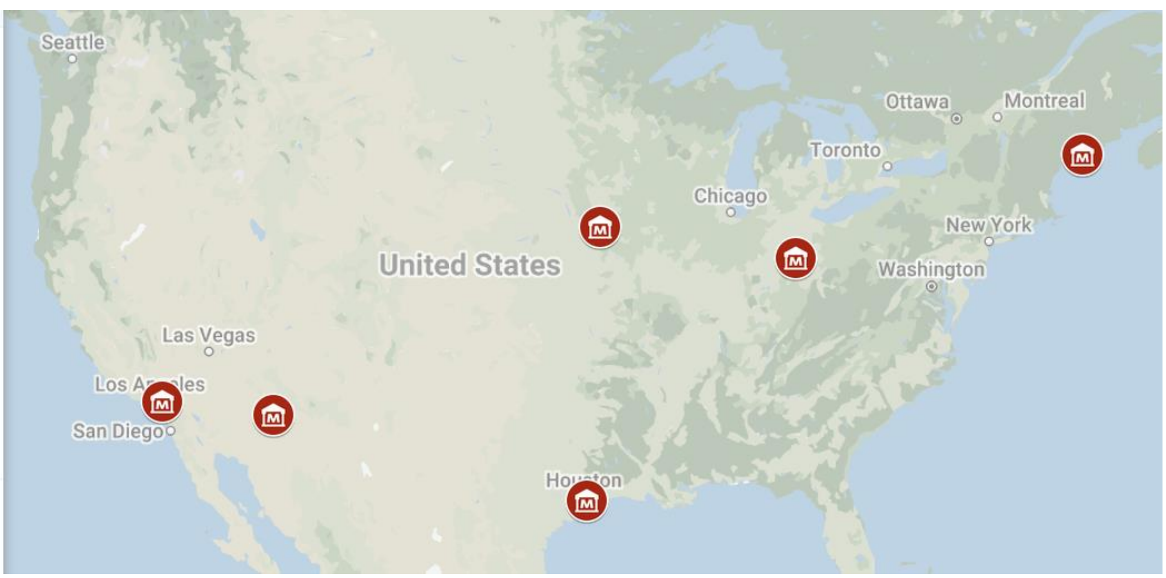
The list
Owls Head Transportation Museum
Waco Historical Society
Iowa Aviation Museum
Lone Star Flight Museum
Planes of Fame Air Museum
Arizona Commemorative Air Force Museum


Seattle
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Las Vegas
San Diego

Owls Head Transportation Museum

Knox County Regional Airport (KRKD), Rockland, Maine

When it opened in 1976, the museum consisted of a building housing two airplanes and two cars. Since then, the collection has grown to include more than 150 antique aircraft, cars, motorcycles, bicycles, engines, and other items. The focus here is on the oldest vehicles, like a 1912 Curtiss Pusher and a 1913 Deperdussin Racer. Most of the aircraft have two wings, whether from World War I, like the Sopwith Pup and Royal Aircraft Factory F.E.8, or the Golden Age, like the 1930 Pitcairn PA-7S Sport Mailwing and 1933 WACO UBF-2. Many of the exhibits are airworthy and fly regularly. The museum's 1946 Piper J3C Cub and 1941 Stearman biplane are among the most modern machines in the collection.

Waco Historical Society

Waco Field Airport (1WF), Troy, Ohio

Fly into the 2,200-foot grass strip and visit a collection of Waco biplane designs that are nearly a century old. During the 1920s and early 1930s, Waco was a leading manufacturer of general aviation aircraft, and the museum’s exhibits include 10 complete aircraft plus parts of others, a mock-up of the Waco factory with authentic tools, and a timeline with photos of all of the models the company produced. Visitors can call three weeks in advance to arrange guided tours. The museum also runs aviation camps for kids during the summer.

Iowa Aviation Museum

Greenfield Municipal Airport (KGFZ), Greenfield, Iowa

When was the last time you saw an Evangel 4500? I had not heard of this rare light twin taildragger until I started looking into Iowa’s aviation history. The Evangel Aircraft Corp. of Orange City, Iowa, developed the design during the 1960s as a bush plane for missionary work. It needed STOL capability and had to be simple to operate and maintain in remote places. This museum has one of eight built.

Many aircraft in its collection have ties to the state, from the 1931 Kari-Keen Coupe manufactured in Sioux City to the Bell AH-1 Cobra attack helicopter donated by the Iowa National Guard.

Lone Star Flight Museum

Ellington Airport (KEFD), Houston, Texas

It’s busy here. Pilots flying in for a visit will have to talk with ATC and be keenly aware of the Class B airspace around William P. Hobby (KHOU) and George Bush International (KIAH) airports. But the collection—which includes the Douglas SBD Dauntless, Chance Vought F4U Corsair, North American B-25 Mitchell, and Douglas DC-3—is worth the effort of extra flight planning. The main exhibit, running through July 10, features the Women Airforce Service Pilots, or WASPs, who initially trained at Ellington during World War II.

Planes of Fame Air Museum

Chino Airport (KCNO), Chino, California

When Steve Hinton isn't leading the pre-game flyover of Super Bowl LVI or performing in airshows, he's overseeing a vast fleet of warbirds and other rare aircraft as president of the Planes of Fame Museum. "Varied" seems like an understatement for a collection that includes a Lockheed P-38 Lightning, German Focke-Wulf 190, and Japanese Yokosuka MXY-7 Model 11 Ohka, but there's much more. The museum also makes space for classic civilian aircraft, air racers, airliners, and a bunch of Eastern Bloc fighter jets of the Soviet era.

Commemorative Air Force Museum

Falcon Field Airport (KFFZ), Mesa, Arizona

The Commemorative Air Force (CAF) traces its beginnings to 1951, when five partners got together to buy a surplus Curtiss P-40 fighter. Over the next several years, the group noticed that vintage military airplanes in flying condition were becoming rare, and the group began searching for remaining examples.

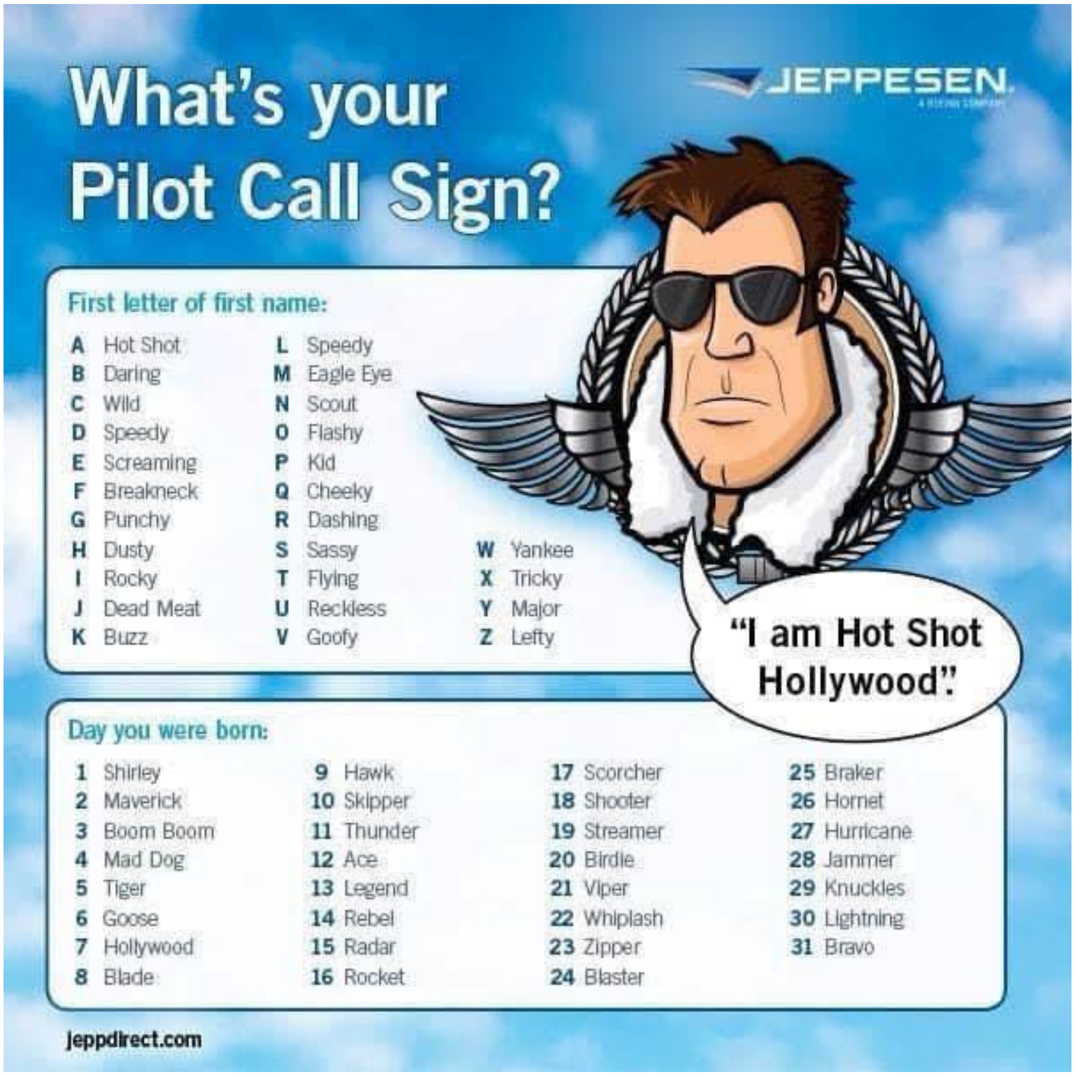
Along the way, they chartered as a nonprofit organization, recruited volunteers, and performed in air shows to gain public attention and support. Today, the CAF has dozens of units around the world with more than 13,000 members and a collection of more than 165 aircraft, including the B-17G *Sentimental Journey*, a well-known air show star.

Editor Note: They seemed to have left out the museum in our own backyard

The Beechcraft Heritage Museum

This world class and distinctly original aviation museum is committed to promoting aviation education and preserving the heritage nurtured by generations of enthusiasts of all Beechcraft models from 1932 through the present. The Museum is situated in a picturesque campus style setting adjacent to the Tullahoma, Tennessee Municipal Airport (KTHA). An attractive blend of authentically restored early American log structures and modern museum quality construction, this 60,000 square foot facility currently houses more than 35 aircraft in addition to, many original historical artifacts and treasures.

OK, Everyone. Next Meeting, come with a name tag with your Pilot Call Sign on it!!!!!



Wild Shirley

boldmethod

9 Uncommon Weather Codes That Could Affect You on Your Next Flight

Here are 9 codes that may leave even the most seasoned aviator stumped

1) PRESFR

This code stands for pressure falling rapidly or, on the other hand, PRESRR, for pressure rising rapidly. These may be included in METARs that include convective activity. Pressure falling rapidly is usually indicative of a weather event associated with a low-pressure system that is approaching quickly.

2) 6////

According to the Federal Meteorological Handbook No.1, when METARs include reports on accumulated rainfall over a 3-6 hour observation, you may see this code. It means that there is an indeterminable amount of precipitation that has fallen during this time. If you are landing at an airport that may have had significant rainfall or other precipitation, you may want to be careful of hydroplaning hazards, especially with a report that isn't able to give you the information you need.

3) RVRNO

This code stands for "RVR Not Available." When RVR values are necessary to be reported but aren't available due to an issue with the RVR system, you will see this code in the METAR.

4) PK WND

This code stands for peak wind. You may find this code when conditions at the airport are gusting consistently or have had strong sustained winds over the course of the observation period. A "PK WND" value will indicate the wind direction, velocity, and time after the hour that it was observed.

5) FROPA

According to the Federal Meteorological Handbook No.1, this code follows a wind shift observation that is associated with a frontal passage.

6) WSHFT
This code stands for a wind shift and will be included in a report when winds shift rapidly throughout the observation period. This is usually due to changing air masses associated with weather/frontal systems

7) NOSPECI
Certain airports are fortunate enough to give out special reports when the weather at the field changes rapidly and triggers the "SPECI" criteria. However, in the event you are at an airport where special reports are unavailable, "NOSPECI" will be the code you see in the remarks section of the METAR.

8) CBMAM
When significant weather is in the vicinity of the observation station, the associated cloud types and their direction of travel will be indicated. In this code, "CB" stands for cumulonimbus and "MAM" stands for Mammatus.

9) CC, CA or CG
These codes, which stand for cloud to cloud, cloud to air, and cloud to ground, respectively, are types of lightning reports that you will find associated with hazardous weather systems in the vicinity of the observation station

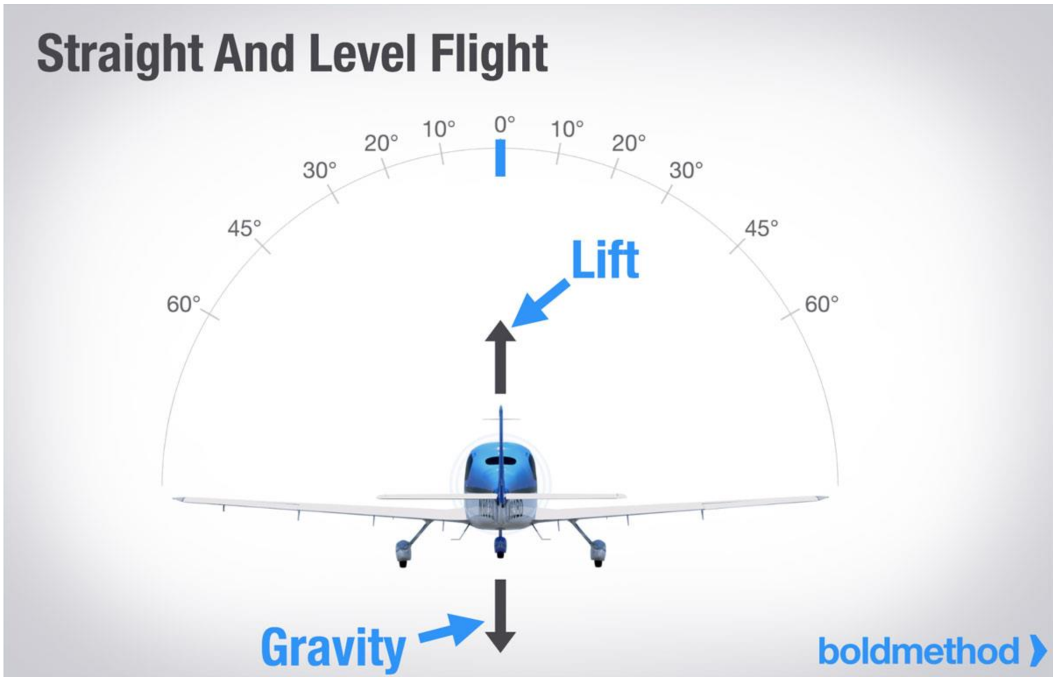
Why Does Stall Speed Increase With Bank Angle?

By Colin Cutler 02/26/2022

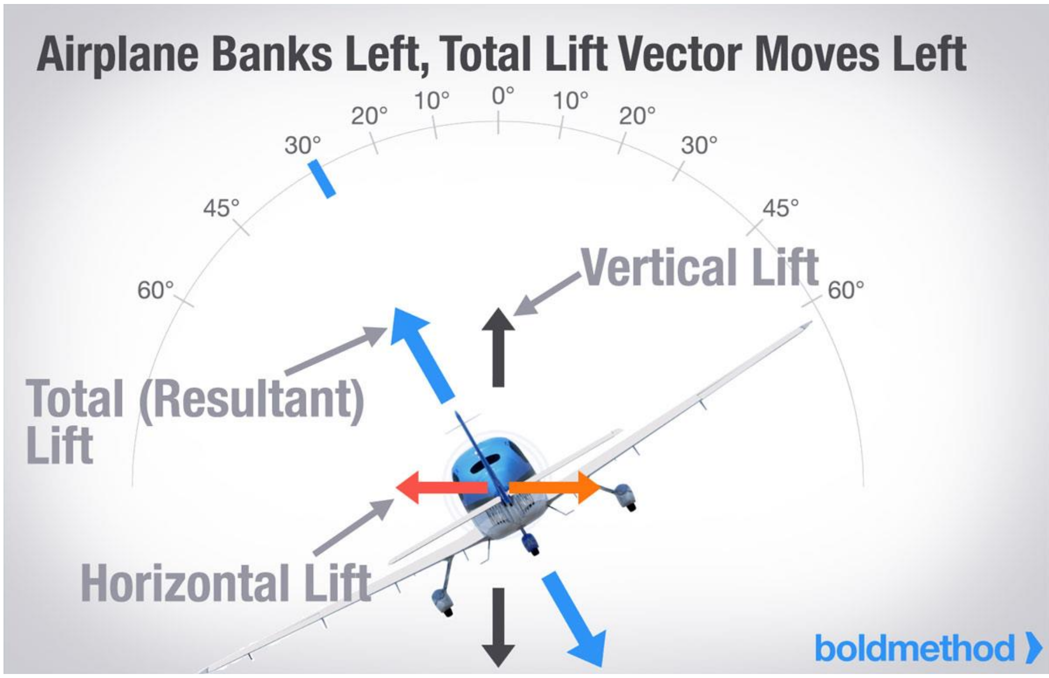
When you bank while maintaining altitude, your stall speed increases. It's something that you need to be aware of, especially when you're in the traffic pattern. So why does stall speed increase when you start rolling left or right?

What Happens When You Bank

When you're flying straight and level, the lift that your wings produce points straight up, opposing gravity.



But when you start to bank, that lift vector starts moving too.

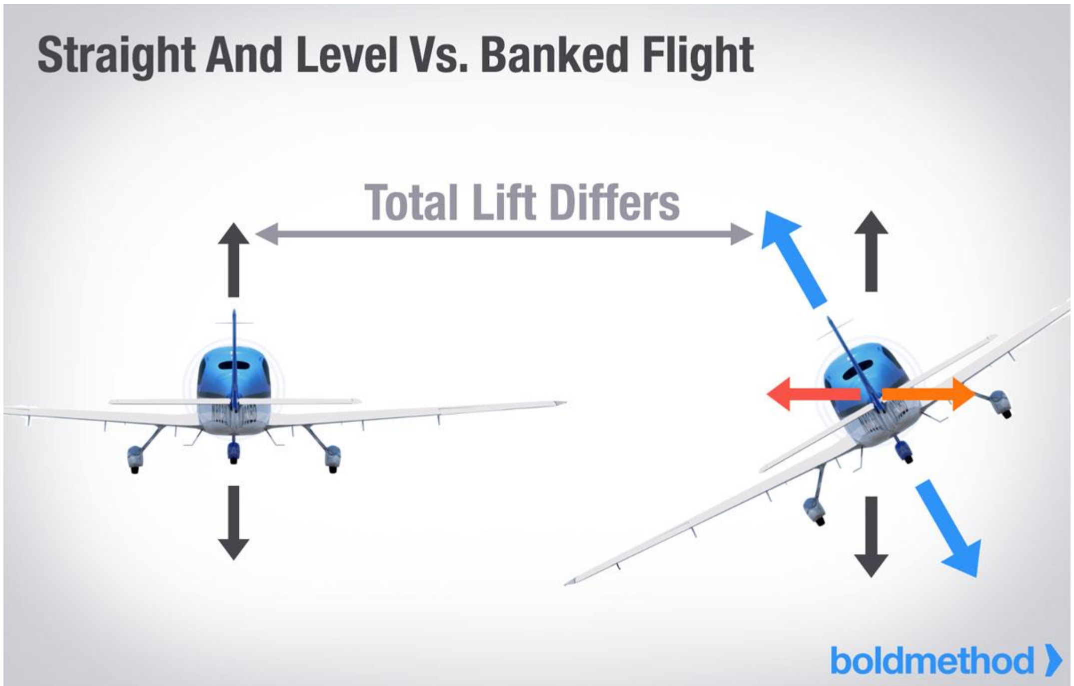


At this point, your lift vector is pointed to the left. And as you can see in the diagram above, you now have two components of lift: a vertical component, and a horizontal component. When you combine the two, you get a total (or resultant) lift vector.

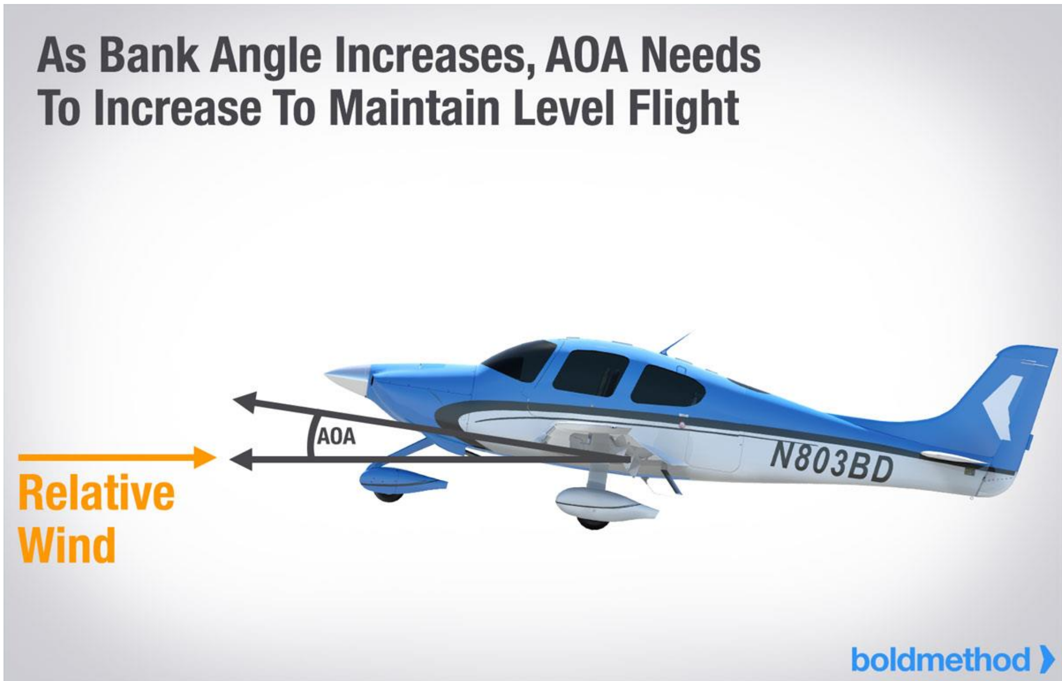
The horizontal component of lift is what makes your airplane turn, and the vertical component is what makes your airplane maintain altitude.

Maintaining Altitude In A Turn

Let's say you enter a 30 degree banked turn and you don't change the amount of lift your wing is producing. In the banked turn, some of the lift that was keeping your plane at altitude is now working to turn your plane, and you have less vertical component to maintain altitude.

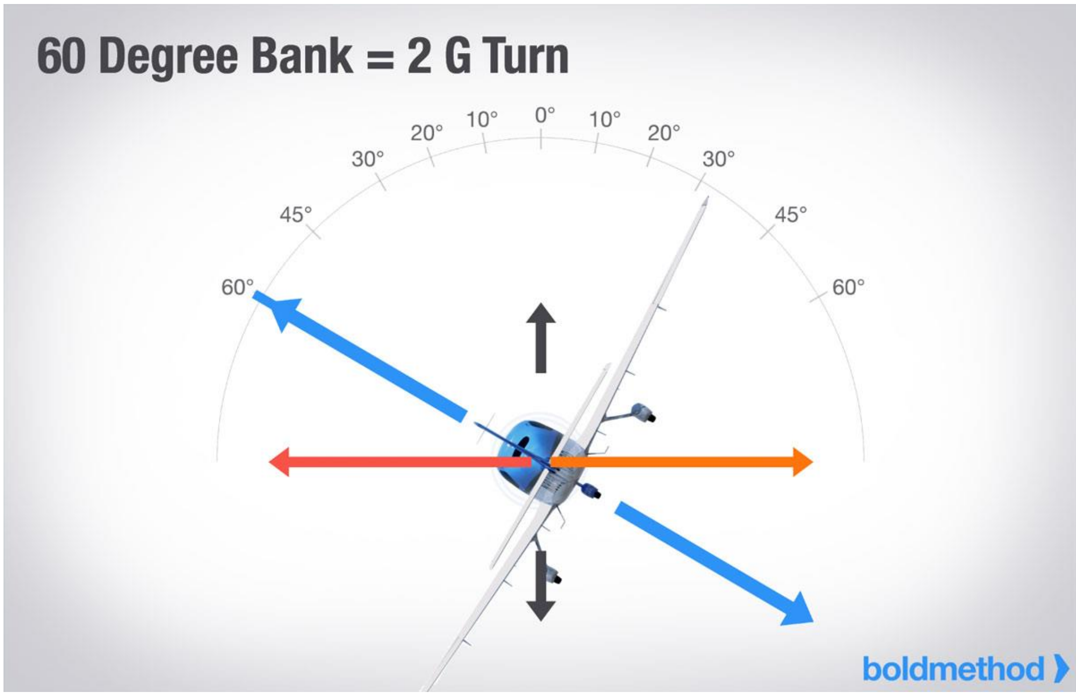


So how do you turn *and* maintain altitude? You need to increase the total amount of lift your wing is producing. And to do that, you need to pull back on the yoke, which increases the angle-of-attack that your wing is flying at. This part is important, because **when you increase your angle-of-attack, you get closer to the critical angle of attack, which is the point when your wing stalls** (regardless of airspeed or attitude).



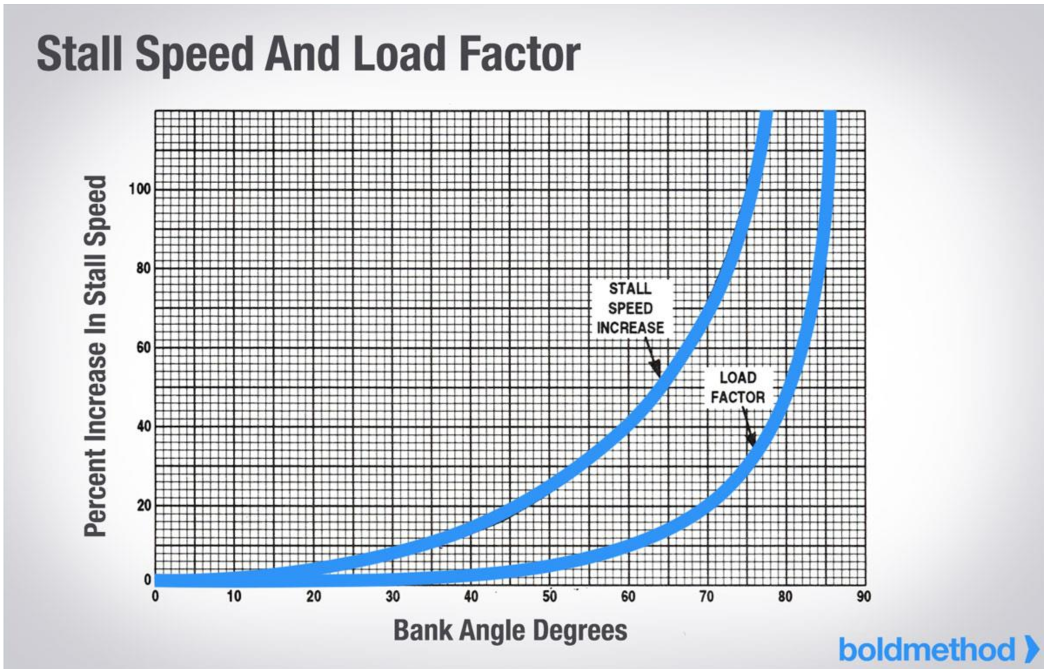
Load Factor In Turns

Another thing that happens in a constant altitude, coordinated turn is load factor.



Load factor is measured in Gs. So if your load factor in a turn is 2 Gs, you feel twice as heavy as you really are (and your arms want to flop down to your seat). The same goes for your airplane - it 'feels' twice as heavy.

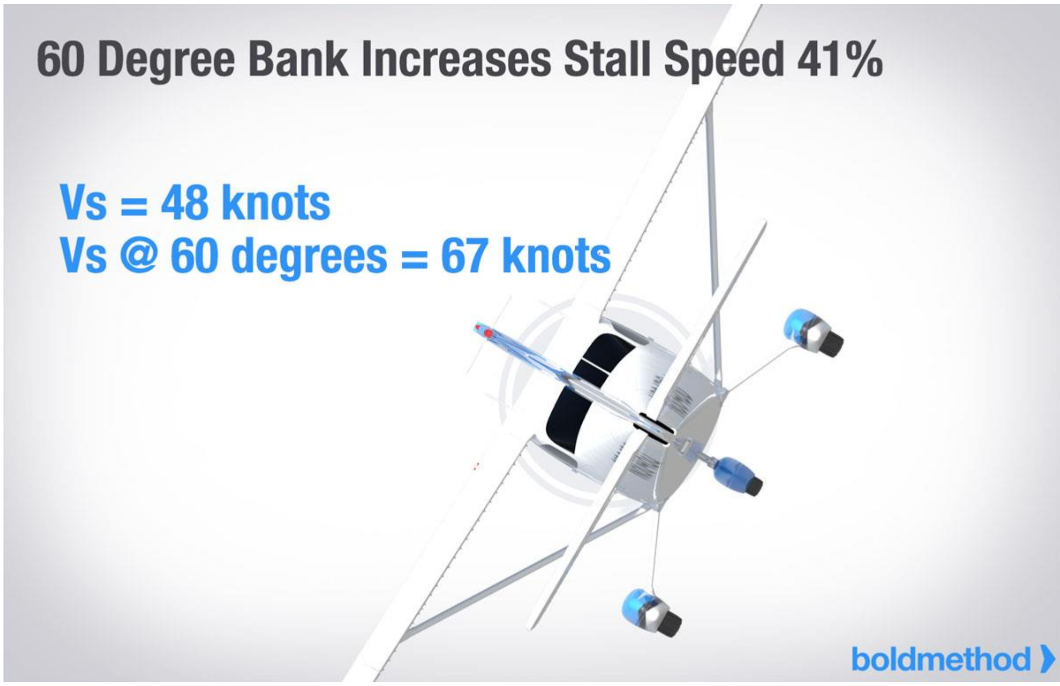
But what does load factor have to do with stall speed? **Stall speed increases in proportion to the square root of load factor**.



You can see from the diagram above that as load factor increases, stall speed increases at an exponential rate.

If your eyes started crossing at the mention of 'square roots', don't worry. Here's a pretty simple example: if your normal stall speed is 40 knots, and you put a load factor of 4 Gs on your airplane, your plane will stall at 80 knots. Here's the math on that: the square root of 4 is 2. And 2 X 40 knots = 80 knots.

Now 4 Gs is quite a bit, and it's beyond the limit load factor for a normal category airplane like a Cessna 172 or a Cirrus SR-22, which is 3.8 Gs. But here's a real world example that you could experience on your next flight: a 60 degree banked turn produces 2 Gs of load factor. And since the square root of 2 is 1.41, that means that your stall speed will be 41% faster in a 60 degree, constant altitude coordinated turn than it would be in straight and level flight.



So if the stall speed (Vs - clean config) in your Cessna 172 is 48 knots, then your stall speed at 60 degrees of bank is 48 knots X 1.41, which equals just over 67 knots.

Putting It All Together

When you turn, you need to increase your total lift to maintain altitude. You increase your total lift by increasing your angle of attack, which means you're closer to stall than you were in wings-level flight. And, your stall speed increases in proportion to the square root of your load factor.

So the more you bank, at altitude or in the traffic pattern, the more you need to be aware of an accelerated stall. As long as you understand and have a healthy respect for the relationship between bank angle and stall speed, you'll keep yourself safe and stall-free.

Funny for the Month

A military aircraft had gear problems on landing, and as the plane was skidding down the tarmac the tower controller asked if they needed assistance. From the plane came a laconic southern voice: "Dunno- we ain't done crashin' yet."

(image via US Air Force/DVIDS)

Pilot's tip of the week

Rudder Coordination

Featuring Rod Machado

Subscriber Question:

"When you roll into or out of a turn, how do you know how much rudder pressure is needed for a coordinated turn?" — Richard D.

Rod:

“When I ask this question of pilots at seminars, only one out of ten gets it correct. Now, did I hear you say that you look at the ball in the inclinometer (or turn coordinator) to tell you how much rudder pressure to use when you roll into a turn? You said it, didn’t you? Don’t deny it.

The fact is that the inclinometer isn’t very accurate when entering or exiting a turn. There are several reasons for this, one of which is the instrument’s location on the panel as well as the ball’s inertia and the liquid in its travel tube that dampens its motion.

This is why the ball can lag in response to control inputs or, in a very temporary way, improperly represent the coordination of your control inputs. Once a turn is established and stabilized, however, then this is no longer an issue and the inclinometer is generally quite accurate.

So how do stick and rudder pilots determine the amount of rudder to use when entering or exiting a turn?

They simply look directly ahead of them over the panel, at a point directly above their seated position, then roll right or left while simultaneously applying just enough rudder pressure to keep the nose from yawing in the opposite direction of turn. That’s right. It’s a visual thing. No inclinometer needed.

As the airplane rolls at a moderate rate about its longitudinal axis into the turn, the nose appears to remain stationary until a moderate bank is reached. I know that this might seem strange, but this is actually how it appears to you if you bother to look at it. Yes, the nose begins to move in the direction of bank as the airplane overcomes its inertia and begins to turn.

But, because of this inertia, the nose actually appears to remain stationary during the roll in. Your job is to apply enough rudder pressure to keep the nose from yawing opposite the direction of roll. Doing so means that your roll-in is coordinated. This is how you roll into a turn.

When you roll out of a turn, how do you know how much rudder pressure to apply to keep rollout coordinated? Did you say, *look at the inclinometer*? Don't deny it…OK, you didn't say that – very good.

It turns out, you use the same method you used when rolling into a turn. When you reach the point of the turn where you desire to rollout, you simply apply aileron in the direction you want to roll and use sufficient rudder to keep the nose from yawing opposite the direction of roll.

If you're established in a right turn and want to roll into wings-level flight, you'll simultaneously apply left aileron and sufficient left rudder pressure to keep the nose from yawing to the right (opposite the direction of roll) during the rollout."

From the Archives of

AVweb

Editor Note: Editor Note: This has been a very indepth, lengthy discussion broken into installments. Here is the link to the full article

https://www.avweb.com/features_old/pelicans-perch-18mixture-magic/

Pelican's Perch #18: Mixture Magic

This is the 5th Installment of an article discussing Engine Fuel/Air Mixture

This month we will further discuss the effects of Mixture, RPM, and Manifold Pressure on an engine's operation.

At very high-power settings (such as takeoff power), we've found that throwing extra fuel into the mixture (providing an enriched mixture at the rich side of the flat peak of the BHP curve) helps keep temperatures down and allows us to develop even more power without the risk of detonation.

This is why many engines have a "power enrichment" feature at full throttle. We're willing to waste some fuel for a worthy cause during takeoff, especially since we usually don't run at that high power for long.

What would happen if we got all the way up to a very high power, and then pulled the RPM back? (Don't try this at home, folks!)

Well, with the spark occurring at 22° **before** TDC and PPP occurring at 16° **after** TDC at full RPM, there is a very precise time interval between spark and PPP.

The crankshaft rotation is 38° (22° + 16°).

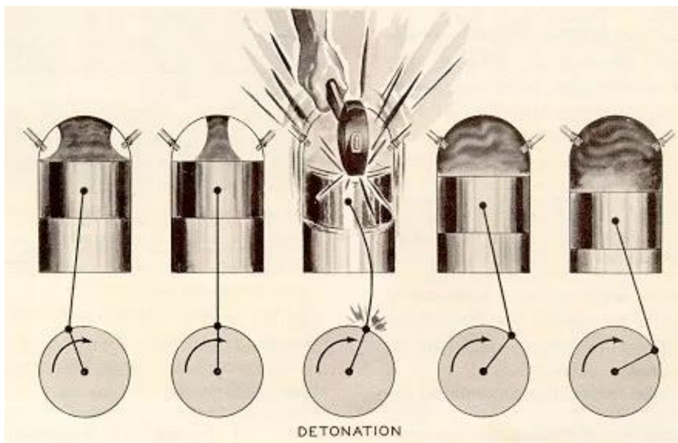
If we reduce the RPM by 20%, the crankshaft will turn only 30° (80% of 38°) by the time PPP occurs, so now the peak pressure will occur at only 8° past TDC.

So, at maximum MP and reduced RPM

The peak pressure will be **<u>much</u>** higher, because the combustion chamber will be **<u>much</u>** smaller when PPP occurs.

Since the pressure will be much higher, the temperature will be much higher, and this increases the risk of detonation.

Here's the same picture, this time illustrating classic detonation:



This is the reason for the old rule of thumb, "Always reduce manifold pressure before reducing RPM, and increase RPM before increasing manifold pressure."

This is not a bad rule, and it never hurts to do it this way. But you should understand that it really only applies in the high-power case where the engine is operating at maximum combustion pressures and temperatures, and detonation is therefore a possibility!

If you're cruising at 22″ and 2,100, and want to increase to 24″ and 2,400, it doesn't really matter which control you adjust first, you won't hurt a thing.

Sure, as a matter of habit, run the RPM up, then do the MP. But the engine isn't going to blow up if you do it the "wrong" way.

What about mixture at very high power settings?

Remember, the engine manufacturer has optimized everything to produce all that power, and many parameters will be running within very narrow tolerances.

Remember also how much difference mixture makes in the speed of combustion. Leaner Slower, Richer Faster

At takeoff power, if we bring the mixture control back a bit from full rich, the rate of combustion speeds up, and puts that pressure pulse closer to TDC.

Again, a very bad thing. (Combustion speed reaches maximum around 50°F to 75°F rich of peak EGT, and further leaning causes it to slow down again.)

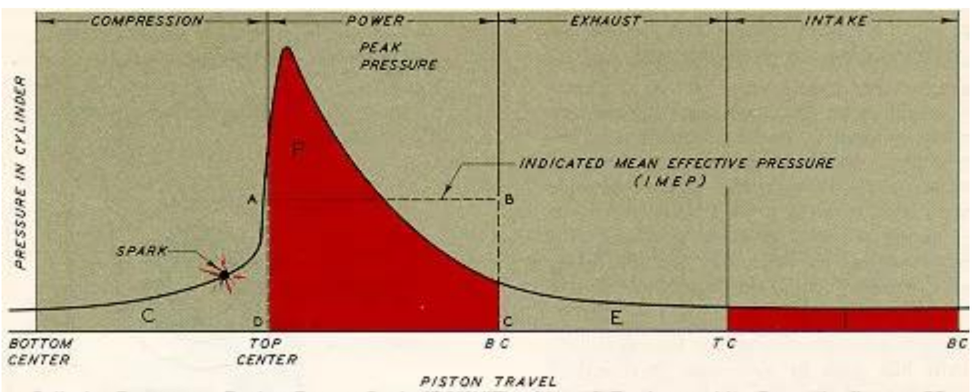
Our POHs instruct us **to use full-rich for takeoff**. The extraordinarily rich mixture is required to assure that detonation does not occur.

The conventional wisdom is that the purpose of the "excess" fuel is to cool the engine

But in fact, its primary purpose is to slow the combustion rate and delay the PPP, which eliminates the risk of detonation by reducing the pressure peak.

This does, in fact, result in cooler operation, but that's actually a second-order effect of the delayed PPP. (If we could just retard the ignition timing for takeoff, we wouldn't need to throw all that extra fuel at the problem.)

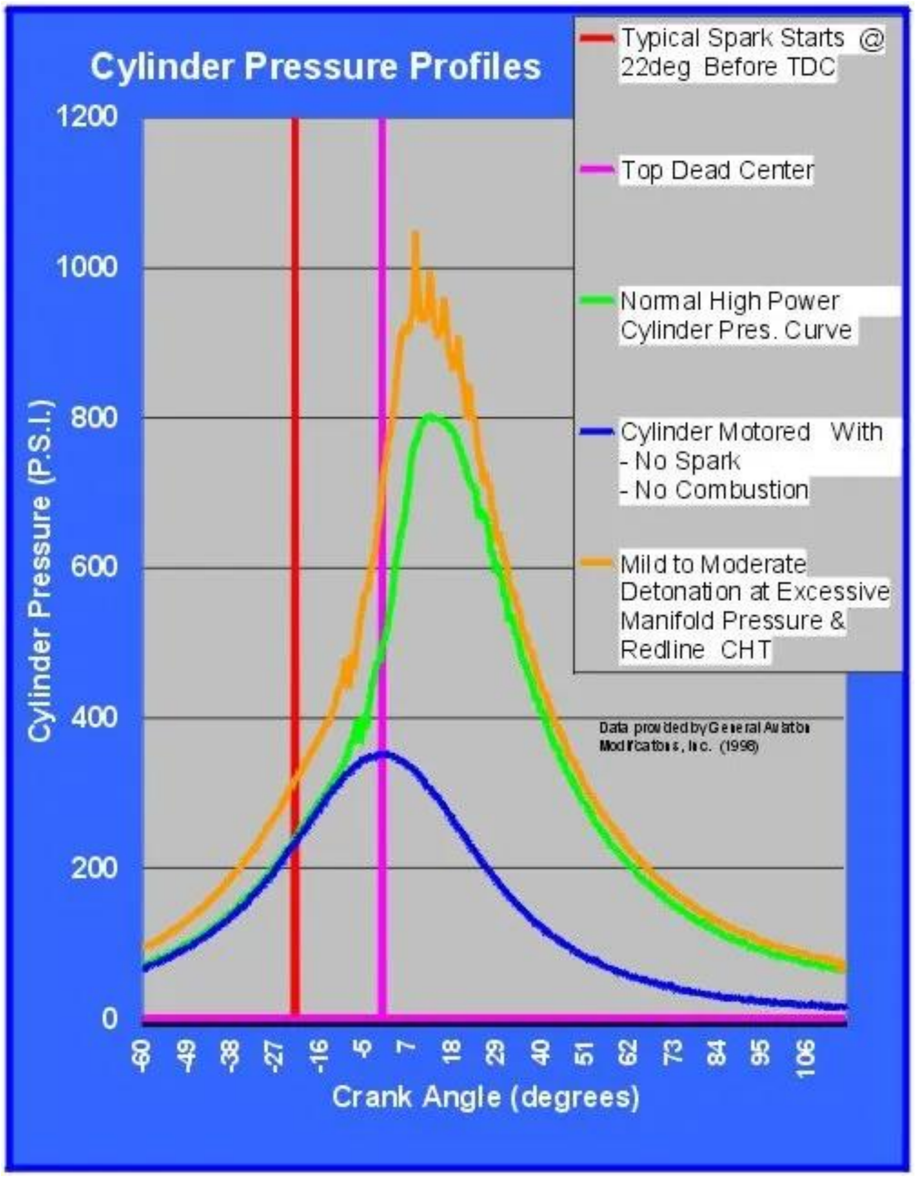
Here's what Pratt & Whitney thought a combustion event looked like, back in 1948:



Cylinder Pressures During Power Cycle (P&W "The Aircraft Engine and its Operation" page 52

Note how the pressure rises gradually to the point at which the spark occurs. It then rises very rapidly as the piston comes up to TDC, and continues to rise thereafter, mostly because the piston hasn't dropped very far, due to the geometry of the piston rod, and crankshaft throw. Wouldn't it be lovely if we could keep that same pressure on the piston, all the way down? We can wish, can't we?

I don't know how Pratt & Whitney got that picture, but it's certainly pretty good, because here's the real picture, as measured by the latest state-of-the-art digital instrumentation at General Aviation Modifications, Inc. (GAMI) in Ada, Oklahoma:



The lowermost (blue) line is the result of simply spinning the engine at 2,700 RPM with no combustion going on at all.

As you might expect, the pressure rises and falls directly with the piston travel, reaching a maximum at TDC. It is perfectly symmetrical on both sides of TDC, and rises only to about 350 PSI at TDC.

The next line up (green) is a normal combustion event.

Notice the pressure rises almost identically with the blue line, even after the spark, until the point at which the rise in the blue line starts to level off. It is at this point that the “fire” has truly lit off, and begins to increase the pressure on its own.

This one peaks at about 18° after TDC (the “PPP” or “Peak Pressure Pulse”) at about 800 PSI, after which the pressure drops off gradually, but still producing a lot of downwards force on the piston.

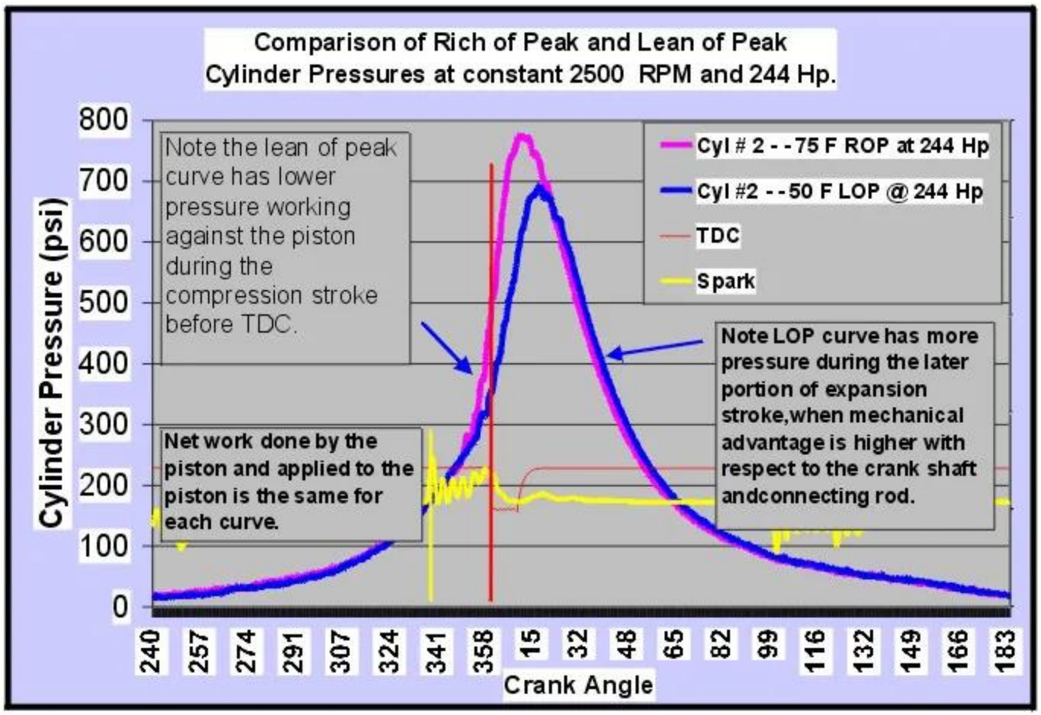
Finally, the yellow line shows what detonation looks like. This is an **abnormal condition**.

Note this is “mild detonation,” not really “the real thing” that can literally reduce an engine to an expensive pile of junk in a matter of seconds.

It was deliberately induced by redline CHT and excessive MP (from a turbocharger).

Note **very** carefully how early this builds and peaks, relative to a normal event.

The actual raw data shows it occurring at about 8° after TDC, and the test engine did **not** sound like a happy camper! I’ve heard it, and it was ugly!



This plot shows what is occurring in the #2 Cylinder of an engine producing 244 horsepower at 2500 RPM

The Magenta Trace shows the Pressure in the #2 Cylinder with the engine being operated Rich of Peak (LOP), resulting in a CHT of 75 degrees

The Blue Trace shows the Pressure in the #2 Cylinder with the engine being operated Lean of Peak (ROP), resulting in a CHT of 50 degrees

Which combination is "better" to produce 244 HP?

Well, the blue trace has a much higher manifold pressure, but CHT is about 35°F cooler.

It results in a longer, slower, more gentle, and **later** "push." This shifts the mechanical advantage to a slightly better position, where a small change in angles makes a huge difference in effect.

With cooler CHTs and lower peak pressure in the cylinder, which do you think is better?

Next Month we will continue this series, discussing Cylinder Head Temperature (CHT). Where and how it is measured, what affects it, and its' importance to the engines operation

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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

www.placestofly.com
www.wheretofly.com
www.100dollarhamburger.com
www.airjourney.com

Little known & Lost airfields:

www.airfields-freeman.com/index.htm