The Mooney Flyer

The Official Online Magazine for the Mooney Community
www.TheMooneyFlyer.com

July 2018

Features

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Mooney Tale from CA to The Ozarks & Preventing Rusty Cylinders

This month, we're proud to have 2 new contributing writers. The first is Mooney Pilot and San Luis Obispo (SLO) 99 member, Kathy Dannecker. I've known Kathy and her husband Jim for years and they are avid Mooniacs and SLO99s. Their energy is contagious. Kathy writes about their flight planning, followed by their flight from the Central Coast of California to the Ozark Mountains. They certainly capture the reason why we all fly the best airplane ever built for touring!

Our second new contributing author is Kevin Knight, who writes a most excellent article entitled Putting Cylinder Rust to Rest. Kevin is extremely knowledgeable on this topic and writes from experience backed with data. This is a must read for all Mooney owners.

Myth Debunked About Mooney Wing

The Mooney wing is not actually one piece. It is two halves brought together by 7075-76 Aluminum Tie Plates. Who knew?

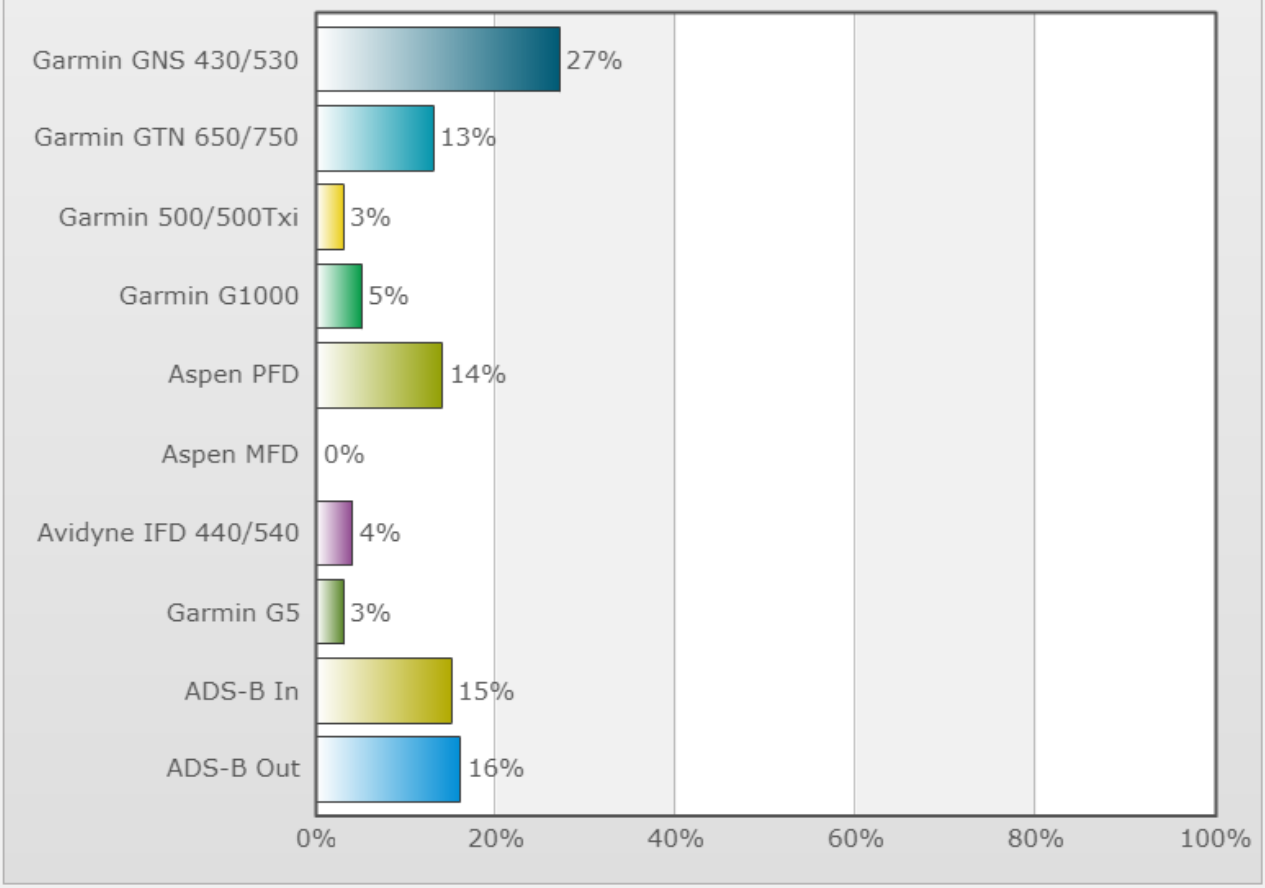
Listing of Mooney Mechanics

We have started a list of Mooney Mechanics around the world. Check it out at http://themooneyflyer.com/mechanics.html. If you know of or if you are a Mooney-Knowledgeable mechanic, please send us a name/phone/email and city/airport to TheMooneyFlyer@gmail.com, and we will add it to the list.

My Avionics include:

Poll created by Phil Corman on 04/30/2018

Poll Results



Next month's poll:"How I Fly my Engine:" **CLICK HERE** to vote.

Appraise Your Mooney's Value

Don't forget about our cool new **Appraise your Mooney's Value** calculator.

M20C M20E M20F M20G M20J M20K M20R M20M

CLICK HERE for the most comprehensive list of Mooney Instructors in the US.

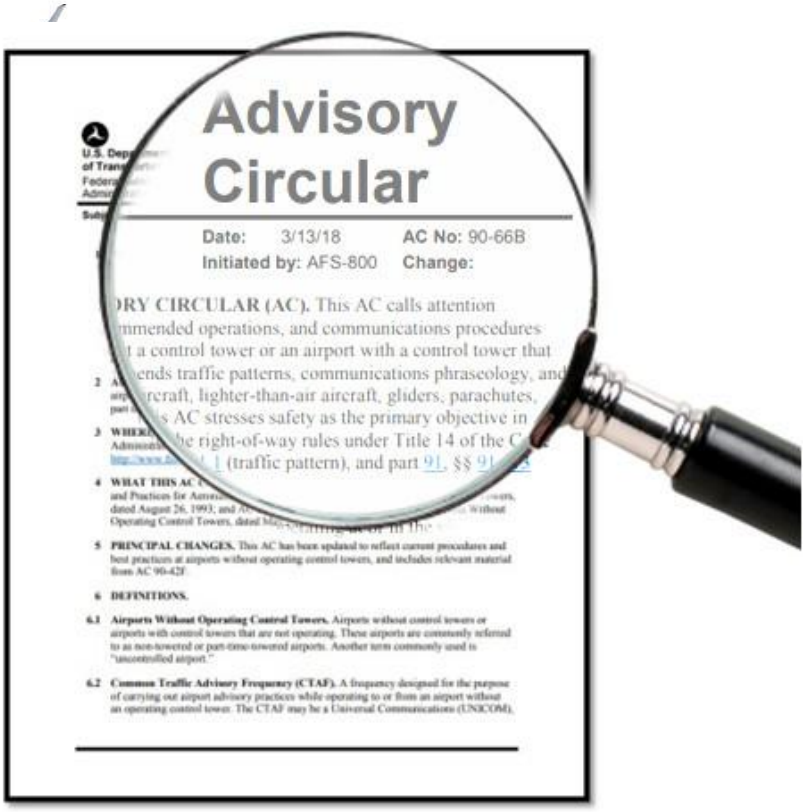
Hi Phil and Jim, the June Edition is so great: Own The Runway is best. I never found such a clear description and graphs in other flying magazines. That will help a lot new Mooney pilots for good landings. Please go on like this..fabulous.
Steve M

I love the editorial comments this month regarding my article from last month. Thanks for posting them. I am planning to submit another article, this time perhaps with the title of "Rules of Thumb." I was in an email discussion with a reader after the article originally posted regarding the 80 MPH rule of thumb. Now this latest comment caught my attention again. As a former airline pilot and experienced MOONEY CFI, I revel in the banter that we sometimes encounter when hangar flying.

If you are looking for another submission, I will get it out of my gray matter and onto e-paper for you. Not wanting to create a controversy here, but it's good to get people talking and thinking about how they fly!
Sam Lindsay, CFI

Phil & Jim, another spectacular cover. Seeing a Mooney in what must be Hawaii, reminded me of a man I met at the Stearman Fly In in St. Frances, Kansas a number of times. He flew a Beech Debonair to Hawaii to visit his daughter. (Fuel tank replaced rear seat, a tube from the cabin to the engine oil filler, Celestial Navigation, and an ADF for when he got close).
Marty H

JIM PRICE ATP, CFI-I, MEI

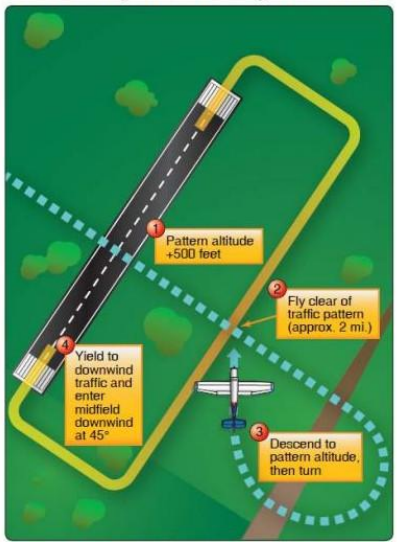


A CLOSER LOOK AT AC 90-66B

Non-Towered Airport Flight Operations

The May 2018 issue of The Mooney Flyer addressed the pattern entry changes introduced by AC 90-66B. To refresh your memory, pilots are now strongly encouraged to enter a pattern midfield, with an entry at 500 feet above pattern altitude and then make a reverse teardrop to join the downwind, initiating the turn only after descending to pattern altitude. The FAA also lists a conventional midfield downwind entry as acceptable, with the midfield crossing done at pattern altitude. Most of America's more than 5,000 public-use airports do not have a tower, so safety depends on the pilots flying into them. No matter what a pilot flies – turbine, piston, parachute, glider, ultralight, lighter-than-air or unmanned aircraft system (UAS) – they should read the Advisory Circular, because it clearly presents the standards for operating at a non-towered airport. Other pilots are **counting on you**, to follow the guidance in AC 90-66B.

Preferred Entry When Crossing Over Midfield



Alternate Midfield Entry

Here are more highlights from Advisory Circular 90-66B

1). Pattern Altitudes

The FAA has long given license to airport operators to set their traffic pattern at non-standard heights. Most patterns for piston planes were 1,000 AGL, but many were 800 feet and some were even lower than that. **The new rule calls for all piston patterns to all be 1,000 ft AGL, Turbines would be at 1,500 feet AGL**, and **Ultralights are to be at least 500 feet below the piston planes, (500 AGL in most cases).** There could be a reason or reasons for establishing traffic pattern altitudes that differ from the rule, such as obstacles or competing airspace.

2). Left versus Right Hand Flow

For those airports that have right hand circuits, they need to have a good reason for doing so and they have to let pilots know about the non-standard pattern flow. These airports notify us through light signals, markings on the ground, or though publications. For instance, right-hand patterns are noted an aeronautical chart with an "RP" designator and the applicable runway next to the airport symbol. The FAA says that it recognizes that many airports already have right hand patterns and the advisory circular doesn't prohibit those. But it does require pilots to fly a left hand pattern unless the right-handed version is in place.

3. Straight-Ins

The FAA encourages pilots to use the standard traffic pattern when arriving or departing a non-towered airport or a part-time-towered airport when the control tower is not operating. It's particularly important to do this when other traffic is observed or when you are operating at an unfamiliar airport. However, a straight-in approach is an approved way of entering the traffic pattern.

4). IFR Traffic

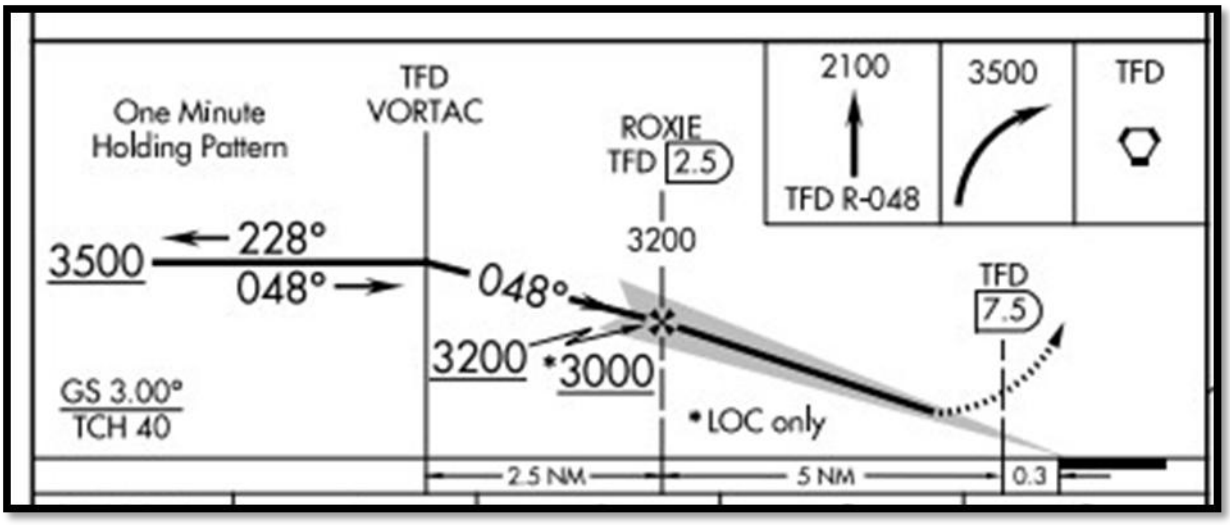
IFR traffic is now expected to work themselves into the traffic pattern. Therefore, if there's traffic in the pattern already, instead of barreling through, IFR flights should accommodate VFR traffic already in the pattern. Yes, I know, arriving IFR traffic, unless cleared for a visual approach, are still under positive control and following a clearance. It's complicated.

5). Instrument Approaches – Circling

Pilots are reminded that circling approaches require left-hand turns unless the approach procedure explicitly states otherwise. This has been upheld by prior FAA legal interpretations of § 91.126(b). 9.6.1

6). Watch Your IFR Tongue

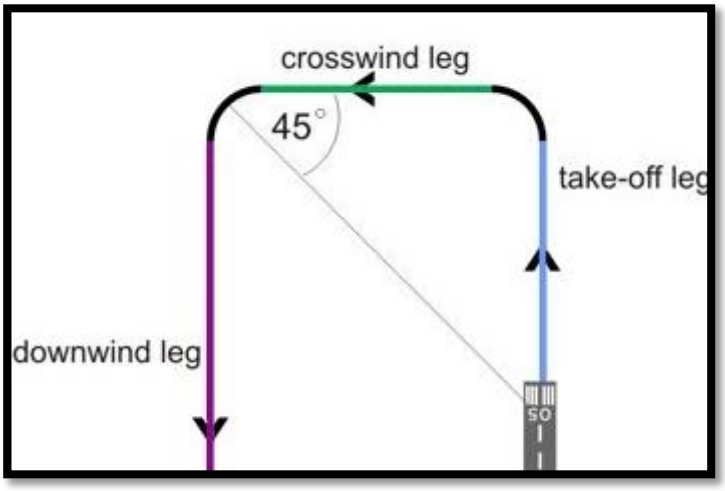
Non-instrument-rated pilots might not understand radio calls referring to approach waypoints, depicted headings, or missed approach procedures. IFR pilots often indicate that they are on a particular approach, but that may not be enough information for a non-IFR-rated pilot to know your location. It is better to provide specific direction and distance from the airport, as well as the pilot's intentions upon completion of the approach.



For example, instead of saying, "PROCEDURE TURN INBOUND ILS APPROACH RUNWAY 5," a better broadcast would be, "7 MILES SOUTHWEST … INBOUND ILS APPROACH RUNWAY 5, LOW APPROACH ONLY" or "LANDING FULL STOP."

7). Pilots conducting a practice instrument approach

Be particularly alert for other aircraft that may be departing in the opposite direction or on a base leg or final approach to the runway associated with the approach. Conducting any practice instrument approach, regardless of its direction relative to other airport operations, **does not take priority over other VFR aircraft.**



8. Crosswind Turn

Airplanes staying in the pattern shouldn't start the crosswind turn until after they're beyond the departure end of the runway and within 300 feet of pattern altitude.

Pilots shouldn't join the downwind leg until they're at pattern altitude.

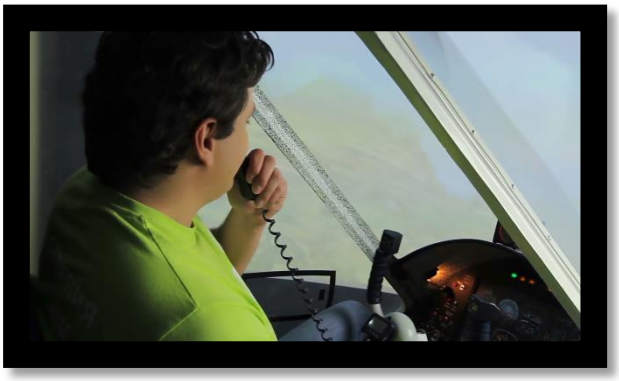
9). Confusing Language

To avoid misunderstandings, pilots should avoid using the words "to" and "for" whenever possible. These words might be confused with runway numbers or altitudes. The use of "inbound for landing" should also be avoided.

Instead of saying, “MIDWEST TRAFFIC, EIGHT ONE TANGO FOXTROT TEN MILES TO THE NORTHEAST, INBOUND FOR LANDING RUNWAY TWO TWO MIDWEST,” it’s better to say, “MIDWEST TRAFFIC, EIGHT ONE TANGO FOXTROT TEN MILES NORTHEAST OF THE AIRPORT, LANDING STRAIGHT IN RUNWAY TWO TWO, MIDWEST,” so it does not confuse runway 4, runway 22, or the use of an IAP on arrival.
Transient aircraft may not know local ground references. “MOONEY 7 KILO WHISKEY, OVER THE CEMENT PLANT”, means nothing to a transient pilot, so local pilots should just stick to standard pattern phraseology and use distances and compass bearings from the airport.

10). Departing the pattern

If departing the traffic pattern, continue straight out, or exit with a 45-degree turn (to the left when in a left-hand traffic pattern; to the right when in a right-hand traffic pattern) beyond the departure end of the runway, after reaching pattern altitude.



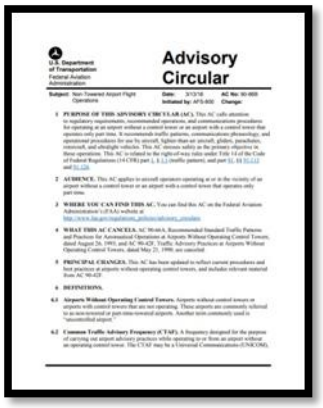
11). Disagreements

Do not push the transmit button and correct other pilots, (unless it is safety critical), particularly if you are aware you are correcting a student pilot.

If you disagree with what another pilot is doing:

- Operate your aircraft safely,
- Communicate as necessary,
- Clarify their intentions and,
- If you feel you must discuss operations with another pilot, wait until you are on the ground to have that discussion.

Keep in mind that while you are communicating, you may block transmissions from other aircraft that may be departing or landing in the opposite direction to your aircraft due to IFR operations, noise abatement, obstacle avoidance, or runway length requirements. An aircraft might be using a runway different from the one favoring the prevailing winds. In this case, one option is to simply point out the current winds to the other pilots and indicate which runway you plan on using because of the current meteorological conditions.


U.S. Department of Transportation
Federal Aviation Administration

Advisory Circular

The goal of the Advisory Circular is to improve safety for all by standardizing operational practices and getting everyone who uses non-towered airports on the same 18 pages of the new AC.

To read the entire AC, CLICK HERE .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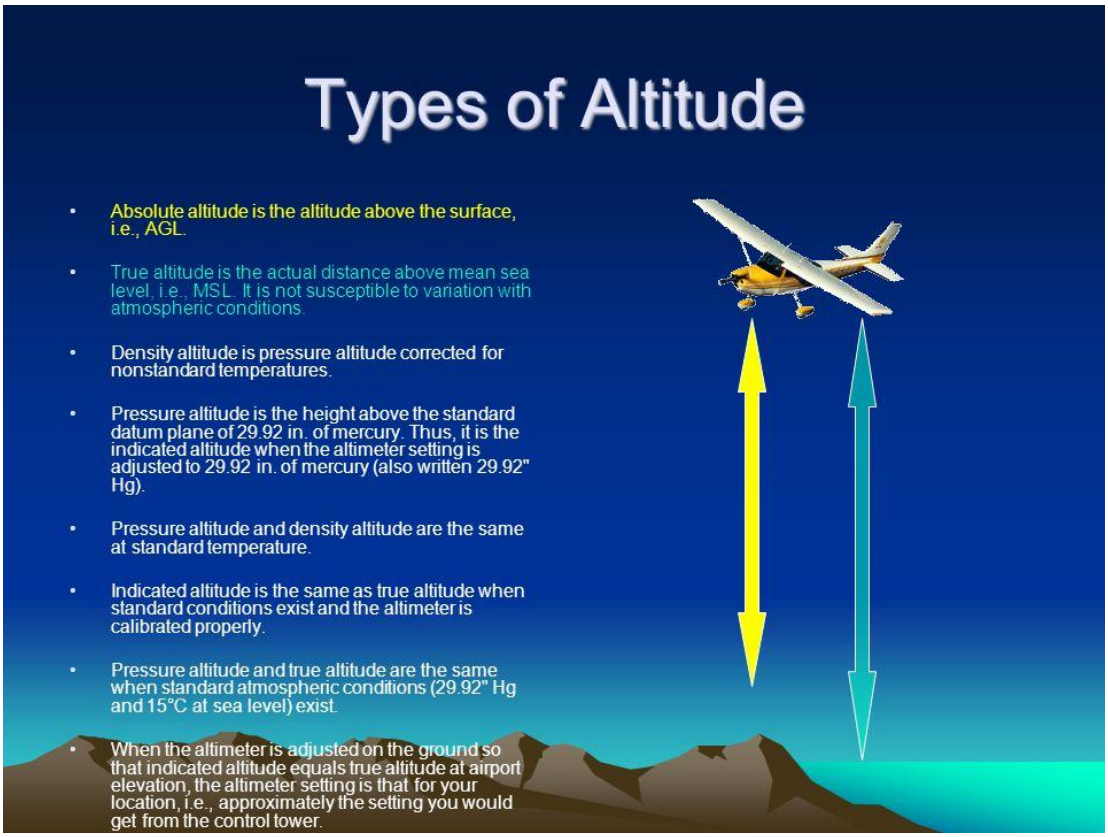
PHIL CORMAN

SUMMER & DENSITY ALTITUDE

Density Altitude (DA) is always an issue, but it becomes more significant in the warm summer months. By definition, DA is: P*ressure altitude corrected for nonstandard temperature. As temperature and altitude increase, air density decreases. In a sense, it's the altitude at which the airplane "feels" it's flying.* As you know, the wings and the engine are most affected. Even a turbocharged aircraft experiences high DA, but the performance is mostly impacted by reduced lift on the wing, as the engine may still be getting adequate oxygen for combustion.



DA is mostly affected by temperature. The simple equation is as follows:

Density altitude in feet = pressure altitude in feet + (120 x (OAT - ISA temperature))

PA is the reading on your altimeter when you set it to 29.92”

OAT is Outside Air Temperature. You can use C or F, but remember to be consistent. Standard temperature at sea level is 15^{o} C or 59^{o} F. Temperature decreases by 2^{o}C or 3.5^{o}F per 1000 feet.

At a Mooney Fly-In to Big Bear (L35), which is at 6,752’ MSL, warmer temps in the summer are a regular occurrence. These can drive DA up pretty high. When it was time to fly home, the temperature was 90^{o}F. The OAT minus ISA temp was 32-2 = 30. So 6752+(30 x 120) = a DA of 10,352’. That will affect your Mooney significantly.

Your takeoff run will increase significantly and your climb rate will also be diminished.

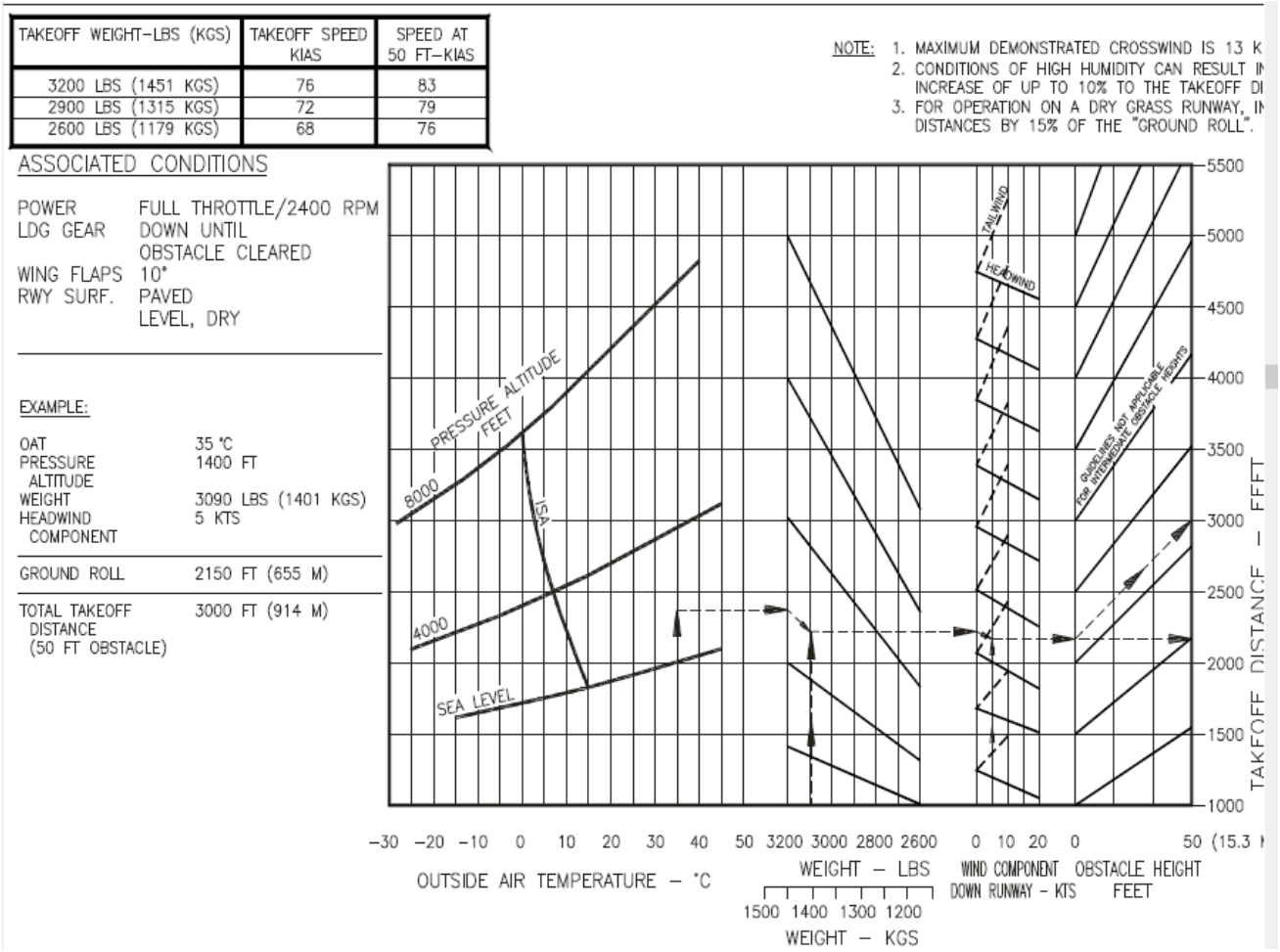
Humidity also affects DA, but not as much as temperature. During July in Denver, the average daily low relative humidity is 22%, and the average daily high relative humidity is 72%. Unfortunately, factoring humidity into density altitude is complicated, but there's a great calculator for it here.

Let's use an average July day in Denver when the temperature's 31.1 degrees Celsius. Adding 22% humidity increases the density altitude by 146 feet to 8592 feet. At the average high humidity of 72%, the density altitude increases by 480 feet to 8926 feet.

You can see that the humidity doesn't have much of an effect on density altitude as temperature and pressure do, but it's something to consider. If the humidity is high, your aircraft could perform like it's several hundred feet higher.

You really must consult your POH when DA comes into play. Going back to our Mooney Fly-In to Big Bear, at 6752'. They sell 100LL for one of the lowest prices in California. This is a danger. Why? You will be tempted to fill-up, adding to your weight. How many passengers do you have?

Using my POH, here is how the computation for my takeoff run looks.



TAKEOFF WEIGHT–LBS (KGS)	TAKEOFF SPEED KIAS	SPEED AT 50 FT–KIAS
3200 LBS (1451 KGS)	76	83
2900 LBS (1315 KGS)	72	79
2600 LBS (1179 KGS)	68	76

NOTE: 1. MAXIMUM DEMONSTRATED CROSSWIND IS 13 K
2. CONDITIONS OF HIGH HUMIDITY CAN RESULT I
INCREASE OF UP TO 10% TO THE TAKEOFF DI
3. FOR OPERATION ON A DRY GRASS RUNWAY, I
DISTANCES BY 15% OF THE "GROUND ROLL".

ASSOCIATED CONDITIONS

POWER FULL THROTTLE/2400 RPM
LDG GEAR DOWN UNTIL OBSTACLE CLEARED
WING FLAPS 10°
RWY SURF. PAVED LEVEL, DRY

EXAMPLE:

OAT	35 °C
PRESSURE ALTITUDE	1400 FT
WEIGHT	3090 LBS (1401 KGS)
HEADWIND COMPONENT	5 KTS
GROUND ROLL	2150 FT (655 M)
TOTAL TAKEOFF DISTANCE (50 FT OBSTACLE)	3000 FT (914 M)

Let's use a sea level departure at ISA standard temps and no wind, just to have a base measurement. If you utilize the POH, my Eagle will use approximately 1,700' of the runway at gross weight. At Big Bear under the same conditions, i.e., same gross weight, no wind, standard ISA, my Eagle requires a takeoff roll of 3,250'. Now add in an OAT of 90°F or 32°C and my takeoff roll is now approximately 4,000'. DA is significant and cannot be ignored.

Rule of Thumb for Density Altitude Takeoff Distance

To the standard sea level takeoff distance, add 10 percent for each 1,000-feet density altitude up to 8,000 feet. Add 15 percent of the standard sea level takeoff distance for each additional 1,000 feet density altitude above 8,000 feet.

You can deal with high DA in multiple ways:

1. Manage your gross weight given the DA
2. Take off when the temperatures are cooler (morning or early evening)
3. Take off with favorable headwinds

In addition, there is another thing you can and should do. That is, to set the Engine Mixture for optimal mixture at the DA.

Engine Mixture at High DA

There are three schools of thought. The first is to leave your Mixture Control at the position it was when you landed. Presumably, this setting was optimal at the time. The trouble with this line of thinking is that the temperature and the pressure may have changed since you landed and that mixture may no longer be optimal.

The second method is to set the mixture after the run-up, increase the RPM to 2,000 or greater, then lean your mixture until your EGTs max. Enrichen slightly and you are good to go.

The final method is used by pilots on gravel strips. They do not want to run their engines/props up to 2,000' because they could pick up rocks and ding the prop and belly. So, they begin their takeoff roll and continue to lean until the engine runs a little rough. Then, they enrichen until it is smooth. Clearly this will reduce the chances of picking up rocks, but adds a little workload to your takeoff roll, which only you can determine whether it's acceptable or not.

On Landing

Remember that your approach, landing and flare speeds are the same as at sea level. Also, DO NOT push the Mixture full rich as you would do at a sea level airport in the event of a go-around. Enrichen it only for the full throttle setting.

Summary

Remember, you will only be getting partial Manifold Pressure at high DA. Every aspect of your Mooney's performance is degraded. Use lower weight (maybe less fuel… maybe less baggage.. maybe lighter passengers). Use cooler times of the day. In addition, you could use the most favorable headwinds to reduce your takeoff roll.

Another high DA takeoff technique, is stay in ground effect and build up some airspeed before raising the nose. This will increase the margin of safety.

PUTTING CYLINDER RUST TO REST

by Kevin Knight

The cylinders on my 1967 Executive are shedding chrome, mainly in #3. I know this because in my last three oil analyses, the chrome has been rising dramatically. Some poorly seated rings aren't helping because the cold compression in #3 is in the low 50s, oil consumption is one quart every four hours, and the oil gets dark after several hours. This is not good.

The cylinders only have 350 hours on them, but I don't know how old they actually are. My engine was rebuilt 20 years ago after a prop strike and the block appears original. The logs indicate all the cylinders were replaced, but since they were chromed, that usually suggests they've been through several full TBO runs. Consequently, my winter project is building a new engine that's going to be as rustproof and durable as possible, starting with the cylinders.

Rust is expensive. The Pentagon spends more than $25 billion annually fighting the same corrosion that pits and destroys airplane cylinders. New ones cost more than $1,200 each. Unlike Congress, which mandated the creation of the Department of Defense's Corrosion Policy and Oversight Office in 2003, pilots can't outsource the problem. We have to prevent it with knowledge and research.

Rust results from iron being exposed to oxygen and moisture for extended periods. Moisture is drawn into our engines during operation and produced during combustion. Even a shutdown inhales moisture. Pat Heseltine, an A&P for nearly 40 years who owns and operates Avian Flight Center in Bremerton, Washington, says steel starts rusting as soon as the engine shuts down.

Just like our bodies deteriorate if we don't exercise regularly, engines deteriorate if they're inactive for more than a week, particularly in humid environments. Steel cylinders are especially vulnerable. As former Air Force mechanic Dale Trout of Gig Harbor, Washington, remarked, "The worst thing you can do to an engine is not run it."

Many pilots are surprised that frequent flyers are more likely to exceed TBO than hangar queens. That's why cylinder endurance is rarely a problem for flight schools, commercial operators or active partnerships. However, many airplane owners barely fly 50 hours annually and are at risk of having their engines rot from within.

Running the engine on the ground for short periods is actually worse than letting it sit. Lots of moisture gets sucked in, but operating temperatures stay too low to burn it off. The general rule of thumb is to fly for an hour while making sure the oil temp gets to 180^{o}F or above to drive off moisture.

I spend lots of time in humid Texas and equally humid Seattle, so rust is my companion and enemy. If I can't fly enough, I want to avoid additional maintenance costs and anxiety by eliminating any chance of my new cylinders rusting.

My research suggests the best way to preserve my cylinders is with nickel silicon carbide electroplating, more commonly called "nickel plating."

What Can You do to Prevent Rust in your Cylinders?

To my knowledge, the only legal options for nickel plated airplane cylinders are aftermarket electroplating by Aircraft Cylinders of America in Tulsa, Oklahoma, or new "NiC3™" cylinders----which is a registered trademark----from Continental Motors in Mobile, Alabama. That global manufacturer has FAA approval to produce Continental components, "Continental Prime^{tm}" parts that are approved for Lycoming engines, and experimental engines and components under the Titan name.

I spoke with a number of well-regarded engine shops and they buy new NiC3 cylinders from Continental, or purchase Superior or Lycoming jugs and have them plated in Tulsa for around $300 each, (includes shipping). Anyone going that route should ask how that aftermarket modification impacts the manufacturer's warranty. RAM Aircraft in Waco, Texas, states on its website that the company's "Nickel New Cylinder Package cylinder assembly" is warranted for one year from the shipping date. It also warrants the cylinder bore to remain corrosion and wear free for five years. Google their website and those of others for details.

Aircraft Cylinders of America production manager James Pitts told me they started doing nickel plating because customers asked for it, but added that he and the company's owner are chrome fans.

"It's been around forever and we think it's dependable," he said, adding that "chromed cylinders can be re-plated numerous times whereas nickel can't."

My mechanic says, “Chrome is crap,” but he endorses hard metal for radial engines. Others have different opinions, so personal research is highly recommended since it’s a proven rust-prevention option. It also looks great on classic car bumpers!

Personally, I’m getting all new NiC3 Continental Prime^{tm} cylinders from Continental for four reasons:

First, it only costs $175 extra for each cylinder. That’s cheap insurance from a company that has manufactured millions of cylinders.

Second, I prefer having one organization in charge of a product from start to finish. I also want to feel confident it will be around for decades since my 25 year old son wants my plane when I kick the bucket. Continental has been producing engines since 1929, appears well capitalized and keeps innovating. The world of general aviation is shrinking, along with shops that support our airplanes, so corporate stability is a big consideration.

Third, NiC3 coatings were developed more than 50 years ago for high performance sports cars. The material has proven to be extremely durable and effective over tens of millions of hours in cars and planes. Plus, compared to chrome, it’s far easier to break-in, which can make a huge difference when it comes to long term performance and oil consumption. (Break-in is fast because the rings seat quickly.)

Fourth, the company’s industry leading warranty is for 24 months or 1,000 hours, whichever comes first. Cylinder barrels are warranted to be free from wear or corrosion for five years. Details can be found at continentalmotors.aero.

Seeing is believing

When business recently took me to New Orleans, I arranged to drive two hours north to Mobile where I could talk with some of the engineers and shoot photos.

Some pilots may recall that Continental acquired San Antonio-based PMA parts manufacturer Engine Components International (ECi) in 2015. The FAA had granted ECi permission to improve existing technology and sell the results as proprietary if they met American Society for Testing and Material’s standards. This allowed ECi to apply nickel silicon carbide to their experimental Titan engines, which were based on Lycoming designs. Once ECi was acquired, Continental gained access to their technical inventory and moved everything to Mobile.

Staff metallurgist Mike Byrnes has multiple degrees in metallurgy from the University

of Wisconsin and is a pilot and instructor. He told me ancient blacksmiths produced steel by heating iron ore in coke which is a carbon rich fuel source derived from coal. That lowered the melting temperature of the metal and make it easier to shape.

To ensure durability, the steel must be "normalized" since fresh-forged steel is a jumble of iron and carbon atoms.

To normalize cylinders, the steel is heated beyond its upper critical point, then air-cooled. It's then hardened by repeated heating and quenching, creating a durable microstructure. The company's metallurgy lab has an electron microscope and other instruments which allow them to regularly test and confirm products.

Mike explained that nickel and silicon carbide have strong, independent properties in cylinders when they're applied with electroplating. Under a powerful microscope, the combination resembles concrete with chunks of silicon carbide resting in nickel. The coating naturally retains oil, which flows between the carbide like water between rocks.

"The silicon, which is nearly diamond hard, protects the nickel, and they work together to get a smooth surface that will allow an oil film to remain," he said, adding that "NiC3 cylinders also break in far easier than steel or chrome cylinders."

The industry-standard Knoop microhardness test for mechanical hardness confirms what Mike said. On that scale, diamond is 7,000, nickel silicon carbide is 3,300, hard chrome is 972, hardened steel is 822, and tooth enamel is 343.

Mike noted that the pistons in lots of chainsaws and weed whackers are nickel plated since they run so rarely and would otherwise rust up.

"When you get corrosion in a cylinder and start the engine, it's like a cheese grater on your rings. You expose new, bare metals to rust again. With the nickel, you don't have to worry about that, because the nickel protects the surface."

Interestingly, even though the silicon carbide in Continental's NiC3 is chemically identical to the grit in sandpaper, engine barrels feel super smooth since the particles are only three microns in diameter and represent less than five percent of the mixture's weight.

To electroplate a cylinder barrel, a powder of dissolved nickel and some other chemicals is dissolved in water and continually stirred. A continuous, positive electrical charge is dispersed through the solution and the cylinder attracts the metallic salts that "plate out" the barrel. In addition to being harder, Mike believes nickel carbide also adheres to the cylinder walls better than

chrome. The process was invented in 1805 and is well understood and highly refined, as I saw at Continental's multi-acre plant located at the edge of Mobile's airport.

Plating adds about 8/1,000ths of an inch to the barrel's thickness. Half of that is precisely removed when it is ground and honed by computer-controlled machines.

I suggest watching this YouTube video about nickel plating cylinders. https://www.youtube.com/watch?v=XrweImPvlzU&t=2s It's focused on racing engines, but the production process is similar for our aircraft cylinders.

Bryon Denton, Continental's Senior Manager-Engineering, joined the company with the ECi acquisition. He's a pilot whose grandfather serviced P-38 Lightnings in WWII. One of the things his colleagues and he work on is combining the best qualities of Continental and ECi technologies in new products. It's like merging the best genetics from similar species to produce a superior organism.

When I asked about the production line for nickel plating cylinders, he said it has been improved since they moved everything from San Antonio.

"Continental has implemented more quality controls and the chemistry is controlled to even higher tolerances than before. That's not to say ECi wasn't diligent, but we're doing more here and now have an on-site chemist. We're a larger company with more resources, and this product line is growing."

When I asked about the flakey chrome cylinders in my current engine, he said, "You get hard chrome circulating through an engine and it's not a good thing."

Bryon added that with nickel silicon carbide, "Not only do pilots enjoy longer cylinder life, but if you don't fly your plane a lot, it won't rust up and ruin your rings and barrels."

Kevin Knight owns a 1967 M20F that he's slowly upgrading into a 201 clone.

In aviation, as in life, it's always nice having one less thing to worry about.

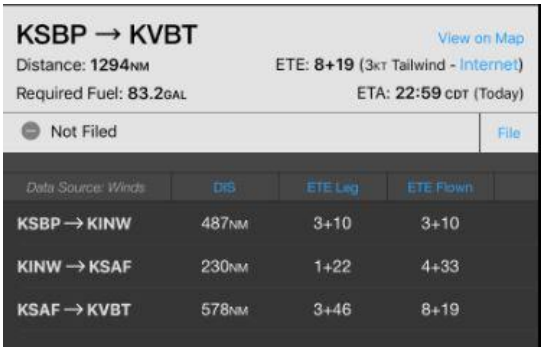
9 HOURS OF FLYING AND A WORLD AWAY – AN M20J ADVENTURE

by Kathy Dannecker

Jim and I stood, examining the planning chart that hangs in our hangar. May, our regular getaway month, was just around the corner and we were debating where this coming trip would take us. We were due for a new adventure. Red dots on the map mark airports we've visited and we looked at spots on the map where dots were sparse. The middle part of the country was an area that we'd traveled through in the past, made a fuel stop or an overnight, but never given it much attention. Still, Nebraska and Kansas didn't raise much excitement, but one spot caught my eye.

I didn't tell Jim what I was thinking until I'd had a chance to do some research online. What I discovered was an area of forested mountains, massive lakes, quiet streams, museums, and college towns. And someplace we'd never been.

Jim saw me studying travel articles and said, "Where are we going?"
"Ozark Mountains."
"The Ozarks?"
"Yeah."
"OK."



Even though May is officially tornado season in Texas and Oklahoma, we found a 10-day stretch with a benign weather forecast for our entire route. Our destination airport was Bentonville Municipal (KVBT) in Arkansas. We would take two days to get there, making a fuel stop in Winslow, Arizona (KINW), and an overnight in Santa Fe, New Mexico (KSAF.) That would leave us poised for an early morning flight over the mountains before the winds kicked up, then a noon arrival in Bentonville.

Despite Santa Fe's image as an expensive city, its airport is really pretty GA-friendly. Avgas (self-serve) was about 85 cents per gallon lower than fuel in San Luis Obispo, and we were able to find a moderately priced hotel with a shuttle that would pick us up at the airport.

After dinner, we checked the next day's weather and found some unpleasant surprises. There were AIRMETs for turbulence below 18,000 for the entire remainder of our route and winds aloft across Texas and Oklahoma were 40 knots as low as 3,000 feet. We made an easy decision to stay put for one more night. Within walking distance of the hotel was a unique attraction called "Meow Wolf" as well as a couple breweries, so we had little difficulty occupying ourselves during our slightly extended stay. The forecast continued to change throughout the day, to the point we thought we might end up turning around and going home. But when we woke up the following morning, what we saw was good news. All that was left of the AIRMET was some moderate turbulence for the last 45 minutes of our flight, and winds were forecast to be largely in line with the runway when we arrived. We decided to launch.

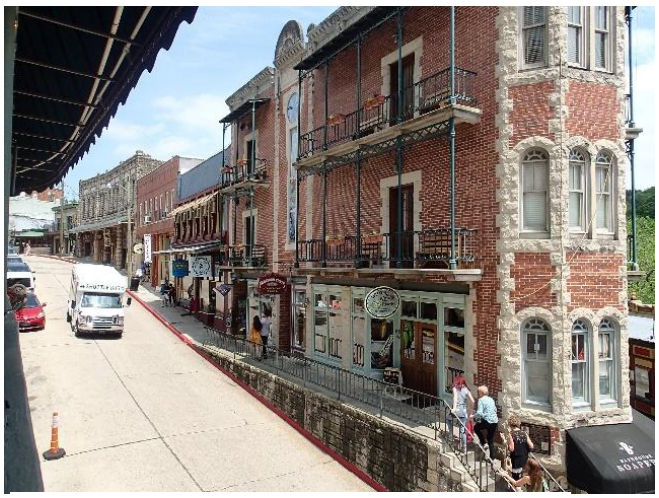
The forecast proved to be fairly accurate and after a mostly pleasant flight, we arrived in Bentonville. Bentonville is known as the home of Walmart and the municipal airport Is a small, friendly airport with no tie-down fees and Avgas under $4.00 per gallon. We were greeted on the ramp by the airport manager, who couldn't have been more helpful.

We decided to skip the Walmart Museum, but we did check out an art museum built by the Walton family called the Crystal Bridges Museum of American Art. It's in a beautiful setting, built over a river, and extends outdoors with trails through the surrounding woods. The museum is free and worth the visit.

We headed south about ½ hour to Fayetteville, home of the University of Arkansas. Not far from there was Devil's Den State Park, where we enjoyed a gorgeous, but not too long, hike. The trail went through lush forest, along streams, and under a waterfall, and past huge slabs of granite with crevices where bats breed. For the better part of an hour, we saw no one and heard nothing but the sounds of nature. After leaving there, we took a scenic route back to Fayetteville and observed a number of things that, for us, would become synonymous with the Ozarks … lush mountains, green pastures, barns (new and dilapidated), armadillos (dead and alive), and Confederate flags. It truly was a different world!

The next day, we headed east to the Buffalo River, a beautiful, clear river controlled by the National Park Service. Access points to the river are limited, as are canoe and kayak renters licensed to operate there. We picked a section to kayak that promised to be beautiful, but less crowded than the most popular stretch of river. We weren't disappointed. There was no sign of civilization for the 4-hour trip, except for two other couples who were also enjoying a float down the river. We glided over some riffles, through the woods, and past tall granite walls. Turtles hung out on logs sticking out of the river, and two bald eagles soared along the waterway, giving us plenty of opportunity to watch them.

The final stops on our trip were more populated areas. We headed north to Branson, Missouri, a sort of Midwestern micro-Las Vegas with lots of family entertainment and shows that focused more on God and country than the typical Vegas offerings. The town is set near Table Rock Lake, a massive body of water with over 1,000 miles of shoreline. We were tempted to do some indoor skydiving in Branson, but instead opted for a Zipline tour.



Eureka Springs, Arkansas

We also visited Eureka Springs, an interesting town built on a steep hillside, that grew due to a legend of healing waters. At the end of the 19th century, a significant number of residents were stonemasons and their work is still evident today.

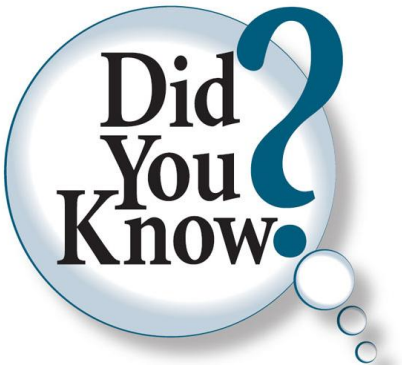
A week or so after our arrival in Arkansas, it was time to head home. The plan was to, overnight in Santa Fe. However, our check of the weather showed some significant winds again and an AIRMET for turbulence that began east of Santa Fe where the mountainous terrain begins. So we did a quick search for some place just short of the mountains where we could spend the night, and the following morning, get an early jump past some of the higher terrain. We picked Borger, Texas (KBGD) for its fuel price, reasonable hotel options, and availability of rental/crew cars. It would leave us with a longer leg for our last day, but with two pilots to divide the flying time, it would be easier.

We flew over a refinery at the edge of town before landing at the mostly deserted airport. We were met by a line guy, who promptly offered us a crew car, directed us around a nicely-appointed, but apparently little-used terminal, recommended the Best Western for lodging, and a Mexican restaurant called The Plaza for dinner. As it turned out, this is about all there is in Borger! The downtown street consisted of a long row of boarded-up stores and The Plaza sat there among them as one of the few businesses still in operation. Guests at the Best Western were almost entirely there to work at the refinery. The crew car was a highlight, though. It was an old police cruiser, complete with searchlight, doors that creaked when opened, and electric windows that wouldn't roll down. I love crew cars like that!

Based on the forecasts, we expected to wake up to clear skies. Instead, we found a 3,000 foot overcast! We considered filing an IFR flight plan to get on top, but based on METARs with clear skies from Las Vegas, New Mexico and points west, we instead opted to cruise along at 2,500 until we found some gaps in the clouds. We slipped through the holes before they closed in again and cruised along on top for another hour or so. Thanks to our recent ADS-B upgrade, we were able to confirm that the skies would, in fact, open up long before we reached our fuel stop.

After experiencing some of the advertised turbulence, we made it to our fuel stop in Holbrook, Arizona (P14). The airport is unattended, but does have self-serve fuel and a deserted "pilot lounge" that was last updated around 1960. We pulled some Red Vines out of our bag, stretched our legs, and hopped back in the Mooney for the last leg home.

This had been a true getaway and a glimpse at another world, one that we look forward to experiencing again.



ELT TESTING

ELTs should be tested in accordance with the manufacturer's instructions, preferably in a shielded or screened room or specially designed test container to prevent the broadcast of signals which could trigger a false alert.

If the "shielded room" is not available, analog ELTs (121.5 and 243 MHz) should only be tested during the first 5 minutes after any hour.
Airborne tests are not authorized.

JIM PRICE ATP, CFI-I, MEI

HOW OLD IS YOUR VACUUM PUMP?

You probably don't lay awake at night, worrying that your vacuum pump might fail. In fact, many GA pilots have never had a vacuum pump failure. However, if you talk with your A&P, you'll find that Vac Pumps fail more often than you might imagine. They see it all the time

Your Mooney probably has a vacuum-driven attitude and heading indicator. Just in case the Vac system fails, there's a barely suitable backup called the turn coordinator (electrically powered). If you've ever practiced an instrument approach or just basic instrument maneuvers using partial panel, you know that it's not a piece of cake. If your vacuum system fails while you're in the soup, flying partial panel can be very challenging.

To fly VFR, you don't need a functioning Vac Pump, because you don't need a Directional Gyro (DG), Attitude Indicator. You don't even need a turn coordinator/skid and slip indicator. Of course, if you want to file an IFR flight plan, you'll need all three of those instruments.

Do Vacuum Pump Failures cause Accidents?

From 1983 to 1997, there were 40 accidents caused by Vac Pump failure and 32 of those were fatal.

Vacuum Pump Failure: The Unfriendly Pop Quiz

May, 2016: An instrument-rated Beech V35 pilot, with an ATP and over 4,000 hours, was flying an Instrument Flight Rules (IFR) cross country.

While flying in visual conditions between cloud layers at 7,000' and heading toward his destination airport, he reported to air traffic control that he had experienced a vacuum pump failure and that he had lost the associated gyroscopic instruments and part of the instrument panel.

The pilot continued to the destination airport because it had the best weather conditions compared to alternate nearby airports. However, after accepting radar vectors for the GPS approach to the airport, he reported that the plane had entered instrument meteorological conditions (IMC) and that he had lost a “little bit” of control.

He then reported that more of the instruments had failed and that he was trying to get back to 7,000’.

Shortly thereafter, the controller was unable to communicate with the pilot.

The uncontrolled descent and overstrees caused the airplane to break up in flight. Parts were found in multiple pieces along a 0.4-mile-long debris path near Syosset, N.Y. All three souls aboard did not survive.

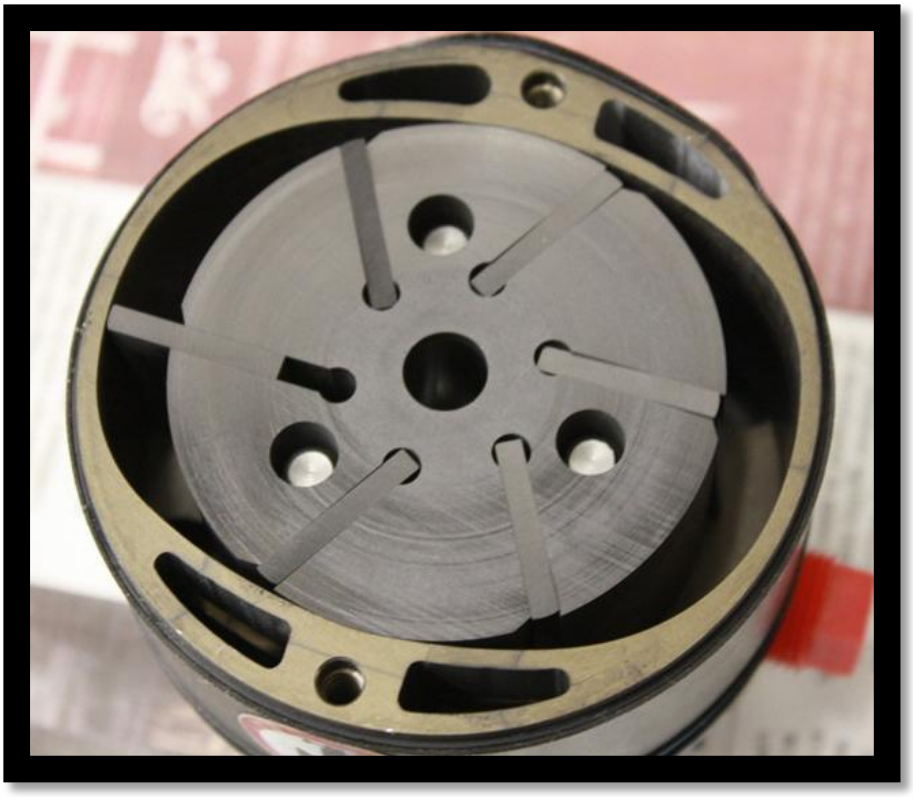
Mandate: 500 Hours or 6 Years

The V35’s vacuum pump was installed on February 10, 2000. It failed after just **373 hours**.
This vacuum pump has a manufacturer’s service letter (SL) mandates that after 500 aircraft hours or six years from the date of manufacture, whichever comes first, it needs to be replaced. Of course, the Service Letter’s mandatory replacement schedule doesn’t apply to Part 91 operations.

The accident pump was manufactured in May 1999, which was **17 years** before the accident. Unfortunately, the Beech was not equipped with a backup/standby vacuum pump.

How Long do Mooney Vacuum Pumps Last?

The vanes in the vacuum pump are made of carbon and as they wear, problems can occur. Additionally, when carbon wears, the carbon dust has got to go somewhere and that's why your vacuum filters need to be checked every year. Sometimes the dust gets past the filters and ends up in the vacuum driven instruments, leading to instrument failure.



Don Maxwell, owner of Don Maxwell Aviation (a Mooney Service Center), recommends that Vacuum Pumps be replaced after 500 service hours, especially if the owner plans to operate IFR. They are relatively inexpensive, (about $350), so it just makes good sense to replace them on schedule.

Bruce Taylor, owner of Airpower has been repairing aircraft components like vacuum pumps for 30 years. He said that if a pilot is going to fly IFR, he or she should make a preemptive strike and replace the pump every 500 hours. He also said that having them inspected is a bad idea. Once a pump is opened, the tolerances are so precise, that when they are reassembled, they'll fail shortly after being reinstalled on the aircraft.

If You have a Glass Panel, do you really need a Vacuum Pump?

That depends. Although you don't need a Vac Pump to power your attitude indicator and HIS, there's the little matter of the autopilot. In the case of the Century 2000 AP, it uses its own Century vacuum driven Attitude Indicator. Additionally, the above M20K has speed brakes that are

Even VFR pilots need to consider the loss of a vacuum pump as a potentially serious emergency.

1997: A Mooney pilot noticed low vacuum pressure readings, followed by slow failure of the attitude indicator, heading indicators and the wing leveler system. The pilot elected to continue into deteriorating weather that became so bad he was forced below VOR reception altitudes and ended up landing in an open field. The aircraft was damaged, but there were no injuries.

1990: A Cessna 182 pilot, taking off at night in California wasn't so lucky. He departed in VFR weather beneath an overcast sky. Investigators reported that when he applied takeoff power, the vacuum pump shaft sheared. (It's designed to shear when the pump fails). He crossed the Pacific shoreline, where he lost a visual horizon, then entered a descending spiral at 500 feet, crashing into the ocean at full power. There was one fatality.

A look at actual incidents shows that experienced pilots are not immune to loss of control after a vacuum system failure. An ATP flying a Piper Seneca II over Oregon crashed in a steep, nose-down attitude during a no-gyro approach. He had 6,500 hours total time and 500 in type.

Clues

It is obvious that cross-checking a dying attitude indicator is more difficult than it sounds, especially if the vacuum pump failure occurs in the high-workload environment associated with instrument weather, or shortly after takeoff. Clues come from the other instruments. The turn-and-bank indicator can confirm or deny what the attitude indicator or heading indicator appear to be saying about a turn. The altimeter, airspeed indicator, and vertical speed indicator--not to mention engine and wind sounds and the change in air pressure in your ears--can help confirm or deny indications of a climb or descent. It all sounds so simple when comfortably seated and reading The Mooney Flyer. It's much harder when your vacuum pump fails and your faced with dealing with a partial panel.

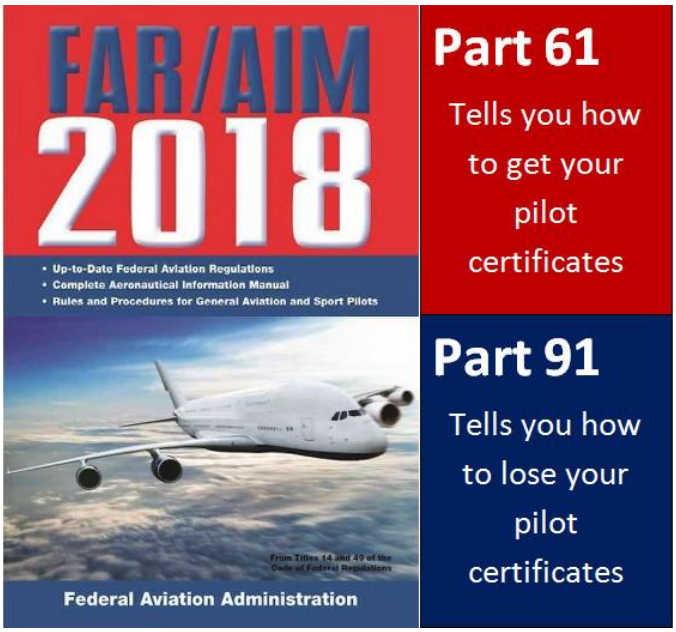
FROM THE FAA - UNSTABILIZED APPROACHES – THESE CAN RESULT IN LOC

Here are the areas the FAA recommends for a stabilized approach in a GA aircraft, with minor deviations on final approach. (It's something you can practice on your next flight or flight review!):

- **Glidepath**. The airplane is on the correct flight path. Typically, the glidepath is 3 degrees to the runway touchdown zone (TDZ) (obstructions permitting).
- **Heading**. The airplane is tracking the extended centerline to the runway with only minor heading/pitch changes necessary to correct for wind or turbulence to maintain alignment.
- **Bank angle**. This should not exceed 15 degrees on final approach.
- **Airspeed**. The pilot maintains a constant target airspeed within +10/-5 knots indicated airspeed (KIAS), which is usually at, but no lower than, the recommended landing speed specified in the pilot's operating handbook (POH)/Airplane Flight Manual (AFM), approved placards/markings, or 1.3 times the stall speed or minimum steady flight speed at which the airplane is controllable in the landing configuration (VSO), if not specified.
- **Configuration**. The airplane is in the correct landing configuration with flaps as required, landing gear extended, and the airplane in trim.
- **Rate of Descent**. Descent rate is a constant and generally no greater than 500 feet per minute (fpm). If a descent greater than 500 fpm is required due to approach considerations, it should be reduced prior to 300 feet above ground level (AGL) and well before the landing flare and touchdown phase.
- **Power Setting**. Appropriate for the airplane configuration and not below the minimum power for approach as defined by the POH/AFM.
- **Checklists/Briefings**. All briefings and checklists (except the landing checklist) are completed prior to initiating the approach.

FACTORS CONTRIBUTING TO LOSS OF CONTROL

- Poor judgment or aeronautical decision making
- Failure to recognize an aerodynamic stall or spin
- Intentional failure to comply with regulations
- Failure to maintain airspeed
- Failure to follow procedure
- Pilot inexperience and proficiency
- Use of pharmaceuticals, illegal drugs, or alcohol



MOONEY INTERNATIONAL CORPORATION **SERVICE BULLETIN**

Click **DL** to Download the Service Bulletin from Mooney.com Support

M22	M20	M20A	M20B	M20C	M20D
M20-314A 2012, 29 Feb DL **M20-313A** 2012, 29 Feb DL	**M20-318** 2014, June 2 DL **M20-314A** 2012, 29 Feb DL **M20-313A** 2012, 29 Feb DL	**M20-318** 2014, June 2 DL **M20-314A** 2012, 29 Feb DL **M20-313A** 2012, 29 Feb DL	**M20-318** 2014, June 2 DL **M20-314A** 2012, 29 Feb DL **M20-313A** 2012, 29 Feb DL	**M20-318** 2014, June 2 DL **M20-314A** 2012, 29 Feb DL **M20-313A** 2012, 29 Feb DL	**M20-318** 2014, June 2 DL **M20-314A** 2012, 29 Feb DL **M20-313A** 2012, 29 Feb DL

M20E	M20F	M20G	M20J	M20K	M20L
M20-318 2014, June 2 DL **M20-314A** 2012, 29 Feb DL **M20-313A** 2012, 29 Feb DL	**M20-318** 2014, June 2 DL **M20-314A** 2012, 29 Feb DL **M20-313A** 2012, 29 Feb DL	**M20-318** 2014, June 2 DL **M20-314A** 2012, 29 Feb DL **M20-313A** 2012, 29 Feb DL	**M20-325** 2016, Dec 14 DL **M20-318** 2014, June 2 DL **M20-314A** 2012, 29 Feb DL **M20-313A** 2012, 29 Feb DL	**M20-325** 2016, Dec 14 DL **M20-318** 2014, June 2 DL **M20-314A** 2012, 29 Feb DL **M20-313A** 2012, 29 Feb DL	**M20-325** 2016, Dec 14 DL **M20-318** 2014, June 2 DL **M20-314A** 2012, 29 Feb DL **M20-313A** 2012, 29 Feb DL

M20M	M20R	M20S	M20TN		
M20-324A 2017, May 26 DL **M20-325** 2016, Dec 14 DL **M20-321** 2016, Nov 1 DL	**M20-324A** 2017, May 26 DL **M20-327** 2017, Mar 22 DL **M20-326** 2017, Mar 6 DL	**M20-321** 2016, Nov 1 DL **M20-322** 2015, June 23 DL	**M20-324A** 2017, May 26 DL **M20-327** 2017, Mar 22 DL **M20-326** 2017, Mar 6 DL **M20-323** 2016, Mar 4 DL		

Send your questions for Tom to TheMooneyFlyer@gmail.com

Question: Dear Mr Rouch,

Your monthly column in The Flyer is the first item I read. I learn good things every month. I keep all your answers in a notebook.

My question is simple. My Mooney falls to the right at cruise when I take my hand off the yoke. Two questions. What are the typical causes? And could you explain the process of "rigging my control surfaces" correctly?

Answer: Your Mooney should fly level for at least a minute with hands off. Rolling is not uncommon and not found often, since most pilots fly with an autopilot, which will correct for a slight roll. However, it should fly level and if it doesn't, most of the time, the causes are age and wear. Next flight, when it starts to roll, try to see if it will level by just using a little rudder. This works most of the time.

If that doesn't work, then you need to trim the trailing edge of the left aileron to bring the left wing down. Usually, a VERY minor bending down of some of the trailing edge of the outboard end of the aileron will fix the problem. Al Mooney used this method because he didn't want to use trim tabs. We use special pliers with a wide "mouth". However, I have done many "bend downs" with my fingers.

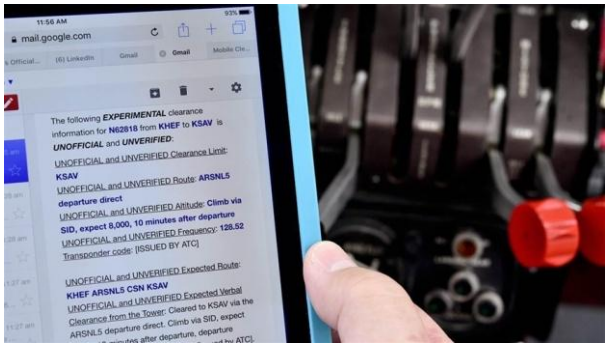
NOTE: Your licensed A&P should do the work.

Your A&P could just bend down the first 6 inches of the outboard aileron. You may have to fly several times to get it right. Your A&P should be careful because if he or she goes too far, you are not allowed to bend the skin back. Your A&P can also bend the rudder skin for the same result. This procedure is included in the maintenance manual. Hope this helps.

Aviation History buffs, CLICK HERE for "Speer Field" info at "Abandonded and Little Known Airfields"

HYH

Future IFR Clearances via ForeFlight?



The [MITRE Corporation] is researching how mobile devices could be used to deliver IFR clearances to GA pilots in the cockpit.

The initial test is currently underway at Manassas Regional Airport in northern Virginia. MITRE is a not-for-profit organization that conducts research for the FAA and other government agencies.

AOPA's vice president of government affairs, Melissa Rudinger, in a letter to the FAA, wrote, "We believe the FAA should embrace this technology, as it would make the thousands of general aviation IFR clearances given at towered and non-towered airports each day more efficient, reduce pilot and controller workload, and improve safety by reducing readback/hearback errors."

The test began in mid-May and will end July 29. Pilots who file IFR flight plans through ForeFlight when departing Manassas are eligible to participate in the test, which is designed to be transparent to air traffic control. MITRE has a research agreement with ForeFlight, which is partnering with MITRE in the test. If the technology becomes operational in the future, it will be available to any flight-planning service that chooses to license it.

MITRE researchers will use feedback received from the test to determine whether any changes or adjustments are necessary to advance testing to subsequent phases, which will be designed to move toward a less verbal process for IFR clearance delivery.

Sporty's New Flight Gear Kneeboards

Sporty's has introduced two new kneeboards in its Flight Gear line. Both can be used with paper charts or an iPad.

The Flight Gear Bi-Fold Kneeboard provides a solid writing surface and space for commonly used items, like checklists, nav logs, and sectional charts with a smaller footprint than many kneeboards.

Elastic straps at the corners and are spaced for holding an **iPad Mini**. The Kneeboard's clipboard is printed with quick reference placard information, including basic VFR weather minimums, mandatory IFR reports, airport traffic light signals, as well as other basic information needed during flight. The clipboard is reversible, so the kneeboard can be oriented in either direction on either leg.

Sporty's Flight Gear Tri-Fold Kneeboard will keep charts, timers, notes, calculators, and cables organized with a spot for everything.

The solid clipboard can be used for copying clearances or managing a sectional chart, plus it doubles as a quick reference tool.

Elastic straps at the corners and are spaced for holding a 9.7" iPad Air or Pro.

Both the Bi-Fold and the Tri-Fold Kneeboard can be customized using Sporty's Gear Mods.

Both side flaps are constructed with a soft felt material, ideal for attaching add-on storage pockets for charging cords, screen cleaners, or batteries.

Some pilots have placed Velcro on a much-used accessory to attach it to the Kneeboard for quick in-flight access

Sporty's Flight Gear HP Bi-Fold Kneeboard (iPad Mini) [6367A] measures 14.5" x 10" open and 7.5" x 10" closed and is available for **$24.95**.

Sporty's Flight Gear Tri-Fold Kneeboard (iPad Air or Pro) [7004A] may be used on the right or left knee. Measuring 11.5" x 20" open and 11.5" x 7" closed, it is available for **$29.95**.

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 July 14: Williston (X60) August 11: Lake Wales (X07) September 8: Winter Haven (GIF)
Mooney Caravan	July 21: Mooney Arrival at AirVenture CLICK HERE for details.
MAPA Safety Foundation Mooney Pilot Proficiency Program	Sep 7-9: Manchester, NH (KMHT) Oct 5-7: Owensboro, KY (KOWB)
MooneyMax Event	October 10 – 14: MooneyMax Conference and Clinics, @ Longview, Texas (KGGG) New Hilton Garden Inn and Event Center. MooneyMax Maintenance Seminar Don & Paul Maxwell and our staff, Mooney Caravan Formation Clinic, A fresh new list of seminar Speakers & Vendors, Tour of Mid America Aviation Museum tour, Saturday Night Banquet at The Lake Cherokee Country Club, Banquet Speakers The REAL Space Cowboys that are Mooney owners
Mooney Summit VI	September 28-30: At Panama City, FL CLICK HERE for details.

2018 MAPA Homecoming and MAPA at AirVenture are **CANCELLED**

EMPOA Newsletter

Fastflyer Upcoming Flights






As we got extremely positive and very soultouching feedback of our Springflyout in Portugal, we decided to do it again!
Reserve 5th of April 2019 – 14th of april 2019 and send your booking request with tail number, pob and names to: tower@thefastflyers.com

What was your personal flying highlight in 2017?
And what are your plans for 2018? Tell us more about it!

Upcoming Flyouts

If you do not have enough plans yet or just want to fly with like-minded fastflyers, there are some extraordinary flyouts coming up:

27th july18-31iest of July 18 Fast Flyout "Monte y Mare"

The international Jazz Festival `les enfants du Jazz` takes place in Barcelonette LFMR (no mountain qualification necessary!) and very famous artists like Selah Sue, Keziah Jones, etc. are on stage. For more information click the logo.

Next stop île de la beauté, where we land in Calvi LFKC. Welcome to the island of Corsica!
http://www.hotel-la-signoria.com/de/

Dinner is planned in - of course - a very special place close to the airport, but check for yourself: click on the photo.

You are waiting for some Italy?
Here you go: Lucca LIQL will be our last touchdown and will be the culinary highlight of the italian cuisine!

688 € p.P. incl. all nights in stylish 3 and 4* Hotels, all transfers and jazz festival tickets.
Don't miss out and safe your tickets at tower@thefastflyers.com

30iest Aug 18 - 2nd September Fly´n Sail

Our next happening will take place the in air, on land as well as in caribbean crystal clear mediterranean waters. Cannes LFMD is the famous destination on the even more famous cote d Azur, where we are going to enjoy life.
Cannes Fly´n Sail Video

For more detailed information, schedules and bookings visit:
http://www.thefastflyers.com/booking/

10th oct 18 - 14th oct 18 Bella Italia!

Do you know the saying: La dolce vita is in Northern Italy? Let s fast fly it!

It is truffles season! So Alba and one of Italys nicest hotel will be our kick off in Bella Italia.
Venezia Lido LIPV, the second oldest and very stylish airfield and without doubt one of the most spectacular approaches in Europe is a lifetime highlight.
(https://www.youtube.com/watch?v=_uY_XB8KFJw)
You might have seen all the palazzos, but did you ever stay on a luxury boat?
What would be Italy without Rome? Another impressive approach into LIRU and only a 15 min cab ride to the spanish steps. Let's take the pope in the air to a little scenic flight...
book here: tower@thefastflyers.com

30th Nov 18 - 2nd Dez 18
Early bird xmas market
Be the first on one of the nicest Christmas Markets in Germany. EDFR will form the last flyout in 2018 and offers a big jug of hot wine and to raise a cup to a hopefully exciting 2019 full of unique flying impressions!
As all our flyouts have limited space, make sure to place your booking at tower@thefastflyers.com

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To all our flyouts we recommend our special insurance for travelcancelations.
Check it out:
book your travel insurance here

Hope to see you soon up in the air traveling with us!

BOSE PROFLIGHT HEADSET

Until now, your main alternative to a "full" ANR headset was Clarity Aloft. But now, Bose has announced their Bose ProFlight Headset and it looks very cool.

First of all, it is lightweight, measuring 4.9 ounces, which is a significant factor in comfort.

Secondly, it has 3 levels of active noise reduction to enable the pilot to select the level he/she chooses.

It's designed for corporate pilots in jets, but at $995, it's the same price as Bose's heavier ear muff headsets.

You can order these now, and they will become available on July 17, 2018.

CLICK HERE for the details.


The Mooney Flyer
The Official Online Magazine
of the Mooney Community
Like us on
facebook
For the latest Mooney and Aviation News

1987 M20K FOR SALE

Specs are: 1987 M20K "252", 1445 TT Airframe and Engine; Location, Lakeport, CA; Complete Logs; Damage History, yes (in 1988, repaired by LASAR)
Avionics: KX165's Nav Coms;, KN64 DME; , KT76C Transponder; KFC150 Autopilot; KFC55A HSI; KR87 ADF; Apollo 2001 GPS; PMA 7000 audio panel; WX1000 Stormscope
Mooney Service Center maintained all its life. MAPA Best of Series Winner.
Price: $124,000/Offer
Call Paul & Shery Loewen at: 707 263-0462

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

Mooney Wing Tips for Sale

These Mooney Factory Wing Tips were originally purchased several years ago by a good friend for his Mooney. Unfortunately, his health deteriorated and he had to sell his aircraft and the wing tips were never installed. I obtained the Wing Tips prior to his death. I decided not to install them on my 1978 M20J (N201KR) and after 37 years of ownership and reaching the age of 87, I have recently sold my Mooney. They are in the original box along with the STC, parts list and installation instructions. My asking price is $1,750.00 however, I would consider a reasonable offer.
NOTE: After several years in storage the original box is not suitable for shipment.
Bernard Lee, 562-865-2547, leebern@msn.com

For Sale: 1978 M20J

Price Reduced to $120,000

1978 M20J N201TM
$120,000

Model M20J - 200HP FI Serial 24-0388
Lycoming IO-360-A3B6D

TTAF 4400
TTSMOH, SPOH, prop governor, “0” by Zephyr
New Hoses, oil cooler O/H, “0” magneto
Annual 2/18

Same owner 33 years, Mooney Service Center maintenance

AIRFRAME
No damage history. No corrosion. Always hangared.
Mooney brochure plane in 1978, panel “Those Incredible Moonies”
Electric Standby vacuum system & pump
Bladders, no leaks
Donuts, brakes, tires, good
New Plane Power Alternator
Concorde Battery
3 David Clarkes
Graphic engine monitor with fuel flow
Portable Oxygen, certified 2016
4 life vests
New seat belts and shoulder harness pilot/copilot
Electric gear & trim
Rosen visors
Grey leather interior & refurbished plastic

INSTRUMENTS
Garmin 430 WAAS
KNS 80 with second LOC/GS
Stratus ADS/B in, moving map, weather
IFR certified 3/16
KFC HSI
KFC 200 Flight director, coupled to Garmin 4300 3-axis, altitude hold
KY 197 COMM #2, flipflop
O/H electric DG 2016
BFG Stormscope
Davtron 811B clock, flight timer, stopwatch
4-Place Intercom + Music player
Electric Digital tach
JPI EGT CHT Fuel Flow

Contact: Claude “Sandy” Thomas
(770) 612-8221
mooney201@gmail.com

For Sale

Bendix/King KX-165 nav/com, 12V, with rack, $1600.
Electronics International SR8A4, 4 channel EGT/CHT, needs EGT probes, $200
Both working when removed from my M20J

Mark Leuzinger, SIAI260@gmail.com, 909-720-2702

DAILY HANGAR

Are you a pilot who is looking for a hangar to rent when you travel? Are you a hangar owner that has extra space and would like to turn that space into extra cash by renting your hangar? DailyHangar.com is a new website that connects transient pilots with hangars for their planes. The website offers an innovative way to connect transient pilots who would like a place to hangar their plane for any period of time with hangar owners who have space to rent. The website is also an excellent way for FBO's and corporate hangar owners to get the word out to more pilots about the space they have available and manage their rentals in one convenient location. DailyHangar.com encourages hangar hosts to sign up and provide options for traveling pilots. Protecting aircraft from weather is necessary for all sizes and types of planes.

"DailyHangar.com offers hangar owners the opportunity to make money renting out their under utilized hangar space, and pilots the opportunity to efficiently book a hangar space to protect their plane from the elements," said Mark Euwema, co-founder of Daily Hangar and a pilot in general aviation for the past 40 years. "DailyHangar.com offers the FBO's and corporate hangar owners a easy way to make their openings known to a broader community of pilots. It's a win-win for both parties."

Designed for the traveling pilot and the busy hangar owner, the website allows pilots, while traveling cross country, to find a hangar that has been posted on the website and book that hangar for the period of time they would need it, according to Euwema. "All you need is a destination and Daily Hangar will give you available options of hangars in your area."

Once the pilot has chosen a destination several hangar options will populate as a place to hangar your plane for your stay. Pilots need only to filter through the options for size, dates of stay and amenities at the hangar to find the price and the perfect location for their plane.

If you are a hangar owner with some space to spare, there is not a cost to list your hangar on the site. Hangar sizes, specifications and amenities are put in by the hangar owners.

There are no upfront or membership fees for the pilot or the hangar owner, there is only a service fee once the hangar is booked.

"I want to change the mindset of the traveling pilot. There are more options than the outside tie downs. I believe there is a lot of underutilized hangar space at airports across the nation and DailyHangar.com is the solution that can connect both the hangar owner and pilot," said Euwema.


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
J D PRICE
N257KW
JDPriceCFI.com