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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From the Editor

Phil Corman

Yeah, that's me from what seems like a hundred years ago. It was the first time I left the surly bonds of earth and touched the sky. It changed my life forever; all for the good!

I flew my first solo at KFIT (Fitchburg, MA), on June 16, 1978 in a C-152 with my instructor Perley Carmichael watching from a safe position on the ground. Perley was an amazing CFI. He instilled the judgement and skills I would need for the next 40+ years. On my first departure, I was cut off on my downwind leg by another aircraft. On my second departure, the winds had shifted and I needed to change runways. It seemed like a big deal to me on that day. I got my certificate on November 5 of that year.

I bring all of this up because, at this time of year, I reflect on what I am grateful for. Of course, my family is at the top of that list of "thankfulness". I have amazing kids and love each one of them. I also love my friends who, with me, have survived over the years.

Flying is my top "non-person" thing to be thankful for. My heart is still in the sky after each landing, even after countless flights over the last 40+ years. Each time my gear leaves the runway, my heart leaps. Flying is both challenging and relaxing. It puts me into a state of happiness by just writing and thinking of it. It's both demanding and rewarding. I made most of my friends through flying. So, flying and friendships have that in common and they are both priceless.

Flying is a metaphor for living. It can be death defying… joyful… scary… exhilarating… and all of those; sometimes at the same time. Life, as flying, requires good judgement, and both, despite our best intentions, give us the opportunity to exercise less than good judgement. Just as in life, sometimes flying demands that our skills get us out of the consequences of our "less than good" judgement. You cannot rewind those poor decisions, but we can learn from them and become better at life and living. Life, as with flying, is about constantly learning, and as my instructor said, "Making new mistakes, not the same old mistakes".

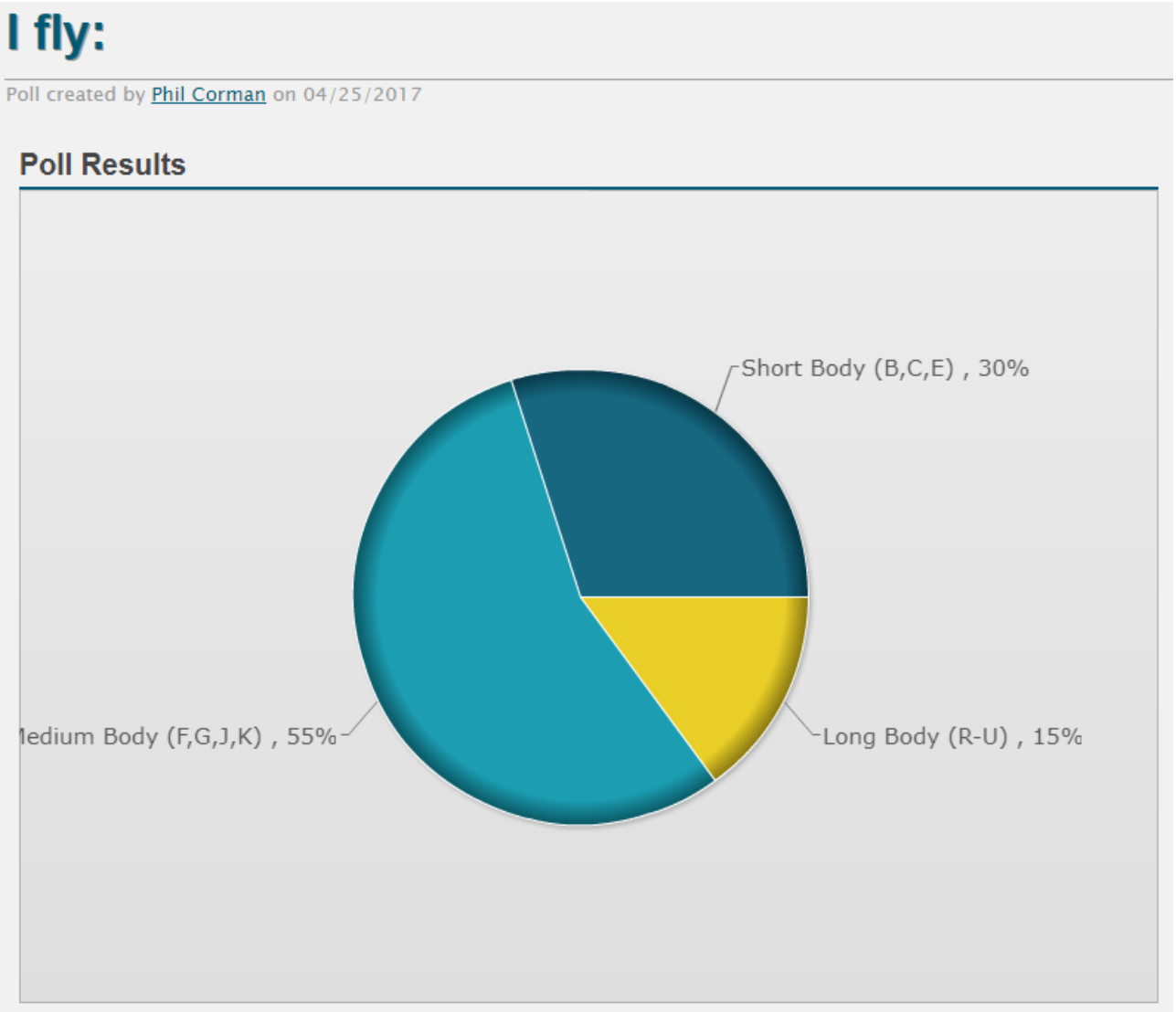
In my life, I like to say that my wife gave my kids "Roots" and that I gave them "Wings", metaphorically speaking of course. My kids have soared in their lives and it feels the same to me

as soaring over the Sierra Nevada Mountains on a crystal clear day without any winds aloft (Severe VFR as we say)… an amazing high… flying and living.

My dad and I bonded over flying. He could not get a medical and hence could not learn to fly even though he wanted to do so very much. When I got my certificate, we often flew together and I taught him to fly. He became a right seat aviator without the certificate. Before flying, we weren't very close, but "flying" established a bond for us that couldn't be duplicated by any other means. Flying and living seem so intertwined; the joys and challenges that they bring. My dad passed too early and his leaving felt like I was grounded for a while. He left me a little money in his will. It happened to be the right amount to buy a Mooney M20C, so I did. At the time, my wife said, "He wouldn't have wanted you to spend the money on anything else". N5722Q became part of our family. Your first airplane is a lot like your first "love". Everything is wonderful… Everything is amazing… And it's hard to believe that it's true and happening. 22Q took us everywhere. My wife called it "our time machine". All of a sudden, the world got smaller. We flew places we might never have driven to; Lake Tahoe for a day on the lake in the mountains… dinner and a show in Las Vegas… low level flight over the Grand Canyon… a cross country from the Atlantic to the Pacific, and much more.

My wife Linda caught the love of flight and of our Mooney. Although not a pilot, she is surely an aviator, involved with all pre-flight checks, landing checklists, spotting traffic, suggesting destinations, and much more. As with my Dad, our Mooney has brought us closer together in the shared "Mooney Flying" passion. She's steady as a rock in the cockpit. On one occasion, while visiting Friday Harbor in the San Juan Islands, our throttle cable broke and fell onto the cockpit floor in the pattern. Her response, "That can't be good". She then proceeded to pull the POH for guidance. Another time, our right main gear broke with a loud clank. Panic? Not from Linda. Again, she got the POH and asked me when we should pull the circuit breaker on the gear so we could lower it manually. Where did she come from? She's an aviator and flying/life partner. Aviation does that to people.

Now we have an Eagle and are Mooniacs for life . 22Q is in the hands of a capable and amazing USAF pilot who loves her as we did. We are a Band of Brothers, us Mooniacs! Addicted to speed and performance, good looking aircraft on the ground and in the air… demanding and rewarding; as are our lives.



Next month's poll: "I like to do the following on my Mooney": **CLICK HERE** to vote.

Send your comments to editor@themooneyflyer.com

I fly a M20R 2006 TT 700.

It seems to be common knowledge that you don't want to fly your plane over squared. I was taught to take off with "balls to the wall", then after climbing 400 to 500 feet reduce the manifold pressure and rpm to 25/25 until I reach cruising alt. Cruise full throttle 2409 rpm.

My question, is any part of my technique damaging or causing unnecessary stress on my engine?

Thanks
Dr T

Editor Note: *First off, you are not stressing your engine It's a myth concerning oversquare. It's quite ok.*

Your engine was designed to be run wide open throttle. I recommend not reducing MP until you are at cruise altitude.

I enjoy the magazine a lot. You and Jim do a great job. On the latest Mooney Flyer link, it suggested to send articles if we have something of interest.

I fly a 1982 M20J out of the DFW area of Texas. Recently, I had the opportunity to attend a mountain flying clinic given by the New Mexico Pilots Association. I have written up an article/review of the experience. is this something that you think might be of interest for the magazine? If so, I will send it after I edit it a little more.

Derek B

Why Gear-Ups?

Reasons for Gear-Up Landings

54% are caused by, "I forgot"; usually because of distraction(s)

30% are caused by Mechanical failure

15% are caused by Gear Collapse

1% are caused by the Strange and Bizarre

About 1 in 5 gear-up landings involve the Cessna 210. Why?

1. Nearly 10,000 210s were built
2. It has a complex gear system that works well but requires careful maintenance. Because of the gear complexity and perhaps because of less than careful gear maintenance, almost half of the 210 gear-ups involve mechanical issues.

Look at the Bonanza. More than 17,000 were built, but it's only involved in five percent of the gear-ups. Over 10,000 Mooneys have been built, but their gear-up rate is double that of the Bonanza. Are Bonanza pilots more attentive than Mooney Pilots?

Military adds an extra layer of Safety

Air Force controllers require all landing aircraft to confirm that the Landing Gear is down. If you've flown in the military, or landed at a military airfield, you have heard something like this from the controller: "Mooney 7 Kilo Whiskey, check gear down, cleared to land runway 26." I love this reminder because it strengthens my resolve to land with the gear down. Sadly, the military controller's reminder doesn't eliminate gear-up landings. Several years ago, a young Lieutenant was landing his A-7. The tower controller reminded the pilot to "check gear down". The pilot responded, "Gear checked, plus his call sign." And, yet . . .

The pilot assigned to the Runway Supervisory Unit (RSU), whose job it was to watch over the A-7s in the pattern and ensure that each landed with the gear down, was less than engaged. In fact, he was reading a magazine and did not notice the A-7 approaching the runway had the gear retracted.

Sadly, when the Lieutenant landed without landing gear, he tried to erase his mistake by applied full power. That only exacerbated the friction and heat, resulting in a fire.

Fortunately, that young Lieutenant and the pilot in the RSU had thick skins. The other A-7 pilots would often remind them of the time that they failed to protect a valuable A-7.

Protect your ego and your airplane. Always use the GUMP Check

- Gas
- Undercarriage
- Mixture
- Prop

Check the gear switch in the down position and confirm that the floor indicator indicates that the gear is indeed down. On final, imagine that a controller is asking you to "check gear down". Check your gear indicators and say out loud, "Gear is down". This will help keep you out of the "I forgot/was distracted" group of gear-uppers.

You can thank me later.

Mooney: What's Next

Phil Corman

Co-Editor

The news media has reported that the majority of employees at Mooney International have been furloughed. Further, it has been reported that this is temporary. Who knows where the truth of this lies? Who knows what's next for this storied General Aviation Brand?

What We Know

Making money in General Aviation is hard. The saying goes "***To make a small fortune in General Aviation, start with a large fortune".*** Mooney builds the fastest, piston powered, single engine production airplane in the world! Mooney has been in Kerrville since about 1953, changing hands 10 or 11 times since then. Seemingly, they were going out of business many times. We know the men and women in the factory who build our Mooneys are second to none. We also "feel" that when it comes to Marketing the brand, Mooney was not a leader.

What Went Wrong

Since being purchased by Soaring America, Mooney has not instilled much confidence in potential customers. First, it spent tens of millions of dollars on the composite M10 (2 and 4 place) models.

It was planned that they would be produced in China. After several years and all of that money, the promise of China's General Aviation explosion did not materialize, and the developments were ended.

It seemed like a good idea at the time. China was going to burst into the General Aviation market and Mooney would have trainers to sell for all of those student pilots in China and the US. Then Mooney would market those students into M20s after they got their certificates. That strategy has worked for decades with Cessna and Piper.

A lot of money and focus went into a Research & Development Center in Chino, CA instead of focusing on modernizing and improving Kerrville. To be fair, the company greatly improved the product, adding space, a pilot-side door, making the windows bigger and the avionics sweeter, all by incorporating a composite forward fuselage shell. However, the split focus turned out to be a money and resource pit.

Another issue was the lack of an amazing "Customer Experience". Mooney seemed 100% focused on getting an airplane out the door. For instance, Marketing and Service/Parts experiences were not close to that of Cirrus. Also, back in the day, when Mooney was selling 125 M20s or so, they had an army of salespeople. That is no longer the case. Cirrus sells airplanes on modern composite design, spacious cabin & visibility, and the famous ballistic parachute, and it works. Mooney's average customer has $10M in net worth, owns his or her business doing $50M in sales, and is a self-made success.

The worst sort of business is one that grows rapidly, requires significant capital to engender the growth, and then earns little or no money. Think airplane. Here a durable competitive advantage has proven elusive ever since the days of the Wright Brothers. Indeed, if a farsighted capitalist had been present at Kitty Hawk, he would have done his successors a huge favor by shooting Orville down.

Warren Buffet

Perhaps the main issue that has plagued Mooney is a clash of cultures. The Meijing Group that owns Mooney is Chinese and Mooney is Texan. That's even a bigger bridge than left vs. right politics in the US. CEO Jerry Chen shopped the company to 14 or 15 entities. He was the broker. Now, the CEO of this company, Veronica Wong, wants to see aviation grow in China. She's a 34-year-old billionaire. This clash of cultures is nobody's fault. It just made things more difficult. It's not clear what level of knowledge and experience the Meijing Group had at the time of purchase.

So Where is Mooney?

To be honest, we do not have any more insight into this than most others. As of this article, there is a rumor that there may be a sale of Mooney to an American group. We have nothing to backup to this rumor. There is another rumor that a new business plan is being developed. Again, we have no corroboration of this, but we hope one or both rumors have validity.

To maintain the Type Certificate, Mooney will have to keep a skeleton crew onboard. Parts availability should not be significantly impacted in the short term. Mooney Service Centers such as LASAR, Top Gun and Maxwell Aviation have been doing a stellar job for years.

A short-term priority is not to lose the incredible talent of those furloughed. So, moving forward with a plan and strong management is critical.

What Should Mooney Do? (Only Our Opinion)

We feel that a 3-pronged approach is warranted:

- Start a M20J and M20K Refurbishment Program
- Develop a World Class Customer Experience Effort
  - Marketing, Service, Parts
- Develop a Pressurized Turbine Model

The M20J and M20K are extremely popular models and many pilots would like to see them return to production. Refurbishment can make everything but the airframe new. Although Mooney can't "zero time" the airframe, they could refurbish with:

- Zero-time engine
- Zero-time prop
- Modest (non-G1000 like) avionics
- New paint
- New interior

Then, sell it for an affordable price. Mooney could make money at this and have a tidy business at 50+ refurbishes a year. This provides an M20 model significantly below an $800K Ultra with an almost new M20 as a steppingstone for new potential owners and even existing ones.

Next is the idea of a true **Customer Experience** program including Marketing, Sales, Service, Parts and Owner Support. Mooney seems mostly focused on moving M20s. But Mooney needs the same focus and expertise in Customer Experience that it already has in the factory. Learn from competitors like Cirrus. This entails a strong and distributed sales eco-system that has Mooney in front of its customers in the USA and worldwide. Seeing, touching and flying sells Mooneys, but this needs to be followed up with a world class experience with aftermarket support for Service and Parts. Lastly, they need a communications and event strategy for new customers and existing customers.

There is a stronger market for pressurized single engine turbines. Imagine if Mooney developed one and beat its competition on speed, performance, and price. Sound way out there to you? Look at Piper Aircraft. They sell lots of Cherokees and probably make in the ballpark of $15K or so. However, they also sell Meridians and probably make $200-250K. They sell a lot more Cherokees but make a lot more money on those pressurized single engine turbines. Imagine a Meridian killer from Mooney and it would pay the bills.

To be competitive, Mooney needs to put some focus on costs. It's been said that it takes a little more than 4,700 hours to build an Acclaim while it takes 2,200-2,300 to build a Cirrus. Bringing these times down can have a measurable impact on price/cost.

Summary

Mooney is known for Speed… Performance… and the men and women that produce it. Mooney International has its own steel cage and will survive this and rise again.

7 Times ATC is Required to Ask You for a Pilot Report

ATC is required to request a pilot report when the following conditions are observed or forecast?

1) Ceilings at or below 5,000 feet. These PIREPs should include cloud base/top reports if you know what they are

2) Visibility (surface or aloft) at or less than 5 miles

3) Thunderstorms and related weather

4) Moderate or greater turbulence

5) Light or greater icing

6) Wind shear

7) Volcanic ash clouds

by Bruce Jaegar, Master Mooney CFII

The first signs of winter bring concerns to any pilot. Hazards such as cold temperatures, ice and snow can change a typical flight into a nightmare. If you've been there, you know exactly what I mean.

Imagine you're flying on an instrument flight plan barely on top of an overcast at 10,000 feet. The area forecasts warn of ice and pilot reports confirm it, but you decide to take off anyway. Soon, the cloud tops force you higher in your non-turbocharged Mooney and good alternates are far away. An update of your destination weather reports a miserable 600 feet overcast, 1 mile and moderate snow. Your pulse increases while you consider the options. The weather behind was better, but fuel and distance are a concern. You wonder how you could have been so foolish to not turn back sooner.

The cloud tops force you higher and you receive a block altitude clearance of 12,000 to 14,000 feet and what's ahead doesn’t look any better. You don't have oxygen and the legality of this flight weighs heavily on your mind. You think no meeting is this important and you're thankful no one else was able to go along.

Your best choice has become the nearest airport with a long runway, approach control and an ILS. You request a change in destination and thank goodness you find the charts. Finally, at 14,000 feet and 30 miles out, the airport center turns you over to approach control. You ask for the current weather and pilot reports. Ceiling is 600 feet and visibility 1 mile with moderate snow and there are reports of light to moderate mixed ice. Approach asks if you have deicing equipment and you respond with negative. At this point you need help and aren't afraid to ask for it. You request a non-restricted descent and vectors to join the final. Approach obliges and is aware of your situation.

As you enter tops of the clouds at 12,400 feet, you're shocked at how fast the windshield ices over — but you shouldn't be surprised at a temperature of -8 Celsius. Your attention turns to the wing, which is already picking up significant ice. Pitot heat is turned on and thankfully working. You reduce manifold pressure by 2 inches and RPM to 2,300 and accelerate to 150 knots. Your rate of descent is 1,200 feet per minute and you're descending through 9,000 feet, looking for 4,000. Ice buildup is at least 1/2 inch and it's ugly, jagged stuff. The temperature remains cold and with snow at the surface, you know the ice is there to stay. There's little you can do about the vibration that must be ice on the propeller and seeing out the windshield is a problem. Approach advises that you're 10 miles from the outer marker and cleared for the ILS, maintain 4,000 until established. You're asked about the ice and respond that you're concerned. The ceiling is still 600 feet and visibility is now 1/2 mile. Finally, the localizer needle is alive. You review the approach chart, identify the frequency and note that airspeed is only 120 knots — even with 20 inches power and 1,000 feet per minute descent. There will be no go around on this one. You've never seen so much ice. Five miles from the marker, thankfully you have another 2,000 feet to lose. Where is the glideslope?

You're finally turned over to the tower and cleared to land with visibility down to 1/2 mile. You're relieved that the glideslope is finally indicating and wonder just how much ice is on the tail. It takes a lot of power to hold 110 knots. You recall hearing that flaps would be a problem in a situation like this and leave them up. You decide to delay extending the gear until the ground is in sight. Two miles from the airport you finally have a glimpse of the ground, but not the runway. Maybe a little turn to the side will help you see out the corner of the windshield. The defroster is worthless. You extend the gear and are planning to make no power change until you're on the ground, but how are you going to see to land? Finally, you pick up a flashing approach light and catch a glimpse of the runway. You choose 100 knots of airspeed, power is still at 20 inches and you'll have to look out the side to stay on the runway. There's no way to practice this maneuver. You were lucky and made a successful landing and promise yourself never again. How could anyone have been so foolish?

I can still remember the 1996 approach into Springfield, Ill., that prompted this story. Cold weather is unforgiving. Ice crystals in your fuel can shut down an engine, taxiing in snow or slush can freeze your brakes, carbon monoxide can pose a threat and an icy runway can test your skill. How can those northern Mooney pilots survive?

Nearly 40 years of winter Minnesota flying has taught me the importance of saying no. A flight decision is based on the forecasts, pilot reports, the performance and deicing equipment for your model Mooney, available alternates, your experience and compliance with regulations. Your decision can't be based on the need to be somewhere else. If topping the weather requires turbocharged performance, you must absolutely consider the destination approach in your go-no-go decision. Induction ice can be another significant factor.

Consider these factors in preparing a Mooney for cold weather operations:

- Assure service is up to date with winter grade oil, fluid lines in proper condition, exhaust checked, alternate air and carburetor heat systems working normally.
- Use an approved isopropyl alcohol fuel additive.
- Preheat when below freezing and check your breather tube for ice.
- Winterize oil coolers.
- Fly your Mooney regularly and long enough to keep moisture buildup from causing rust.
- Be certain engine temperatures are warm enough to accept takeoff power.
- Assure all deicing equipment is working normally.
- Dress for winter and carry blankets or other cold weather gear to increase cabin comfort.

Flying a general aviation aircraft safely requires skill and conservative decision making in any weather condition — but cold weather makes it even more critical. Far too many icing accidents involve experienced, well-qualified pilots who received weather briefings and willingly flew into such conditions.

Recent changes to FAA regulations have given pilots more control, adding more responsibility. For example, here's one interpretation of the FAA's latest rule:

"Whether a pilot has operated into known icing conditions contrary to any limitation will depend upon the total information available to the pilot, and his or her proper analysis of that information in evaluating the risk of encountering known icing conditions during a particular operation. The pilot should consider factors such as the route of flight, flight altitude, and time of flight when making such an evaluation."

This latest "known ice" interpretation is evidence of the fact that the FAA is beginning to treat pilots more as responsible adults than as children. This, of course, places a far greater burden upon pilots to know and understand the intricate world of wintertime flying.

Mooney Crashes due to Carbon Monoxide Poisoning

by Jim Price

February 2, 2017

Daniel Johnathan Bass, a 39-year-old commercial pilot had used the Mooney M20C's airplane's heater throughout the day. He reported having a headache and experiencing "butterflies" in his stomach during the end of the first flight. The headache subsided after the flight, and he felt fine during the second flight, but the headache returned after he landed.

Flight # 3: Duluth, MN (KDLH) to home airport, Winona (KONA), MN.

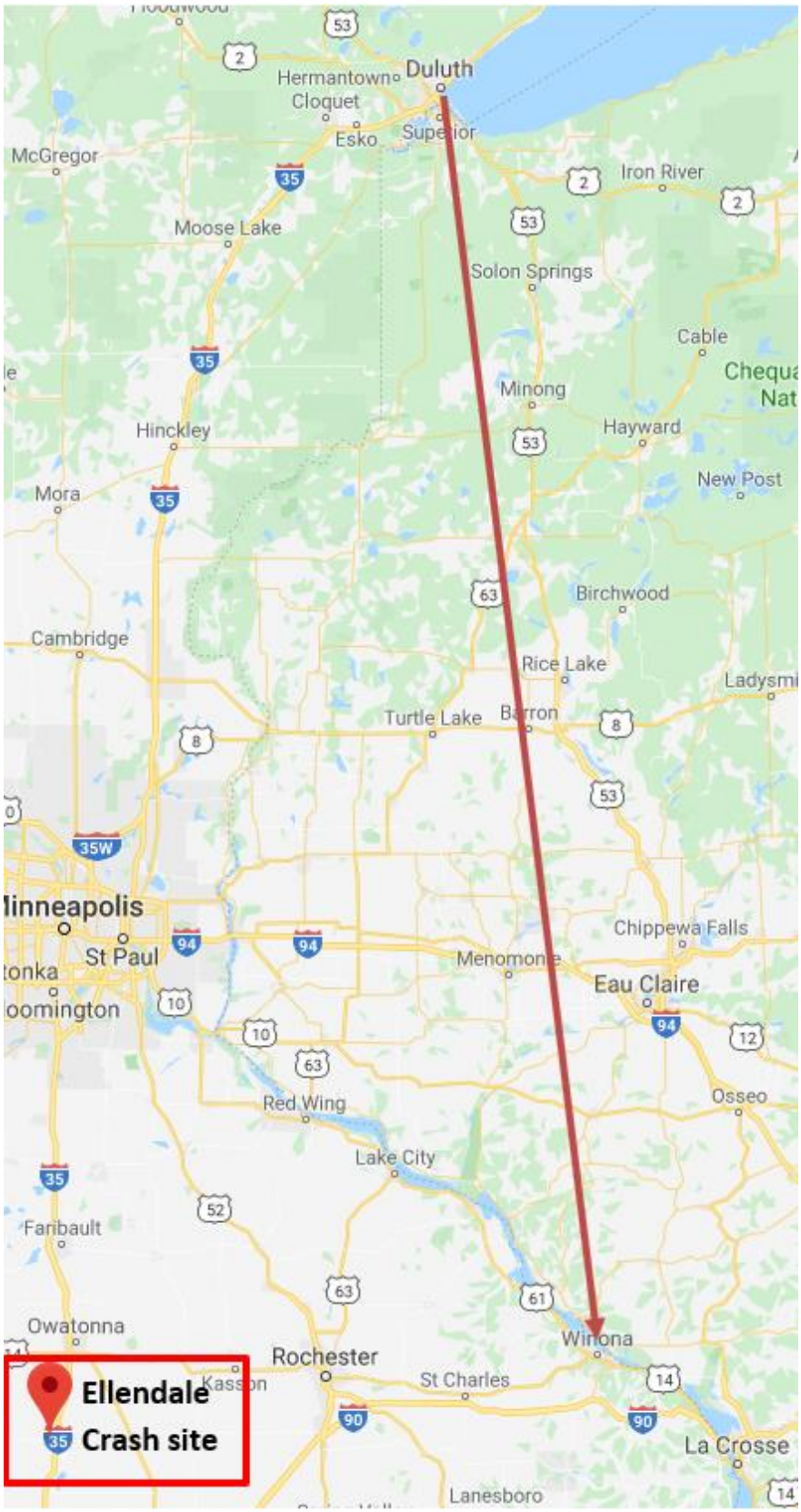
Daniel Bass expedited his time on the ground because he was concerned about getting the engine started in the cold weather. He started the engine and sat in the airplane while he filed his IFR flight plan and got organized for the flight.
While taxiing to the runway, Bass still had the headache, and he experienced another episode of "butterflies." He stated that the symptoms were more intense at that time than they had been in the morning, but that they subsided by the time he reached the runway, and he felt "good," but became "hyper focused."

He performed an engine run-up and repeated the takeoff checklist three or four times until the controller asked if he was ready to take off, which "snapped" him out of repeating the takeoff checklist. He was in the airplane with the engine running for about 12 minutes before takeoff at 6:10 pm.

He remembered being cleared to a heading of 240° and setting the autopilot heading bug before taking off. He stated that, while climbing out, he experienced another case of the "butterflies." He added that he began a turn and activated the autopilot during the turn. The last thing he remembered was being cleared to 6,000' on a heading of 240°.

At 6:12 pm, after he attempted to check in twice with departure control (he was still on the tower control frequency), Minneapolis Center controllers repeatedly attempted to contact the pilot without success.

Radar data showed the airplane flew a ground track of 190 to 200 degrees at altitudes that exceeded 12,000 feet MSL. The last radar contact was at 7:52 pm at 2,300 feet MSL and about 80 miles west of Winona, Minnesota. The airplane continued to fly until it ran out of fuel and crashed in an open field near Ellendale, Minnesota. The pilot was not conscious until after the airplane hit the field.



He stated he was very confused and had a loud ringing in his ears at this point.

He freed his legs from the wreckage and got out of the airplane. He stated he was very weak and had difficulty with his balance and ability to walk. In the distance, about 500 yards away, he saw a light and started to walk towards the light.

A Nurse

Cynthia Crabtree had been sitting in her sunroom that night, when she heard a noise. She thought it was an oak tree that had fallen. Later, she heard a banging sound on the outside of her home, and a cry for help. She looked out the window and saw a man with blood on his face. Cynthia is a nurse, so naturally, she felt a need to help the man. Although she was alone that night, she asked him to come in and she called 911.

Cynthia did what she could to help the injured pilot. Although his speech was impaired, he was alert and responsive. Soon, help arrived.

Post-Accident Investigation

Both fuel tanks were empty. The cabin heat was on, and the cabin vent control was off.

The exhaust muffler had several cracks, one of which contained soot/exhaust deposits on the fractured surfaces, indicating it existed before impact. The crack would have allowed exhaust gases to enter the cockpit/cabin.

The airplane was not equipped with a carbon monoxide (CO) detector.

A review of maintenance records showed that a new exhaust system was installed on the airplane on Jan. 25, 2007. The last annual inspection was conducted exactly a year ago, on Feb. 2, 2016.

The pilot's CO level, when tested over 4-1/2 hours after the accident, was 13.8%. Given the half-life of CO in the blood stream over four to five hours while breathing ambient air, the pilot's CO level at the time of the accident was at least **28%** and likely significantly higher because oxygen was administered in varying amounts during the first few hours of his post-accident medical care.

Probable cause: The pilot's incapacitation from carbon monoxide poisoning in flight due to cracks in the exhaust muffler, which resulted in the airplane's continued flight until it ran out of fuel and its subsequent collision with terrain.

NTSB Identification: CEN17LA101

Forever Grateful

One Sunday afternoon, not long after the crash near Cynthia's home, a beautiful bouquet of flowers and a brief note were delivered, which brought tears to her eyes. The note said, "Thank you so much for everything. I am doing well, better every day. Looking forward to seeing you again. I will be more cleaned up and will drive there to visit you.
Yours truly, Dan and Deanna Bass."

About Carbon Monoxide

Carbon Monoxide (CO) is an odorless, tasteless, colorless, non-irritating gas formed by hydrocarbon combustion. CO binds to hemoglobin with a much greater affinity than oxygen, forming carboxyhemoglobin; elevated levels result in impaired oxygen transportation and utilization. Nonsmokers may have up to 3% carboxyhemoglobin in their blood, while heavy smokers may have levels of 10 to 15%. The pilot was a nonsmoker.

The pilot's CO level at the time of the accident was at least 28%, perhaps significantly higher.

The most common symptoms of CO poisoning are headache, dizziness, weakness, upset stomach, vomiting, chest pain, and confusion. CO symptoms are often described as "flu-like." If you breathe in a lot of CO it can make you pass out or kill you.

How Much is Your Life Worth?

$98

BW Clip 2 Year CO Single Gas Detector BWC2-M

$499

ForeFlight Sentry ADS-B Receiver with CO detector

$99.95

CO Detector by Forensics

For more detectors, CLICK HERE

$169.95

Carbon Monoxide Cockpit Monitor

Installment #4

Brian Lloyd, CSEL/CMEL, CFI/CFII

Be careful what you ask for; you may get it. The winter weather pattern has hit Texas with a vengeance. We are seeing the regular parade of cold fronts on a 4-7-day cycle. We get two days of hot, humid, and hazy; followed by a line of thunderstorms blasting through and dropping a couple inches of rain. Then there's a day of cool, strong, gusty north winds, followed by two or three days of perfect flying weather. That means I don't have to depend on the simulator quite so much to maintain instrument proficiency. Nature is going to offer me perfect IFR weather every week. How's that for finding a silver lining?

Last week I had the pleas**ure** of helping a young man start living the Mooney dream. He was a relatively low-time pilot, so his insurance company required him to get ten hours of dual in his new-to-him Super-21 (M20E) before being covered for solo flying. No problem. His plane was at a nearby airport, so I headed over to meet him in my 231 (M20K). We were in the hot, humid, hazy part of the weather cycle, so the morning weather was a low overcast. In my local neighborhood I don't have a problem treating a 700' ceiling and 2 miles of visibility as VFR, but it was an

opportunity to get some instrument flying. I flew to the other airport and shot the RNAV GPS approach. I got there at the appointed time and we just used the time before it cleared up to cover Mooney ground-school (airframe, systems, engine) and lunch before going flying. That happened two days in a row, so I got instrument current and he got a lot of insights into his Mooney, Mooney maintenance, and general aviation decision-making.

One thing we ran into was the discovery that the tail hinge in his aircraft was significantly worn. I show new Mooney pilots what is acceptable and not acceptable in terms of how much lateral movement (zero) and vertical movement (a little tail motion is reasonable). When I grabbed the horizontal stabilizer and moved the tip fore and aft there was probably 1/2" of movement. To me that says it is time to service the hinge, inspecting and replacing bushings and bolts. Since he paid for an annual inspection as his pre-purchase inspection, I would have expected the A&P/IA to catch that and bring it up to the owner. That didn't happen. I suspect that the A&P/IA didn't have a lot of Mooney experience and hence didn't realize that the tail hinge had worn to the end of its safe life. That points out the importance of being sure your A&P/IA knows the idiosyncrasies of our aircraft. There's not a lot that isn't covered in the maintenance manual, but it is easy to miss things if you aren't familiar. Learn your airplane and then work with your A&P/IA so both of you will know your airplane well.

Getting back to his Super-21, I was reminded why it was my first choice for my first airplane back in 1983. The Super-21 really is the BMW M3 Coupe of the Mooney line. The short body is smaller and lighter so the 200 hp engine makes the airplane do things very quickly, and in some cases, too quickly. We had to work on getting the flaps retracted right after getting the gear retracted, so that the flaps were up before the airspeed exceeded V_{fe}. The Super-21 doesn't give you any time to waste. With full fuel and two full-sized adults, we were climbing at better than 1000 fpm at 120 mph IAS and cruising at over 150 knots TAS on 8.5 gph. It took him a few laps around the pattern to get everything done quickly. He commented on just how much faster everything happened than they did in the Piper Cherokee Arrow he had used for his complex and high-performance training. I had to admit, things were happening much more quickly than I was used to in my 231. I love this airplane. It really is the hot-rod of the Mooney line.

As a CFI, there are so many things that I can be teaching. I like doing Mooney transition training and will keep doing that. On the other hand, after 21 years of teaching, I have decided that I have had enough of turns around a point and soft-field take-offs. I'm just not going to be doing primary training anymore. I am 65 and figure there are more flying years behind me than ahead. (This is my 51st year of flying.) I figure I have about 20 flying years remaining and probably only 10 more years of peak proficiency. I want to pass on what I have learned to as many people as possible. I

have decided that the best way to do that is to write about what I have learned and to actively seek and train new CFI candidates. If I teach a new CFI to be a good CFI and they go on to teach their students, it greatly increases the number of pilots that I will have helped, either directly or indirectly. So, that is my new challenge to myself. Oh, I will keep getting new ratings. I have to finish my helicopter and glider ratings. I think I should be able to fly a seaplane, too.

I think that the best way to stay proficient is to keep learning and then share what we have learned. In more than one way, being an active CFI/CFII keeps me proficient. I need to be able to teach any maneuver, as well as stay on top of rules and procedures. I should be able to pass a check ride for any of my ratings at the drop of a hat. Teaching does that for me.

Also, this last week, I started working with a local part 141 school. They are going to have me teach spins, upset recovery, and basic aerobatics to their CFI students. The goal is to take them beyond the Airman Certification Standards (ACS) and Practical Test Standards (PTS). I had two new CFI candidates who needed spin signoffs. I had the opportunity to show them things that a student would do and how to deal with it. They got to see and recover from the base-to-final stall/spin scenario and the, “I'm going to keep the airplane upright with ailerons and my feet on the floor during the departure stall demonstration,” scenario. The CAP10B, being an aerobatic aircraft, magnifies the demonstration and makes for an exciting ride. I love it. So did my students. They came back beaming and asking when they could schedule more. I am looking forward to it.

But how about you? Could you pass a check ride for your ratings right now? If not, why not? What do you need to work on? If you aren't sure, grab the ACS or PTS for your rating and go through it. Check off each of the items just as a DPE would do when giving you a check ride. Practice the items you are rusty on. Are you having trouble getting proficient again on a maneuver? If you have a flight review coming up, I think you now know what you should be doing with your mandatory one hour of ground and flight instruction. Remember, a flight review is not a check ride. A flight review is two hours of mandatory dual instruction. Use it for what YOU need. If you have been practicing becoming proficient, that will be obvious to your CFI and you can go on to work on specific things of interest.

This brings me to the point of killing a sacred cow. I hear a lot of talk about “personal minimums”. We are encouraged to set our “personal minimums” high until we gain experience. I applaud safety and rational self-assessment, but I want you to think about what you had to demonstrate to get your ratings, especially the instrument rating. I regularly hear pilots with a new instrument rating talking about their “personal minimums” being well above the minimums for the approach. Wait a minute, you just had to demonstrate that you could safely hand-fly a precision approach to ILS or LPV minimums. Why change that now? THOSE should be your personal minimums! If they aren't, then you need to practice until they are, instead of setting the bar lower for yourself. Rise to the challenge!

For those of you who are instrument pilots or plan to become instrument pilots, I am going to put in a plug for a good simulator at home. I happen to have a *TouchTrainer* from Fly This Sim. I love it. I use it to maintain instrument proficiency rather than burning a lot of extra fuel in the plane. I can fail things and see how I do when flying partial panel. When I still had a vacuum pump and iron gyros you can bet that I was proficient at flying an ILS to minimums using nothing more than a turn coordinator, airspeed, altimeter, and raw ILS needles. It is not difficult if you practice. Even though that failure can no longer happen in my plane with its glass panel, dual AHRS, and dual electrical system, I can still do that in the simulator. If I happen to embarrass myself, I do a couple more until I can do it again and all it costs me is a little extra time. A bruised ego is quickly mended with practice. Don't be that guy who lives in a state of conscious incompetence and tries to BS his way through flying. Practice until you reach at least conscious competence or, better still, all the way to unconscious competence where your hands and feet do the right thing while your mind sits as a critical observer of your performance.

Once you are proficient again, go learn something new. There are so many things you can add to your flying repertoire: tailwheel, seaplane, glider, upset prevention and recovery training (UPRT), formation, aerobatics. The list goes on. Don't be complacent. Fly safely. Fly better. Have fun!

Revitalize

by Bruce Jaegar

Speed, efficiency and design have attracted pilots to the Mooney for 60 years. Model changes make performance better than ever, but the years have likely taken a toll on plastics, fabrics and carpet. If by chance you would like to enjoy your Mooney more and add value at the same time, revitalizing your interior may be of interest.

As designer of the Spatial Interior for the vintage Mooney, I have continuously been searching for cost effective ways to improve our airplanes. Fourteen years of refining the Spatial Interior install process, adding fabrics and unique plastic repair materials have made significant differences. Still many are not happy with their options, thinking costs are too high. Of course, safety equipment, engines, propellers, fuel tanks, avionics and training are priorities. When the time is right, possibly revitalizing your Mooney interior may be that missing piece. Adding value that exceeds the cost would be refreshing.

Much of what is offered in a Spatial Interior can be provided in a lesser cost “Revitalization” kit. The concept is to replace all original side carpet with burn tested plastic to cover the foot, pilot, door jamb, spar and baggage areas. Identical to the Spatial Interior, these pieces would be secured with dual lock assemblies and finished with color or elegant fabric. Though there would not be the increased elbow and shoulder room of the Spatial Interior, the look is pleasing, there is new space for storage pockets, and your mechanic would appreciate the ease of removal and reinstallation. Materials and guidance for replacing windlace will be provided. If planning new carpet at the same time, eliminating the side pieces further reduces cost.

A simpler install not requiring placement of recessed panels is the perfect fit for the do-it-yourself Mooney owner. Of course, assisting an installation center, or coming to the designer’s Minnesota home base during warm months are great options. Materials would be provided with burn test documents and no inspector endorsement or weight update would be required. Pieces will be easily trimmed using common sense, an illustrated manual and templates.

Upper plastic repair would be identical to techniques used when installing a Spatial Interior. Ideas for reworking or replacing armrest pads will be provided. Part of plastic repair would be elimination of many unneeded screws. Original or newly fabricated upholstered accents can be secured with low profile Velcro. Identical to a Spatial Interior, reconditioned plastics would be finished with coordinating colors and decorative window edge trim is an option.

In addition to assisting a do-it-yourself owner, I invite discussions with anyone interested in becoming an install center. Perhpas your service center would have an interest. For more details, to include pricing and photos, visit www.jaegeraviation.com. With a Spatial or Revitalized interior, your vintage Mooney can indeed have the look it deserves.



NMPA Association Mountain Flying Clinic Review

September 27-29, 2019
By Derek P. Burney

My family has been living in Taos, New Mexico for most of my life. My wife and I love being in New Mexico, as it is a real respite and recharge for us. Flying to Taos has been high on my list of things to do, but I had a lot of concerns about Density Altitude (DA) in my normally aspirated M20J. This past summer, my family was going to be in Taos for several weeks, but work kept me from being there the whole time, so I decided to fly out for a weekend. Normally, I have a lot of concerns about flying a longer cross country as my work schedule does not allow for me to be late, which is a recipe for disaster with "get-there-itis". To eliminate that worry, as a backup, I booked a flight on American to and from Santa Fe. I had talked to an A36 pilot and an M20K pilot, both of whom used to live in the DFW area, and they gave me a suggested route to Santa Fe (KSAF) and then north through the Rio Grande valley to Taos (KSKX). To put things in perspective, my home airport sits at 727' MSL and KSKX is at 7,095' MSL. This is in the range of altitudes that I normally cruise at!

The density altitude was eye opening to say the least. My new friends suggested that for flights in and around the mountains, I should try to be on the ground by noon. Even then, DA was 10,500 feet when I landed at 1300 MDT. It was a great flight, but this article is not about that flight. While in Taos, I heard about the New Mexico Pilots Association from a local pilot. When I got home, I looked at the website, and found they have a Mountain Flying Clinic which is held in Santa Fe in September. If you join NMPA, which is $25 for a year, you receive a $30 discount on the Clinic, plus you get a great monthly newsletter! Sold!

The Clinic is under the direction of Dave Jesurun of High Country Air Service. Dave is a retired USAF Special Operations Command pilot and he brings a level of amazing professionalism to the Clinic. As an added bonus, my wife and I had a great vacation in Santa Fe. We flew into KSAF on the Thursday before the Clinic, arriving before lunch. Even though it was September and not July, I already knew that in addition to DA, winds often come up in the afternoon along with the possibility of thunderstorms. The Clinic started on Friday with ground school. I neglected to mention, Dave provided the attendees a significant amount of pre Clinic homework. There were 24 scenario-based questions designed to get us thinking about flying in the mountains. There was reference material on the NMPA website that was really helpful in preparation and pointing out a lot of things I did not know about mountain flying.

We were provided with a 3-inch binder full of all the ground school materials, a copy of Sparky Imeson's Mountain Flying Bible, and some videos. We introduced ourselves and what type of plane that we fly. There were two Mooney pilots, two Husky pilots, a Super Cub, a C-182 and two Piper Commanche pilots. The first assignment was a realistic flight plan scenario considering work and time pressures as well as potentially hazardous weather. We worked on the plan during breaks throughout the day. I would not have flown that flight, but risk management is part of flying, and the exercise was a good experience. At the end of the day, we had a group discussion to go over the plans. Throughout the day, we had lectures and discussions on aircraft performance, flight planning, especially route selection, weather, specifically mountain weather patterns and the importance of winds aloft forecasts, emergency and survival, mountain

communication and the importance of VFR flight plans, as well as aeromedical factors, especially hypoxia.

Prior to the Clinic, we had been given a choice of two routes to fly on Saturday. We were expected to plan the whole flight and be prepared to brief with an instructor. We had been assigned an instructor prior to arriving, and I was assigned John Lorenz. I lucked out with John. He is a geologist, tailwheel instructor, safety editor for the NMPA newsletter, former CAP unit commander, and the owner of an M20C, Interstate Cadet, and an American Champion Decathlon. After ground school, we briefed our flight and planned to takeoff at 0800 Saturday morning. We had a very thorough briefing and talked about the importance of flexibility in mountain flying.

The next morning, we met at 0730 and discussed the weather and our plan. Of course, I did not want to miss a chance for a practice approach when returning to KSAF. We took off and headed North. We got to experience a mountain pass right away, and headed over to Angel Fire (KAXX) at 8,380 MSL. It has a reputation as one of the toughest airports in NM. To put it in perspective, that is about my normal cruising altitude in my M20J! What makes it tough is the valley it is in and the way the West winds swirl, creating turbulence above the runway. Plane crashes out of Angel Fire are not rare, and we had discussed several in ground school the day before. There is a hill to the South that does not look impressive for a flatlander, but the NMPA guys assured me that when taking off to the South, it is next to impossible to outclimb that hill. So, at Angel Fire, it is much better to take off to the North, and if winds do not allow that, don't take off. That is the kind of local knowledge that was great to learn. Angel Fire was a real awakening for me. That being said, it was really beautiful and I enjoyed going there.

We practiced canyon turns in both directions with 15 degrees of flaps (T.O. setting in the M20J). At 80 KIAS, our Mooneys will definitely turn around in a small amount of space. We had planned to fly through Cuchara Pass to Cimmarron, but clouds at 2,000 feet AGL forced us to modify our route and turn North early, paralleling the mountains a little closer. We worked on using wind patterns to our advantage by deciding where we could get lift and avoid downdrafts. This is something glider pilots do consistently. We constantly looked for emergency landing sites and looked for outs if the weather deteriorated. Getting a pop up IFR clearance in the mountains is often not possible because it's impossible to communicate with ATC. On top of that, our normally aspirated planes may not have the ability to climb to MVA much less MEA. I could have made it to Trinidad or Raton if we got socked in, but we would have had to be less than 2,000 feet AGL.

The mountains are just absolutely beautiful to behold, up close and personal. It was really an awesome experience. As many times as I have seen the Spanish Peaks and driven through La Veta Pass, it was much more fun to fly the area. Also, due to the peculiarities of mountain weather, the solid overcast layer was East of the Sangre de Cristos and the West side was clear. We went to Questa (N24) for landing practice, and then on to Taos (KSKX). Taos is a special place for me, as I intend to fly there more often. Taos' main runway, 05-22, was closed due to a gear up landing, but there is a very nice long crosswind runway, 13-31. After Taos, we flew south to Los Alamos (KLAM). That is a fun airport! Landing is only on 27 and take off is always on 9. You do not want to stray south of the airport over the Department of Energy site. The runway is actually above some buildings on final to 27 which was quite an unusual sight picture for me and I was a little low at first. The surrounding terrain is simply spectacular. We left KLAM to the, you guessed it, East, and

climbed to 11,000 feet to fly the RNAV 20 at KSAF. Albuquerque center and KSAF tower were wonderfully accommodating. I like to fly unfamiliar approaches, as often times there are local differences and challenges. KSAF is no different. Take a look at the RNAV 20 for fun and you will see what I mean. After shutting down, we had a thorough debrief.

Sunday was an optional flight. Since I wanted to optimize my training experience, I opted for the flight. I was assigned Dave Jesurun of High Country Air Service. We briefed for Sunday morning right after finishing the Saturday flight debrief. What a thorough briefing. Dave let me brief the flight to him, then we went through it step by step and he provided a lot of thoughtful critique as well as suggestions to improve future preflight briefings. This is where I really appreciated Dave's prior military experience. This was the most thorough and effective preflight briefing I have ever had.

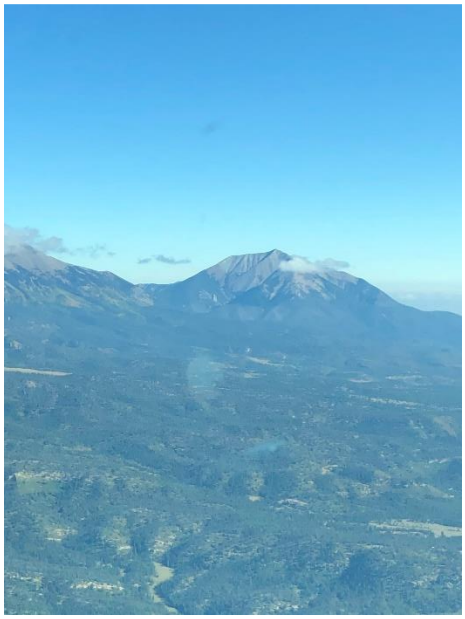
The plan was to meet at 0630 for a 0700 takeoff. I had already learned that the earlier the better in the mountains. I had an unusual request for this training flight. I wanted to practice patterns, landings and take offs at high DA. It was important to me to get more experience with low speed and climb performance. I especially wanted to spend some time in Taos. With two runways, we were able to land on all 4, and practice quick approaches. There are a ton of prairie dogs at the airport in Taos and where there are prairie dogs, there are predators. Sure enough, a coyote crossed the taxiway in front of us and then crossed the runway. You never know what kinds of animals might be on the runway. Another good lesson. One of the planes in the clinic, a fellow M20J pilot, did not land at an airport due to an elk being on the runway. Flying to Questa, the wind had picked up and we got to use my new found wind knowledge to fly near the mountains to the East to get the updrafts coming from the West. We landed and did some pattern work there. The runway was a little rough. Centerline control was crucial as there were some nice big rocks on the runway! Before every takeoff, Dave and I did a quick brief of the plans. We then took off and headed for Santa Fe to fly another RNAV 20 approach. After landing, we had a thorough debrief. I learned some new things about ForeFlight and I will be upgrading to Performance Plus. The runway measuring tool and the takeoff and landing performance calculator is excellent. I would fly with Dave again anytime. In fact I asked him to contact me if he is in the Dallas area and I will do the same when I go to NM for more refresher training.

Mooneys do great in the mountains. The speed is terrific, and I felt the performance of my M20J was very good. The stability of the plane, speed and handling all combine to make it a great performer. I am thrilled with my Mooney, but maybe a turbocharger be nice. Do I need a Bravo for my speed and a turbo? I don't know the answer, but I do know I had more fun with my Mooney than I have had in a while!

I learned so much on this trip and had so much fun. Getting to spend time flying through some beautiful country with my wife and spending time in Santa Fe was well worth it. I got a flight review out of it, and if you participate in the FAA Wings Program, you can get credit for that as well. I would highly recommend this course if you are contemplating flying in and around the mountains. You won't see me going direct to my destination over the mountains!

Never know who you might share the ramp with in Lubbock

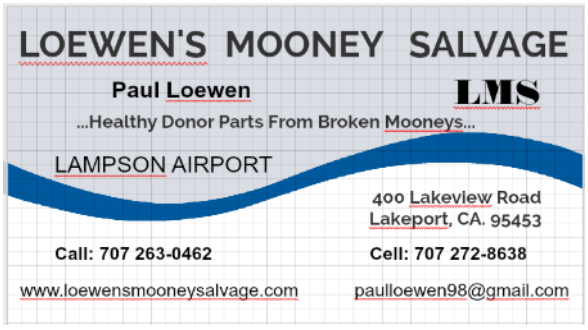
On the ramp at KSAF



Spanish Peaks in Southern Colorado NM.

Looking at La Veta Pass from the southeastern side, Colorado

Rio Grande Gorge Bridge, Taos, It is roughly 600 feet above the river and the tenth highest bridge in the US.



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

The Mooney Maintenance Puzzle

Click here

Download Mooney's 100 Hour Inspection Guide

Search Mooney's Service area for Service Bulletins (SBs) and Service Instructions (SIs) applicable to your model

Click here

Search the FAA database for Air Worthiness Directives (ADs) applicable to your model

Click here

Click here

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

Ask the Top Gun

Tom Rouch

TG

Founder of Top Gun Aviation, Stockton, CA

Send your questions for Tom to TheMooneyFlyer@gmail.com

Question: My Mooney "biscuits" measure within spec, but are very old. In your opinion, when should I replace them?

Second question, when the biscuits are below spec, can they cause any specific damage/problems?

Answer: The question about conditions to change the Mooney "biscuits" or technically, "shock discs", has come up before and while there are specific limits, there are conditions where they should be changed.

First, let's talk about "old" discs that are in limits. It is best to observe them while you are jacking the airplane. Discs are meant to expand and, you can see if they expand when you are jacking. If they don't expand, there will be a noticeable gap at the top of the disc. Upon landing, that gap will be a hard slam to the airplane spar. This slamming could cause eventual fuel leaks or other damage. This is very noticeable on the long body Mooneys like the M20M/R models. There is a metal plate at the top of the shock disc column that just slides on, preventing moisture from going down the strut. Most of those models that have come into our shop through the years are missing those cover plates. A hard landing and old discs will knock them off and leave them on the runway.

The other thing to observe is disc "cracking" because of old age. The date of manufacture is embedded in the disc and when they are about ten years old, if you put an old disc in your hand, it will feel like a hockey puck.

When they are old, when the plane is jacked, you can grab the main tire and move the entire assembly fore and aft quite a bit. With good discs, the gear is solid in the mount.

I have been describing the main gear, but the nose gear is even more critical. It should have no gap, period. I have seen the top plate on the nose actually rotate out of place because the discs are so weak.

These are items that should be checked at Annual, but if these are not familiar to the mechanic, they can be overlooked since they are not listed as limits. Many times, a shop will just measure the gap at the top or, sometime, just forget about it.

PS Engineering Updates Comm Radio/Audio Panel

Six years after introducing the PAR200 combined audio panel and remote-mount comm radio, PS Engineering has some significant updates. The PAR200B features a new user interface that benefits from soft keys to easier access to subfunctions as well as a new “brilliant” OLED—organic light-emitting diode, in case you still have a flip phone—display.

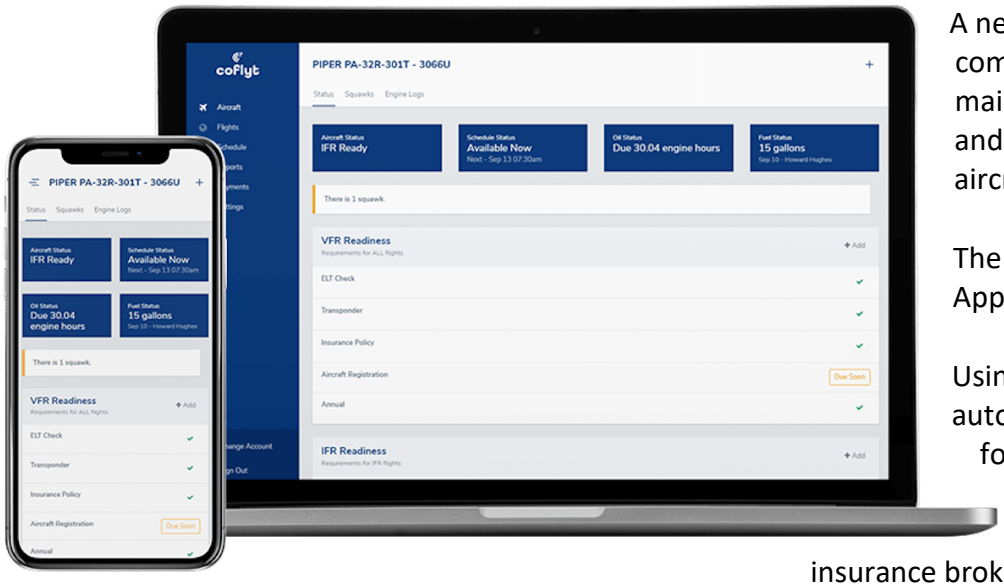
PS Engineering has also added a feature it calls IntelliAudio, which distributes individual audio sources (intercom, primary and secondary comm radios) in spatially distinct locations within a stereo headset. This distribution improves discernment of simultaneous audio signals.

The PAR200B uses a remote-mount comm transceiver and has a full suite of audio-panel features, including a four-place intercom with music inputs, Bluetooth compatibility and a speaker amplifier. Radio functions include a dedicated soft key for active/standby transfer as well as menu-driven soft keys for subfunctions such as creating saved frequencies and determining the main-knob function, which switches between frequency selection and setting volume and squelch levels. List price is **$3,495**.

Trade-A-Plane Ceases Print Publication, Converts to Digital

After 82 years of continuous print publication, the iconic Trade-A-Plane will cease the print issue in December and convert entirely to a digital format. As digital competition has eroded Trade-A-Plane's dominant position in aviation classified and display advertising, the print version was no longer viable.

New *Coflyt* app combines maintenance tracking, flight logging and more



A new app has launched that combines required inspections, maintenance tracking, scheduling, and more for general aviation aircraft owners and pilots.

The Coflyt app is available on the Apple and Google Play stores.

Using Coflyt, pilots will be able to automate their aircraft management for better communication across their ownership team, including partners, A&Ps, insurance brokers, or a flying club.

Coflyt Features include:

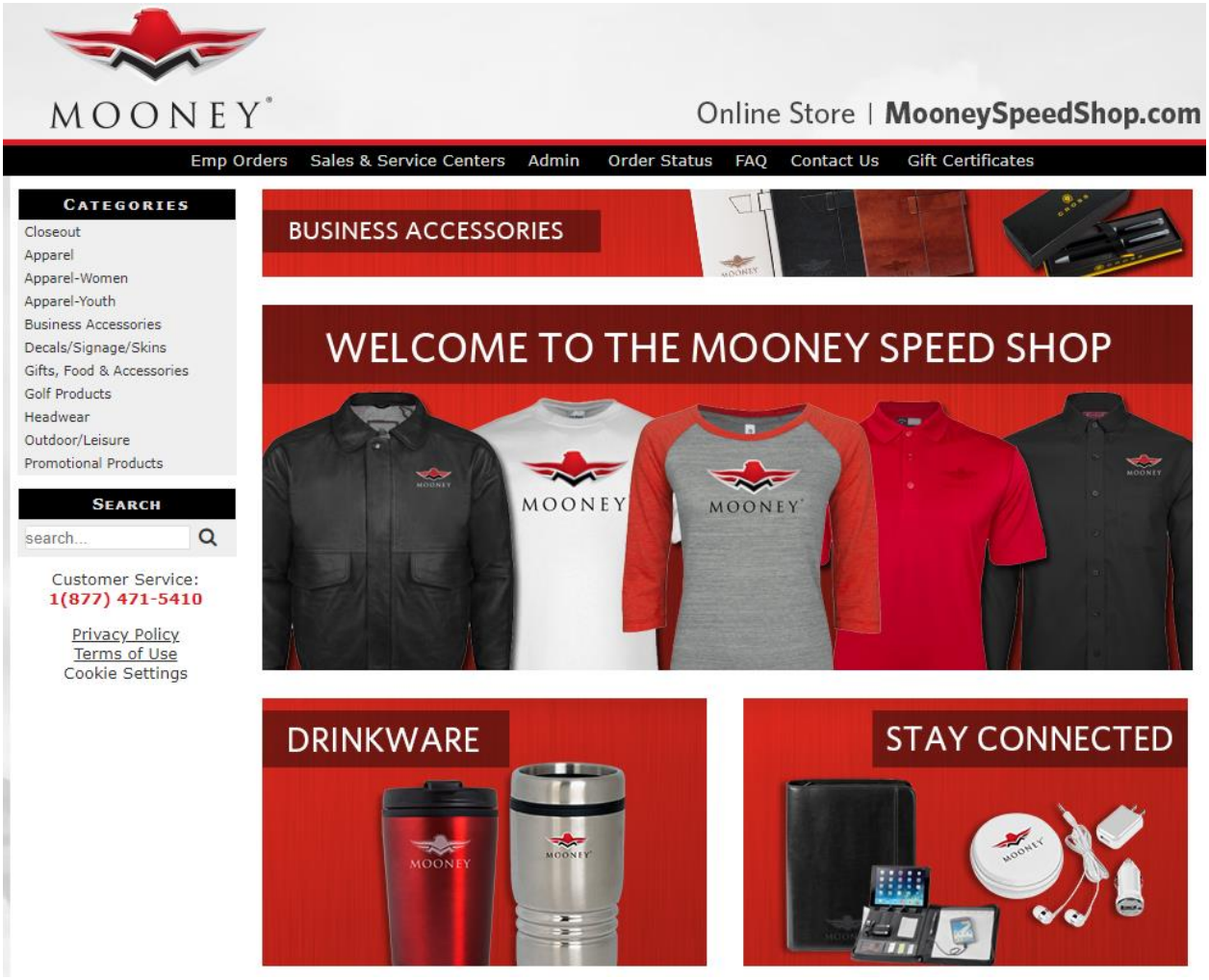
- Maintenance insights to keep the aircraft ownership team informed about maintenance items or squawks
- Aircraft status to view required VFR/IFR inspection statuses
- Shared aircraft management to log flights by multiple pilots and analyze usage
- The ability to share aircraft information with an A&P or others involved in the aircraft's management.

Coflyt is able to:

- Track FAA compliance with inspections and suggested maintenance
- Record squawks and provide visibility to others
- Log aircraft flight times and provide reports on usage
- Create reservations and view aircraft availability
- Share information with all aircraft users
- Provide financial tools for partners within the app

Florida Mooney Lunch Group	***Contact Dave at daveanruth@aol.com or (352) 343-3196, before coming to the restaurant, so we can have an accurate count. Events begin at 11:30*** December 14, Bartow (BOW) January 11, Leesburg (LEE) February 9, Fort Pierce (FPR)
MOONEY CARAVAN	
MOONEY SAFETY.COM **MAPA Safety Foundation Pilot Proficiency Programs**	Feb 6-9, 2020, Lakeland, FL Apr 17-18, 2020, Santa Fe, NM Jun 12-14, 2020, Ft Worth, TX Sep 11-13, 2020, Springfield/Chicopee, MA Oct (dates TBD), Wichita, KS CLICK HERE to Sign Up
MOONEYSUMMIT	
Australian Mooney Pilots Association	March 2020: Annual General Meeting at Coffs Harbour
EMPOA	
WEST COAST MOONEY CLUB	June 11-14: West Coast Mooney Club Summer Conference Sunriver (S21)

Mooney Speed Shop



This is not technically a product review, but rather a place to buy Mooney logo products.

We have bought hats, jackets, shirts, and gifts from this website.

Mooney Speed Shop is not Amazon and they take a while to ship the product. However, we are very satisfied with the merchandise.

Go to: https://mooneyspeedshop.merchorders.com/ to order your cool Mooney merchandise.

FOR SALE Mooney Stuff

1979 M20K For Sale ($88,000)

Call Tom at: 925-595-8969

Engine 1262 TSIO360 LB1B	King HSI
McCauley prop 152 hours	3M WX10A Stormscope
Airframe 3215	Hoskins Fuel computer
Turboplus intercooler	All King radios (KNS80 KY197)
Merlyn automatic wastegate (deck pressure controller)	Built in SKY-OX oxygen system
GAMI fuel injectors	Mods by Lake Aero Styling and Repair
Insight Graphic engine monitor	Including fiberglass belly panel and fiberglass gear doors with brake rotation
TKS inadvertent icing protection	Inflatable Door Seals
Precise Flight Speed Brakes	Rosen Sunvisors
Precise flight Pulselite	Exterior paint is good
KFC200 autopilot slaved with altitude hold	Interior leather worn but presentable
Electric standby vacuum	**Annual: 5/31/2019**
King Attitude indicator with flight director	

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)

Parts for Sale

I have several Mooney parts for sale from a 1969 G model. Brand new voltage regulator (never used). Instrument light rheostat controller, cowling plugs and like new fuselage/cockpit and tail feather covers. G model POH. Contact me at Wilson Brown, located in Georgia, 678-469-6182.

1 Piece Belly Pan for M20J

I purchased this from Don Maxwell about 7/19/2017. I haven't got time to install it. Circumstances have changed and I would like to sell it for any reasonable offer. The belly pan is at the Cortez, CO airport (KCEZ). John Hutchison 47hutch@gmail.com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The Official Online Magazine
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Whether you're a Rusty pilot, dreaming of becoming active again . . .
. . . or you're a proficient, veteran
Master of
The Flight Review
J D PRICE
Prepare online
Free!
Master of
The Instrument Proficiency Check
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N257KW
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