The Mooney Flyer

The Official Online Magazine for the Mooney Community

www.TheMooneyFlyer.com

March 2021

Editors

Phil Corman | Jim Price

Contributors

Bruce Jaeger | Bob Kromer | Tom Rouch | Ron Blum | Richard Brown | Linda Corman

Departments

From the Editor – *Nobody Asked; just our Humble Opinion*

Appraise Your Mooney's Value – *M20B thru M20R*

Mooney Mail – *Feedback from our Flyer readers.*

Ask the Top Gun –*Tom Rouch answers your questions*

Product Review – Life 2 Go Portable Telescoping Stool

Upcoming Fly-Ins – *Fly somewhere and have fun!*

Have You Heard? – *This month's Relevant GA news & links*

Mooney CFIs – *The most comprehensive listing in the USA*

Features

Smoke Gets in Your Eyes by Jim Price

Upslope/Downslope and Headwind/Tailwind by Phil Corman

A Voltage Review by Jim Price

Why I Fly and Why I Fly a Mooney by Richard Brown

A Tail of Two Mooneys by Ron Blum

Calculating a Stabilized Glide Slope by Phil Corman

Mooney Safety Event in Santa Fe

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The views expressed in each author's article are their own.
The Mooney Flyer's goal is to educate, inform, and entertain Mooniacs.

From the Editor

Phil Corman

Unleaded Aviation Fuel

UL94 is already available, but only sparsely across the country, and with a $100 STC, a little over 60% of the General Aviation fleet can use it. Smaller bore engines are included (We published all the engines applicable a few months ago). However, the bigger bore engines like my IO550 cannot use it. They will require UL100. Since 100LL is already pretty much a boutique fuel to be refined (and only a few times per year), it does not make much sense to divide that small market into two smaller markets. Also, for the most part, the price differential is unknown. Swift claims it is better for your engine with longer times between changes of oil/filter and sparkplugs, plus TBO hours might be possibly longer.

Our opinion at The Mooney Flyer is that UL100 will be the fuel that finally justifies replacing 100LL. It is nice to know that If you are using UL100 and happen to land at an FBO with only 100LL, you can mix those fuels in your tank. That is especially useful. UL100 is also easier for the refineries to produce, so maybe the prices will be favorable. Currently, no one seems to know.

Lost Alternator on Departure

Linda and I had not flown for a while, so we decided to drill holes along the coast of Central California with our Eagle. It was a beautiful day, but on departure our main annunciator light illuminated. Initially I could not determine the cause as I was concentrating on flying; raising the gear and about to raise the flaps. Once I accomplished that, I saw that the alternator was not providing volts to my battery. I took the following steps:

- Turned off the Alternator Field, then turned it back on – No change.
- Turned off the Radio Master and then selected the alternate battery – No change. Note: I turned off the radio master to protect my avionics from a potential surge when changing batteries. I think Don Maxwell warned me about doing this correctly.
- Checked the Alternator Field circuit breaker.

I decided to return to the Paso Robles airport (KPRB), announcing that I had a failed alternator. A friend, who is a CFI & United Captain called on the radio and suggested I drop the gear while I had ample battery power. Of course, the landing was uneventful.

My amazing A&P/IA came over to troubleshoot, hoping my issue was something simple like a broken field wire or bad brushes. Of course, it is never easy. He called Aircraft Accessories of Oklahoma who gave him a few more things to diagnose. He then removed the alternator and sent it to them. They diagnosed a failed stator and sent me a replacement. Oddly, my battery had died and my BatteryMinder could not rejuvenate it, so I bought two replacement Concordes. I had been on free time, as one was almost 12 years old and the other was six years old.

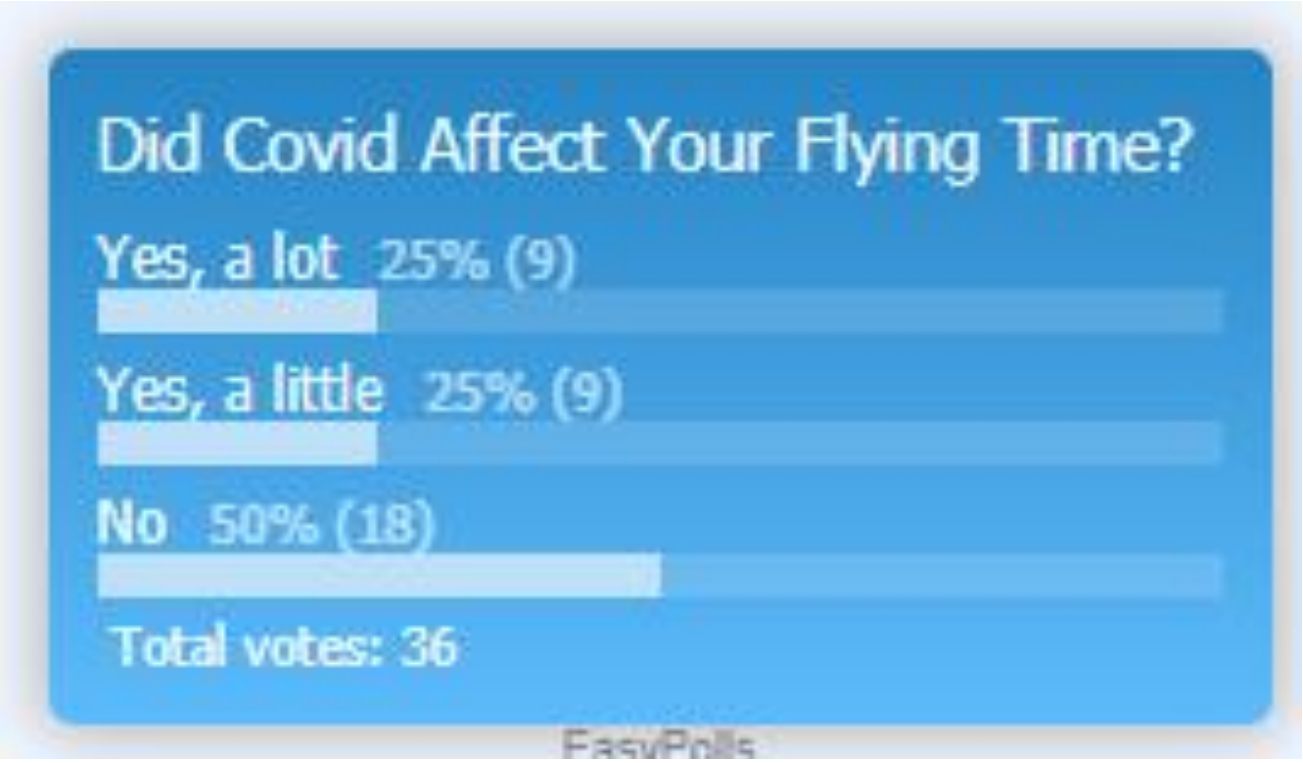
The event was mostly uneventful except for its impact on my wallet. I really don't like failures that do NOT give you a little warning.

Harry Moyer, Oldest Pilot Sets World Record

Linda and I eat at Paso Robles Airport's *One Niner Diner* on a regular basis. Periodically we see N6688R taxi up to the restaurant and a Mooney Pilot as old as the hills climbs out with a typical Mooniac smile on his face and all kinds of positive attitude.

Little did we know that at 100 years old, he is not only the oldest pilot on record, but he also holds it as a Mooniac. Harry has some history, duh. During World War II, he flew with the legendary "Flying Tigers".

We are honored and thrilled to have Harry among our ranks and to live in our county! He is a true "Vintage Mooniac"!!!



Next month's poll: "To Navigate I use" **CLICK HERE** to vote.

Letters to the EDITOR

Editor@themooneyflyer.com

RE: Fuel Mismanagement - I believe you misspoke in your article about fuel mismanagement. Near the end you said, "Never, never, never rely on your fuel gauges for anything." I believe what you meant to say was, "If your fuel gauges aren't accurate, get them fixed." Accurate fuel gauges ARE available and have been for years. Determining fuel remaining based on estimated fuel flows, timing, and pilot calculations; while usually close enough, are subject to so many human errors that it can't be considered reliable. If that's what a pilot is relying on, the only good solution is to carry much more gas than needed. While fuel totalizers, if properly calibrated, can give us a very accurate indication of how much gas we have left, it cannot tell us where that gas is. That accurate indication is only valid if the pilot enters a proper starting value, we have no leaks upstream of the sensor, and we have not vented fuel. An accurate gauge is not subject to any of those problems.

Bob P

Editor Note: We agree that you should get it fixed, but we still recommend that you do not rely on your fuel gauges. FAR Ref:
https://rgl.faa.gov/Regulatory_and_Guidance_Library/rgFAR.nsf/0/81D761D6CE5213ED86256904006C9CAF?OpenDocument

RE: Fuel Mismanagement - The statement that fuel gauges only must be accurate when the tank is empty makes no sense-and it is not true. I was told by the FAA that a fuel gauge that is not correctly indicating the amount of fuel is a grounding condition. See the article below or Google it and find additional information. I would not suggest relying on the gauges, but rather a fuel totalizer or timing-those methods will not identify a fuel cap etc.

https://pilotworkshop.com/tips/fuel-gauge-accuracy/

Marc T

RE: Small Things Matter - CHECKLIST: Order Matters I once had an unexpected full trim-up setting on takeoff in my M20J and can therefore relate to the high forces required to push the nose down while re-trimming to avoid a stall. In this case, trim had been correctly set and verified using the pre-takeoff checklist, but a subsequent test of the autopilot resulted in an undetected runaway trim condition. As a result, in addition to replacing that old autopilot with a Garmin GFC500, I have reordered my checklist to put trim setting as one of the last items checked immediately before takeoff. Also, I do not trim full-up on landing so that in case of a last second need to abort I am not fighting a severely out of trim airplane. Then if full power is applied just before landing, initial climb out should be no less than Vx.

Robert E

Ref Phil Corman's "From the Editor": I always carry oxygen and use it to stay sharp, particularly at the end of the day and into the night, no matter the altitude. But physically, do yourself a favor. MOVE! I urge a move to a location at or above 5,000 feet MSL. A year there will likely have your blood oxygen back up to 95% or above. Flying at 10,000 to 12,000 feet MSL where I like to be, will no longer seem to be abnormal.

Ref Jerry Proctor's "Think, Jingle Bells: Right on! All my travels have been VOR guided or aware, with two running, even when using a handheld GPS. I do not have a panel mount GPS and I am learning ForeFlight. I am too old to bother with learning "Glass". My IFR is used only in the most benign weather, skies with no bumps, no ice. I also have ADF and DME. The more nav backups, the safer.

Still a great publication! **Lin M**

A Voltage Review

Knowing your Mooney and its procedures in the event of an "Under Voltage" or "Over Voltage" situation can help you make a successful recovery and landing. First, let us start with a general review of the Mooney electrical system.

The rocker/breaker switches will automatically break the electrical current flow if the system or unit receives an **overload**. This will prevent damage to the electrical wiring.

The Alternator(s) circuit breakers (CB) are located on the main circuit breaker pane. The CBs provide an emergency overload break between the alternators and the power buss. Since the alternator is incapable of providing voltage in excess of the CB's capacity, a tripped breaker normally indicates a fault within the alternator.

The Alternator Field CB(s) provide an emergency break in the **Alternator Field excitation circuit** in the event of **alternator** or **voltage regulator** malfunction. If the **Voltage Regulator** output voltage exceeds limits, the **Overvoltage Warning Light** illuminates (in some models this light is steady) and the **Alternator Field CB(s)** may or may not trip.

Resetting the **Alternator Field CB** should reset the Alternator. If the CB will not reset, you should continue flight (to a landing) with minimum electrical load. The battery power will be your only source of power. Some models have two batteries, and some have two Alternators. Land as soon as practical and correct the problem.

M20C (1974) Over / Low Voltage Procedures

Low Voltage (Loss of Alternator Power) Ammeter will probably show a discharge.

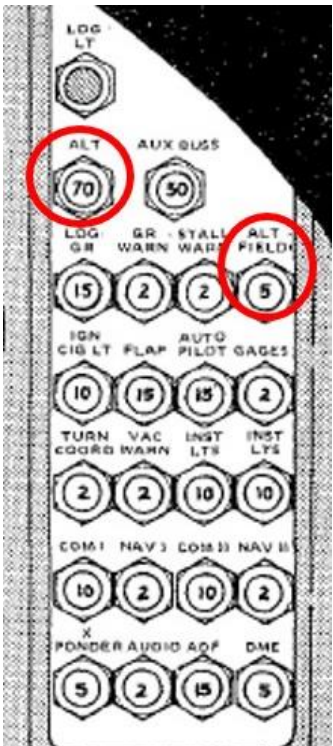
1. After letting the Alternator CB cool, reset the CB. This will usually restore an overload circuit.
2. **If after allowing the Alternator CB to cool and resetting the CB a second time does not reactivate the circuit:**
   a. The **Alternator CB** must remain open . . . and . . .
   b. The **Alternator Field CB** must be pulled to break the alternator excitation circuit.

High Voltage (Red Alternator Light illuminates STEADY)

1. Turn off all radio equipment.
2. Turn Master Switch – OFF and ON. This resets the voltage regulator.

If the Alternator Light illuminates again:

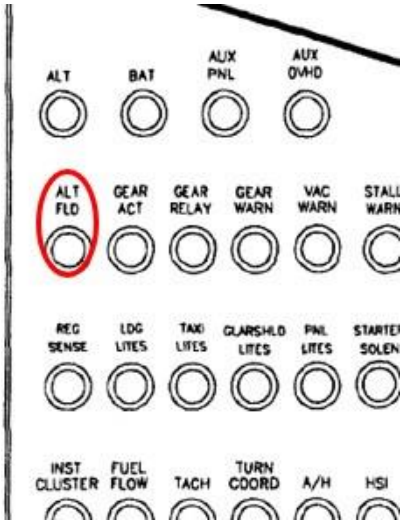
1. Alternator Field CB – Pull
2. Non-essential electrical equipment – OFF to conserve Battery Power
3. Land as soon as practical and get it fixed. Battery endurance depends on the Battery condition and the load on the battery.



M20J Over / Low Voltage Procedures

Low Voltage, Alternator Output LOW (Voltage warning light flashing; ammeter showing discharge)

1. Non-essential electrical equipment – OFF (to conserve Battery Power)
2. Land as soon as practical and get it fixed. Battery endurance depends on the Battery condition and the load on the Battery.



Over Voltage (voltage warning light illuminated steady and Alternator Field CB tripped)

1. Avionics Master – OFF
2. Master – Off, then ON (resets the voltage regulator)

If Warning Light is still illuminated:

1. Alternator Field CB – RESET

If Alt Field CB will not reset:

1. Non-essential electrical equipment – OFF to conserve Battery Power
2. Land as soon as practical and get it fixed. Battery endurance depends on the Battery condition and the load on the Battery.

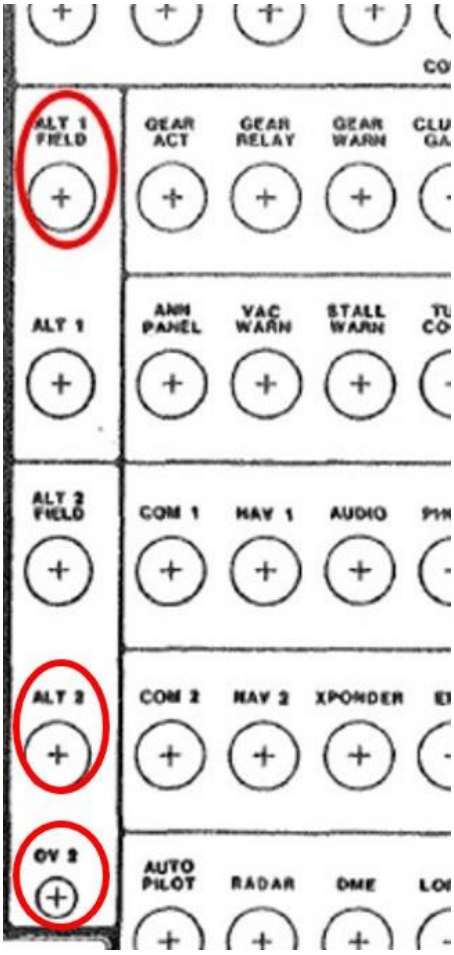
M20K Over and Low Voltage Procedures

Alternator LOW Voltage (Voltage warning light flashing)

First, both Alternator Field Switches OFF, then ON.

If the Warning light is still flashing . . .

1. Alternator Field CB – PULL
2. Non-essential electrical equipment – OFF to conserve Battery Power.
3. Land as soon as practical and get it fixed. Battery endurance depends on the Battery condition and the load on the Battery.



Alternator Over Voltage (Voltage warning light illuminated steady - #1 Alternator or for #2 Alternator, OV 2 light on CB Panel illuminated)

1. Avionics Master Switch – OFF
2. Master – OFF, then ON (resets the voltage regulator)

If Warning Light is still illuminated:

1. Alternator Field CB – PULL
2. Non-essential electrical equipment – OFF to conserve Battery Power
3. Land as soon as practical and get it fixed. Battery endurance depends on the Battery condition and the load on the Battery.

Eagle & Acclaim Over and Low Voltage Procedures

Alternator Output LOW (Alternator warning light flashing)

REDUCE ELECTRICAL LOAD.

If annunciator Light is still flashing:

1. Alternator Field Switch – OFF
2. Reduce electrical load as required to maintain essential systems.
4. LAND when PRACTICABLE

NOTE: The only source of electrical power is from the selected battery. (Monitor battery voltage (minimum 18V) and switch to other battery when necessary). Battery endurance depends on the Battery condition and the load on the Battery.

3. Get it fixed!

Alternator Over Voltage (Alternator warning light illuminated STEADY and Alternator Field CB tripped)

1. Alternator Field CB – RESET

If the CB will not reset:

1. Reduce electrical load, as required, to maintain power to essential systems.
2. LAND when PRACTICABLE
3. Get it fixed!

NOTE: The only source of electrical power is from the selected battery. Monitor battery voltage (minimum 18V) and switch to other battery when necessary. Battery endurance depends on the Battery condition and the load on the Battery.

Alternator Failure at Night – Reducing Power

Declaring an emergency gets ATC's attention and gives you priority handling. You can then focus on getting your airplane safely on the ground!

Reducing Electrical Load

How much battery time you have depends on the health and size of your battery, as well as how quickly you notice and respond to the failure. Get the most out of what juice you have left by turning off as much as you reasonably can. Here are some suggestions:

LOW DRAW ITEMS: Newer LED lights do not draw very much amperage. However, you should turn off those that are not essential.

HUNGRY ELECTRICAL ITEMS:

Older lights, especially strobes, draw much more. You might consider turning them all off.

Pitot Heat uses a lot of power, but do not turn it off if the OAT is at or below freezing. You have enough problems without losing your airspeed indication.

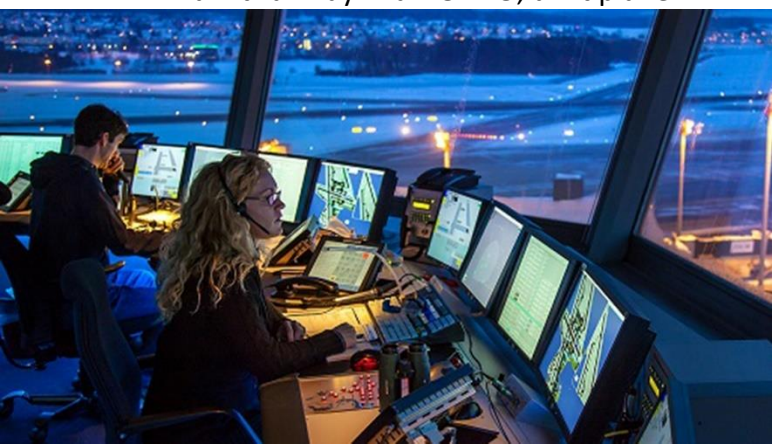
RADIOS: These draw lots of power. You can likely live with one radio (Number 2 radio, see next paragraph). Keep radio transmissions to a minimum. Some people carry a handheld radio just in case.

GPS/NAVIGTION: If you have an iPad with a navigation app like ForeFlight or Garmin Pilot, turn off the panel mounted GPS, (which includes your Number 1 radio).
AUTOPILOTS: These use electricity for both the computers and servos. Even when disengaged, many autopilots consume power when just monitoring the situation. Turn your Autopilot OFF, by pulling its CB, take a big deep breath, and hand fly your airplane.

GLASS INSTRUMENT DIPLAY BACKLIGHTING: Dim the backlighting on glass displays as low as possible. If you have instruments with internal battery backups, like the Garmin G5s or Aspen displays, understand how to make them switch to their internal batteries. These are certified to give you 30 minutes of battery life. Some glass displays sense the voltage drop caused by an alternator failure and automatically switch; some do not. In the case of "some don't", you must pull a breaker to force your glass display to use its internal batteries. Consider figuring all this out on the ramp someday and making a custom checklist that you can reference in flight. Then, if you lose electrical power, you will be prepared.
If you need more range than the battery alone will provide, you can turn off the master switch and fly by iPad or dead reckoning until you are in range of an airport. Then, turn the Master back on and you will have power to spare when you need it most. This is even also an option in IMC on an IFR flight plan. This is an emergency, and you will not be able to fly an approach if the battery runs dry. Let ATC know when and where you plan to turn your radios back on, and they will provide a frequency to call, and the controllers will be expecting you.

Needed Electrical for Landing

Remember that you need electrical power to activate pilot-controlled lighting. Later model Mooneys will need electricity to operate the electric flaps and landing gear. You have enough on your plate without needing to make a manual gear extension, followed by a no-flap landing to an unlit runway in a NORDO, unlit plane.



Consider diverting to an airport with a tower so they can protect you like a mother hen gathers her chicks. Tell ATC your plan and ETA before the battery dies. Even if the Tower controllers cannot see you to send light gun signals, they can keep other traffic away until you arrive.
Know your Mooney and get on the ground while you still have some juice remaining.

Safe Flights, Jim

Upslope or Downslope Takeoff or Landing with Headwinds/Tailwinds

Landing a Mooney is always an enjoyable phase of flying. I love how our Mooneys insist that we are on a stabilized approach and on the correct airspeed. Runways with a slope of say, 1% or more, can make the landing slightly more interesting. This is mostly due to the landing illusions presented when there is an upslope or downslope. Winds and terrain can also affect your decision. Some sloped runways are mostly 1-way to land and 1-way to depart. We will attempt to address the major considerations for you.

Landing Downslope

Rule of Thumb for Headwind effect
1.5% reduction in takeoff roll for every knot of headwind.

With the runway sloping down away from you, this creates the illusion that you are lower on approach than you actually are. If you are not keenly aware of this illusion, you clearly might come in high. You might not realize this until you are over the numbers. If the runway is sufficiently long, you may be able to land. If not, a go-around might be a good decision. The rule of thumb for effective runway length is 10% for every 1% of grade. Now headwinds offset this. The rule of thumb for headwinds is 1.5% reduction for every knot of headwind.

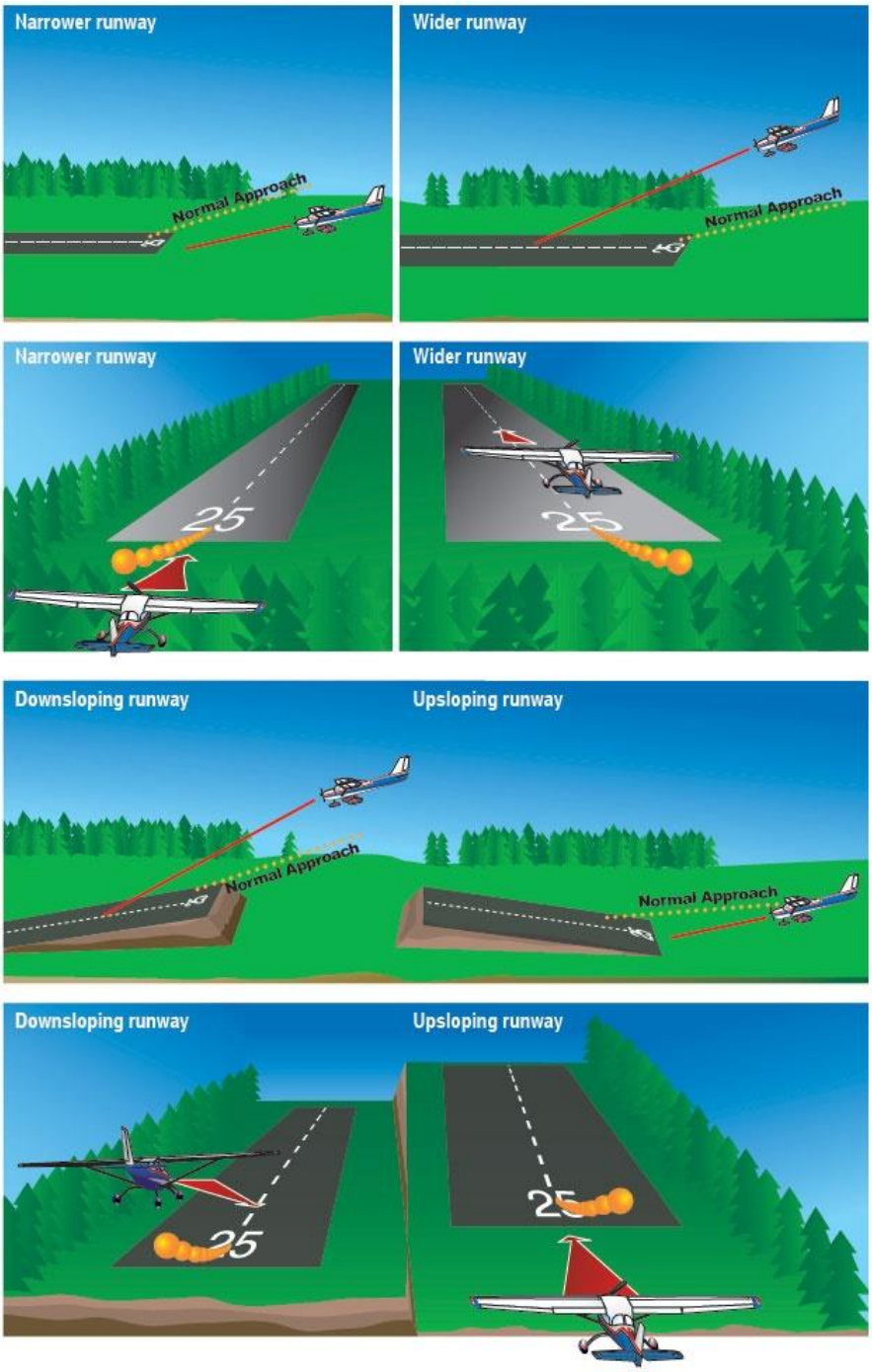
Rule of Thumb for Gradient effect
Every 1% of grade equals approximately 10% difference in effective runway length. So, if a runway has a 2% downgrade and is 4000' long, then the effective length is reduced to 3200'.

Planning to land with a tailwind should be done with caution. A 10% increase in groundspeed results in a 20% increase in landing distance. That means that even light tailwinds can greatly increase the landing ground roll. If the runway ends in a drop-off, such as on top of a mesa (such as the USS Sedona KSEZ) or along a riverbank, and a landing is made with a tailwind, one should anticipate an updraft over the drop-off on short final. This updraft can cause your Mooney to balloon or float further down the runway before touching down. This could be problematic, depending on runway length and gradient. Additionally, when landing with a tailwind, you will have to fly a

steeper approach to compensate for increased groundspeed. This can cause visual illusions that hinder judgment of height and distance relative to a sloping runway.

I guess it goes without saying that you should probably not land on a downslope runway with a tailwind unless it is a dire emergency and you have no other options.

Clearly landing upslope with a headwind will require less runway, but you should be aware of the opposite illusion which will make you think you are higher than you really are, possibly causing you to drag in on final approach.



Upslope Take Off

Based on the relationships of groundspeed and gradient, your Mooney will generally require a significant headwind to counteract more than a slight uphill slope. If the runway is short, choose a takeoff abort point. If the airplane is not in ground effect and accelerating by that point, it may not outclimb the gradient. Aborting a takeoff uphill provides more rapid deceleration and less distance than a runway without slope. Anticipate wind shear and turbulence over trees or obstacles after departure. Also, when taking off uphill, chances are that the terrain beyond the departure end of the airstrip rises and may exceed the climb capability of the aircraft.

Use caution when mixing wind and runway gradient. Many times, runways with gradient have surrounding obstacles and terrain that can exacerbate the effects of downdrafts, wind shear, and turbulence on approach and departure. On short runways, especially with obstacles in the approach or departure path, landing and taking off with more than a light wind may not be a good idea.

Downslope Take Off

A downslope tailwind takeoff is particularly concerning. You will experience a reversal of elevator control while you are slow until your Mooney overcomes the tailwind. Many pilots have not experienced this effect which is exacerbated by stronger tailwinds.

Because a 10% increase in groundspeed increases the takeoff roll by 20%, and every 1.0% of runway downslope equals approximately 10% more effective runway, for most Mooneys, it takes about 1.0% downslope to counter every 2-3 knots of tailwind. Thus, a 6-10 knot tailwind would require at least a 3.0% downslope to neutralize the effects of the tailwind. If the down sloping runway ends in a drop-off, the plane may become airborne or fly in ground effect, but once leaving the runway, it will encounter a downdraft over the drop-off. Turbulence will often accompany this downdraft, and water will amplify it. This can be a sticky situation, especially when launching off a mesa or a strip in a river canyon. If no turns can be made and the departure must be flown with a tailwind due to terrain, downdrafts and turbulence may continue along the departure path. The only option a pilot has is to lower the nose and maintain airspeed.

Summary

As with most issues in flying, the two best things you can do is to fully understand the effects of upslope and downslope landings with headwinds and tailwinds. The second is to establish personal minimums for each of these variants and conditions. For instance, at South Lake Tahoe (KTVL), I will usually takeoff on runway 36 no more than a 10-knot tailwind, as Lake Tahoe gives me plenty of time to climb, versus taking off on runway 18 and looking at the daunting Sierra Nevada Mountains. One of my considerations is that there is probably a downdraft off the mountains when departing 18, and the aircraft wrecks in those mountains include at least one Mooney.

Monument Valley (UT25)

Other downslope takeoff favorites include Sedona, Arizona (KSEZ) and Utah's Monument Valley (UT25). Sedona's runway 21 downslope departure presents no obstacles. Also, the local pilots (and me) depart on 21, even with an 8-10 kt tailwind. At Monument Valley, you must depart using down sloping runway 34, as there is a significant mountain wall to the South. There is almost always a brisk tailwind and it gets into my head that there is a downdraft coming off that cliff. When departing to the North, with 50 miles of open desert, you have plenty of time to accelerate and climb.

Be safe… Know your Mooney's performance capabilities in these conditions… Determine your personal minimums… Live to fly another day.

Smoke Gets in Your Eyes

My friend Phil Corman and I were reminiscing about the devastating 2020 wildfires in the Western States. The destruction and loss of property and lives was terrible. Because of the smoke, VFR pilots found it difficult, if not impossible to fly safely. Our conversation brought to my mind the fires and smoke that I had experience 30 years ago on another continent.

In 1990, in addition to my job at Northwest Airlines, I also served in the Air Force Reserves, flying C-130E's at Selfridge Air National Guard Base in Mount Clemens, Michigan. On October 4, 1990, our reserve unit, the 63rd Tactical Airlift Squadron, was called to active duty. It took us three days to fly our eight C-130s to the Pershing Gulf where we said hello to our new home, Sharjah Air Base (OMSJ), in the United Arab Emirates (UAE). This War had two code names, Desert Shield and Desert Storm. Desert Shield was the buildup period, lasting from 2 August 1990 to 17 January 1991. During this period, C-130's would fly to the Omani storage depots, Thumrait (OOTH) and Masirah Island (RAFO). From there, they would fly tents, portable hangars, air conditioners, vehicles, and more to Northern Saudi Arabia. "Desert Storm", the combat phase, took place between 17 January 1991 and 28 February 1991. After the fighting was over, C-130s were needed to provide transportation and to fly the northern Saudi Arabia infrastructure back to the Omani storage depots.

In late February 1991, Kuwait was liberated from Iraqi occupation and on March 1, my crew was assigned a mission that I will never forget. First, we flew from Sharjah to King Abdulaziz Air Base (OEDR) near Dhahran, Saudi Arabia. There, we loaded a truck, a Light-All (a generator on wheels with a high-powered light), and five passengers into our C-130. We then departed for the one-hour flight to Kuwait (OKBK).

Before the Iraqi military departed Kuwait International a few days earlier, they placed burned out vehicles and airline cargo containers all over the runway. However, the U.S. Marines were able to clear these obstacles to the sides of the runway so we could land.

The Iraqis also destroyed all the navigation aids and air traffic control facilities.

The Iraqis knew that a nomination for the "Invading Army of the Year Award" was out of the question. With their Yelp Reviews in the tank, and following a Scorched Earth Policy, they set fire to more than 700 of Kuwait's 1,000 oil wells. When we arrived, these fires were billowing thick black smoke, covering the sky south of the airport up to 12,000 feet.

The smoke made finding the airport a challenge. To give us some sort of navigational hint, the Marines had set up a portable TACAN, for which we were grateful. In addition, our navigator, Captain Carl Wetzel, was skilled in a "non-precision approach" procedure called the "Airborne Radar Directed Approach" (ARDA). This allows Tactical crews to find an airport in adverse weather conditions. Using a chart and the C-130's radar, Captain Wetzel directed us both laterally and vertically through the black smoke. We also used the TACAN signal to loosely verify Carl's lateral directions. It seemed that we were in the thick smoke for an eternity. Finally, when we were a few miles from the airport, we spotted runway 33 Left, thanks to Carl's made up and amazing "SMOKEY ONE ARRIVAL" and "ARDA (NAV) RWY 33L Approach".

2nd Lt Pat Campbell (co-pilot) and a BA B-747 that was in the wrong place at the wrong time.

We parked on the ramp, near two destroyed aircraft, a British Airlines 747 and a Kuwaiti Air Force DC-9.

All the buildings had been burned or destroyed inside. Bombs had exploded on the ramp, leaving craters of various sizes.

An hour or two later, with our cargo and passengers unloaded, we started our engines and taxied for takeoff – heading back to the comfort of our crew trailer in Sharjah. As we neared the end of the runway, I saw a U. S. Marine encampment, filled with tents. One of the guys was pointing to a handful of paper. I wondered, "Did I forget to sign something?"

I asked our Load Master to open the crew entrance door and investigate. The Marine had letters that he wanted us to mail and we cheerfully accepted this assignment.

Climbing through the smoke, our unforgettable visit had touched my heart. As I pondered upon the terrible and the wonderful things that I had witnessed, tears came to my eyes. A crew member said, "Are you okay, Jim?"

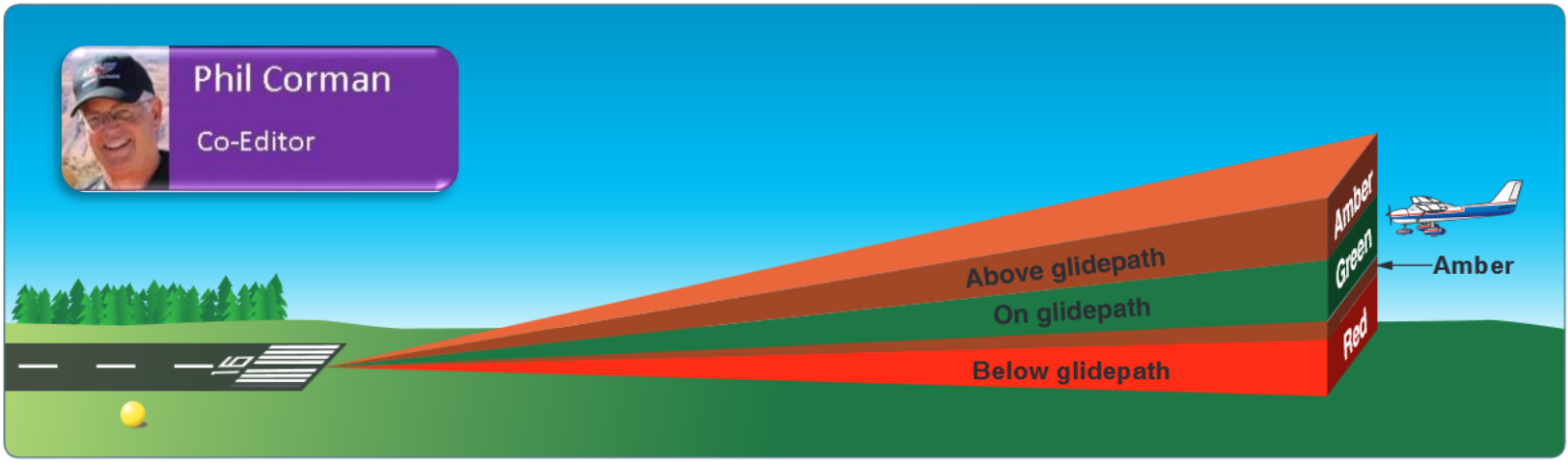
"Yes, of course. I just have a little smoke in my eyes."

Shot at and Missed – Sort of

Two days later, our Crew Chief, Sergeant Dick Rummels, told me that upon our return to Sharjah, during his post flight inspection, he found a 20mm bullet in one of our main tires.

Dick had a burning oil well painted on that aircraft, to commemorate our mission to Kuwait.

L to R, MSgt Mauri Marshall (Load Master), TSgt Ken Klemczewski (Load Master) and TSgt Noel Hernandez, (Flight Engineer)



Rules of Thumb for Calculating Stabilized Approach Glide Slope

Several years ago, I took a refresher course with Master Mooney CFII Don Kaye. Among other things, he improved my landings by a factor of 10 by insisting on a Stabilized Approach. Years later, I continue to grease my landings. Evidence of this is that my five-year-old tires still look like new. Since then, I stumbled onto two quick and easy ways to compute the airspeed/descent rate to attain a stabilized approach with a 3° glide slope.

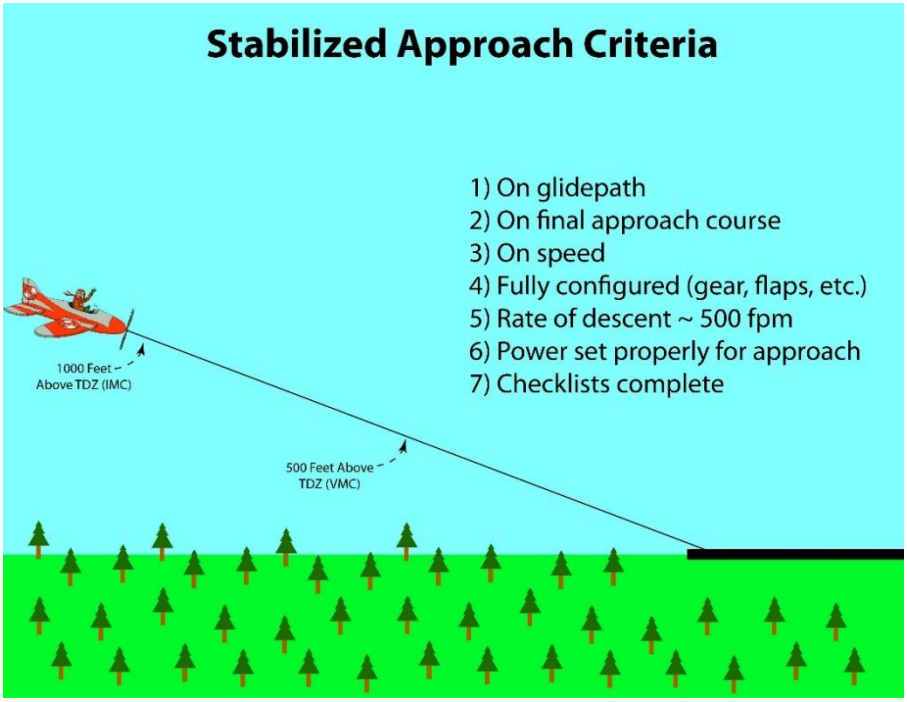
Method 1: Multiply your groundspeed by 5

If you are flying at a ground speed of 100 knots and desire a 3° glide slope, simply multiply 100 x 5, which gives you a target of a 500-fpm descent.

Method 2: Divide your groundspeed by half and add a zero to the end

If you are flying at a ground speed of 100 knots and desire a 3° glide slope, simply divide 100 in half to get 50, and append a "0" to get 500 fpm.

It is interesting to see how headwinds and tailwinds affect your stabilized approach. For example, let us look at a 20 kt headwind on final. If you are indicating 100 kts, the 20-knot headwind would produce 80 kts groundspeed, so you will only need a 400-fpm rate of descent. Conversely, if you are indicating 100 kts with a 20 kt tailwind, the groundspeed would be 120 kts, requiring a target rate of descent of 600-fpm. These quick rules of thumb are also good when flying an ILS, PAPI and VASI, because normally, all three use a 3° glide slope.



Why I Fly, and Why I Fly a Mooney

by Richard Brown

I have been fortunate enough to write for The Mooney Flyer for the past nine months. Phil has not kicked me to the curb yet, so I thought I would take this month's article to write a little about myself, why I fly, and how I ended up with a Mooney, a plane that up until about five years ago, I had never heard of. (I know, blasphemy…)

My mom's dad was career Air Force but not a pilot. My dad was career Air Force and probably flew half of his 20 years in the service. When I was born, he was an instructor pilot at Williams AFB in T-38's, and before I was a year old, we spent time in the Philippines and Taiwan where he flew C-130's in and out of Cambodia. Perhaps those early years put the flying bug into me because I have no memory of not wanting to fly.

When I was about five years old, we were living at the Air Force Academy where my dad was teaching. Like all kids, I got sick. This one was just some bug that leaves a kid feeling miserable with a fever and vomiting. After a few days, during this misery, my parents were trying to cheer me up, but nothing was working. Nothing that is, until my dad pulled out his flight helmet and let me put it on. Even as sick as I was. it put a huge smile on my face.

My Dad's next assignment was at Elmendorf AFB in Alaska. flying HC-130's with the 71st Air Rescue Squadron. When we first arrived there, we temporarily lived in the Bachelor Officers Quarters (BOQ) on the second floor. I know, for a family with six kids, it was an odd place to put us. We used two quarters next to each other, but it was all they had for us at the time. For me, it was perfect because from the window, I could look out and see portions of the runway between the buildings. I would sit there at the window for hours at a time with a paper and pencil, writing down the type of planes landing and taking off and putting a tally mark next to them to track them. My oldest sister who was eleven at the time, did not think anything of an eight-year-old watching planes and never leaving the window for hours. Fast forward thirty years and that same sister, who now had boys of her own, told me that she looks back on that time in Alaska and realizes how "strange" my behavior was, because she can't get her boys to sit still for ten minutes. There is no way that they would sit at a window for hours at a time, watching planes land and take off.

In the mid to late 1980's, I would spend countless hours on our Tandy 1000 computer, flying the original F-15 Strike Eagle. The graphics were terrible by today's standards, but it was flying. I still remember the day I was playing it and after ignoring the warning on the screen, I was suddenly dead as the message, "VMAX EXCEEDED" flashed on the screen. I went in the other room to ask my dad what it meant. He said, "It means you went too fast for the plane and it probably tore the wings off and came apart." Up until that time, I had no idea that could even happen.

I would spend countless hours on that same computer, flying the original Microsoft Flight Simulator, trying to find my way from one airport to the next. I used what little knowledge I had of VOR's, after reading about them in the game manual. I flew over scenery that provided no clues about where I was going.

In the early 90's, I narrowly missed getting into the Air Force Academy and started to go the ROTC route at Arizona State. However, the Defense cuts made the chances of getting a pilot slot through ROTC slim to none. I went a different direction with my career, but never lost my dream of flying. I have heard it said that you can tell which kids want to be a pilot by going to a playground and seeing which ones look up when planes fly overhead. I never stopped looking up towards the sound of a plane, but I would not take my first flight at the controls of a plane until I was 44 years old.

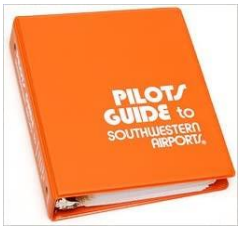
So how did I finally end up realizing a childhood dream, and how did I end up with a Mooney? Those two questions are tied closely together. I have a good friend that I met at church. His family had moved into the neighborhood and we had sons the same age. The boys became friends, our wives became friends, and he and I became good friends. We were talking one day, and he mentioned that he had been flying. I knew what he did for a living and it was not flying planes.

"You're a pilot?"
"Yep"
"Seriously? How long have you been flying?"
"I don't know, about 30 years."

I was still trying to process it all in my mind when he said, "We have our own plane." My mind was spinning. I knew that he made a good living, but nowhere near what I thought someone needed to own a plane.

"What kind of plane do you have?" I asked.
"A Mooney", he said.

I had no idea what a Mooney was, but a quick search on my phone revealed the answer. It also got the gears turning in my head that maybe, just maybe, my dream of flying did not have to remain a dream. For Christmas that year, my wonderful wife had walked into Aircraft Spruce and said, "What do you have that I can give someone who wants to be a pilot?"



That Christmas morning, I unwrapped a logbook, a couple of charts, and a Pilot's Guide to Southwestern Airports. She did not include a gift certificate for flight lessons, but the dream was well and alive.

That spring my friend was going to be flying his Mooney back to their place in northeastern Utah and he asked if my son could come along and hang out with his son. My son had never been in a small plane, and neither had I, so I mentioned that maybe he could take my son on a short local flight, just to make sure that he wouldn't get twenty minutes into the trip and find out that he needed to turn around and come back. On a Sunday after church, we met him at the airport, and he gave both of us a short flight in his Mooney. I was in love. It was a 1961 M20B. It wasn't fancy, but it was awesome, and I knew that if I ever had a plane, it would be a Mooney.

A few months later, we found out that my wife's two oldest daughters were going to give birth a couple of months apart. We live in Southern California and one daughter is in the Salt Lake City area while the other is in the Idaho Falls area. My wife said, "I know you have always wanted to fly, so why don't you get your license? We'll buy a plane, and you can fly me to see the grandkids."

Two days later I had my first lesson. It took me four and a half months to log 46.7 hours of flight time, and my childhood dream was a reality – I was a pilot. Two months after that, with just under 60 hours in my logbook, we bought our Mooney. It was the realization of a dream I did not know I had until I asked my friend what kind of plane he had, and then I had to look up "Mooney" to see what it was. That was the beginning of making memories that would never have been possible without the license and the Mooney. We have been places we never would have gone, and we have spent more time with family than ever before.

Why do I fly? I am not sure that is the right question to ask. Perhaps the better question would be why wouldn't I fly? The feeling when you leave the ground, raise the gear, and climb away from the ground in defiance of gravity is like no other feeling in the world.

Why do I fly a Mooney? Because a friend offered to take me for a flight in his Mooney. So, take a friend on a flight. You just might be the catalyst in the realization of someone's dream and the birth of another Mooniac.

What good does it do to be afraid? It doesn't help anything. You better try and figure out what's happening and correct it. Chuck Yeager

A Tail of Two Mooneys

tenth in the series

It was the best of designs; it was the worst of designs. It was an iconic empennage; it was an unknown empennage. It was a fixed stabilizer; it was a moveable stabilizer. It was an external tab; it was an internal centering spring. It was an open-ended surface; it was an end-plated surface. It was a high aspect ratio; it was a low aspect ratio. We had it all. And so goes the tail of two Mooneys. One is the empennage of the famous Mooney Aircraft M20 series; the other the empennage of the ill-fated Mooney M10 series.

Photo 1 – M10 Empennage

We will take the next couple pages to look at the pros and cons of each empennage, noting that each has its advantages.

The M10 tail is pictured in Photo 1. This is actually an early picture of the second full-scale mockup of the M10, while it was at the 2015 Palm Springs Aviation Expo. I added dotted lines to show where the rudder (blue) and elevators (yellow) would be located.

The M20 tail is pictured in Photo 2. I added red, dotted lines, marking the 25% chord locations, which we will talk about shortly.

Photo 2 is of an M20M tail, but all M20 tails are dimensionally similar. The early aircraft, the M20 & M20A, (Al's designs), were constructed of wood. The M20B and on, had tail surfaces made of aluminum. Some had smooth rudder and elevator surfaces, while others had beaded surfaces like those pictured in Photo 2. It is interesting to note that with the beaded flight control surfaces, there are no internal ribs, as the left/right (rudder) or upper/lower (elevator) beads meet in the middle and are rivetted to each other. It is a much simpler manufacturing technique.

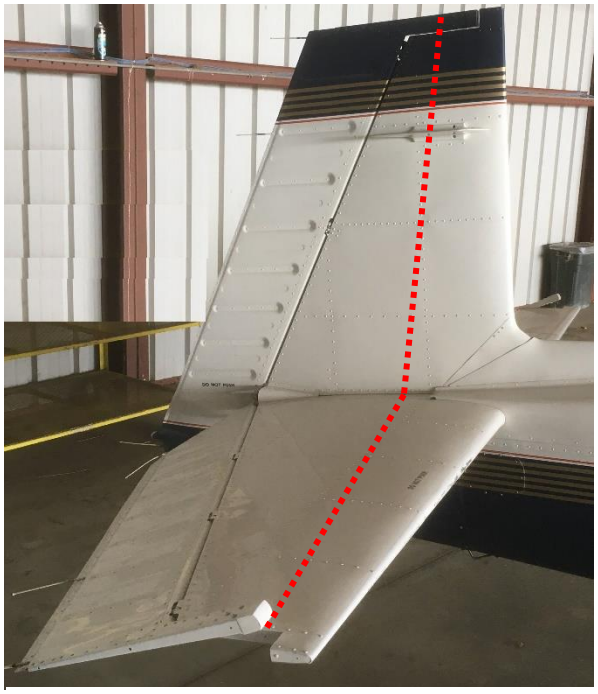


Photo 2 – M20 Empennage

Both the M10 and M20 have the charcteristic Mooney forward swept surfaces. In other words, the 25% chord line, the red dotted line on the M20 picture, is moving/sweeping forward as it goes outboard. Many people look at the leading edge sweep, but the airplane actually responds to the 25% chord line aerodynamically (subsonically).

The aspect ratio of the two tails are very different. The M10 aspect ratio is much higher for better aerodynamic efficiency … at the cost of added structural weight. Remember, everything in design is a tradeoff.

Both rudder surfaces are full length, top to bottom. Earlier M20s had shorter rudders that stopped just above the horizontal surface with a fixed portion of fuselage/rudder below the horizontal surface.

How do we trim for pitch forces in both airplanes? In the M20, we pivot the entire empennage. This eliminates most of the horizontal to fuselage gap, but there's still a gap forward of the pivot point/axis. All gaps create drag … more drag if there is a pressure differential across the gap. This is a very aerodynamically efficient way to trim an airplane. The vertical stabilizer to fuselage gap has little pressure differential across it and little drag.

The M10 trims though an internal centering spring cartridge on the elevator. This is similar to very early airplanes with bungee systems and even the Cirrus SR series, with a similar cartridge. The stabilizer incidence angle is fixed and set so that there is minimum drag at a typical cruise condition. Neither airplane has a trim tab. Trim tabs add to the part count and add drag.

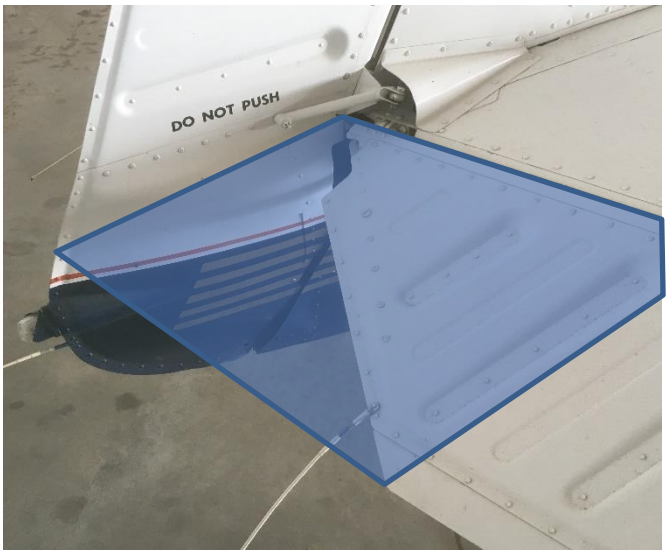


Photo 3 – M20 Elevator Cutout for Rudder

The most significant difference between the empennages is in the effectiveness of the elevators, drag and the spin recovery characteristics, due to the inboard elevator cutout, which allows left and right rudder swing. We'll start with drag.

The inboard ends of the M20 elevators are cut back to allow the rudder to swing right and left (see Photo 3). In the blue shaded area, you can see that the horizontal surface airfoil is not the correct shape at the trailing edge. On the very inboard end, the airfoil is simply cut off just aft of the rear spar. The airfoil shape gradually returns to the correct shape at the outboard end of the cut back span. This adds drag as the airflow separates and it is turbulent aft of that area.

The elevator effectiveness is also decreased as the elevator now has a “wing” tip on each end. Looking back at Photo 1 of the M10, the inboard end of the elevator is end-plated by the vertical stabilizer. This effectively removes the around the tip flow of air on the inboard end of the elevator, making the elevator much more effective.

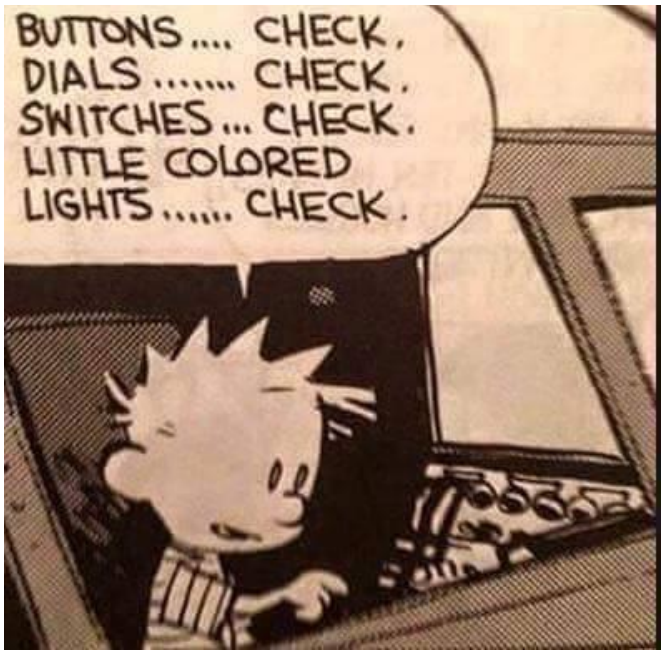
As for spin recovery, both empennages benefit from the forward sweep and the rudder is less blanketed by the horizontal surface. The M10 benefits a little more because of the geometry of the higher aspect ratio surfaces. Both designs benefit from the full-length rudder. Air trapped below the horizontal, especially with vertical surface below the horizontal surface, is remarkably effective in spin recovery. Where the M20 has the elevator cut back, allowing airflow off the horizontal and up the rudder, the M10 elevator is sealed to the vertical stabilizer, trapping more air below the horizontal surface.

On a great ending note, unlike the ending of “A Tale of Two Cities”, there is no guillotine 😊. Until we meet again …

I appreciate suggestions on where to take these articles and/or answer any questions you may have. Please email me at solutions@blueontop.com. Until next time keep the blue on top.

Blue on Top

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



Wisconsin Aviation Expands Aircraft Interiors Service with the Acquisition of Jaeger Aviation & Its Spatial Interior

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

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

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

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

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

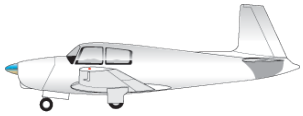
For more information about Wisconsin Aviation, send email to Interiors@WisAv.com or call 920-261-4567.

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

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

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

Mooney Maintenance



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

Click here

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

Click here

LASAR
Fanatically Mooney. Exceptionally Fast.

Ask the Top Gun

Tom Rouch

Founder of Top Gun Aviation, Stockton, California

Send your questions for Tom to TheMooneyFlyer@gmail.com

Dear Tom,

Question: If I put 8 quarts of oil in my engine, it seems to throw out the first quart of oil. What is the best level to keep the oil at?

Answer: This is a great question. Each engine has a capacity. For example, most four-cylinder engines take eight quarts, while some six-cylinder engines take 12 quarts. These numbers are the max capacity. However, most engines like to run at about 75% of capacity. If your plane is new to you, then pay attention after an oil change. How low it is after a few hours? After a few hours, most engines will "blow" oil out to a level, and then it will run many hours before it drops another quart. Some of our owners know their engine well and at oil change, for an 8-quart engine, they ask us to service with only 7 quarts. If they have a big block 12-quart engine, they might ask us to service to only 10 quarts. Since most turbo charged six-cylinder engines have a recommended oil change time of every 25 hours, many of these owners do not have to add a quart between oil changes. This keeps the plane cleaner, as the excess oil will go out the breather. If you realize your aircraft's "best level", it will reduce oil consumption quite a bit. Most owners don't know what the minimum is for their engine, but it is usually one or two quarts lower then max capacity. Refer to your owner's manual for that figure. Somewhere in between min and max is the happy number.

STEP UP TO SPEED

Discover how many more advantages are yours in the fast ones.

- Power Console
- PC Flight Stability
- Electric Gear and Flaps
- Tubular Steel Cabin
- Full Trim Tail
- Laminar Flow Wing
- Integral Wing Tanks

It is a fact—Mooney's modern line of aircraft incorporates more advanced engineering advantages than you'll find in any other plane near the price. You get top performance, jet age construction and unmatched economy in the fast ones for '69. Join the revolution—come on over to modern flying! Discover what real performance is all about. Speed is the only real reason for flying and Mooney gives you more speed per horsepower, more range per gallon, more built-in safety . . . in fact, more plane for your money than any other plane flying. Isn't it time you joined the revolt against the wheel-dragging, slow-flying buggies and discovered [illegible] speed at its best? Step up to retractable! Fly modern—fly Mooney.

MOONEY

MOONEY AIRCRAFT CORPORATION KERRVILLE, TEXAS

CleanWing Scrubber Kit $32.95

The CleanWing Scrubber is designed to make cleaning your aircraft easier than before. Utilizing a curved frame with a sturdy handle, the CleanWing Scrubber 'flexes' to fit your aircraft's leading edge. The 'flex' provided by the curved frame allows our scrubber to adjust to your aircraft's change in leading-edge size, maximizing the efficiency of the CleanWing Scrubber. The Scrubber allows the provided cleaning pad or microfiber cloth to fit within the curved surface. Each is safe to use on a variety of surfaces.

The aircraft cleaning pads are non-abrasive to any surfaces. Ideal for cleaning painted surfaces, this non-abrasive BOSS Aircraft Cleaning Pad enhances friction to loosen dirt but does not scratch or alter the gloss level of the surface or surface coatings. Tested with aircraft cleaning agents compliant with MIL-PRF 86937D and MIL-PRF 885570C.

Features:

- Perfect for nearly ALL general aviation aircraft
- Safe for all paints, clear coat, plastics, graphics, metals, etc.
- Works extremely well with soap & water, waterless cleaners or just a small amount of chemicals!
- Reusable
- Eco-friendly
- Requires no harmful chemicals
- The pads chosen to clean the Blue Angels

Cleans your car just as well as your aircraft

sporty's pilot shop
Learn to fly here!

Kit Includes:

- 1 CleanWing Scrubber
- 2 Aircraft Cleaning Pads
- 2 High-Quality Microfiber Cloths

CLICK HERE TO ORDER

uAvionix Announces TSO Authorization for tailBeaconX Mode S ADS-B Transponder

Bigfork, Montana – January 26,2021 – uAvionix announced it has received FAA Technical Standard Order Authorization (TSOA) for its tailBeaconX 1090MHz ADS-B OUT transponder.

The highly integrated device, which replaces a rear navigation light, includes and combines transponder, ADS-B OUT, SBAS GPS, and rear LED position light. The TSOA includes the following:

- TSO-C112e Level 2els, Class 1 (Mode S Transponder)
- TSO-C166b Class B1S (ADS-B OUT Extended Squitter)
- TSO-C145e Class Beta-1 (SBAS GPS Position Source)
- TSO-C30c Type III (Rear LED Position Light)

tailBeaconX is Aireon Compatible and designed as a globally compliant, easily installed ADS-B OUT solution for General Aviation (GA) and Urban Air Mobility (UAM), meeting current and future 1090MHz ADS-B mandates.

CLICK HERE TO READ

FAA Declines to Renew COVID-19 SFAR

February 4, 2021 – The FAA has declined to renew its Special Federal Aviation Regulation (SFAR) for relief from certain regulations during the COVID-19 pandemic.

The first SFAR went into effect as most parts of the United States went into lockdown in March 2020. It provided for extensions of certain time-limited items such medical certificates, written test expiration dates, some flight reviews, and some flight currency checks. In successive extensions the FAA began removing some of those currency items from relief and began reducing the duration of extensions. The last iteration of the SFAR expired at the end of January.

In denying the industry's request for further relief, the FAA stated its position that sufficient personnel are now available nationwide for normal training and checking activities. EAA, AOPA, and other members of the GA coalition continue to work this issue and are evaluating the next steps they will take. At this point, however, EAA advises members not to assume that any further relief from deadlines is forthcoming.

uAvionix AV-20-S Approved Clock Replacement

uAvionix's AV-20-S multi-function display has been approved by the FAA as a clock replacement for Part 23, Class I and II Instrument Flight Rules (IFR) aircraft.

In addition to a clock replacement, the uAvionix AV-20-S adds a suite of in-flight information to the panel. Designed to fit in a standard 2-1/4-inch round instrument opening, the AV-20-S offers a Standby Attitude Indicator, Angle of Attack, Bus Voltage, Slip/Skid Indication, Outside Air Temperature, Density Altitude, G Meter, and more — all protected with a 30-minute internal battery backup for uninterrupted function in the event of power loss.

The AV-20-S (NORSEE) multi-function display is priced at $895.

CLICK HERE TO READ MORE

Bill to Incentivize Sustainable Fuel

On February 3, 2021, Rep. Julia Brownley, D-California reintroduced the Sustainable Aviation Fuel Act, which aims to incentivize the production of sustainable aviation fuel (SAF), including the establishment of an aviation-only Low Carbon Fuel Standard.

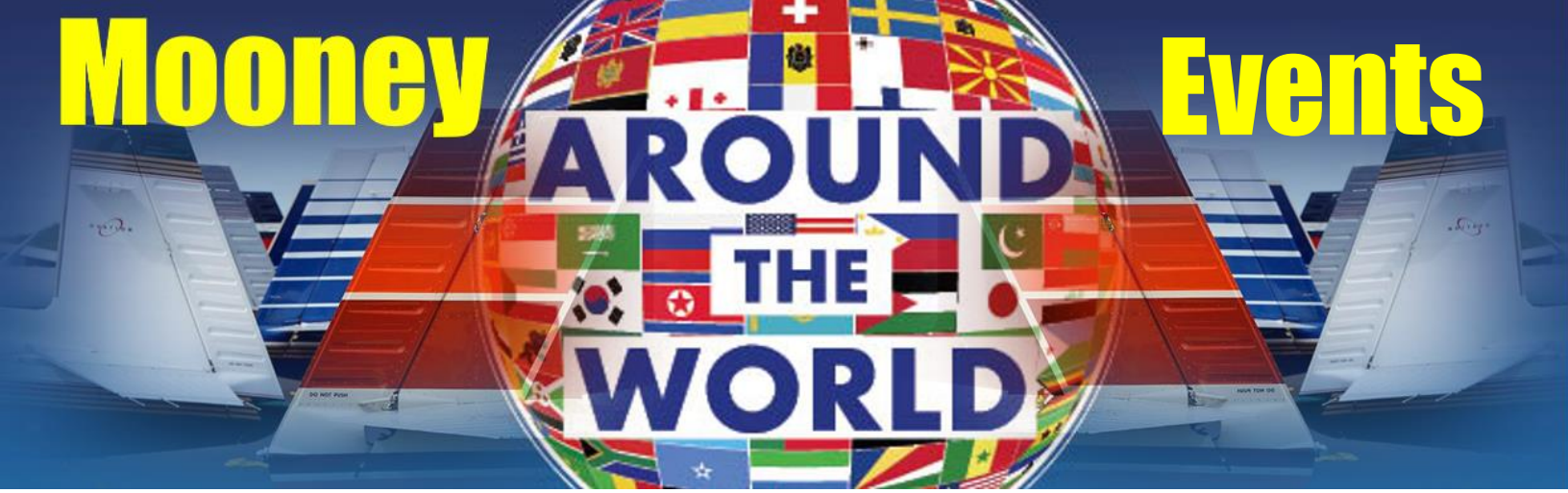
The legislation would establish a national goal for the U.S. aviation sector to achieve a net 35 percent reduction in GHG emissions by 2035 and net zero emissions by 2050.

As part of that goal, it would require the U.S. EPA to establish an aviation only LCFS to regulate fuel producers and importers. Obligated parties would have to comply with a carbon intensity benchmark that declines each year. Producers that make fuels below that benchmark would generate credits they can sell to producers that make fuels above that benchmark. The benchmarks would be set at a 20 percent reduction in carbon intensity by 2030, ramping up to a 50 percent reduction by 2050.

CLICK HERE TO READ MORE

New FAA Chart Cycle Started in February

On February 25, 2021, chart subscribers (and pilots everywhere) may have noticed an important change to the effective dates of charts. The FAA shortened the update cycle for VFR charts to match the dates on IFR charts. So, instead of updating sectional charts every six months, all FAA charts will be updated every 56 days. This means more accurate charts and fewer NOTAMs.



Florida Mooney Lunch Group	*Contact Dave at daveanruth@aol.com or (352) 343-3196, before coming to the restaurant, to have an accurate count. Events begin at 11:30* CANCELLED
MOONEY CARAVAN	
MOONEY SAFETY.COM MAPA Safety Foundation Pilot Proficiency Program	**2021** April 23-25: Santa Fe, NM June 18-20: Fort Worth, TX Sep 10-12: Chicopee, MA Oct 15-17: Wichita, KS **Sign Up at** https://www.mooneysafety.com/ppp-registration/
MOONEYSUMMIT	CLICK HERE for details
Australian Mooney Pilots Association	March 27, 2021 - AGM 2021 at Annuka Resort, Coffs Harbour
EMPOA	CLICK HERE for details
Other Mooney Events	

The Mooney Aircraft Pilots Association Safety Foundation, Inc. (dba MAPA Safety Foundation), is a nonprofit organization chartered in 1990 to improve aviation safety for Mooney pilots and their airplanes. It is comprised of a diverse group of Mooney instructors that all share a deep commitment to Mooney aircraft and aviation safety.

Through their pilot proficiency programs, Mooney pilots can expect to:

- Improve piloting skills.
- Improve decision-making skills.
- Improve awareness to avoid emergencies.
- Improve access to maintenance sources to enhance airplane safety.

SANTA FE PROGRAM April 22-25

The first 2021 Mooney Safety Foundation Pilot Proficiency Program will be held in Santa Fe. This will be the first time the Safety Foundation has hosted a program in New Mexico. Santa Fe, which means Holy Faith, was founded in 1610 on the site of old pueblo villages at the foot of the Sangre de Christo Mountains. Situated at 7,000 feet in the foothills of the southern Rockies Mountains, Santa Fe is the highest and oldest capital in the U.S. and is America's second oldest city.

New Mexico in April is renowned for its lively desert cacti and has proven to be one of the most popular venues for tourists around the world. Daytime temperatures are indeed pleasant for flying. Look at your schedules. If it appears that this schedule will allow you to be with us at Santa Fe, call Lela Hughes at 210-289-6929 or send her an email LelaHughes49@gmail.com and she will register you for the program.

DOUBLETREE by HILTON SANTA FE

The DoubleTree is five miles from the Santa Fe Municipal Airport. The Group rate includes a free All-American breakfast buffet. There is a cutoff date for the reduced Group rate of $109, so If it looks like there is a possibility that you can attend, please call the hotel (505-473-4646) and make your reservation. Inform the registration clerk that you are part of **the Mooney Safety Foundation Group** and that you are requesting the **Group rate**. If your schedule changes, the hotel will allow you to cancel your reservation without any penalty up to 48 hours before your arrival. Your early registration also helps firm up the Mooney instructor corps.

COVID-19 PANDEMIC PRECAUTIONS

There will be a sheet for all trainees and instructors to sign when they register to tell us whether they had or have COVID-19.

The MAPA Safety Foundation has arranged to have a "ball room" size lecture room on Friday, April 23, 2021. There will be 10 feet long tables, and each one will only be chaired for two persons – six feet apart. The lecturers will have at least double or more space than has been normal in the past.

The MAPA Safety Foundation, is truly fortunate because its Vice President is Parvez Dara. He is a medical physician and a Master Certified Flight Instructor. Parvez Dara will be in Santa Fe as an active instructor, as will one or more physicians. Dr. Dara, Jerry Johnson (MAPA Safety Foundation President) and other officers / directors recommend the following:

1. Temperature individual at check at registration.
2. Separation by six feet in the classroom and other rooms used by the Group room.
3. Wear masks always when in proximity of others.
4. Recheck temperature individual before flight.
5. Aircraft air vents facing both pilot and instructor.
6. Banquets are cancelled.
7. Any illness post event? Send notification to MAPASF.

THE FBO

JET CENTER at Santa Fe

We will utilize Jet Center at Santa Fe Municipal (KSAF). Do not hesitate to ask Jet Center Manager Troy Padilla for assistance. His telephone number is 505-780-4455. Additionally, Jet Center can help you arrange a car through Hertz, Enterprise or Avis.

NIGHT FLYING

Starting at sundown, MAPASF will offer night recurrent training on Thursday or Friday, or both. Send an email to Ted Corsones, tedc@corsones.com, if you are interested in night flying so that he can make certain that they have enough flight instructors for your training. Also, Jet Center will need to know the details so that they can help instructors and pilots return to the hotel when their night flights are completed.

FAA APPROVAL

This Mooney pilot proficiency program has been approved by the FAA. At the completion of the program, each eligible pilot will be endorsed for a flight review, instrument proficiency check, FAA WINGS program, and will receive an FAA recognized Certificate of Successful Completion of a Mooney specific recurrent training program. Many insurance companies are now requiring confirmation that you have completed a recurrent training program prior to quoting you a premium rate or offering you a renewal policy. Some companies are offering pilots a 10% discount on the annual premium upon proof of the successful completion of our program.
The late John Allen of Falcon Insurance Agency (1-800-880-MAPA), recently wrote in an article published in the MAPA Log:
"MAPA members know the importance that the aviation insurance industry places on recurrent training for pilots. This is because both actual experience and statistics have shown that pilots who are current and well trained are better equipped to handle in-flight emergencies. Further, actual training is intended to prevent bad habits from forming which create hazardous situations. However, the fact of the matter is that the quality of the training pilots get is no better than the course of instructions that they are receiving and the proficiency of the CFI that is providing it. Therefore, it is important to make sure that the training is of good value.
"The Pilot Proficiency program offered to MAPA members through the MAPA Safety Foundation is an excellent source of training with proficient Certified Flight Instructors."

COME JOIN US – CLICK HERE FOR THINGS TO DO

It will be a mini vacation in world class scenery where activities abound. Family members are welcome. It will be a time to relax and enjoy yourself while you learn more about your Mooney airplane, hone your flying skills, knockoff the rust, fly with skilled Mooney-instructors and have a weekend of recurrent training among Mooney pilots and friends.

Please check https://www.mooneysafety.com/ for more information. Always remember that

SAFETY IS NO ACCIDENT

TMF PRODUCT REVIEW

Life 2 Go
Portable Telescoping Stool

If you are looking for a portable seat, or seats for those times that you want a place to sit down after flying somewhere, this product may be for you. Measuring just 10" x 2.6" (35cm x 6.6cm) and weighing 2.75 pounds (1.20kg), it will not take up much room or weight, so you can easily store it on your hat rack.

The product is made with PA66 Polyamide Plastic and can hold up to 285 lbs. (130kg).

CLICK HERE to see more details and purchase it from Amazon. It costs just $23.

FOR SALE Mooney Stuff

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)

1/3 SHARE FOR SALE

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

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

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


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