# The Mooney Flyer

The Official Online Magazine for the Mooney Community

www.TheMooneyFlyer.com

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## Editors

Phil Corman | Jim Price

## Contributors

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## Departments



## Features



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The Mooney Flyer's goal is to educate, inform, and entertain Mooniacs.

# From the Editor

Phil Corman

## Your Editor's Hot Buttons

I want to vent a little this month. Why you ask? Because I've seen and heard more annoying pilot habits this past month and wanted to share them in hopes that you'll become more aware, too. These digressions are not regulatory, necessarily, but they irk me because they are unnecessary, and perhaps unsafe.

### Line Up & Wait

I like "Position & Hold" better since "Line up and wait" sounds rude. But alas, that is not my beef. I've heard three pilots say, "Lining up and wait" at an uncontrolled field. Why would anyone do this? You have no view of aircraft on final and you might save 2-3 seconds at most. Also . . .

From the AIM:
**Line Up and Wait (LUAW)**

1. Line up and wait is an **air traffic control (ATC) procedure** designed to position an aircraft onto the runway for an imminent departure. The ATC instruction "LINE UP AND WAIT" is used to instruct a pilot to taxi onto the departure runway and line up and wait.
2. **There is no line up and wait option, at uncontrolled fields.**
3. Line up and wait (formerly Position and Hold) is an instruction given by a tower controller. There is no controller at an uncontrolled field.
4. Personal opinion: If you are not ready to go, you have no business sitting on the runway with your back to the final approach. If you are ready to go and the final is clear, taxi on the runway and go.
5. In AC 91-73B Appendix 1, paragraph 5, it states that "Pilots should not line up on the departure runway and hold any longer than necessary".
6. 91.13(b) could be brought to bear. It deals with careless or reckless operation of aircraft on the ground.

### "Taking the Active" at Non-Towered Airports

At an uncontrolled field there is no such thing as an "active runway". Those only occur at towered airports. Transmitting on CTAF that you are taking the "active runway" is incorrect, and it also does not tell any other aircraft which runway you are using. Just say taxiing onto runway X for departure.

### Giving Position Reports While Taxiing

I have often been in the traffic pattern when it's busy. The frequency gets pretty busy as well. Add in the possibility of a shared CTAF with another airport, and the frequency gets jammed. So, giving reports of "taxiing from the fuel pumps to transient parking" is unnecessary and takes up frequency which is a safety hazard. Let those planes in the air, travelling at 150 knots give position reports and save the 2 knot taxi reports for another day.

While we're at it, and I'm on a roll, there is no such thing as "Landing on Runway zero-one"! Do you see a zero on single digit runway designations? Nope. So, reporting "Landing on Runway One" is perfect.

## Traffic Permitting

I hear this most when a pilot is flying a "straight in final". First of all, flying a straight in final is legal. Secondly, traffic does not permit anything. Regardless of how you enter a pattern, you must adhere to 14 CFR § 91.113 - Right-of-way rules. When landing, this is the determining rule: *(g) Landing. Aircraft, while on final approach to land or while landing, have the right-of-way over other aircraft in flight or operating on the surface, except that they shall not take advantage of this rule to force an aircraft off the runway surface which has already landed and is attempting to make way for an aircraft on final approach. When two or more aircraft are approaching an airport for the purpose of landing, the aircraft at the lower altitude has the right-of-way, but it shall not take advantage of this rule to cut in front of another which is on final approach to land or to overtake that aircraft.*

So "Traffic Permitting" is an unnecessary transmission. Enough said.

## Flying a LEFT pattern when RIGHT traffic is specified or vice versa

It is rude and unsafe to fly the wrong handed traffic pattern, and it is not legal, according to the FAR.

### *§ 137.45 – Nonobservance of airport traffic pattern.*

Notwithstanding part 91 of this chapter, the pilot in command of an aircraft may deviate from an airport traffic pattern when authorized by the control tower concerned. At an airport without a functioning control tower, the pilot in command may deviate from the traffic pattern if—
(a) Prior coordination is made with the airport management concerned;

(b) Deviations are limited to the agricultural aircraft operation;

(c) Except in an emergency, landing and takeoffs are not made on ramps, taxiways, or other areas of the airport not intended for such use; and

(d) The aircraft at all times remains clear of, and gives way to, aircraft conforming to the traffic pattern for the airport.

It is so easy to enter the pattern properly and not endanger other pilots.

## Private Pilot License (PPL)

Ninety-nine out of 100 pilots get this wrong. If you were awarded your ability to fly in the United States, it is a Private Pilot Certificate, i.e., PPC. This is not actually one of my hot buttons, but it's slightly humorous to me and completely inconsequential.

## Not Giving Way to Fire Fighting Aircraft

When approaching an airport with firefighting aircraft, I always give way to both Tankers and Attack Aircraft. Why? Because they are working to save my area from wildfires and I'm typically loafing, or if not loafing, can afford to yield to them. If we are both going to get to the pattern roughly the same time, I call and say, "Mooney 530 will follow". I always get a click of appreciation.

But it sort of bothers me when a slow airplane asserts their “right of way” and forces a tanker to extend or circle. This is not regulatory but is a small way we can be helpful to those flying in 100° temps and heavy smoke – sometimes in the mountains.

## Don’t Transmit Until You know What you Want to Transmit

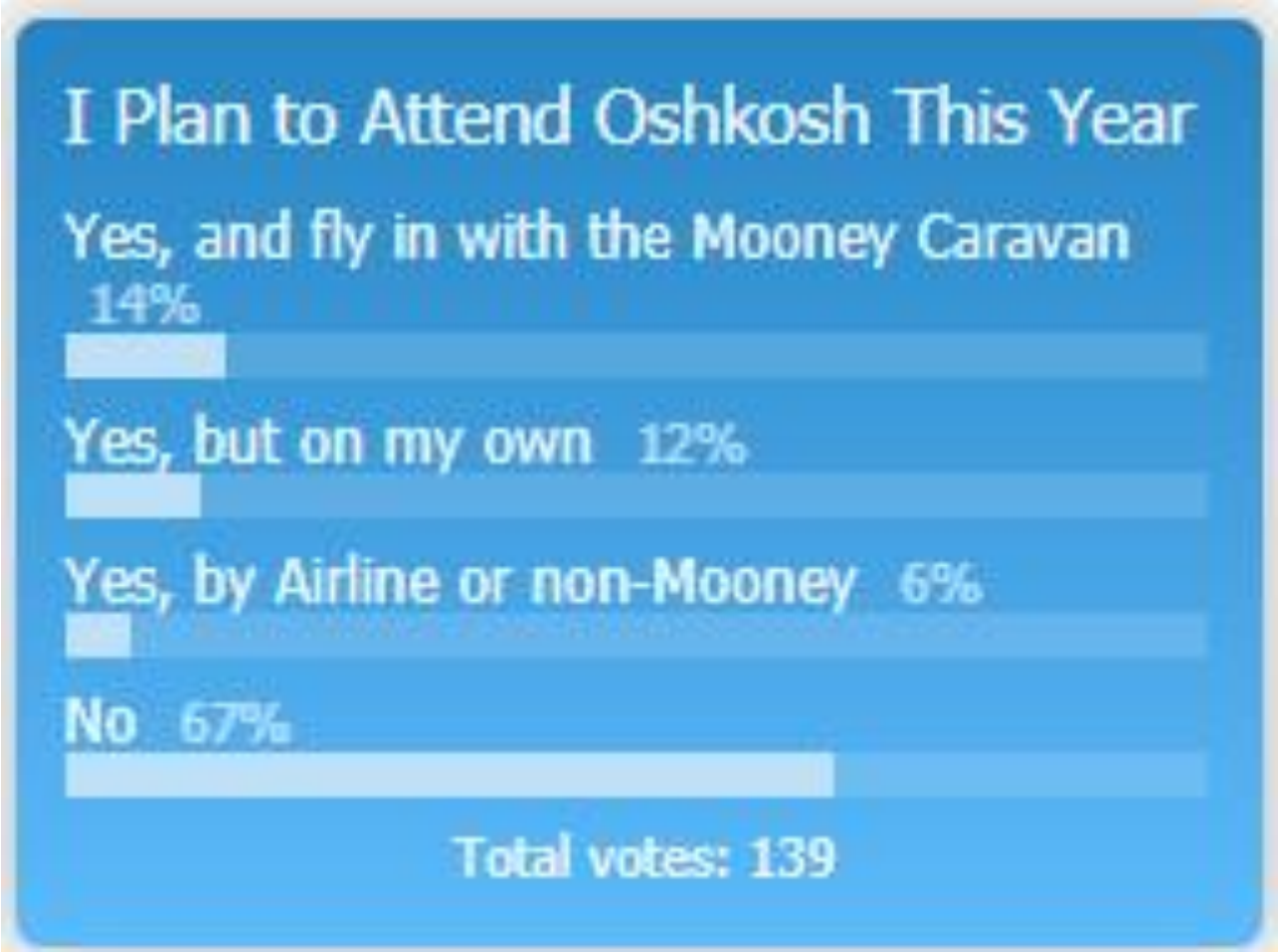
I just don’t have the time or patience to hear a pilot give a short story on where they are located instead of saying, “10 southwest landing runway 19”. I also sort of lose it, when a pilot identifies his/her location as, “Over my kid’s school, landing runway 19”. Make it a game to use the fewest words possible when transmitting. Controllers and other pilots will be grateful.

## Transmit a Proper Position Report and INCLUDE intentions

Position reports should probably begin around 10 miles out. Before then, unless you are flying a speedy Mooney, other pilots may forget about you. Secondly, giving a position report without also including your intentions is not terribly useful. “Paso Robles Airport, Mooney xxx is 15 miles west”, just isn’t enough. “Paso Robles Airport, Mooney xxx is 15 miles west, will make left traffic for runway 1”, says it all and lets the rest of us know what to expect from you.

## Summary

Thanks for reading this far. Fly Fast, Fly Safe




Next month's poll: "It took this may hours to transition to Mooney" **CLICK HERE** to vote.

# Letters to the EDITOR

TheMooneyFlyer@gmail.com

**RE: Seeping Tank Repairs** - The picture of the bottom fuel tank inspection plate in [the May 2021] edition exactly illustrates the leaking issue. Before I fixed the problem with the GLUVIT material, my inspection plate looked exactly like that picture.

I read the comments about the use of GLUVIT on the external inspection plate seams and want to point out that the material is applied with a very thin artists brush, just in the seam. It wicks up into the seam and more or less disappears.

After several months of flying and full tank storage, there is no evidence of any seepage.

Given the long-term effect of the blue stain on the paint finish, I prefer the lack of that stain on my paint. Plus, the cost comes in at under $50.00!

As far as the Mooney Miser approach, I was reluctant to suck left over fuel fumes into an electrically powered vacuum cleaner. Never sure you got all of the fumes out of the tank.

If, however, you are really, really sure the fumes are removed, the vacuum approach should make the GLUVIT work even better. By the way, while it takes 36 hours for the GLUVIT to set up clear, in the first few hours it cleans up with an Acetone.
**Nat O.**

Appreciate all you do. Looks like the Flyer is still great! You helped me years ago along with others here in purchasing a partnership in a J model. I've been renting as of late. Flying a Cirrus.

I want a Mooney again! Looking at Ovation 2's. Tough time to buy.

Hope you are well!
**John S**

*Unfortunately, many people do not consider fun an important item on their daily agenda. For me, that was always a high priority in whatever I was doing. Chuck Yeager*

# *Could I Learn More?*


In 1980, I had been furloughed from Hughes Air West and the chief pilot of Southwest Forest Industries, B. Y. "Pete" Peterson hired me as a King Air 100 pilot. I asked Pete where he had learned to fly. He smiled and said, "Son, I soloed at St. Johns, Arizona in 1945 and I have been learning ever since."

I will always remember this remarkable insight. I have resolved to never stop learning and improving. Thanks to the Air Force, the Air Force Reserves, a few corporate pilot jobs, the airlines and our Mooney, I have been flying for over 50 years. In 2005, just before retiring from Northwest Airlines, I dreaded the thought of not flying again, so we purchased a Mooney. That ushered in a whole new world. I found that I was no longer assisted by a First Officer, Dispatchers and Agents and I had to do everything by myself. The title Pilot in Command took on a whole new meaning.

In 2008, I was asked to instruct at a MAPA Safety Foundation Pilot Proficiency Program, and I joined their cadre of "reserve" Western Mooney Instructors.

In 2020, I wanted to switch roles at these Mooney events from instructor to student/learner. Why would a guy with over 23,000 hours need to attend a MAPA Safety Foundation Pilot Proficiency Program course? I wanted to see what I had been missing. I have never claimed to be perfect, and I recognize that there's always room for improvement, both in my mind and skill level. I wanted to be a better and safer Mooney pilot. After all, my family depends on me to be the best pilot, especially when they are flying with me.

Due to COVID-19, the Safety Foundation had to cancel all their courses in 2020. I was still determined to do it and the MAPA Safety Foundation rolled my 2020 Santa Fe, New Mexico enrollment to 2021. I was disappointed when the Lakeland, Florida event, schedule for February, was cancelled in early 2021. I thought, "Dang virus – here we go again." However, I was thrilled to learn that the next pilot proficiency program scheduled at Santa Fe would be a "go". The demand was extremely high, and the course was reserved at max capacity – 30 pilots and their Mooneys. As Santa Fe drew closer, weather and maintenance issues popped up, so a few pilots had to cancel. Pilots came from Arizona, California, New Mexico, Iowa, Wyoming, Texas, Washington, Minnesota, Florida, Michigan, Kansas, Wisconsin, and Oklahoma. My instructor, Will Wobbe, who is also a Flight Service Specialist/Briefer, flew his Bravo all the way from Virginia.


Most of the Mooney pilots flew to Santa Fe on Thursday, April 22nd, checked into the Double Tree hotel and were ready for the classes that would start Friday morning at 7:00 am.

## Academics

We met in the hotel's ballroom, where we learned about Weight and Balance, Flight by the Numbers, Instrument Rules, Mooney Electrical Systems and Emergencies, Owner Maintenance, Human Factors, Decision Making, Night Flying, Mooney Systems and Critical Issues, Runway Incursions, Engine Out – Survival Guide, and Loss of Control (Spins, Stalls).
Below are just a few examples of the things that I learned in those classes.


100LL does not weigh 6 pounds per gallon – it weighs 5.82. That means that a C model's 40 gallons weighs 233 pounds instead of 240 pounds. A fully fueled K model with 75 gallons, has a fuel weight of 437 instead of 450. I know, it's a tiny Gross Weight difference, but somehow, I had missed that change in fuel weight. What else didn't I know?

I renewed my Mooney knowledge with stuff like, a Mooney is certified for 3.8 Gs and that we reduce the POH maneuvering speed by 5 knots for every 200-pound reduction in aircraft weight. For example, if the gross weight is 400 pounds less than max gross, in turbulent air, fly 10-knots or 11 mph slower than the POH maneuvering speed.

I knew about weight and balance and had calculated it many times. Besides, ForeFlight will calculate it, plus there are several other apps for that. However, I learned more about the guts of weight and balance and how we come up with those numbers. Suffice it to say, with every marvelous presenter/instructor, I learned something new.

Friday, after lunch, a Santa Fe Tower controller addressed safety issues. He advised us where to fly, space to avoid, and how to navigate the local skies.

At 4:15 pm, the academics concluded, and each instructor was assigned two students. Pilots and instructors learned about each other, talked about flights, decided who would fly first and the areas in which they would fly. I flew both flights on Saturday while some pilots chose to fly once on Saturday and once on Sunday.


Our FBO was Jet Center at Santa Fe and they were amazing; one of the finest FBOs that I have visited. They were so busy with jets, yet they treated each Mooney pilot like a Rock Star.

# Flights

Generally, the first flight is a Flight Review. From the Walk-Around through Engine Shutdown, each instructor offered tips for improvement. **The Flight Review syllabus** included Slow Flight, a Spiral Demonstration, VFR Go-around, Approach to Landing stalls, Takeoff and Departure stalls, Steep Turns, Forward Slips, Takeoffs and Landings, Emergency Procedures, Simulated IMC Airwork, Partial Panel, and Unusual Attitudes.

It had been a while since I last performed some of these maneuvers and I really appreciated and enjoyed the Flight Review. My instructor, Will Wobbe, was marvelous and had flown in the Santa Fe area before. He truly helped me continue to learn.

For those who have an Instrument Pilot license, the second flight is an **Instrument Proficiency Check (IPC)**. Instructors stress airspeed control, configuration management, and visualization. In addition to

tracking and holding, pilots are expected to do at least one circling approach, one autopilot coupled approach and one partial panel approach without using the aid of the autopilot and vectoring.


The instrument approach world was truly alive at Santa Fe and nearby Albuquerque. In addition to our Mooneys, there were several US Air Force and Navy Texan II T-6s. These instructors had flown from Oklahoma and Florida for a weekend cross country and to log some instrument approaches.

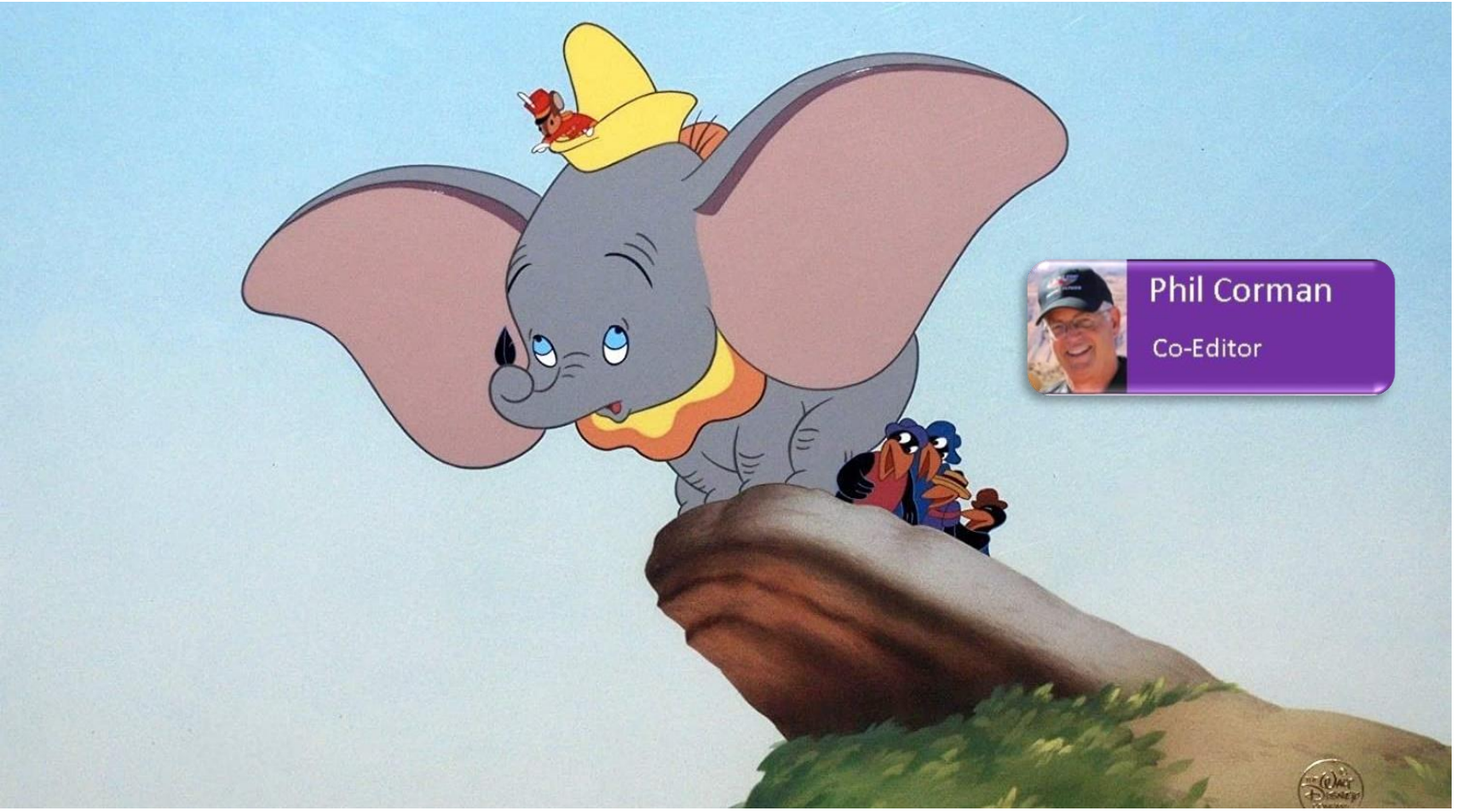
Several months before attending this Course, I had updated my panel from the Garmin GNS 430 to the GTN 750Xi. Thanks to John and Martha King, I knew a lot about the 750Xi, but I recognized that I could learn more. I was happy to learn that my instructor had been helping pilots have a better understanding of the GTN750Xi for quite some time. He did not disappoint, and I learned even more about this wonderful tool!


# Conclusion

Without reservation, I recommend that **every Mooney pilot** take the time to attend a MAPA Safety Foundation Pilot Proficiency Program. We should never stop learning and a PPP will definitely help you become a better, safer, and more professional pilot.

*Fly Safe,*

*Jim*




# Your Pilot Certificate is a License to Begin Learning

I got my Private Pilot Certificate on November 5, 1978; a day that changed my life. I earned it in 44 hours, over five months of wedging in lessons between a full-time job and a family. I remember my first solo. My instructor, Perley Carmichael, cut my lesson short and had me taxi over to the fuel pump. I thought I must have been flying poorly. I shut down and started to get out. He told me to stay where I was. Only he was exiting the Cessna 152. He said to give him three takeoffs and landings. I was shocked and terrified at the same time.

*Your either busy learning or your busy getting ready for your next crash.*

I taxied to runway 32 at Fitchburg, Massachusetts (KFIT). I departed without incident. I turned crosswind and then downwind. As I approached my turn to base, I got cutoff by a twin. I was a little rattled, but veered a little to the right, extended my downwind and landed without incident.

On my second departure on Runway 32, the winds had shifted significantly and now favored Runway 2. So, I had to figure out the proper way to engage the traffic pattern, which I did and landed without incident. However, I had a few drops of perspiration as a few other planes were adjusting to the new winds as well.

My sole point is that I was still learning more about flying during my solo without my instructor! It dawned on me later that day, that I might not ever stop learning about flying an airplane. But I had not internalized what it meant.

My next significant lesson was that being in the airplane was not good enough. My instructor drilled into me that you need to be ahead of the plane. This was a little tougher as a student, but it prepared me for my first Mooney. He was adamant that you needed to fly ahead of the airplane, anticipating what would be required. He said anyone can fly an operable airplane in good flying conditions, but when one or both

don't work well, that's when you learn if you were a good pilot. He said, "I'll teach you some great skills, and I hope you never have to use them". We spent a fair amount of time learning about "good Judgement".

*Anyone can fly an operable airplane on a good day. It's when one or both go bad that you will learn if you are a real good pilot.*

A few months later I got my Private Pilot Certificate and the learning did not stop. My instructor said he wanted to take me up and show me a few advanced things. We spun and simulated some emergencies that were not in the syllabus. His point was that the first thing I did after getting my certificate was to learn some new things.

My partner, Jim Price, rammed this idea of "lifelong learning about flying", by attending the April Mooney Safety Foundation's Pilot Proficiency Program in Santa Fe, NM. He has tens of thousands of hours in the USAF, Northwest Airlines and a Mooney. He went to a PPP to hone his knowledge and skills. He called me as soon as he got home and rattled off a list of things he learned. Inspiring thoughts and a refresher, that flying is life-long learning.

## Perspiration & Stress

*Learn to operate when a sudden negative surprise occurs. You may not have time to think things through, so learning the right response in advance is an excellent learning exercise.*

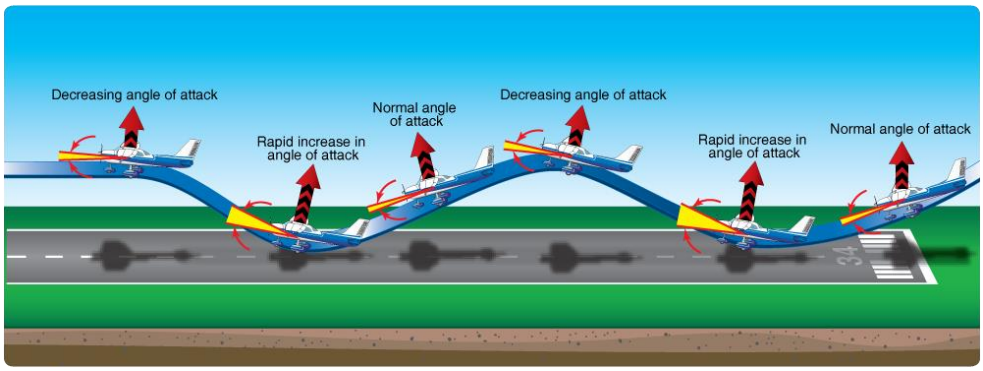
One of the most important lessons I have learned since 1978 is how to reduce the stress and fear that can arise when you are in an emergency situation. I have had two instances: 1) broken throttle cable and 2) broken landing gear. In both cases, I needed to put the stress under extreme control. You lose effective decision making when over stressed. But once you get it under control, or mostly under control, your plan and your decision making improve dramatically. In some instances, you have to "will yourself" to a calmer state. Once you are there, your training kicks in.

## Hours and Years of Non-Events

Another important lesson is that flying is mostly routine stuff. My wife was a life-long Deputy Sheriff. She had to learn that a nasty event could pop up anywhere at any time. However, day in and day out, month in and month out, things were mostly uneventful and boring. It's much the same with our flying. Do you really mentally prep yourself for an engine failure on takeoff each flight? Are you truly ready to respond if you enter a cloud unwittingly, (if you are a VFR pilot), and know exactly what you need to do immediately? These situations cause an extremely high level of stress and may not ever happen. However, if they do, learn in advance what you will do and how you will reduce that stress and Aviate, Aviate, Aviate.

## Things About Our Mooneys to Know

Read Stick and Rudder. Unlike many GA airplanes, our Mooneys require precise management. We all know that if you are 3+ knots on final, that you may float into the next county. Or, if you force it onto the runway, you will bounce, maybe porpoise, and ding the prop on the third bounce.




*When I'm flying with a ferry pilot to bring my Mooney for service, I always ask them to critique my flying and also to share some of their wisdom. It makes the flight more interesting and after the flight, I am always a better pilot.*

But you also need to control yaw in your Mooney with proper rudder management. In many GA aircraft, rudder is a nicety, but in our Mooneys, it requires management, especially when you are low and slow in the pattern.



Flaps are nice in a Mooney, but not really as effective as the flaps in other GA aircraft. We need to learn to manage our approaches properly with airspeed and trim, or a go-around may be required. Go-Arounds are another learning item. Going around is a good decision and beats forcing a less than desirable approach to landing. Heck, you even get another 5 minutes in your logbook. Think about making go-arounds Plan A rather than trying to recover a bad approach or botched flare.

## Summary: Places to Practice Learning

Here a just a few of the places or ways for ongoing learning:

- Wings Seminars & Programs
- Hangar Sessions with good pilots
- Flying with other pilots
- Online Webinars
- The Mooney Summit
- Flight Reviews (Turn them into a learning experience)
- The Mooney Flyer
- Mooney Safety PPP

# Catalina – Clouds, Burgers and Hiking

by Richard Brown

I love Catalina. Well, I cannot comment on the whole island because the only place I have set foot on the island is the airport, so I guess I should say I love the Catalina Airport. I am based out of Fullerton where Catalina is about 20 minutes from wheels up to wheels down and it is a different world. There is no smog, there are no crowds, there is no noise from the city, just a nice breeze coming from the Pacific Ocean and up over the island.

When we got our Mooney, I did not want to land at Catalina based on the reports of potholes and patches on the runway. In 2019 the Marines and Seabees replaced the runway, but I did not have life preservers. While not technically required, as I am not flying for hire, and even though there is almost always a boat within gliding distance, my good friend Andrew convinced me that I should never even fly along the coast without wearing a life preserver. Finally, we purchased good life preservers and then COVID locked everything down. Once they opened, we flew there, and I fell in love.

If you have not landed on the new runway, despite its "newness," it is not smooth. It is concrete, but the concrete was laid in sections and the sections are not level with each other. Even if you grease it in, you will bounce your way down the runway on the rollout. If you treat it as a soft field landing keeping the yoke all the way back, you will be fine. When you are ready to leave, just treat it like a soft field takeoff. One more point, you should taxi very slow. The taxiways were not replaced, and they are very bumpy.

The morning of May 1st I had an IFR training flight and then kicked back on the couch in my hangar while I waited for my wife to get to the airport to take one more flight before dropping the plane off so the GFC500 can be installed. After 500 hours of hand flying, I am like a kid at Christmas waiting for it to be completed. But back to the story.

On this day, Catalina Airport lived up to its "Airport in the Sky" name. As you may know, the airport sits at 1,602' MSL, like the deck of an aircraft carrier with the cliffs dropping off to the ocean below. There was some patchy marine layer over the channel and the clouds were flowing along the east coast of the island. We descended towards Two Harbors to make the recommended entry to a right downwind for runway 22. I watched another plane on my tablet who looked like he was heading away from the airport, back to the mainland. He would perform one of the stupid pilot tricks I observed on this trip.

As I made the left turn towards the airport, I heard that same plane announce he was on a base leg for 22. I said to my wife, "What is he doing flying the pattern way out there?" Next, he announced that he was on a three-mile final. We had just entered the downwind leg and I began searching for him. This was a task that should have been easy, given the backdrop of clouds. Despite knowing

where he was on ADS-B, along with his position calls, I could not see him. That is until he emerged from the clouds on short final. I flew a regular pattern with the exception of purposefully overshooting final to come back on an angle towards the numbers, so that I could stay OUT of the clouds.


I was pushing the plane back, when the pilot of the Cherokee that had landed prior to us walked over and said, “That was a pretty crazy approach with the clouds right?” I looked at him and said, “Not really. I flew past final and came back around to stay out of the clouds.” He paused for a minute and said “Oh, yeah”, then turned and walked away. I told my wife I was glad he hadn’t come out of the clouds low and smacked into the cliff.

I walked up to the “tower” and showed my Aeroclub card, which I purchased on my first trip to Catalina. It covers your landing fees for a year, and even if you aren’t flying there very much, the money goes to the Conservancy. I went back down and joined my wife to order lunch. I had a regular

burger. They have bison burgers, which are offered so you can say you had one, and not because they taste good. My wife ordered a chicken sandwich. We both got fries; some of the best fries you will find anywhere, and I got my free giant cookie that you get with any meal, if you have an Aeroclub card.

There is a trail around the airport that I have wanted to hike for some time, so after lunch we headed to the trailhead located next to the hangar. The sign says it is 2.3 miles, but when we were done, my GPS said it was 2.7 miles. If you hike clockwise around the airport, it is only about a half a mile to the departure end of 22, where the trail passes about 50' below the runway and you can watch the planes taking off over your head. The rest of the trail on the north side of the airport does not offer much to see, until you get to the east end and can look down the cliffs toward the ocean. We got lucky and watched a buffalo wandering around about 800' below us. My recommendation, if you don't feel like hiking, just take the trail to the west end of the airport, watch the planes, and head back the way you came.


By the time we finished our hike, the marine layer that had been miles west of the island had moved in, right up to the west end of the field. There was a solid wall of clouds just off the departure end of 22 that, despite the reported winds of 220° at 10 knots, were not moving across the field. Cue up the stupid pilot tricks again. Runway 22 has a 2.2% upslope and is always the preferred landing runway unless there's an instance of strong winds out of the east. Because the prevailing winds are out of the west, runway 22 is typically used to depart as well.

As I stood there talking to another pilot, we watched four different planes depart runway 22, then disappear into the clouds before eventually climbing on top and making their turns back toward the mainland. The last aircraft even made an early left turn, trying to avoid the clouds. The cloud bank was thinner to the south of the field and he might have thought he could avoid them. However, he still disappeared into them for a moment.

"It looks like I'll be taking off downhill with the tailwind," I said to the other pilot.
"I do that all the time leaving here" he replied. "What are you flying?"
"That Mooney," I said, pointing toward my plane.
"You'll be off in plenty of time," he said. "And you don't have to get very high. As soon as you get past the end of the runway, you're going to be 1,600' above the ocean."

I did some quick math in my head and knew I would be fine taking off with the tailwind but expected the higher groundspeed before lifting off.

With pre-flight, startup, and checklists run, I taxied behind him to runway 4, while another plane departed on 22 and disappeared into the clouds. As if we could not see the clouds, he announced on the radio, "There's clouds a quarter mile off the end of the runway with tops at 2,000'." No kidding.

The Cessna departed first, then we took the runway. Holding the yoke all the way back for a soft field takeoff, I pushed the throttle in, and we started on our way, bouncing down the "brand new" runway. Despite the 10-knot tailwind, we were easily off before midfield and climbing out

comfortably when the ground dropped away as we passed over the cliffs on the east side of the island. I picked up flight following, and we flew direct to KFUL.

Why do I tell this story? Well, the main reason is because I love to fly, and I love telling stories of my flights. (Don't all pilots love talking about flying?) I also wanted to give a few pointers about Catalina. First, there are some specifics that you should study up on before flying there. You should be aware of the challenges. I won't bore you with them here, because the Catalina Island Conservancy has all the information you need on the **Pilot Information** page of their website. Second, get the regular burger, and always get the fries. They really are that good. Third, if you are up for a walk, check out the Airport Loop Trail. It is a nice hike and not terribly strenuous. When I do it again, I will turn around at the west end of the field and come back.

The final reason I wanted to tell the story is to get you thinking about what you would have done arriving and departing that day. Would you be the guy who goes into the clouds on final, knowing there are cliffs in front of you with no instrument procedure? Would you swing wide on final to go around the clouds; a sort of modified straight in approach. Or would you land downhill with a tailwind to avoid them all together like I saw a couple of planes do? Departing, would you have taken off to the west, knowing you could not outclimb the cloud bank at the end of the field, but confident you could safely, (not legally), climb up through it? Would you do the math, factoring the downslope and tailwind before trying that departure, or just figure it would work out and do it anyway? Going through possible scenarios of your upcoming flight and making decisions beforehand, regarding how you will handle them, lessens the chances that you will make poor decisions on the fly. The next time you are doing some armchair flying, throw a curveball at yourself, like what an instructor on a flight review or in a simulator session would do, and then think your way through it.

# DMMS

**(Defined Minimum Maneuvering Speed)**
*Why Airline Pilots do not make the same fatal mistakes we do!*

**By Richard A. Simile, Thunderbird Aircraft Sales**

I am in a very interesting position to write this article. I am a staunch GA guy who has flown Mooney's since I was 18 years old. Early last year I was accepted to Pilot training with Mesa Airlines. Three days prior to my type rating check ride in a CRJ 900, BAM!!!! I was Furloughed because of Covid 19!!!!

During that Airline training, several of us GA guys remarked about the significant safety enhancements brought about by Airline procedures and protocol. One of those safety protocols is honoring airspeeds.

**MY ONLY OBJECTIVE with this article IS TO GET YOU TO WATCH A 25 MIN VIDEO which can save your life!!!** Click Here to view the video.

Basically, you will need to calculate 1.404 times the clean stall speed of your aircraft and tape it to the dial. For example, if your clean stall speed is 61 knots, 61 X 1.404 = 86 knots. This will allow a safe stall margin when in a 30-degree bank turn. Of course, if you have an engine failure, you are going to have to maneuver, but people rarely ever think about that.

Dan Grider is a retired Delta MD-88 Captain whom I know personally. He is on a really good mission here to bring this major GA shortcoming to the forefront of the flying public. So far, so good. Watch the video, embrace the concept of new thinking, HONOR that AIRSPEED (1.404) and as a result, wrap a shield of protection around yourself and you passengers.

One more thing about Dan. I was on a flight he was flying from Dallas (DFW) to Atlanta (ATL) and I can honestly say that after thousands of commercial flights, his landing at ATL still ranks as the smoothest I have ever experienced and that says a lot!!! Have a great day ALL !!!!!

# NIGHTTIME – NOT ALWAYS AT NIGHT

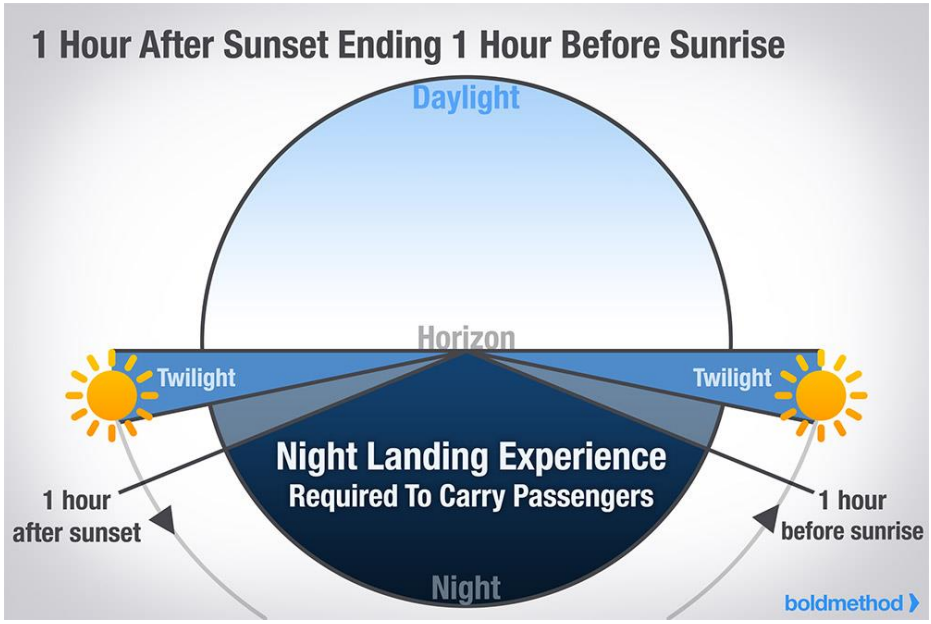
**by Ray Reher**

From the ***Gee Whiz*** and ***Good Things to Review*** department, the Oxford Dictionary defines "Night" as "The time from sunset to sunrise." Deep. Also, forecasters have become fairly proficient at predicting sunrise and sunset. But, aviators, having a reputation for a mind of their own, can often confound or ignore conventional definitions.

Probably the most important definition of Nighttime for the majority of us (the definition that will get us in the most trouble):

CFR 14-61.57 *(b)* ***NIGHT*** *takeoff and landing experience. (1) ....no person may act as pilot in command of an aircraft carrying passengers during the period* ***BEGINNING 1 HOUR AFTER SUNSET*** *and* ***ENDING 1 HOUR BEFORE SUNRISE****, unless within the preceding 90 days that person has made at least three takeoffs and three landings to a full stop during the period* ***BEGINNING 1 HOUR AFTER SUNSET*** *and* ***ENDING 1 HOUR BEFORE SUNRISE****, and-*

*(i) That person acted as sole manipulator of the flight controls; and*




*(ii) The required takeoffs and landings were performed in an aircraft of the same* ***category, class, and type*** *(if a type rating is required).*

For the purpose of **LOGGING** night flying time **FOR** private or commercial **CERTIFICATION**:

*CFR 14-1.1* ***NIGHT*** *means the time between the* ***END OF EVENING CIVIL TWILIGHT*** *and the* ***BEGINNING OF MORNING CIVIL TWILIGHT****, as published in the Air Almanac, converted to local time.*

Note: Most GPS units provide at least sunset and sunrise for that day. Applications such as AirNav.com, Foreflight and WingX Pro will provide both Civil Twilight and Sunrise/Sunset for that day.

**Sunrise and sunset**

AirNav.com — *Times for 07-May-2021*

| | Local (UTC-7) | Zulu (UTC) |
|---|---|---|
| Morning civil twilight | 05:15 | 12:15 |
| Sunrise | 05:43 | 12:43 |
| Sunset | 19:31 | 02:31 |
| Evening civil twilight | 19:59 | 02:59 |

**Current date and time**

| | |
|---|---|
| **Zulu (UTC)** | 07-May-2021 14:43:54 |
| **Local (UTC-7)** | 07-May-2021 07:43:54 |

A good rule-of-thumb for calculating civil twilight is that it usually ends between 20-35 minutes after sunset. ** Disclaimer: This difference varies by latitude, location and time of year.

So finally, we get to the period between sunset and sunrise and find it is actually good for something:

*CFR 14-91.209* (This is not the whole section, but the part that mostly applies to GA land operations excluding Alaska).

***No person may:***

*(a) During the period **FROM SUNSET TO SUNRISE***

*(1) Operate an aircraft unless it has lighted position lights;*

*(2) Park or move an aircraft in, or in dangerous proximity to, a night flight operations area of an airport unless the aircraft-*

*(i) Is clearly illuminated;*

*(ii) Has lighted position lights; or*

*(iii) is in an area that is marked by obstruction lights;*

*(b) Operate an aircraft that is equipped with an anticollision light system, unless it has lighted anticollision lights. However, the anticollision lights need not be lighted when the pilot-in-command determines that, because of operating conditions, it would be in the interest of safety to turn the lights off.*

** Subpart (b) in general, means that if the prop is spinning (day or night), the anticollision light system is on. It's the law.

## Two points:

1. AOPA asked the FAA General Counsel directly if the anti-collision light must be on while starting the engine, or if it may be turned on after start and stabilized operation. The answer was that "it is recommended to turn on the anti-collision lights before start," but not required until the engine is started.


2. If an aircraft has both an anticollision beacon and separate anti-collision strobe lights, they are both considered part of the "system" and must **BOTH** be on "unless in the judgement of the pilot in command, it may pose a hazard" (i.e., in proximity to and blinding others with strobe operation).

As usual, this is pretty basic stuff. But for the new guy, or just as importantly, the old head who doesn't fly much at night, and hasn't reviewed these points for a while, it's important. The FAA has multiple definitions for the same thing, and it's easy to confuse one of these night parameters with the other.

# Think about this: Alternator / Electrical Failure

According to the FAA's ***Airplane Flying Handbook*** (FAA-H-8083-3B), "Landing gear and flap motors use up power at rates much greater than most other types of electrical equipment. The result of selecting these motors on a partially-depleted battery may well result in an immediate total loss of electrical power."


| Electrical Loads for a Light Single Engine Aircraft | Number of Units | Total Amperes |
|---|---|---|
| | | |
| Pitot Heat | 1 | 3.30 |
| Wingtip Lights | 4 | 3.00 |
| Comm Receivers | Varies | 1 – 2 each |
| Nav Receivers | Varies | 1 – 2 each |
| Fuel Indicator | 1 | 0.40 |
| Instrument Lights | 2 | 0.60 |
| Engine Indicator | 1 | 0.30 |
| Compass Light | 1 | 0.20 |
| Landing Gear Indicator | 1 | 0.17 |
| Flap Indicator | 1 | 0.17 |
| **Intermittent Load** | | |
| Starter | 1 | 100.00 |
| Landing Lights (Halogen) | 2 | 17.80 |
| Flap Motor | 1 | 13.00 |
| Landing Gear Motor | 1 | 10.00 |
| Landing Lights (LED) | 2 | 6.00 |
| Transceiver (keyed) | 1 | 5 – 7 |
| Fuel Boost Pump | 1 | 2.00 |
| Cowl Flap Motor | 1 | 1.00 |
| Stall Warning | 1 | 1.50 |
| ** Amperage for radios varies with equipment. In general, the more recent the model, the less amperage required. NOTE: Panel and indicator lights usually draw less than one amp. | | |

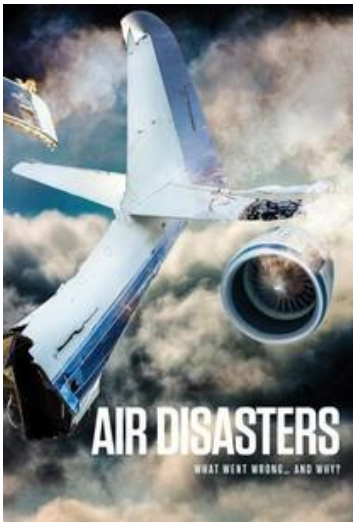
Anything that *"moves"* or *"heats"* draws a lot of current. Things that "light up" also draw a significant amount of juice. Note the difference between Halogen and LED landing lights.

The more modern your radios, the less amperage they require.

*There are three simple rules for making a smooth landing. Unfortunately, no pilot knows exactly what they are.*

# Obstacles, it's like - They Get in Your Way!

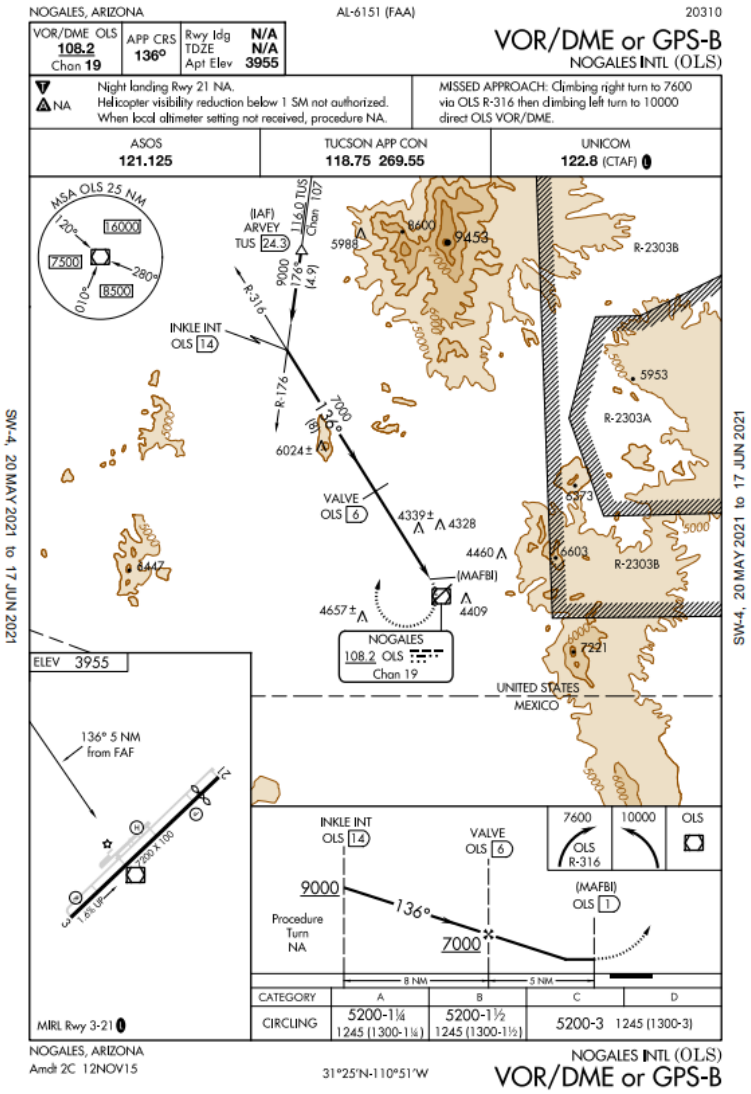
by Jerry Proctor, CFII, MAPA SF




I watch a show called Air Disasters. I only watch late at night, because for some reason, my wife and often my copilot, will not consider watching such a show. It is a good show, a little hokey in the processes, but they do report on the core of what went wrong and things that lead to the often tragically fatal accident.

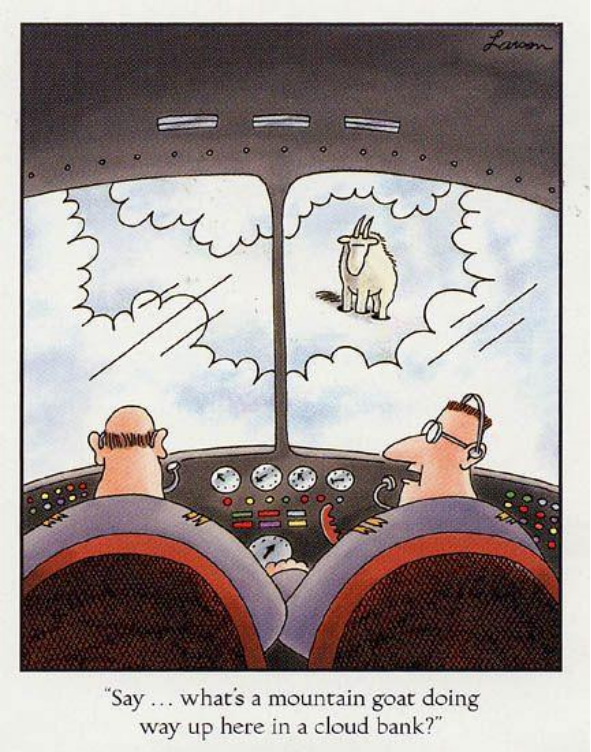
Recently, I watched two episodes, wherein the flight crews had either gotten behind the airplane or just didn't take the time to consider the mountainous terrain around them. As you have probably realized, both shows do not end well. Sadly, both commercial aircraft flew into terrain; CFIT as the FAA calls it.

The next day, I was scraping off the rust by flying a practice IFR flight into an interesting airport, Nogales, AZ, (KOLS). It is about ten miles north of the Mexican border and includes a busy International Port of Entry. They have one instrument approach, the *VOR/DME or GPS B*. Most readers know that a non-straight in approach makes things interesting. As I was proceeding south to the Initial Approach Fix (IAF), ARVEY intersection, I made a casual glance to the east and . . . gee, that mountain top is higher than I am. It was then that the TV series flashed into my mind. What if I was doing this approach in the soup? Just look at the beautiful, but very jagged and dangerous rock over there.




I started thinking, if had I been doing this for real and for the first time, would I have really been aware of the mountainous terrain as I was heading to ARVEY? Would I sense that mountain range to my east, as I am doing now? "Not so sure", says I.

Now look at the final approach segment, 7,000' down to 5,200' Minimum Descent Altitude (MDA). Heck, that isn't even normal pattern altitude.



"Say … what's a mountain goat doing way up here in a cloud bank?"

Now make a midfield left turn to something you can't see on the approach plate, with significantly upsloping terrain. You can also see on the approach plate, that there are mountains as high as 6,600' to well over 7 thousand feet. If I delayed in making my left turn to enter downwind for runway 21, and I punched back in the soup…, what would I do? Could this be a moment like the TV shows have talked about? Then, throw in something like a low voltage light. That could distract me enough to keep flying well beyond the airport and then starting a turn into one of those much higher mountains. It could happen.

I picked this airport to write about because it is where this ah-ha moment hit me. I can think of many other airports where the story could be the same.

My moral here is that I have been dogmatic when briefing an instrument approach. I start at the upper section, saying the approach name, go over to the frequencies, approach course and airport elevation. I then proceed to brief down the plate, profile view, DH/DA/MDA. I finish up with the missed approach procedures. Note that I did not say anything about looking at the terrain. My approach briefing routine has now changed. I need to, and will, make consideration for those Cumulogranite things that can not only ruin your day but can end your days!

So, you live in the flatlands? Well, a few miles south of Kerrville, Texas, there is an antenna that I swear was built as a docking station for the space shuttle. A HUGE antenna with HUGE wires. Obstacles happen. Do not let them get in your way.

So, want to learn more? Maybe consider coming to a MAPA Safety Foundation event, coming to an area near you. We are the Mooney rust busters. Ok, I just made that up. It's not official.

*Take care and fly safe, JP*

jprocmooney@gmail.com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Safety Stand Down
MOONEY SUMMIT VIII
October 22-24, 2021
The Largest Gathering of Mooneys in the World!
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# Wisconsin Aviation Expands Aircraft Interiors Service with the Acquisition of Jaeger Aviation & Its Spatial Interior

Wisconsin Aviation, Inc., announces the expansion of its aircraft interiors department with the acquisition of Jaeger Aviation, based in Willmar, Minnesota.

With its roots stemming back to 1945, Jaeger Aviation's sixty-four years of specializing in Mooney Aircraft sales and service made a new interior design for the vintage Mooney a natural. The "Spatial Interior," as this new design was labeled, allows for a simpler and better way to increase cabin space and expedite service while giving the Mooney a look it deserves. The Spatial Interior, now 15 years in the making, is recognized worldwide.

For more details, visit: www.WisconsinAviation.com or www.JaegerAviation.com

Wisconsin Aviation's aircraft interiors department, located in Watertown, Wisconsin (RYV), accommodates all types of general aviation aircraft. Its services include minor repairs to complete customized interior replacements. The Jaeger Aviation products and experience will help continue to grow this department.

Wisconsin Aviation offers a complete line of general aviation services including air charter, aircraft maintenance, avionics repair and installation, flight training and aircraft rental, aircraft management, aircraft brokerage, and fueling services. The corporation has locations in Madison, Watertown, and Juneau, Wisconsin.

For more information about Wisconsin Aviation, send email to Interiors@WisAv.com or call 920-261-4567.

# Stalls, Spins and Spirals. Oh My!

Twelfth in the series
by Ron Blum

We all know about stalls, spins and spirals, right? If so, why do we keep having way too many loss of control fatalities, both in the pattern and in maneuvering flight? We'll spend the next few minutes looking at what each of these maneuvers are and their definitions. Let's start with the one we think we all know well, the definition of "stall."

Per the FAA, there are actually four definitions of "stall." Let's start with $V_{S1G}$ or the 1G stall speed. This value is used for 14CFR25 aircraft (transport category … and some high-end 14CFR23 business jets). This value is the calibrated airspeed, corrected to 1G via $N_{Z\text{-}Stab}$ (vertical G-force, perpendicular to the relative wind). It sounds complicated, but in the Flight Test world, this value is easy to compute and very repeatable. The airplane doesn't have to be aerodynamically stalled to produce this value. This is also the same value that engineers/designers use to compute stall speed: L=0.5*rho*V^2*S*$C_L$. Our Mooney airplanes don't use this value; they use the next definition: $V_{MIN}$ or $V_{S\text{-}Min}$.

$V_{S\text{-}Min}$ is utilized on almost all light, GA airplanes (14CFR23 … including our M18, M20 or M22 aircraft). $V_{S\text{-}Min}$ is the minimum airspeed achieved during an aerodynamic stall maneuver. How is this different than $V_{S1G}$? The airplane is allowed to continue to slow (slightly) after the 1G stall break to a G value lower than 1G. Yes, the airplane will momentarily "freefall" until it re-accelerates to 1G while descending. This value is simple to achieve in Flight Tests, as all one needs to do is read the minimum airspeed value on the (calibrated) airspeed indicator. That's how we used to do it, with a video camera or movie camera pointed at the instrument panel.

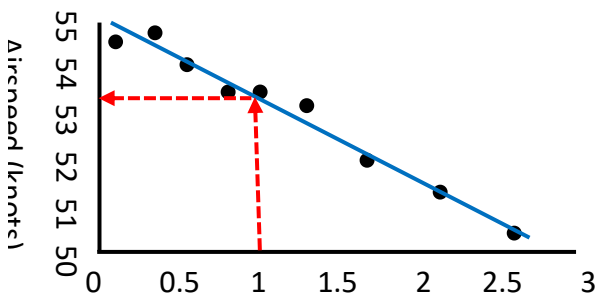



Figure 1 – $V_{S\text{-}Min}$ versus Entry Rate

The problem with $V_{S\text{-}Min}$ is that it varies with entry rate, (how fast the airplane is decelerating). In other words, the faster an airplane decelerates toward stall, the lower $V_{S\text{-}Min}$ becomes. Of course, OEMs, (Mooney, Cessna, Piper, Beech, Cirrus, Grumman, etc.), will bend the regulations as much as possible. As a result, we standardized to 1 knot/second, (reference Figure 1), for the deceleration or entry rate for the stall speed value. This entry rate needs to be established at least 10% above the actual stall speed. If you're really interested, read AC23-8C for more information.

The last two definitions of stall are not really an aerodynamic stall of the airplane. The first being the minimum level flight airspeed. Think "Ercoupe" on this one. The last definition is when the stick pusher activates. In this case there may be flight characteristics that are poor and the OEM (and the FAA) does not want the pilot to fly into that region. In this case, think some business jets. Enough about stalls.

A spin and a spiral are often confused with each other, but they are very, very different flight conditions. Also, the recovery methods are almost exactly reversed. DO NOT ATTEMPT TO SPIN YOUR MOONEY. INTENTIONAL SPINS ARE PROHIBITTED and it's a really, really bad idea. We'll get to that shortly. A spin initiates out of a stall that has a yawing moment – yes, either direction. The first revolution or two are

called the incipient phase. In other words, the airplane hasn't decided whether it wants to auto rotate in yaw (a spin) or stop yawing into a spiral. Confusing? … not really.

So how do we tell a spin from a spiral? In a spin, at least one wing is stalled, the airspeed will hover around the stall speed of the airplane and the airplane will be yawing about a vertical axis that is near or within the dimensions of the aircraft. The actual spin axis depends on the airplane, its CG and its mass distribution. Yep, there's a new thought for all y'all. All CGs are not created equal – More soon.

Refer to your Owner's Manual, Operating Handbook, AFM or AFM/POH for recommended spin recovery technics. In other words, read the Manual in the comfort of your hangar or home. DO NOT do this in your airplane! Well, reading is okay; the actual flight maneuver is not. The nose will be very low, but one must PUSH further to lower the angle of attack (AOA) because the wing(s) is/are stalled. It's not intuitive. This is the primary reason ASTM believes that stall/spin/spirals in the pattern are so fatal. The instinctive reaction is to pull when the ground is rushing up to smite thee.

Let's talk CGs for a bit. Most certificated general aviation airplanes will not spin at a forward CG. They will spiral, (often very, very nose low). Using the short bodies as an example, at a CG of 47" (the aft limit is 49", except for the M20B), loading or mass distribution is very critical. With that loading, let's add a 100 lbs. load at 47". The CG does not change. And, if we put 80 lbs. at 11" and the other 20 lbs. at 191", the CG stays at 47". The spin characteristics of these two loadings will be completely different. The one with the separated masses will spin much flatter and faster than the one with the concentrated load at the CG. Mass distribution makes a big difference. Think about the M20C and M20E. Their CG envelopes are identical. Their spin characteristics are vastly different.

In a spiral, neither wing is stalled, but the airspeed of the airplane is increasing rapidly. To recover, roll to the nearest horizon and pull – aggressively but gently. As airspeed increases, (dynamic pressure increases with the square of airspeed), the chances of over loading, (too many Gs), increases.

Bottom line: Roll angle during stalls should be kept within +/- 20 degrees. If not, something is wrong. Looking at the airspeed indicator you can tell if the airplane is spinning, (airspeed near stall speed) or spiraling, (airspeed rapidly increasing).

Next month: 'Chuting a Mooney. Is it possible? I'm an Enginerd. Is "No" a possible answer?

I really want to know your comments, questions and concerns about this article. I appreciate suggestions on where to take these articles and/or answer any questions you may have. Please email me at solutions@blueontop.com. Until next time keep the blue on top.

Blue on Top

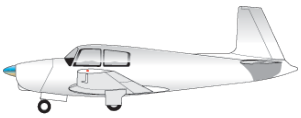
Ron Blum is an aeronautical/astronautical engineer with a 35+ year career managing general aviation Flight Test and Aerodynamics departments from shore to shore and border to border. He was Chief Engineer of the Mooney M-10 in Chino, CA. He founded Blue on Top LLC, providing engineering and management consulting, Flight Analyst DER services and keynote speaking.



There is a big inventory of serviceable airframe parts, including wings for M20C, E, F, G, J, K & R models, empennage assemblies, fuselages, rebuilt controls, rudders, elevators, ailerons, flaps, cowls, engine mounts, landing gear and small parts.

Paul Loewen is offering them online, or by phone. The website is www.LoewensMooneySalvage.com, and he can be contacted in Lakeport, California at **707 263-0462** or by cell at **707 272-8638.** Email is PaulLoewen98@gmail.com. The used inventory is also still available through LASAR Parts at 707. 263-0581

# Mooney Maintenance





Search Mooney's new website for Service Bulletins (SBs) and Service Instructions applicable to your Mooney

Click here

**Download and search LASAR's Airworthiness Directive ( AD) Log – all models**

Click here

LASAR
Fanatically Mooney. Exceptionally Fast.

# Ask the Top Gun

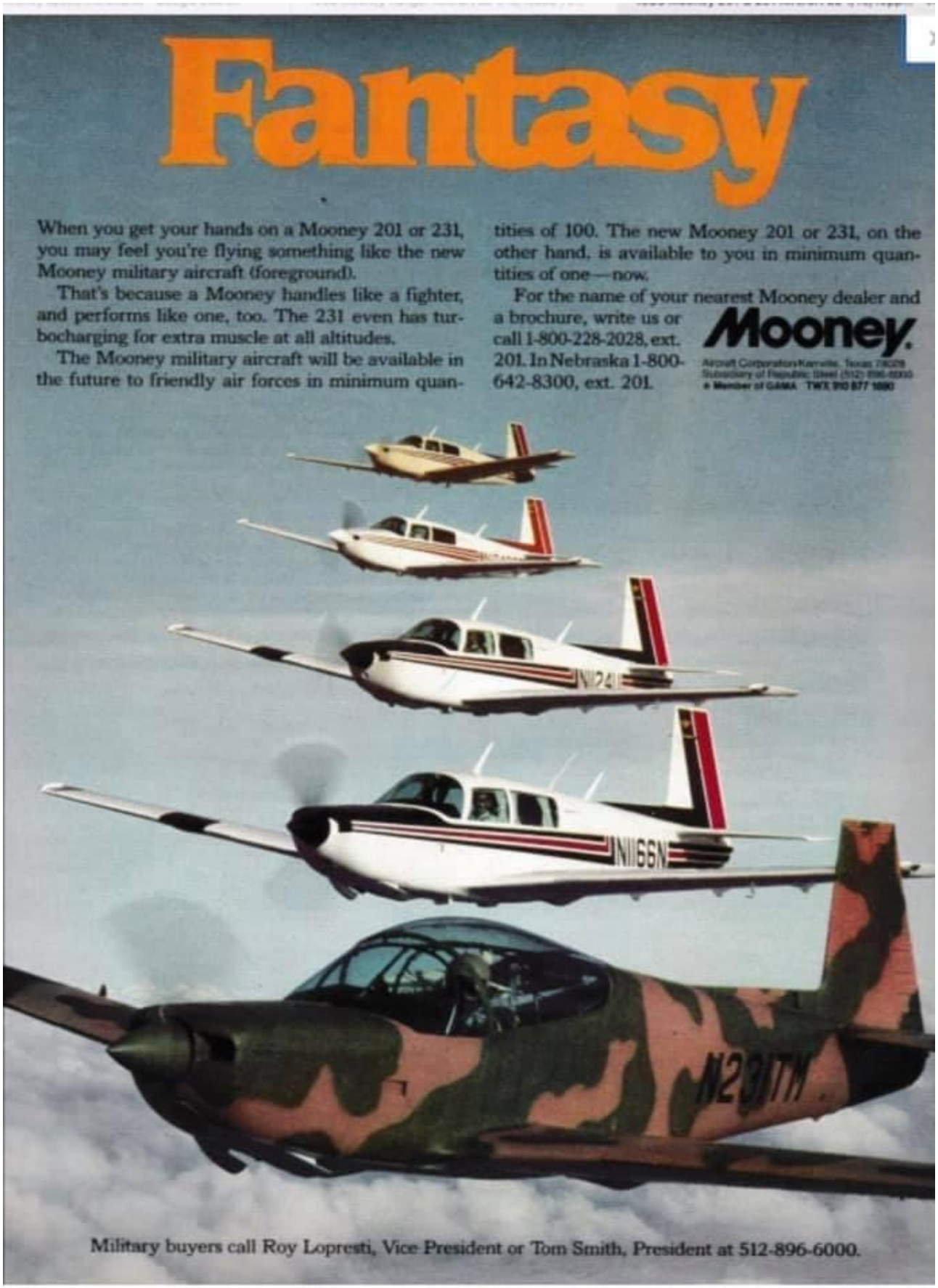

**Tom Rouch**
**Founder of Top Gun Aviation, Stockton, California**

Send your questions for Tom to TheMooneyFlyer@gmail.com

Dear Tom,

**Question**: During my annual inspection, while my airplane is on jacks, we always do an emergency gear extension. This year the cable broke!! Better on the ground than in the air. My question is: How long should these cables last? My Mooney is relatively young at almost 30 years old. When should these cables be preemptively changed?

**Answer**: Theoretically it should never break, and I have seen very few with a problem. I would guess that it has worn somewhere in its length and finally failed. Could be it has been chaffing where it makes a turn or bend. I think it runs around a pulley that may have been binding or something that caused an unusual stress on the cable. Something in that cable run caused the stress, so I would really pay attention to anything the cable touches when it is replaced. You should be able to trace the point of failure by where the cable broke and see if you can find the cause of the excess wear at that location.


Fantasy
When you get your hands on a Mooney 201 or 231, you may feel you're flying something like the new Mooney military aircraft (foreground).
That's because a Mooney handles like a fighter, and performs like one, too. The 231 even has turbocharging for extra muscle at all altitudes.
The Mooney military aircraft will be available in the future to friendly air forces in minimum quantities of 100. The new Mooney 201 or 231, on the other hand, is available to you in minimum quantities of one—now.
For the name of your nearest Mooney dealer and a brochure, write us or call 1-800-228-2028, ext. 201. In Nebraska 1-800-642-8300, ext. 201.
Mooney
N24
N166N
N20TN
Military buyers call Roy Lopresti, Vice President or Tom Smith, President at 512-896-6000.

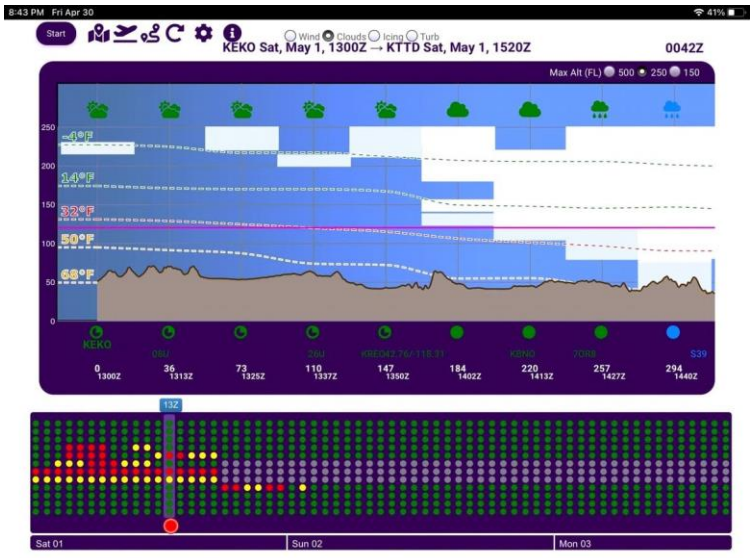


# New aviation weather app designed to help pilots avoid VFR into IMC

Flying Visual Flight Rules (VFR) into Instrument Meteorological Conditions (IMC) continues to be the leading cause of fatal weather-related accidents. In response to that, Dr. Scott Dennstaedt, an aviation weather expert, has developed a new app for pilots called EZWxBrief.

Many general aviation pilots have a difficult time recognizing the potential for adverse weather along their proposed route of flight. This automated application gives them that guidance while factoring in their own personal weather minimums. EZWxBrief helps to quantify the pilot's personal risk as it relates to weather and provides simple visualizations to enhance situational awareness along the route. EZWxBrief is a progressive web application designed to blend supplemental weather guidance with the general aviation pilot's personal weather minimums and expert weather training.

All of this is integrated with the EZDeparture Advisor to let you know the most favorable time to depart to mitigate personal risk and minimize the pilot's exposure to adverse weather.




Dennstaedt is a certified flight instructor and former National Weather Services research meteorologist. Over the last two decades he has been teaching pilots at all experience levels how to minimize their exposure to adverse weather. He has published more than 200 weather-related articles in various aviation magazines and is the co-author of a new aviation weather book, "Pilot Weather: From Solo to the Airlines."

An annual subscription to EZWxBrief is $79 and includes a "Tell us what you want to pay" renewal option.

# Time's up for aging analog clocks

Mid-Continent Instruments and Avionics (WICHITA, Kansas) has introduced a line of multifunction digital clocks, the CHRONOS Series. They feature eight modes of operation: Local Time, UTC/Zulu Time, Flight Timer, Countdown Timer, Stopwatch, Volts, Outside Air Temperature (OAT), and Secondary Air Temperature.

The clocks are available with single and dual USB chargers and deliver up to 75 watts of USB power.


The clocks are an easy upgrade during routine maintenance, and fit a standard, 2-inch panel cutout.

The new six-digit, seven-segment clocks feature external lighting control and a built-in photocell for automatic dimming. An internal, field-replaceable battery maintains time and flight timer memory, without aircraft power.

CHRONOS Series clocks are TSO certified and available starting at $499.

# uAvionix adds traffic display with new AV-Link – Available for Certified Aircraft, Winter 2021

uAvionix has introduced AV-Link, an inline Wi-Fi bridge for the AV-30 panel display, which adds new features to the AV-30, including live airborne traffic from a supported ADS-B receiver and the ability to wirelessly update AV-30's firmware.


When updates become available and new features are introduced, AV-Link updates the AV-30 from the direct serial connection located behind the aircraft's panel. Updates can be performed wirelessly from a local computer with the uAvionix AV-30 update application.

With AV-Link, pilots have the ability to wirelessly connect a supported ADS-B Receiver, such as ForeFlight Sentry or Sentry Mini, echoUAT, SkyEcho, skySensor, or any standard GDL90 Wi-Fi protocol portable ADS-B receiver with GPS to AV-30 and see live ADS-B traffic displayed in the panel.

AV-Link connects inline between AV-30 and the 15-pin DB harness wired to the aircraft's systems. After connecting AV-Link, pilots can connect to AV-Link via a computer to update the AV-30 display.

AV-Link is now available for experimental aircraft for $299. A certified model is expected to begin shipping in the winter of 2021.

Launched in October 2019 for experimental aircraft, STC certified September 2020, and EASA approved this year, AV-30 is uAvionix's three-inch panel display installable as either a primary AI or DG that adds a suite of in-flight information, including an Angle of Attack Indicator, Baro Corrected Altitude, Indicated/Vertical/True Airspeed, Non-Slaved Heading, Bus Voltage, G Load, GPS Navigational Data, and more.

# Personal carbon monoxide detector for pilots

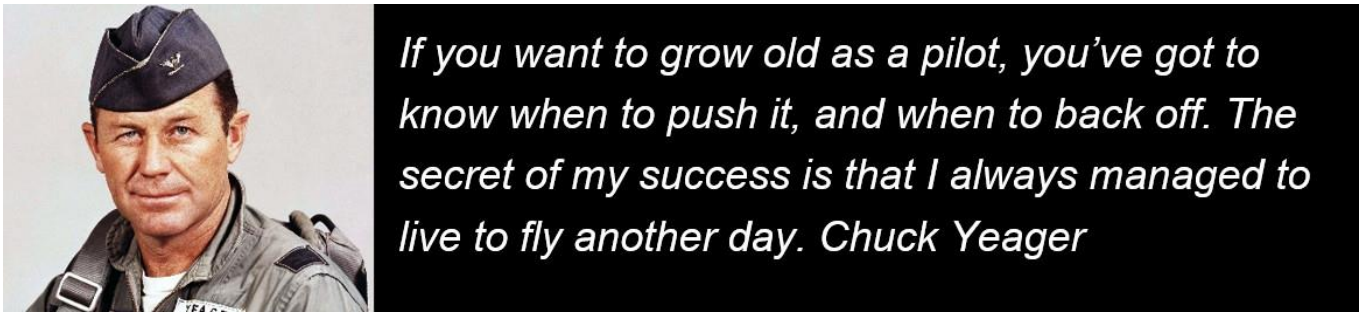
The newly introduced GEIGER CO is a carbon monoxide detector designed especially for pilots. It provides a real time alarm when carbon monoxide levels are dangerously high in the cockpit. The auto calibrating unit includes an aural alarm and a visual LED scale. It was invented by James Wiebe of Chipper Aerospace, Radiant Technology, and Thin Air Energy, based in Wichita, Kansas.

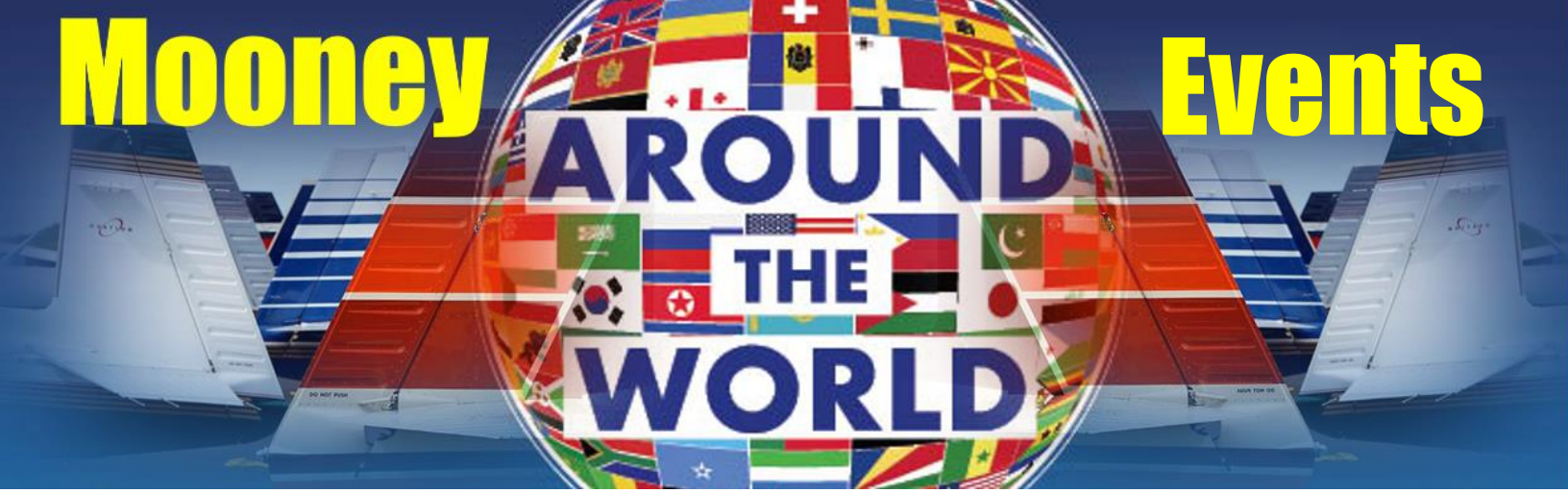

It is very small, rechargeable, and quickly capable of identifying carbon monoxide. Because it is designed to be attached to a keychain, it works in your car or hotel room.

Technical details:

- Size is 1.2 x 2.0 x 0.3 inches
- Runs for up to 10 hours on a single charge
- Detects Carbon Monoxide, sounds alarm at approximately 50 ppm
- Shows CO strength at a glance through visual LEDs
- Hangs anywhere using keychain attachment
- Solid aluminum case

GEIGER CO is available for $149. WATCH A VIDEO HERE






| | |
|---|---|
| Florida Mooney Lunch Group | *Contact Dave at daveanruth@aol.com or (352) 343-3196, before coming to the restaurant, to have an accurate count. Events begin at 11:30*<br>June 12: Winter Haven (KGIF)<br>July 10: Williston (X60)<br>August 14: Okeechobee (KOBE) |
| Mooney Caravan | July 23: Arrivals at MSN<br>July 24:MSN- OSH, Arrival at KOSH at 11:30am<br>CLICK HERE for details |
| MooneySafety.com<br>MAPA Safety Foundation Pilot Proficiency Program | **2021**<br>June 18-20: Fort Worth, TX Sep 10-12: Chicopee, MA<br>Oct 15-17: Wichita, KS<br>**Sign Up at** https://www.mooneysafety.com/ppp-registration/ |
| MOONEYSUMMIT | October 22-24: CLICK HERE for details |
| Australian Mooney Pilots Association | October 8. 2021: Spring Fly-in, Merimbula, NSW. CLICK HERE for the AMPA website.<br>March 17-21: Gathering of Mooneys - Coonawarra wine region |
| EMPOA | CLICK HERE for details |
| **Other Mooney Events** | Sep 10-12: The Mooney Flyer Fly-In to Paso Robles (KPRB) – Wine & Food Friday Evening, Saturday presentations, wine tasting, and hot air balloon rides, Dinner and more. |

TMF PRODUCT REVIEW

# PS Engineering PAR200B


The original PAR200 was introduced in 2013. In 2014, it was awarded the Aviation Consumer Gear of the Year for being the "Most Economical Combination Audio Panel".

Never resting on their laurels, PS Engineering, Inc. has been listening to their customers and have made significant improvements to the PAR200B. While the functionality hasn't changed, the user interface has received a great amount of attention. The result is much easier to use and features a brilliant display and simplifies access to advanced functions.

Another major enhancement is the addition of IntelliAudio®. This true dimensional sound system allows the pilot to pay attention to the radio that is important at any instant in time. This makes it much easier for the pilot to copy weather while being able to identify when he hears ATC call his tail number.

The PAR200B is a full featured audio selector panel with our 4-place stereo IntelliVox® (completely automatic VOX system) intercom and Bluetooth® interconnectivity. The VHF radio is remotely mounted to minimize the amount of panel space required. It also includes a built-in 10-Watt Speaker Amplifier.

PS Engineering partnered with Trig Avionics, LTD because of their reputation for designing and manufacturing great radios. The TY91L com radio has been designed to produce a minimum of 6 watts of output power and has selectable 8.33KHZ or 25KHZ spacing.

It has excellent radio selectivity and AGC specifications that makes both transmit and receive audio punch right through. Clear radio communications has been the trademark of Trig Avionics, LTD. The radio also has automatic radio squelch which assures that the radio trip level is always optimally set.

And to add flexibility, they have included their highly lauded Bluetooth® technology. Pairing phones or Bluetooth® enabled audio devices is easily achieved for wireless entertainment. Telephone calls can be distributed in three different ways (as determined by the ICS switch). The pilot can make a private phone call, the crew can make a call, or all on board can be in on the conversation.

And for music, there are two different inputs and two types of music distribution. The standard configuration allows music 1 (or Bluetooth®) to go to the crew while the passengers hear music 2. The other selection allows music 1 (or Bluetooth) to go to all headsets.

Up to 5 discrete radio frequencies can be stored in non-volatile memory for quick dial up as well as being able to swap from and Com 1 to Com 2 by way of a yoke mounted switch.

All installing hardware for the audio panel and radio are included. Microphone and Headphone jacks are not included.

The PAR200B has fully independent power supplies so you can power down the radio or audio panel individually. If you have a second Com or Navcom, you can use it as Com 1 and use our remote radio as Com 2.

The PA200B uses the same tray and connector as the GMA240, GMA340, PMA8000 series. However, there is additional wiring that is required to interface the Com Radio to the audio panel.


*Leveling off at 42,000 feet, I had thirty percent of my fuel, so I turned on rocket chamber three and immediately reached .96 Mach. I noticed that the faster I got, the smoother the ride. Suddenly the Mach needle began to fluctuate. It went up to .965 Mach – then tipped right off the scale … We were flying supersonic. And it was a smooth as a baby's bottom; Grandma could be sitting up there sipping lemonade.*

Albert and Arthur Mooney's father, John was an engineer who built railroad trestles for the Denver & Rio Grande in the western United States. John taught his sons drafting and layout work. Speaking of the Mooney wing spar, Al said, "Don't thank me, thank Art. He built that wing spar the same way Daddy taught us. Just like a railroad trestle." *Reference The Al Mooney Story.*


## Parts for Sale

This Cowling was removed from a M20E and replaced with a M20J (201) cowling. The cowling is located at Fullerton Airport (KFUL) and is in excellent condition. Offers accepted.

Contact: Bernard Lee – leebern@msn.com (562-865-2547)


P/N 310309-501
P/N 310309-502

These fairings are new and priced @ $280.00 each or $525.00 for both. Priced elsewhere @ $362.69 each.

Contact: Bernard Lee – leebern@msn.com (562-865-2547)


Bushing P/N 914007-003 - 2- Bushings in the original package @ $35.00 each. Priced elsewhere @ $45.00 each.

Bushing P/N 914007-005
1-Bushing in the original package @ $59.00
1-Bushing loose @ $50.00
Priced elsewhere @ $69.00 each

Contact: Bernard Lee – leebern@msn.com (562-865-2547)

Access Covers P/N 3000-901 (2-available) - 1-without nuts attached.
Make offer. Contact: Bernard Lee – leebern@msn.com (562-865-2547)

**N9426V**
**1970 Mooney M20F s/n 700029**

**5725 Total Time**
**475 SMOH in 2013**
**1384 SNEW Prop, 3 Blade Hartzell** $69.900

Paint: AcraGlo in 2010. Condition 8, normal wear
Interior: 2002. Grey Leather. Condition 6

**Avionics:**
#1 Nav/Com King KX155 w/ GS. Coupled to HSI
#2 Nav/Com King KX170B
King KCS55 Slaved HSI
Narco AT-150 Linked to Uavionix Tail Beacon, ADS-B Out
JPI EDM 930. Full function with Fuel Flow
PS Engineering 4 Place Intercom
Airtex 406 ELT
Vertical Card Compass

**Airframe:**
201 Windshield and ¼ Side Glass
Aero Resources Cowl Fairing and Landing Light Cover
Lake Aero Gap Seals
StandBy Vacuum System
Brackett Air Filter
M20 Air/Oil Seperator
Spin on Oil Filter
Throttle Quadrant
**Fuel Tank Reseal in 2007, No Leaks**

**Useful Load: 1036 lbs.**

Annual 6/2020 IFR/ALT/TXP 5/2019

**Damage:**
Gear Up Landings in 1981, 1984, and 1997. 337's for repairs with Factory Parts

Contact John Echols at echolsjt@geospectrum.com or 432-559-3119

# 1/3 SHARE FOR SALE

Two partners are offering the final 1/3 co-ownership share in this excellent, incredibly unique and well-equipped aircraft. Over $50,000 spent over the last two years, upgrading and sorting it out. The share price is $45,000.
TTAF is about 3160, engine SMOH About 1320 (Mattituck Red/Gold). We have Calculated that 1/3 of the fixed expenses will be around $5,250 per year. Reserves TBD. Photos and all records can be provided. The plane is hangered at KCCR Concord, CA.

- Garmin GNS 430 WAAS
- King KX 155 N/C/LOC/GS
- Castleberry electric back AI
- King KFC 150 FD/AP alt hold, climb/descend, simulated GPSS
- King KCS 55A HIS
- Garmin GTX 330 ES TXP with traffic, ADS-B out
- Newly Overhauled KX 256 AI ($1,730)
- King KN 64 DME
- New Garmin GMA 345 Audio Panel
- New JPI 830 with *all* options
- ADS-B in including traffic, weather, Sirius XM, etc. via a new certified Garmin GDL 52R hard wired to a panel mounted Garmin Aera 660. A new yoke mounted Aera 760 will be hard wired to provide IFR charts and Additional features. More Bluetooth connections for portables and iPad available from the GDL 52R
- Newly Overhauled BFG WX 1000+ Stormscope, display and processor ($1,890)
- 28-volt electrical system
- Astrotech LC-2 clock
- Electric trim with CWS
- Yoke mounted AP disconnect and ident.
- Electric Back-up vacuum
- New STC'd gear and stall audio alarm ($1,100)
- Built-in CO2 detector
- Speed brakes completely overhauled January 2020 ($2,800)
- Four place intercom
- 2900 GW STC
- Two built-in David Clark 20-10X ANR headset jacks with headsets
- CYA 100 AOA with custom housing, (not yet wired) ($1,690)
- Useful load 992 lbs.
- Air/Oil Separator
- Reiff Preheater, 2 sides
- Removable back seats
- Articulating seats
- Inflatable lumbar support
- Indirect interior lighting
- Kool scoop
- Wing mounted fuel gauges
- Two place Sky Ox oxygen tank with custom rack
- Sidewinder electric power tug
- B-Cool ice cooler with remote switch
- Annual completed February 2020 by Top Gun Stockton MSC.
- Tan leather interior redone 2012, good condition, front sheepskins coming soon
- Custom black front floor mats, custom cover, cowl plugs
- Original paint. Pleasing colors. Looks very good at 8'.
- The plane starts right up hot or cold, good compressions, does not use much oil, good oil analysis, runs very smoothly, flies great.
- Recent avionics fan, fuel pump, starter, battery, airstop tubes on mains
- New shock discs 2 1/2 years
- No back clutch spring was installed 2 1/2 years ago

Give me a call anytime at 510 377 0129 or email bradinc@astound.net. Thanks! Steve


Rusty Pilot or Old Pro
INSTRUMENT PROFICIENCY CHECK
Study Guide
J D Price, CFII, MEI, ATP
FLIGHT REVIEW
Study Guide
J D Price, CFII, MEI, ATP
Prepare online
FREE
JDPriceCFI.com