

CPA FLIGHT LINES



Memphis Larson

Global 7500 parking at Rocky Mountain Metro Airport



Unusual Attitudes

By Marty Brophy, CPA President

New title for this page... for any non-pilots out there, pilots learn how to deal with suddenly finding your plane in odd circumstances by "recovering from unusual attitudes." Not to be confused with those odd attitudes many of us have on any number of subjects!

As you read this, February is thankfully in the books, and it will be a good candidate for 2021's cruelest month, likely edging out T.S. Eliot's April this year! Cold, wintery, windy, snowy, IMC-ey, and not a great month for being able to get up in the air and get rid of some of that Covid-19 cabin fever. And when you flew, it was very often bouncy, nobody's favorite way to fly!

Random thinking this month on other aviation terms that are related to common parlance led me to "having things on hold", related to airplanes being in holding patterns while waiting for traffic to clear. When you are instructed by ATC to do that in a plane, you get a time when you can expect to be released from the hold, an "Expect Further Clearance" or EFC time. It is important to have that because if you lose your radios you are expected to leave hold and proceed on your flight plan at that time. But it occurred to me that many people put things on hold and never set that EFC time, so life things put on hold (like learning to fly or getting that next rating) never get off hold and don't happen. Apropos of nothing at all, just ruminations from a long dark month mostly on hold in this winter of our discontent!

On less ethereal matters, the CPA continued its monthly zoom seminar thanks to Mike Koscielniak and Dominic Pena on the Flight Safety committee. We had a fun, interactive, and informative presentation from Jon Kotzwicki on Stumper Questions for Pilots and some of them sure did stump me! The seminar was recorded and is available (after you log in) on the newly renamed CPA Member Benefits / CPA Presents part of our website for you to see at your convenience. Expect Further Seminars (EFS) on the third Monday of each month at 6:30 p.m. Watch your e-mail for announcements and links to those and please let Mike and Dominic know of any ideas you have for future topics or speakers.

In other news, there has been a renewal of activity by local community members complaining about noise from aviation activity at KBJC, Rocky Mountain Metro airport. Airspace committee chair Walt Bell and other affected CPA members are monitoring this activity closely in conjunction with our friends at CABA, CDoT Aviation, AOPA and others, forming a roundtable to assure general aviation is part of this discussion and working to assure nothing extreme like landing and takeoff fees happens. Certainly, none of us, especially those based at KBJC, want that to happen!

And more dire rumblings are coming from KGWS in Glenwood Springs. With their airport elevation of 5916', the one runway at 3305' long is already very short for many airplanes, yet their town council is talking about taking as much as 430' off the south end of the runway to allow a road to be added out from the town (necessary for some forest fire scenarios). Alternatives are to build a tunnel under the runway or at least extend the runway on the north end to make up some of the lost length. Airport management and pilots in the area are looking for a solution that doesn't make the runway unusable for many airplanes and are asking for Colorado aviation organizations to help as possible.

The CPA exists for its members and is run by volunteer members. We are always looking for members to help! If you would like to get involved in the organization, contact me at president@coloradopilots.org and tell me what you might like to do, and we can discuss.

Enjoy March in the air as we start our Long March out of the COVID-19 pandemic. Hope is in the cold air!



Confounding Cellular Convenience Confus

By Bill Marvel, the RV-14A guy

Now this one is hard to beat.

January 9, 2021, CPA member Len Spina and his wife, Kay, and Marti and I decided to fly to Glenwood Springs for a late breakfast. We landed, parked the planes at a maintenance shop where I know the owner and then walked to the office to get the courtesy car. The prior manager had moved to New Zealand and has not been replaced, so no one is in the office, which remains open for pilots to use. When we arrived, the log showed the car had already been signed out by someone with an unfamiliar cell phone area code. Noting that the last sign out prior to today was Dec 26, I thought it just our bad luck that the car had been checked out. Whoever was using it had not yet dated the log but I figured he just forgot that column on the sheet and would do it when he got back.

I called the cell number listed to see who had the car, hoping it might soon return to the airport. The fellow who answered had a distinct Texas accent, not unusual for Colorado's frequent visitors from that state. I told him we were at the airport and saw he had checked out the courtesy car. I asked if he was almost done with it since we just landed and would like to drive into town for lunch. He was very nice and said yes, he could be back in 15 minutes and was just finishing with what he flew in to do. But I thought it strange that I saw no aircraft parked there and certainly not one with the N number he wrote in the log. Oh well, maybe it was in a hangar.

The four of us waited in the office, looked at some maps and charts and expected the car to show up shortly. While there, I saw the key lock box for the car and thought I would go ahead and use the combination (Unicom freq) to make sure it worked. Yes, it did work and as the door opened, out fell a key! I thought wow, they must have a second car here instead of just one. Great news. So we went to the only car parked in the snow nearby and found out the key unlocked the door and started the engine. Surprised at this, I called the other pilot on his cell again, told him what happened and that there was no need for him to come back as we had the second car. He said he was the office right now waiting to give us the key but did not see anyone around. Then he asked the critical question -- what airport are you at and I told him Glenwood Springs, Colorado. He laughed and said he was there several days ago and used the courtesy car but was now waiting for us at the airport office in Lubbock, TX, where he had borrowed their courtesy car! We laughed and could not believe the level of coincidence that had to occur to make that happen. Later on when we got home, I decided I'd write this up for the CPA newsletter and called him once again. His name is Chet Pharies and he recently bought Lubbock Executive Airpark, designator F82. He invited us down there and we plan to drop by one of these days in the future when we're in TX.

Only in aviation.



Ask the CFI

by Tammy Raines

What does "feathering" a prop mean and when would you use it?

On most variable-pitch propellers, the blades can be rotated parallel to the airflow to stop rotation of the propeller and reduce drag when the engine fails or is deliberately shut down. This is called feathering, a term borrowed from rowing.

This feature is mostly incorporated in Multi Engine Aircraft such that if there is an engine failure, the propeller blades of that engine are feathered so that they produce the minimum drag and also to prevent windmilling. This helps to reduce drag and in turn, reduces yawing from the inoperative engine.

So, when an engine fails the single acting propeller blades which are fitted with counterweight, have a tendency to rotate toward the high pitch or coarser pitch (toward feather) which is also assisted by a spring inside the pitch change cylinder. If the propeller is a double acting and without counterweight they are usually provided with Manual Feather Pump which works even if the engine is not running and help turn the propeller blade by oil pressure in the cylinder and helps in minimizing the drag or prevent the windmilling condition.

The RNAV approach to Rwy 15 at KFNL gives minima only as an LNAV MDA, i.e. with no vertical guidance. Yet when you fly it, your avionics give a glideslope indicator which tracks fine all the way down. Why? Is that what I have seen described as an advisory glideslope?

Advisory Vertical Guidance Depending on the manufacturer, WAAS-enabled GPS units might provide advisory vertical guidance in association with LP or LNAV minima. The manufacturer should use a notation to distinguish advisory vertical guidance (e.g. LNAV+V). The system includes an artificially created advisory glide path from the final approach fix to the touchdown point on the runway. The intent is to aid the pilot in flying a constant descent to the MDA. LNAV+V is not the same as LNAV/VNAV or LPV. Pilots must use the barometric altimeter as the primary altitude reference to meet all altitude restrictions. Advisory vertical guidance is not required and is an optional capability.

Got a question for our "Ask the CFI?" Send them to newsletter@coloradopilots.org



WATCH YOUR MAILBOX

Ladies and gents, keep an eye on your mailbox! An invitation will be on it's way shortly, inviting you to celebrate St. Paddy's Day with a fundraiser for our scholarship program.

The board has agreed to dedicate one of our annual scholarships to the memory of Colorado Pilots Association member number ONE (1), Captain Emily Howell Warner.

Since the corona virus is still keeping us from gathering, our St. Paddy's Day party will be "virtual". Please be generous so we can offer more scholarship awards this year and encourage more Coloradans to start or continue flying.



Colorado Pilots Association Apparel
Get you order in now and get set for Spring Flying!
Design your won CPA wardrobe and accessories.



Go to [Lands' End](#) today.



Bratburger-Itis: A Memorable Trip

by Frank Ladonne

Well, all week long three of my co-workers (all fellow engineers) and I had been dreaming of Friday. What do pilots love more than anything else in the world? FLYING! Of course. So, if private pilots spent their time just flying around aimlessly in circles doing nothing but drilling holes in air, ordinary folks would think they were a little aberrant. So, what do they do? They plan trips to fly to lunch (or dinner). Pilots will fly 75 or 100 miles for a hamburger. Of course this burns up around a hundred dollars in avgas, hence the term, The Hundred Dollar Hamburger. The book, and the website of the same name, tell pilots where to fly to for great lunches or dinners. Well, my buddies and I had planned and were dreaming all week long about just such an adventure. Anyone from the Midwest knows that Wisconsin is famous for a lot of things but health food isn't one of them. I had discovered, on one of my first trips to Madison, the holy grail of burgers.

What you're looking at is a quarter pound beef burger, topped with a quarter pound bratburger, topped with onions sautéed in beer, topped with bacon, topped with cheddar cheese, all on a pretzel bun. OMG! So, my buddies and I planned to fly to Madison, Wisconsin, to the mecca of burgers, The Great Dane <cue heavenly music>.

All week long, the weather was looking good. When I called for my flight weather briefing Friday morning (note this is before the common use of internet weather), the briefer mentioned the potential for moderate turbulence and potential for gusty winds. The velocity of the winds he forecast was less than what I had comfortably handled before so I wasn't concerned. And, after all, I had a whole two years of flying under my belt! Yeah, it might be a little bumpy ride but...



Pilots know the expression “get-there-it is.” Simply, this means, don't feel so pressured to get somewhere that you make a bad decision. Okay so perhaps we had a mild case of “bratburger-itis” but again, the predictions weren't for anything worse than I knew I could comfortably handle.

Now, here's an expression that my first instructor drilled into me: “The weather isn't what the briefer tells you it is, the weather is what you're actually in when you're in the air.” Sometimes the two are pretty different.

So, Friday dawned and my friends and I launched from Waukegan, Illinois, into gusty winds. It turns out that the winds were right on our nose and were 55 knots or so, and the moderate turbulence was bordering on severe turbulence with frequent rocking of the wings and sudden changes in altitude. Unpleasant but, again, certainly not the worst weather I've flown in. (Not so sure I could say the same for my passengers—I was a lot braver, or perhaps more foolhardy, then.) Despite me constantly asking if everyone was okay and assuring them we could turn back if they wanted, they all urged me to press on (see definition of that insidious “bratburger-itis”). So, not only does 55-knot winds mean that you're being bounced around, but now your groundspeed, instead of being 115 knots is around 60 knots so you get to enjoy the effect much longer.

Finally, we got to Madison and I announced we had to begin our descent and that typically, the ride would get bumpier closer to the ground. One of the passengers plaintively said, “You have to descend?” I calmly explained that, unfortunately, the restaurant was on the ground.

Well, I made a good landing (no, really) and we taxied to the FBO. I picked up a courtesy car and we drove off to the Great Dane. Now, I vaguely recalled hearing something about public workers (teachers, firemen, etc.) demonstrating at the Capitol. As it turns out, that day there were 25,000 people demonstrating. Lucky for us, by the time we got there, the demonstrations were largely over. Not so lucky for us, most of them went to the Great Dane for lunch (and copious amounts of beer). When the hostess asked if we'd mind waiting 45 minutes



for a table, none of my cohorts piped up and said, "hell no, we're flying back where we came from," so we waited. All agreed that when we did get our lunch, it was every bit worth the experience. It was awesome. In fact, if you go to Webster's, and look up awesome, you might just see the picture above.

Eventually, we moseyed back to the FBO for the ride back. I had already explained that with a tailwind, the ride should be smoother and definitely faster, and to ensure the smoothest ride I would fly higher. (Not wanting to decorate the inside of my 172XP with the remnants of 4 bratburgers, I was really hoping I was right.)

We departed Madison and I climbed to 5500 feet. The winds had not subsided so when we leveled into our cruise altitude, we were zipping along at 175 knots (over 200 mph!), pretty stinkin' fast for a 172! This meant that our 1.5 hour ride to Madison would now be a half hour ride back.

Typically, when I'm returning from points west of Waukegan airport, I line up 10 miles to the west to make my initial call and then I begin my descent from there (I was doing lots of things by rote in those days). So, this is what I did. Of course "typically" I'm not going 200 miles an hour. So, slightly over two minutes later, I was now three miles from the airport and at 4000 feet. Unfortunately, the airport is only at 732 feet (poor planning on someone's part).

I pulled the throttle back to idle and began a serious descent. So, there we were, descending at about 1500 feet per minute and slowing up to maneuver into the pattern. When I had lost most of the altitude (two minutes later), I was lined up with the runway with my flaps down. Close to the ground, the wind shifted until I had full right rudder in to track the centerline. A few seconds later, we descended a little more and wind shear kicked in—the wind shifted 180 degrees and we now had full left rudder in to hold our alignment with the runway. Finally, as we kept descending, the wind lined up right down the runway and we settled into a perfect, soft landing. My passengers cheered and asked, "when are we gonna do this again?"

My first instructor used to say, "Any flight where you haven't learned something, you weren't paying attention." So, passenger cheering aside, what did I learn?

It's been said that the most dangerous time for a pilot is between 300 and 500 PIC hours because you don't know what you don't know. As new pilots, we're proud of our newfound ability and eager to show it off. Just because you can, doesn't mean you should. Finally, flying with passengers is not a democracy. Passengers are relying on your experience and judgement to provide a safe and positive experience. That same instructor also used to say, "Flying is all about decision making and sometimes the best decision is to stay on the ground!"



[Check out the \\$100 Fly In Restaurants on the Colorado Pilots Association website under the Fly-In Events link](#)



Comparing the RV10 vs. the SlingTsi

By Brian Garrett



In my previous post I covered the costs associated with buying a new certified and used certified aircraft against the SlingTsi. How does the Tsi compare against another Experimental aircraft? Given the 4 seat status of the SlingTsi, there aren't a lot of other 4-seaters in the same price and performance category. Certainly the Lancair Mako would be a nice airplane to consider, but given the costs associated with the build time, it's just not in the cards for something I could swing. After the Lancair there are a number of smaller production experimental aircraft to consider, but the only other one in my opinion would be closest to in cost and performance is the RV10. If you're new to aviation (and some reading this may be), Vans Aircraft is one of the most popular (if not THE most popular) experimental aircraft supplier in the world. I attended a session at Oshkosh one year around Vans and the speaker stood up on the stage and said "Lets face it, the 'experiment' is over on the RV's" And I don't think I would disagree with him at all. For those of you who haven't experienced the RV series of planes, they are very nice and have a fantastic pedigree. The RV10 is their only 4-place aircraft in the lineup. It quite often is mistaken at airports as a Cirrus and it is quite similar in many aspect. But how does it stack up against the SlingTsi?

Experimental Capacity & Performance Comparison

	RV-10	Sling Tsi
Powerplant	Lycoming IO-540, 260hp	Rotax 915iS Turbo 141hp
Length	24'5"	23'5"
Wingspan	31'9"	31'3"
Wing Area	148 sq ft	123.89 sq ft
Wing Loading	18.6 lbs/sq ft	n/a
Cabin Width	48 in	44 in
Empty Weight	1650 lbs	1080 lbs
Max gross weight	2700 lbs	2095 lbs
Useful Load	1050 lbs	1015lbs
Fuel Capacity	60 gal	45 gal
Takeoff Distance, ground roll	500 feet	590 feet
Rate of climb, sea level	1950 fpm	1000 fpm
Stall, Clean	61KTS	57 KTS
Stall, flaps down (Vso)	52 KCAS	48 KCAS
Max cruise Speed	181 KTS	155 KTS
Landing distance, ground roll	650 ft	492 ft
Service ceiling	20000 ft	18000 ft
Vne	200 kts	155 kts

The RV10 is going to have an obvious advantage over the SlingTsi when it comes to the engine size. With the 260hp Lycoming it's got 120 extra horsepower over the Tsi's Rotax 915 at peak power of a 141hp. That's for the first five minutes - after that the power is pulled back to 135hp. I'll go more into the horsepower in a few slides as to why this isn't as big of a factor as it may seem though.

For the rest of the information, the tradeoff is the RV-10 does have a little wider cabin, higher max cruise speed, and overall a bit more performance. What the RV-10 is though, is it is 600lbs heavier. Keep that in mind as that is going to come into play a bit later on in the discussion.

Price and Build Times

My objective in building the airplane isn't just for something that I can fly long-term, but also how quickly can I get it done?



Experimental Price & Build time Comparison

(*Prices rough estimates)	RV-10	Sling Tsi
Tail	\$4,325.00	\$3,900.00
Wings	\$11,450.00	\$14,300.00
Fuselage	\$17,125.00	\$15,680.00
Undercarriage		\$10,160.00
Canopy/Inst./Finishing	\$16,810.00	\$14,250.00
Avionics (assuming equal)	\$51,000.00	\$51,000.00
Engine/Prop	\$48,239.00	\$54,895.00
Estimated Cost	\$148,949.00	\$164,185.00
Quickbuild cost	\$13,875.00	\$24,995.00
Estimated build time	2000 hrs	1400 hrs
Estimated Quickbuild time	1200 hrs	900 hrs

Price wise, the RV-10 appears to be a bit less expensive over the SlingTsi. The undercarriage line item on my chart is based on the breakout from the SlingTsi kit. There is no undercarriage option as a line item on the RV-10 price list, so I suspect some of those items are incorporated into other areas of the overall prices. Another item to note is the aftermarket items for building an RV-10 is quite extensive. This certainly has to do with the longevity of the airframe. The RV-10 had it's first flight in 2003 where the SlingTsi had theirs in 2018. So the RV-10 builders have 15 years worth of time for additional aftermarket development. If I were to advise someone on which to choose for building, this is definitely a factor of consideration.

For me though, the build time line item - it is estimated to be 600 hours less to build a Tsi over the RV-10. This primarily has to do with the type of fasteners in constructing the airplane. The RV-10 uses buck rivets whereas the Sling uses pulled rivets. This plays a huge factor in the build time. If you aren't familiar with the differences (I wasn't other than I drew assumptions based on the name), the buck rivet is where you take a rivet, place it in the rivet hole and use a metal plate on one side and a rivet gun to effectively “pound” the rivet into the hole. This is done through a rivet gun that makes a sound a bit like a machine gun as it molds the rivet into place. It's actually quite fun to do if you haven't tried it, but when we're talking about thousands of rivets the noise can get a little old. I'm sure my neighbors will appreciate the choice of using pulled rivets. As for what a pulled rivet is - the logo for this blog is that of a pulled rivet. You insert the rivet into the hole and then use a rivet puller to extract the center post up and out. When you perform this extraction it pulls the remaining rivet into place. The overall noise generally is a very mild “pop” when the rivet releases.

At the end of the day, as per the chart above the RV-10 is the winner cost-wise, but considering it could add an additional year to my build time I'm not sure I'm that patient.

Comparing performance

When you stack up the RV-10 performance wise against the SlingTsi there are some items to consider here. I fly out of KBJC. The standard atmosphere field elevation is 5673 feet MSL. As with most aircraft performance numbers they are all based off of sea level. I've often found this interesting as even flying “at sea level” you're not truly at sea level - you're some altitude higher than that. A safe bet would be a minimum of 1,000 feet MSL. Sure there are conditions where you'd be lower, but I generally fly with a margin of safety. The RV-10 is generally configured with a naturally aspirated engine, which means by the time the Lycoming engine reaches the field elevation at BJC you've already lost 39hp. On a reasonably warm summer day here in Colorado it isn't unusual for the density altitude to reach 8,000 feet. This means the engine is down another 62hp to 198hp - and the first thing you're going to do after taking off is add more altitude.

Given this breakdown and that the Rotax 915is is a turbocharged engine, the two engine performance levels start to converge as altitude is gained. The 915is as designed will maintain sea level performance up to 15,000 tp 16,000 feet (depending on the source of the information as the Sling Aircraft site indicates 16,000, the Rotax



915is wiki page indicates 15,000 feet). If we take the reduction in engine performance as the airplane climbs the SlingTsi with the Rotax 915 starts to overtake the airspeed of the RV-10. I recently found a YouTube video of an RV-10 climbing up to FL200 to show off performance running lean of peak showing a True Airspeed of 152kts with a direct 39kt tailwind. It seems to support the numbers as per the chart below.

Experimental Efficiency Comparison

	RV-10	Sling Tsi
Nautical miles per gallon	12.5 gph	8 gph
Range @ 75% power	825nm	800nm
Cruise Speed	171 KTAS @ 8,000 ft	145 KTAS @ 8,000 ft
Cruise Speed	134 KTAS @ 16,000 ft	145 KTAS @ 16,000 ft
Enurance	4.8hrs	7hrs

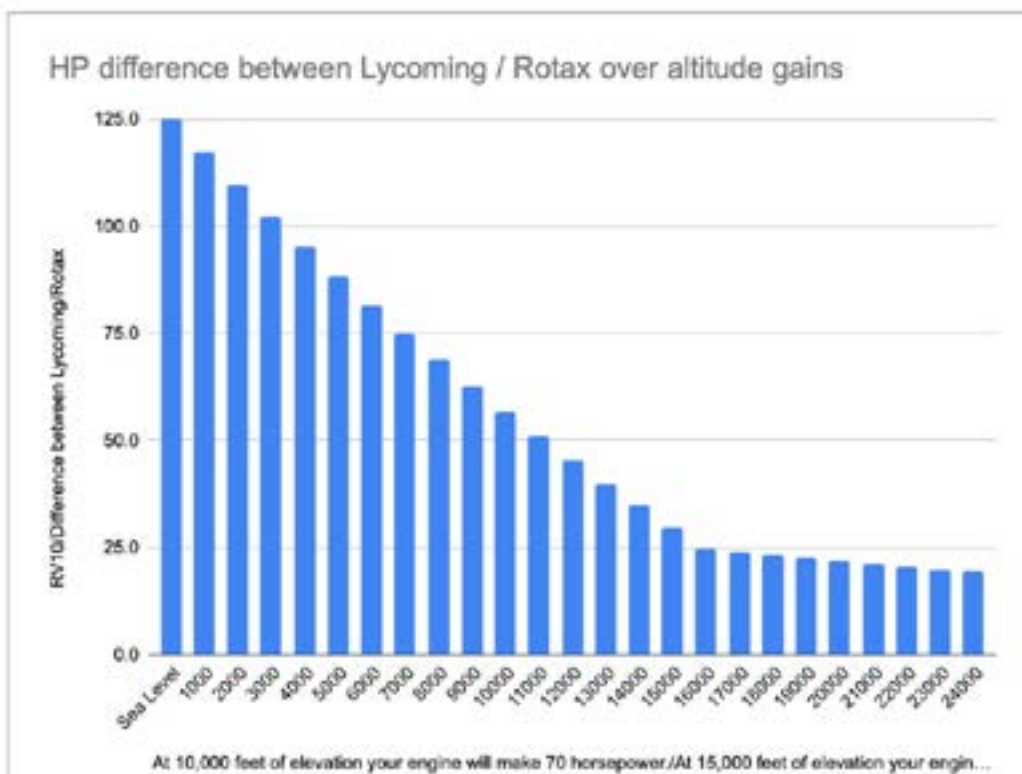
This is where the conversation about the weight of the aircraft comes into play as well. In doing a breakdown on this by altitude carried to the extremes we see once the airplane is above 16,000 feet the differences tend to start leveling out.

Performance at Altitude

As a general rule, a naturally aspirated combustion engine will lose 3% of its power for every 1,000 ft of elevation gain. If you have 100 horsepower at sea level by the time you get to 5,000 feet of elevation your engine is making 85 horsepower.							
RV10 - Using the Lycoming IO-540, 260hp				Sling Tsi Continuous HP, Turbo of 141hp is good for TO			
Altitude MSL	Naturally Aspirated	HP Loss	Total HP Loss	Difference between Lycoming/Rotax	Turbo	HP Loss	Total HP Loss
Sea Level	260.0	0.0	0.00	125.0	135	0	0
1000	252.2	7.8	7.80	117.2	135	0	0.00
8000	203.8	6.3	56.23	68.8	135	0	0.00
At 10,000 feet of elevation your engine will make 70 horsepower.							
10000	191.7	5.9	68.27	56.7	135	0	0.00
12000	180.4	5.6	79.60	45.4	135	0	0.00
At 15,000 feet of elevation your engine will make 55 horsepower.							
15000	164.6	5.1	85.35	29.6	135	0	0.00
16000	159.7	4.9	100.29	24.7	135.0	0	0.00
17000	154.9	4.8	105.09	24.0	131.0	4.1	4.05
18000	150.3	4.6	109.73	23.2	127.0	3.9	7.98
19000	145.8	4.5	114.24	22.5	123.2	3.8	11.79
20000	141.4	4.4	118.61	21.9	119.5	3.7	15.49
21000	137.1	4.2	122.86	21.2	115.9	3.6	19.07
22000	133.0	4.1	126.97	20.6	112.5	3.5	22.55
23000	129.0	4.0	130.96	20.0	109.1	3.4	25.92
24000	125.2	3.9	134.83	19.4	105.8	3.3	29.19

This chart goes up to FL240 - which of course the question becomes “what a minute, the ceiling on the SlingTsi is stated to be 18,000 feet?” Well, this is true, the definition of the service ceiling is the height above sea level at which an aircraft with normal-rated load is unable to climb faster than 100 feet per minute under standard air conditions. There are a couple of videos out there of the Sling reaching flight levels of FL240 and up to FL300. Now, in my flying needs I literally have no desire to fly at that level, even if someone demonstrated the aircraft has gone that high. My goals would be in the 14,000 feet to 17,000 feet during long trips. Based on this chart, the SlingTsi will perform exceptionally well in this range.





There's a vast wealth of information online on this topic. Van's Aircraft provides documentation on the loss of horsepower as altitude changes:

<https://www.vansaircraft.com/faq/horsepower-limits-why-not-a-turbocharged-higher-horsepower-engine/>

Garrett Advancing Motion - while there is no relation to myself and Garrett engines (which would be nice actually), they do have a discussion around turbocharging at elevation when it comes to cars in this article. Oddly enough I don't live too far from Pikes Peak and can see it on a clear day. This reference is more supporting documentation for the delta differences between a naturally aspirated engine and a turbo engine.

<https://www.garrettmotion.com/news/newsroom/article/how-to-turbocharge-at-elevation-counteracting-low-air-density/>

The wiki links for both of the respective engines between the Rotax and the Lycoming power plants:

Rotax Engine Wiki https://en.wikipedia.org/wiki/Rotax_915_iS

Lycoming https://en.wikipedia.org/wiki/Lycoming_O-540

Savvy Aviation has a couple of great discussions on the state of engines and turbo engines at <https://youtu.be/p22FOawoTCM> - Turbocharging Systems.

The only part of the conversation on this that I am missing is the weight to horsepower expectations. This is where my math skills are failing me. I've had a number of conversations and haven't found anyone that disagrees with these findings so far. If you have more to contribute to the conversation I'm welcome to feedback on this topic.

Overall though, on the surface the RV-10 certainly is a compelling airplane with the heritage of the platform, a bigger cabin and what appears to be a slightly less expensive build, however given the location I'm located, what the mission is and the build times I feel comfortable with the performance the Sling is going to offer when stacked up against the RV-10.

What are your thoughts? Am I missing something? It's too late for me as I'm committed to building the Sling, but I'm always welcome to feedback to help not just my understanding, but also to share the most accurate information I can with other pilots.



100 Years Ago Two Women Changed Aviation

By Penny Rafferty Hamilton, Ph.D.



One hundred years ago, Bessie COleman became the first woman of color in the world to earn an International Pilot License

In 1921, women had earned the right to vote with the passage of the 19th Amendment to the U.S. Constitution just a few month earlier. But, in many of the 48 states, women were still not “allowed” to sit on juries. Discrimination because she was a woman and especially an African American/Native American motivated Bessie Coleman even more to pursue her dreams in aviation.

Born in 1892 into a large and impoverished Texas family, at age 23 Bessie made her way to live with her brother while she attended the Chicago Burnham School of Beauty Culture. She saved every penny she could working as a manicurist at the White Sox Barber Shop. She managed a popular chili restaurant to earn more money for flight training. All the American flight schools turned her down because of her race, and even gender. Bessie learned that she might have an opportunity in a French flight school. She began night classes to master French. Her application needed to be completed in that language. If by some miracle, Bessie was offered the chance for flight training, she knew she needed to be able to speak and understand this foreign tongue. If Miracle of miracles, Bessie was accepted for flight training at the Caudron Brothers School of Aviation in Le Crotoy, a small town on the French coast about two hours from Paris. Bessie stepped on the ocean liner for the long journey leaving everything familiar to pursue her dream of flight. Arriving in Paris, Bessie made her way to the train station for the rest of her journey to the seven months of flight school.

Bessie was taught the fundamentals of flight in a flimsy French Nieuport plane. Bessie had to carefully check the fabric before each flight. On June 15, 1921, Bessie Coleman became the first woman of color in the world to earn an International pilot license awarded by the Federation Aeronautique Internationale.

She continued an additional two months of lessons with a French Ace near Paris. In September, 1921, Bessie sailed for her homeland. “Overnight” she became a media sensation. In addition to air performances, mostly in a Curtiss JN-4 Jenny, she spoke to church, civic, and other groups promoting women and aviation. In 1922, after a few public performances, Bessie knew to safely barnstorm with complicated, spell-binding aerial feats, she needed to return to Europe for more flight training.



She even traveled to the Netherlands to work with famed airplane designer, Anthony Fokker. He allowed her to travel to his Fokker Corporation in Germany and train with their chief pilots. Confident in her additional aerial skills, her first American airshow was September 3, 1922. She flew a Curtiss Jenny at the Long Island Curtiss Field as a tribute honoring World War I veterans of the all black 369th Infantry Regiment. Bessie flew loops, figure eights, and showed the crowd what was possible.

Bessie Coleman traveled the nation demonstrating her aerial skills. She earned the nick name, “Queen Bess” because she “ruled the sky.” “Brave Bessie” was another moniker. She was courageous to overcome prejudice, poverty, and gain aeronautical knowledge in a foreign language so far away from her homeland.

On April 30, 1926, tragically, Bessie died in a freak airplane accident while preparing for another airshow performance. She did not live long enough to bring her dream of a flight school for African Americans to fruition. However, she planted the seeds which helped to grow the Tuskegee Airmen flight training program into an important aviation mecca for Black pilots and aviation professionals. As author, Rachel Grey, said in one her books, “She believed she could so she did.”

Bessie overcame so many obstacles to follow her trailblazing flight path in aviation history. In 2006, Coleman was enshrined in the National Aviation Hall of Fame. In 2007, Oakland International Airport renamed their airport loop road, Bessie Coleman Drive.

One hundred years ago, another woman who believed she could was Amelia Earhart. In 1920 in California at 23 years old, Amelia Earhart took her first airplane ride. She said, “As soon as I left the ground, I knew I myself HAD to fly.” Working as a file clerk at the Los Angeles Telephone Company, she used her salary for flight lessons with Neta Snook. In December 1921, after additional instruction, Amelia earned her U.S. pilot’s license. (Photo above - On May 20, 1932, Amelia Earhart successfully flew her red Vega 5B non-stop in her solo Atlantic Crossing making her the first woman in the world to do so. (Photograph from Commons.wikimedia.org)



By October, 1922, Amelia set an altitude record for women of 14,000 AGL. On May 16, 1923, Amelia became the 16th woman in the world awarded her International license from the same Federation Aeronautic Internationale which recognized Bessie Coleman. Amelia set several more world records in her illustrious career. In 1929, she helped found the Ninety-Nines organization for women pilots.

Her 1932 historic solo, non-stop flight across the Atlantic Ocean made her the first woman and only the second person in the world to accomplish this important and dangerous feat. Several public opinion polls, as recently as 2018, reveal Amelia Earhart is probably the most famous female pilot in aviation history. In Kansas, Amelia Earhart Airport honors this Atchison native.

March is designated Women’s History Month. A good time to reflect on two American women who changed world history.





Chris Walston

A Piper Aztec on the upwind at Northern Colorado Regional Airport.

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