The Mooney Flyer

The Official Online Magazine for the Mooney Community

www.TheMooneyFlyer.com

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Jim Price

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Tom Rouch
Paul Loewen
Geoff Lee
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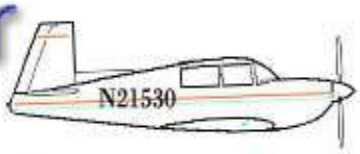
From the Editor

Phil Corman



Two Magnetos… BUT

We all have two magnetos and most of us get them rebuilt at 500 hours. But magnetos can, and do fail at any time. Most, if not all of us do a mag check during our run-up. This will show a faulty magneto. Another check that most of us don't know about or don't do, is a magneto check at cruise. This latter method can actually show a failing magneto sooner than the run-up method.

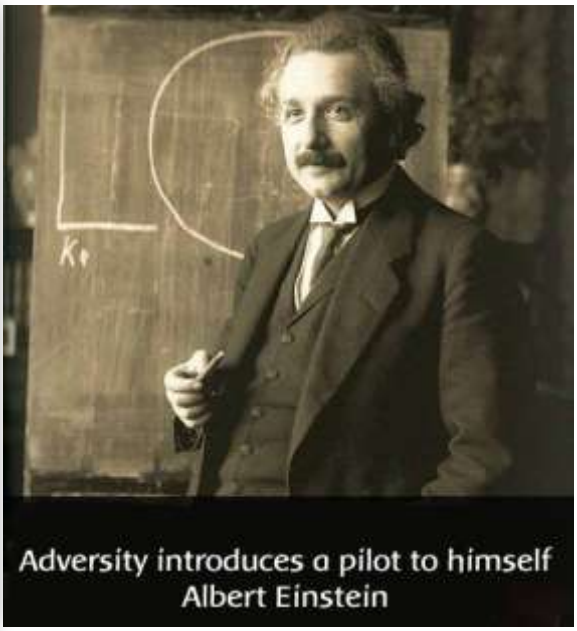
But my point in this writing is that magnetos can fail "completely", i.e., go cold, or the gear can lose teeth and cause your spark plugs to fire at very incorrect times. This can do a lot of damage to your engine in a very short time. The effect is to give you the feeling that your engine is experiencing a complete failure with significant vibrations. If you are at cruise and experience this symptom, before you give up hope and set up for an off field landing, switch your ignition to the LEFT and RIGHT magnetos. If the problem persists, then there is another problem. But if the magneto with lost teeth is shut down, then the engine will continue to run properly allowing a stress-free landing. It's great to have redundancy, but you've got to know how to recognize a single mag failure.

Mooney Camping -- A few issues ago, we wrote about places to camp in the west. It planted a seed in our brain, so a couple of great friends of ours and my wife and I, decided to do just that. We flew to Kern Valley (L05) in the lower Sierra Nevada mountains for a long weekend. It was exceptional. The airport is quite remote, and is surrounded on 3 sides by mountains. It has a camping ground far away from the terminal with its own tie down area. It's grassy and has several trees for shade. And it was only a few minutes walk to the Kern River.

The weekend was total bliss.

There will not be a Mooney Tales, by Linda Corman, this month as she fell into the Kern River on a slippery bank and injured her wrist as she tried to break her fall. She'll be back next month with another Mooney-enabled adventure.

Don't Try This with your Mooney



Not quite, but close to what Einstein said

Appraise Your Mooney's Value

Don't forget about our cool new **Appraise your Mooney's Value** using Jimmy Garrision's valuation. Jimmy is from All American Aircraft, the country's largest Mooney reseller. We have implemented the models for M20C, M20E, M20G, M20F & M20J. Click on your model to simply complete the valuation. You no longer need paper and pencil. Just another benefit to our subscribers. These forms are currently Beta test quality. Please send errors to us.

M20C M20E M20G M20F M20J updated September 2012

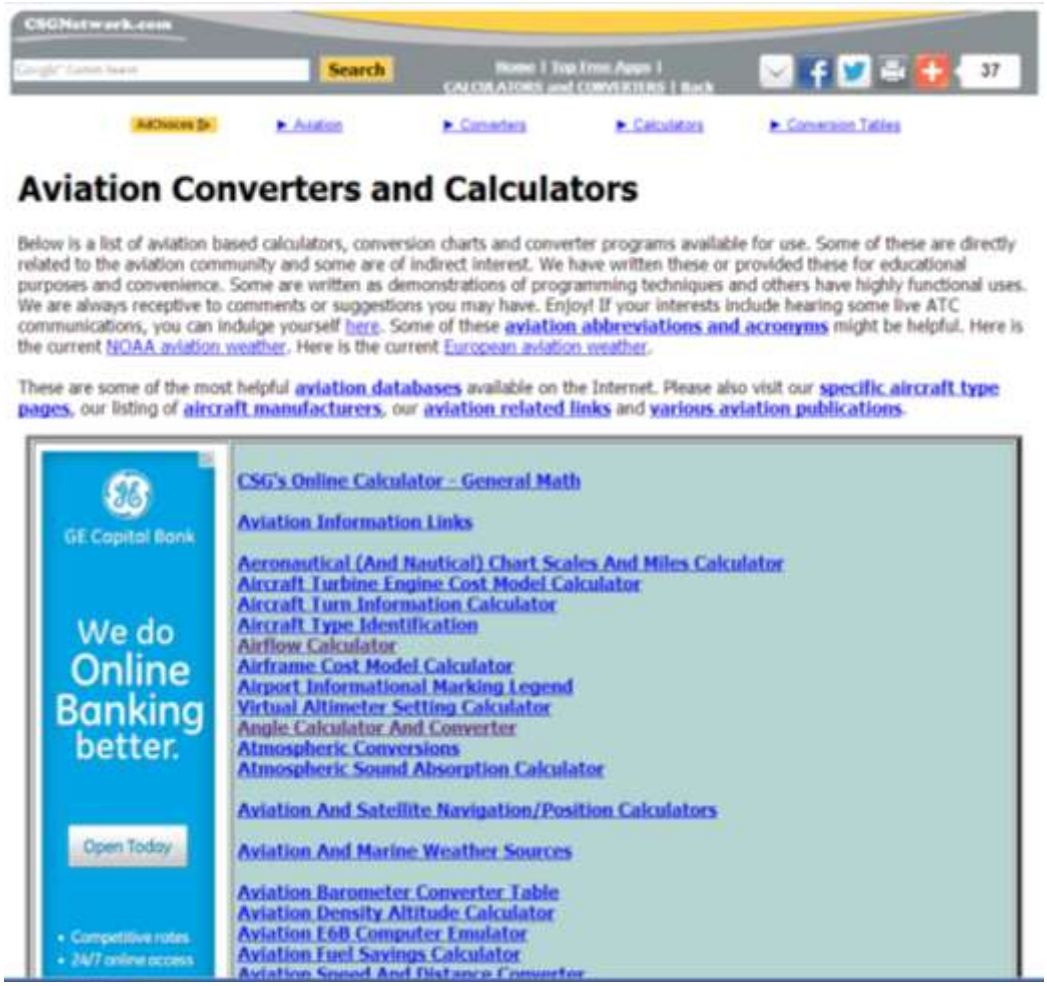
Attention Garmin Users:

Garmin published a Service Advisory on **September 16, 2013**. If you have a Garmin product in your aircraft, CLICK HERE to see all of Garmin's alerts and the details of the September 16th advisory. The alert is in PDF format.

http://www8.garmin.com/aviation/servicenotices.jsp

Aviation Converters & Calculators

www.csgnetwork.com/aviationconverters.html



This website is a bit of a "Swiss Army Knife" for pilots.

Some of the information and calculators are very useful, while others are somewhat intellectual. You can calculate "Atmospheric Sound Absorption" for instance, or something that's more useful , like "Density Altitude". There's even a "Cost to get your Pilot Certificate" estimator.

In any case, it's a worthwhile site.

I enjoyed reading Mooney Tales, by Linda Corman, about her trip to Moab and I am hard pressed to think of another place in the country or even the world that is as spectacular to see from the air. Mountains are pretty but this landscape is something else. I especially liked Canyonlands to Page following the river. Also, you can fly in Monument Valley right down to the deck if you want (no altitude restriction charted).

I think you've inspired me to make another run down there this fall.

Regards,
Bill B

Tip on eApis: If you fly with the same people often, enter them as "**crew**" not as passengers and the entered information on them will remain in your profile. I use eApis a lot going in and out of the Bahamas and this works and makes the process a lot shorter. Thanks, Love your stuff.
Lloyd B

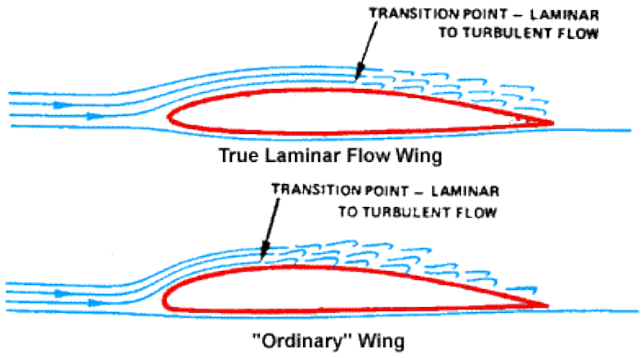
Regarding Tom Rouch's ongoing feature, "Ask Top Gun", this monthly feature is invaluable to me as a Mooney owner. He is extremely knowledgeable. I wish I lived closer to California so I could have them do my annuals.
Fred L

Don't Take Off… Don't Land

There are two incontrovertible laws regarding our Mooneys. The First Law is, "No Mooney will take off before it has the proper speed". The second Law is "No Mooney will land before it reaches the proper speed". In both cases, these laws are governed heavily by our laminar flow wings.

A few years ago, I needed to have a Biennial Flight Review and my Mooney was in annual. I decided to rent at C-172 and get my BFR while my Mooney was in the shop. Over the years, my Mooneys have made me a better pilot. Mooneys ask . . . no, they demand, that you establish a stabilized approach and stay on the numbers. In a C-172, you can rescue almost any poor approach. 40 degrees of flaps throw out a ton of drag and a Skyhawk essentially becomes a parachute. Then the Cessna's oleo struts cushion any aggressive maneuver in the flare. Try those two things in your Mooney and you are asking for trouble. Anyway, the CFI asks me to give him a normal landing. I flew that C-172 the only way I knew… just like a Mooney. Well, we stopped in 400-500 feet. Then he said, tongue in cheek, "Let's try a short field landing next". I wasn't showing off. Mooneys demand more from their pilots than your garden variety C or P's do.

Don't Take Off… Don't Land… Do not pass GO…



What are we talking about, anyway? Let's start with Don't Take Off. Those laminar wings are made for speed and cruise. There are no better wings on any single engine piston production airplane… period. But we take a little more runway… maybe. What are some signals that we should not take off. Beyond the obvious stuff like a failed pre-flight or bad run-up, or some other symptom "where your gut is talking to you", here is one rule of thumb: If you have not achieved 2/3 of your rotation speed at the half way point on the runway, then abort. *By the way, the 'rule of thumb' has been said to derive from the belief that English law allowed a man to beat his wife with a stick so long as it is was no thicker than his thumb.* But alas, we are wandering off topic. The theory of this rule of thumb is a solid one. If you have reached 2/3 of your takeoff speed and still have ½ the runway, then you have enough runway left to depart. Like any rules of thumb, they are not perfect, nor do they apply without judgement. Personally, if I were on a runway with high density altitude and the FAA standard trees at the end of the runway, I would want to have a greater safety margin. Another rule of thumb we maintain while flying our Mooney is the "Rule of 2". If two things aren't correct, then abort. Essentially this rule says, "Maybe we will continue a flight, or runway roll, if one thing is not perfect. Maybe we are at gross… maybe we did not lean appropriately for DA... maybe we had a slight bit of roughness during run-up. But as soon as something else kicks in, such as a slow takeoff run… then we abort."

When should you NOT land

This half of the article is about performing Go-Arounds. We see plenty of landings that should have inserted a go-around instead of a flare. Go-arounds are a Mooney pilots best friend… Seriously. What's

the alternative? You got it… Breaking the Second Rule of Mooneys that says, "No Mooney will land before it reaches the proper airspeed". The result of breaking this rule could very well be a new prop and an engine teardown. Weigh this against putting another 4-5 minutes of PIC time in your log book. I'll take Door #2 every time. The so-called Rule of Thumb on initiating a go-around goes something like this, "If you have not touched down in the first 1/3 of the runway, then go-around". This has obvious exceptions. Here are some: The runway is short. There is rising terrain at the end of the runway, or trees. The DA is high. The runway is sloping down.

I typically land "long" at my home field here in Paso Robles because it is 6,000' long and my hangar is at the other end. I think a better rule of thumb might be, "Go around if you don't flare when near your aiming point." The amount of miss you allow will probably be based on the length of the runway.

What are the most common reasons to go-around:

- Something on the runway (animals, vehicles, other airplanes, etc.)
- The tower instructs you to do so
- You are too high
- You are too hot
- You cannot maintain centerline due to crosswinds
- Did you confirm your landing checklist

Clearly there are more reasons, but these are the most typical reasons. In all of these cases, a go-around is most often prescribed by your doctor, or CFI. Forcing Mooneys to do unnatural acts, only results in more danger, and possible calamity. Have you ever **porpoised** your Mooney? Not a good feeling and not good for you, your Mooney, or your nose gear. You know that the third bounce most likely will end up with a prop strike. Why does a Mooney porpoise? Because you forced it to. Landing even a few knots too quickly and not holding it off, can easily result in the onset of a porpoise. Landing hard is another. So the old rule of thumb seems weak here regarding "landing in the first 1/3 of the runway". The real driving factors are more related to a stable approach, i.e., good airspeed and good descent rate, and not high or hot. And another good rule is to land "near" your aiming point. If you aren't on track to do that, then you have not executed your approach-to-landing plan and a go-around might be warranted.

Pilots sometimes tease me about the last reason for go-arounds, namely the one that says, "Did you perform your landing checklist?". The number one reason for gear-ups is that the PIC was taken out of his/her routine. What do we mean by this? Well, a host of reasons, including a passenger distraction, or a traffic pattern distraction (maybe you were cut off in the pattern), or the winds/weather are soaking up 100% of your energy… You name it… there are dozens of distractions.

Go Arounds in Mooneys

A go-around in a Mooney is a little more involved than in your garden variety C or P. Why? Well, Mooneys are Complex and/or High Performance. Most of us trim nose up for our stabilized approach and most of us utilize flaps, often full flaps. So if the first thing the PIC does is to add full power, then that PIC will be fighting a significant nose up attitude. This is not good when low and slow. We

advocate a gradual, but assertive, increase in power, while slowly retracting flaps. Also, you gotta get rid of those speed brakes if you had them deployed. During the addition of gradual power, the PIC should also be re-trimming to remove the nose up pressure. Remember, at the beginning of the go-around, the goal is to stop the descent. Once you have stopped the descent, cleaning up the gear is a good idea, followed by establishing a best rate of climb. Just remember that you do not, and probably should not, add full power quickly.

So the general technique for initiating a go-around should be:

1. Pitch to the level flight attitude.
2. Smoothly add full power. (Prop full RPM)
3. Pitch to the proper climb attitude as airspeed permits.
4. Retract flaps as airspeed permits.
5. Retract landing gear.

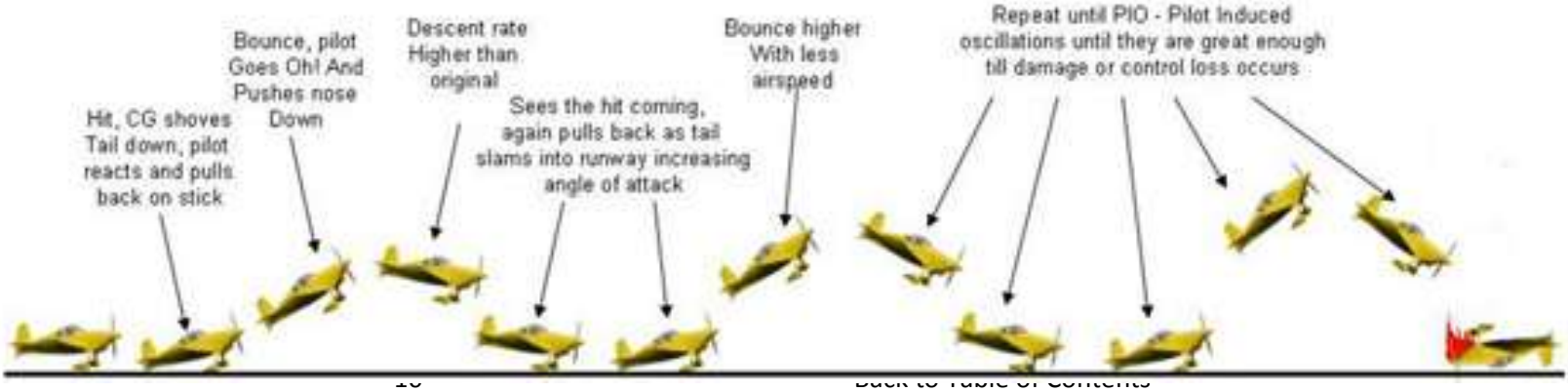
Additional Reading

http://flighttraining.aopa.org/students/presolo/skills/goaround.html

http://www.avweb.com/blogs/insider/AVWebInsider_GoAround_206833-1.html

http://www.genebenson.com/go_around/go_around.htm

http://skift.com/2013/09/06/the-most-common-cause-of-airline-crashes-is-risky-touchdowns/



AIRSPEED - Speed of an airplane. (Deduct at least 25% when listening to a fighter pilot.)

Mooney Tunes

Jim Price

Documenting Your Weather and NOTAM Briefings

You never know if or when it will happen. Perhaps one day, things won't go well for you and wham! You're on the 10 O'clock news and the NTSB and FAA are breathing down your neck. That's when the fun begins and the government will be looking for a wide spectrum of information, including what kind of flight planning and weather information were obtained by the PIC. They will want to know if you were in compliance with 14 CFR 91.103. That is, if you were "... familiar with all available information" before you took off.

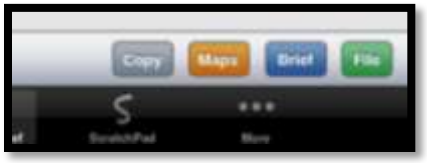
I learned long ago that doing all the required steps and then some, always served me well. In the Air Force we had a name for pilots who left their rear exposed: Second Lieutenants. Soon, they too learned to protect themselves from the Colonel's wrath. For every flight, no matter how short, ask yourself if you feel lucky. If you want to protect yourself from an NTSB probe into your judgement, you need to check the weather and NOTAMS prior to each flight and be able to prove it to the Feds. Let's say that you received your briefing on line or through an app on you iPad. Can it be documented?

Yes! Just be sure that you use a site that has received QCIP (**Qualified Internet Communications Provider)** status from the FAA. There are several sites that are trusted QCIP: FltPlan.com, DUATS.com, DUAT.com, ForeFlight and Lockheed Martin FSS (AFS.com)

There may be more sources, and if you know of more, please email us and correct my shortcomings.

All of these sources **document and save a record of your briefing**.

Your Digital Fingerprints



When you log in to one of these QCIP briefing sources for a weather and NOTAM briefing, the record of your visit automatically becomes associated with you and your flight. Your digital fingerprints will be all over it!

Limitations

There is no way to prove that you actually read the briefing; only proof you had access to it. In addition, it is possible to obtain a weather and NOTAM briefing at FltPlan.com without logging in. This blows your main reason for going to a QCIP source!.

Are there Good OnLine Sources that Cannot Document?

AviationWeather.gov has QCIP approval for weather information, but it doesn't have a link to check NOTAMs. Also, there's no way to log in, and so there are no bread crumbs proving that you were there.

The following sources fall short of putting your digital fingerprints on their information:

- The Weather Channel (weather.com),
- FBO Weather kiosks (unless you are logged in with your name or Tail number), or
- Any of the multitude of 'aviation weather' websites and Apps that are not saving your weather briefing and associating it with your name or your tail number.

Information from these sources can be helpful in your preflight planning, but they cannot document your digital presence.

Fly safe and stay out of trouble!

Jim

BANK - An institution that holds the lien on most pilot's cars.

Autopilot Incident

Trust but Verify

By Geoff Lee

You must be able to trust your autopilot, but quoting Ronald Reagan, “trust but verify”.

I was conducting business in Boston and Annapolis and had flown the 231 from California across the country with work stops in Texas and Oklahoma. It was early spring. The weather had been very cooperative until arriving in Boston, Logan Airport. We, (*I and the Mooney*) were met with low ceilings and light rain. Visibility was around 2 to 3 miles and the wind out of the SW at 15 gusting to 20 knots. The landing runway was 22 so wind direction was good. After some vectoring and sequencing behind jet traffic, having been asked to keep my speed up, we broke out of the clouds around 2500ft with the runway in sight and about 6 miles ahead. Logan airport elevation is 20ft and surrounded by water. The jet ahead of me came into view as we exited the cloud base, somewhat lower – thank heaven – and about 2 miles ahead. I was following the GS/ localizer indications of the KFC-200 flight director, but hand-flying the aircraft. Because the tower had alerted me of the possibility of wake turbulence, I was holding two dots high on the GS. It was bumpy. The jet in front was in sight and the runway in good view. I asked for the “visual” so that I could keep my Mooney above the jet's flight path. I could see his wings waving around some in the turbulence. My touchdown was uneventful and we taxied in with light rain on the windshield.

We had an office in Faneuil Hall, a Boston landmark, and I always received a decent reception from the staff at this location. After spending the rest of the day at that office I was treated to a Boston crab dinner and even got some great clam chowder. That dinner was worth the whole cross country trip.

Departure for Annapolis was very late the next day and the weather was not what I would have desired, but for business reasons, I felt pressured to go. There was a 2000ft ceiling, light rain and a report of widely scattered thunderstorms throughout the local area, but tops in the immediate area were “pilot” reported to be only around 6000-7000ft. The briefer gave me a good run down on the situation between Boston and Lee field in the Annapolis area.

The US Navy was a customer and my company did have an office location in Annapolis so with “Lee” on the company Logo, little LEE (ANP) airport adjacent to Annapolis *had* to be a home base. I was wishing that LEE airport had a longer runway (2,500ft) and better facilities that were more conducive to a night

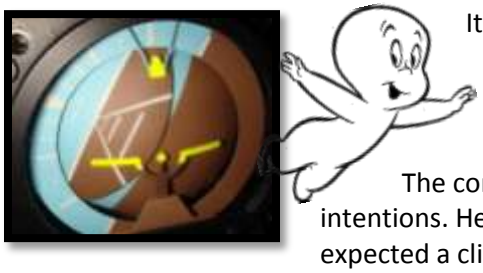
landing, but the briefer had informed me that the weather was clear at LEE field and greatly improved some 50-60nm south of Boston.

My trip was a little over 300nm. We had a slight headwind and I planned for about 2h15m enroute. It was in fading light and light rain that I lifted off Logan and I was a little tired. Of course just as I entered the cloud base the controller commenced to vector me away from my filed route due to the jet traffic inbound to Logan. It was the busiest time of day for arrivals so I figured that I would certainly be "second fiddle" to the inbound traffic. The inside of the cloud layer that I had just entered was dark, bumpy and wet. After the first couple of heading changes I decided to let the autopilot do some of the work and engaged it forthwith. I punched the "Heading" button and commenced using the HDG knob on the HSI. A commercial flight had reported a convective encounter in our general vicinity so everyone was scrambling to avoid the area and requesting vectors.

I should mention that this flight was undertaken in the era before GPS and attendant moving maps so I was desperately trying to cling to a mental image of my changing direction and location with some minimal assistance from the VOR and my ADF. All of this was happening in a dark, wet and bumpy cloud. The controller was clearly overloaded judging from the rapidity and tone of his transmissions. My 231 was climbing at about 800 feet per minute at about 120 mph so I figured that I should break out on top about 10 minutes after liftoff. I had filed for 8000ft, but the controller directed me to maintain 4000ft which was exactly halfway through the cloud layer and it was getting dark. I engaged the autopilot altitude hold at 4000ft and I could feel the trim wheel under my hand, working hard to keep the plane at that altitude. My heart rate was also working hard and I asked the controller, who I had not heard from for several minutes, if he still wanted me on the given heading. That heading was moving me 90 degrees to my filed direction. Stand by was the response… that means he had forgotten about me! After several long seconds I hear the magic words "climb and maintain 8000, intercept V3 Norwich, V475 Bridgeport then as filed. My memory in those days was much better than it is now. I had no pencil in hand! Using the chart, I found the radial I needed and set the VOR, turning the heading bug on

the HSI to intercept. Disconnecting altitude hold and pitching the Mooney about 7 degrees on the Flight Director, I re-engaged the auto pilot and started to anticipate the relief of breaking into clear skies and hopefully smoother air. I asked the controller if he would query the airline guys for a tops report. He did and their report was 7000-8000ft variable.

I was busily scanning the chart, looking at my modified route and letting the autopilot climb me upward and in the right direction. The change in wind and engine sound jerked my senses and attention to the panel. The airspeed was at 75mph and reducing, the VSI was pushing 1600fpm upward and the heading was changing some. I was still in cloud, in the dark at about 7000ft.. OH (*expletive*)! The attitude indicator had failed and was rolling very slowly. The autopilot, which follows the cues of the flight director, was desperately trying to stay with the selected attitude. I immediately punched the red autopilot disconnect button on the yoke, simultaneously lowered the nose, checked the wings level with the turn coordinator and the compass; that was all reflex. The slow mental process after that fright was to figure out what instruments I could use to get myself into visual conditions. I assumed that I had lost vacuum. On the ground it seems simple, but several thousand feet in the air in the dark and bumpy sky after the massive adrenaline injection, the thought process moves as if in cement.



It took me a while to realize that my electric powered heading indicator was ok, but what happened to the attitude indicator? It turned out that the vacuum system was ok , but the gyro had simply given up the ghost.

The controller was rather sharp with me and asked about my intentions. He reminded me that he wanted me on a specific heading and expected a climb to 8000ft. I carefully and slowly replied that I had just suffered an attitude indicator failure and was on needle ball, airspeed and wet compass, still in the clouds and would comply when I had established full control. There was a long pause, during which a very deep airline voice interjected, "*You tell 'em buddy. It's nasty up here*".

I finally realized that my DG was ok, so I pitched for climb using airspeed and the VSI, then turned to an intercept heading for the appropriate radial. The turn coordinator and steady compass served to keep my wings level. I broke out on top at 8000 feet and continued the flight to the Lee airport in good visual conditions.

Much to my relief, the cloud cover disappeared after 100 miles or so and the ground lighting down the East coast over New York and Philadelphia was spectacular.

An autopilot is a marvelous tool for the lone pilot. However, if you overuse it, your basic flying reflexes and skills could degrade to an unacceptable level. Keep the scan active, even when the autopilot is on.

Send your questions for Tom to TheMooneyFlyer@gmail.com

Question 1: My IO 360 runs rough as I add the last bit of throttle. What could be causing this?

I will assume you have the mixture full rich. As you move the throttle in, you are adjusting air into the servo, which, through an internal diaphragm control in the servo, adjusts the mixture. You might try to dial out the mixture control and if the engine smooths out you will know that the problem is air to fuel ratio. It could be a matter of rigging the throttle for full travel. The mixture adjustment can be checked with a simple idle/mixture check. You should have about a 50 RPM rise with an IO 360 at 1000 RPM. The only other adjustment is for idle speed. Another check we do is to remove the intake filter so we can see into the front of the servo. There are four impact tubes that point out into the front of the servo. With the electric fuel pump on, mixture in, we can pressurize the servo and if fuel comes out the impact tubes, we then know the diaphragm in the servo is ruptured and the servo needs overhaul. Your problem is probably rigging of the controls.

Question 2: I recently had my boost pump overhauled on my K and now my primer doesn't work

There is one pump with three controls. Full boost switch, low boost switch and primer switch. The low boost is accomplished with an inline resistor/regulator to reduce voltage thus reducing pressure. The difference with the primer system is it has an inline fuse, located behind the instrument panel about behind the low boost switch. It is in the old style inline fuse holder and I think 5 amp, but I don't trust my memory. If that fuse is OK, then you need to look at the primer solenoid, on the top right front side of the engine for wiring or maybe a solenoid failure. Replacing the electric pump has no real relation to the primer system other than both use the same pump.

My question, for my own curiosity, is why whoever changed the boost pump didn't solve this during the ops check for the pump?

Question 3: What are your thoughts on Camguard?

We maintain in full or part, over 200 planes. I am aware of Camguard and have read quite a lot about it, but I am not sure any of my customers use it and we don't stock it. I don't think it will harm anything and it might help the older Lycoming four cylinder engines with reducing camshaft wear. You might guess that I am not a big proponent of additives. We do stock LW-16702 and AvBlend for a few customers.

Landing Gear - Pre Loads and Worn Bushings

The first in a series on Mooney Landing Gear

by Michael Riter (Service Manager at LASAR)

I'm often asked, "What are pre loads?" When we check pre loads we are checking the amount of force required to break the landing gear out of its locked position. We measure it with a special tool in inch pounds, 240 to 280 in-lbs for the mains. The NLG pre load on manual gear aircraft is 100 to 130 in-lbs. The NLG pre load on electric gear aircraft is measured by spring compression on the NLG retract rod bungees, typically 30 to 70 thousandths. We can adjust this pre load by changing the length of the retract rods attached to the main bellcrank. As you might imagine pre loads are important. Too low, and a gear may collapse. Too high and it places undue stress on the system which could lead to bent rods.

As the Mooney fleet ages it is important to keep the gear in top condition. Thorough inspections are important. When inspecting landing gear it is not uncommon to find worn bushings in the gear system. For now I will limit the discussion to worn bushings found in the MLG Retraction Truss and the Retraction Links. This can be seen by partly retracting the gear and moving the gear back and forth by hand, you may need to hold one gear while working the other. The Retraction Truss should pivot freely on the bolt. Excessive rocking is an indication that the bushings are worn. I would recommend replacing the bushings in both MLG Retraction Trusses as well as main and nose Retraction Links. To get the main Retraction Links out it is necessary to disconnect the rear attach point of the gear. Without disconnecting the spring it is then possible to position the gear to get the clearance to remove the bolt attaching the link to the gear.

For those of you flying with manual gear, have you had your pre loads adjusted only to find that you have to push harder to get the gear to lock? This may be due to worn bushings. Let me explain. The rod ends that we adjust to affect pre loads are attached to the main bellcrank and run longitudinally back to the bellcrank attached to the spar. The movement is then transferred laterally out to the main landing gear. With worn bushings some of that movement is lost and at that point you are just flexing the Johnson Bar to get it to lock. The gear has gone as far as it is going to go, and you can only push so much longitudinally. Pushing hard can lead to cracking of the Johnson Bar. Thorough inspections are recommended. If you replace the bushings you can back off a bit on the rod end adjustments. The same thing happens with electric gear, only it is not noticed as easily because the motor is doing the work. It may be noticed by excessive threads showing on the rod ends. LASAR sells FAA PMA replacement bushings for landing gear. We also sell the tool to check the pre loads. We are more than happy to answer any question you have, provide you with parts or inspect your gear. Let's keep our gear safe. There is a lot riding on it!

Michael went to South Seattle Community College to start his aviation career in 1998. In his second quarter, his instructor saw something in the wide eyed student in the front row who "Just wanted to work on airplanes" and he went to work part time at Pro-Flight Aviation in Renton, Washington. He got his Airframe license through school and his Power Plant by experience. He stayed at Pro-Flight, working his way up to running the maintenance side, including the flight instruction aircraft as well as customers' aircraft. In 2010 he moved south and started work at Lake Aero Styling and Repair in Lakeport California where he is now the Service Manager, as well as the chief Inspector.

When VFR, well isn't VFR

by Phil Corman

I love the FARs, mostly because some of them are way too restrictive, while others are way too lenient. My best example of way too restrictive includes **"91.103 Preflight action.** Each pilot in command shall, before beginning a flight, become familiar with all available information concerning that flight." In a word, "Impossible". But the definition of VFR falls on the other side of the fence. VFR varies by airspace, but the most prevalent definitions is 3 statute miles and 500' below/1000' above and 2000' horizontally away from a cloud. Why do we think this is too lenient? Read on. There are three (3) types of situations where this definition is lacking. Lightheartedly, I'll refer to these situations as Black, Gray, and White.

BLACK

Flying at night over city lights or a cloudless moonlit evening is pure VFR and a most enjoyable VFR flight. But when you have no lights on the ground, or in the sky, and maybe flying over mountains, or a remote area, then the view is just black. There is little or no horizon reference. At this point, the visibility may be virtually unlimited, but to keep the shiny side up, you probably need to fly with reference to instruments.

GRAY

Most older pilots remember John Kennedy, Jr's experience over Nantucket. He was a relatively new PPSEL. I learned to fly in New England myself, and I got to see the "Nantucket Gray" first hand. With gray skies, gray fog or heavy mist, and the Atlantic Ocean the same hue of gray, the PIC loses all reference to a horizon. Again, the FAR seems to be lacking. Visibility still exceeds 3sm, but it is effectively IMC.

CARBURETOR ICING - A phenomenon reported to the FAA by pilots immediately after they run out of gas

Here in the western USA, another “Gray” scenario is flying near wildfires. Last year, myself and another Mooney pilot flew from a Vintage Mooney Group fly-in at Methow Valley, Washington to Glacier National Park, Montana. Departing Methow Valley, the visibility was unlimited, but as soon as we flew over the mountains to the east, the wildfires reduced visibility to a “no horizon” situation. The visibility was greater than 3sm, but the only proof of that was looking down and seeing ghosts of the terrain. This seems like another situation of FAR-defined VFR, but requiring reference to instruments.

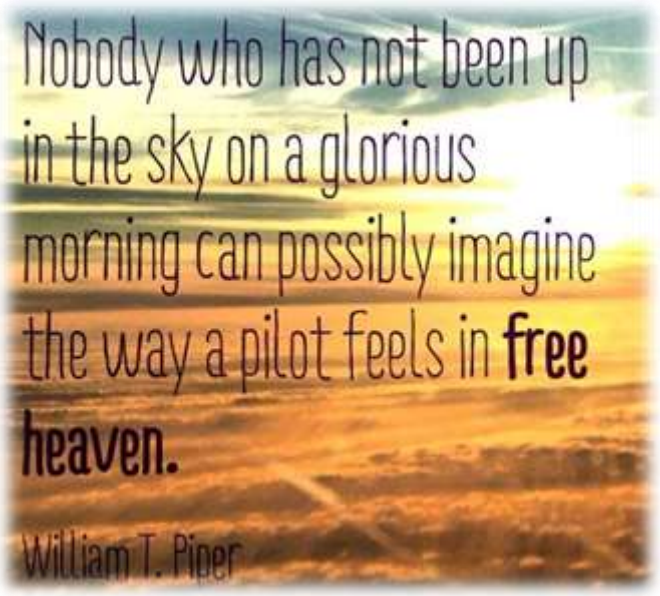
WHITE

The last example of “not really VFR” can happen in snowy conditions. This can happen if it’s snowing or blowing snow, with white clouds above and perhaps some snow on the ground. The illustration to the left shows this somewhat. Again, white on white, just like gray on gray, or black on black can eliminate a horizon reference, despite the fact that the FAR declares your situation to be VFR.

What’s a PIC to do!

VFR is no assurance of visibility! Sometimes VFR just isn’t. Sometimes the meteorological conditions meet the definition of "basic VFR," but conditions are such that there are too few visual references within the range of the prevailing visibility to keep the airplane upright by reference to a visual horizon, and to safely navigate. In other words, the pilot is actually in Instrument Meteorological Conditions (IMC). This prevails when one is in VFR weather conditions, but can't see anything except the weather.

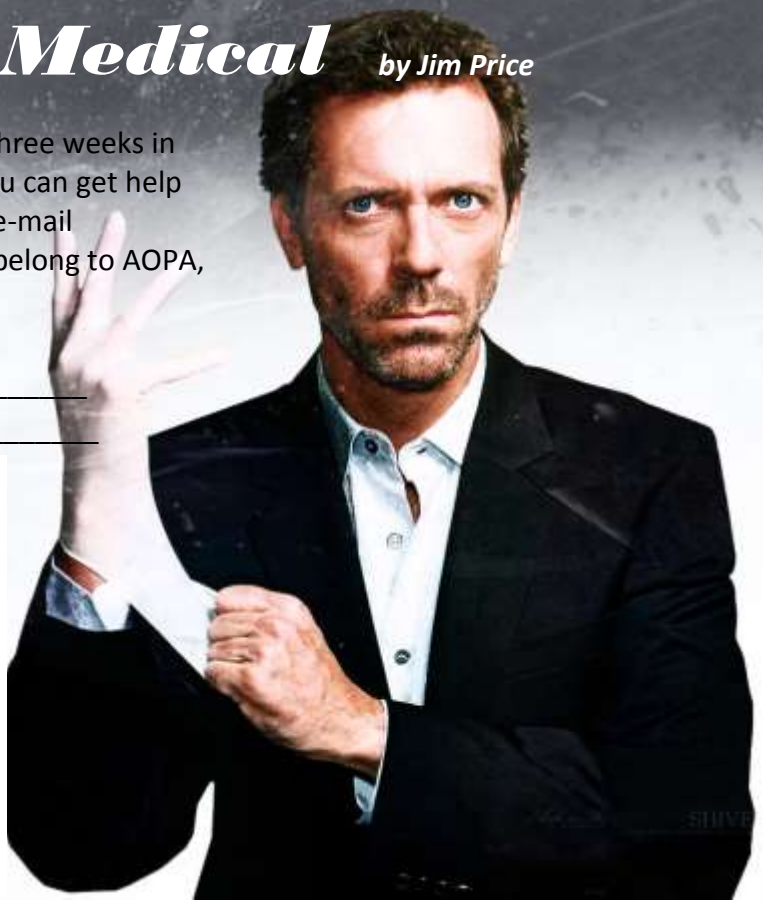
The biggest problem, I think, is if the PIC does not recognize that they have entered effective IMC conditions and/or does not transition to the instruments. If you fly into a cloud, you can execute a 180° turn and get back into true VFR. However, in certain BLACK/GRAY/WHITE, this option may not be as readily available. The first answer is to not let yourself get into these situations. But the inflight response is to recognize this situation in a timely basis and transition to instruments. If you are not instrument rated, you may want to let ATC know about your situation. If you have not flown in IMC recently, you should find yourself a CFI willing to put you under the hood and/or fly in some IMC.



CONE OF CONFUSION - An area about the size of New Jersey located near the final approach fix at an airport

Preparing the MedXPress 8500-8 for your Medical

by Jim Price



1. Practice on https://medxpress.faa.gov/ about three weeks in advance. (Applications expire after 30 days). You can get help from the FAA via phone at 1-877-287-6731, or e-mail at 9-NATL-AVS-IT-ServiceDesk@faa.gov. If you belong to AOPA, they'll help, too: 800-872-2672
2. Your MedXPress login is unique. Record it here:
    a. E-mail: _____
    b. Password: _____

3. You do not need to share your SS#.

4. Save often (the save button is at the bottom of the form). The form will "time out" after 20 minutes of activity and unsaved data will be lost.

5. Pilot time:
    a. Total Pilot time _____
    b. Pilot time last six months _____
    c. Date of last medical _____

6. Medications that you take on a regular basis, both prescription and non-prescription.
    a. Medication Name (e.g., Advil)
    b. Dosage (mg)
    c. Dosage unit (use the drop down menu)
    d. Frequency (use the drop down menu)
    e. Previously reported?

7. If you have EVER in your life been diagnosed with, had, or do presently have a significant health issue, be prepared to provide an explanation (unless previously reported).

8. Know your health professional visits within the last **3** years:
    a. Date
    b. Name of professional
    c. Address
    d. Type of professional (e.g. MD, DO, etc.)
    e. Reason for visit (annual exam, chest pains ☺, etc.)

9. Print your MedXPress application for your records. Two years from now, having the copy will help jog your memory. Take your **CONFIRMATION NUMBER** to your exam. This number will allow your doctor to access your 8500-8.

Florida Mooney Lunch Group

October 12: Flagler (XFL) High Jackers
November 9: Winter Haven (GIF) Pappy's Grill
December 14: Punta Gorda (PGD) Skyview Cafe
E-mail DaveanRuth@aol.com by Thursday night of the week of the event so we have a head count for the restaurant on Friday.
January 11, 2014: The tenth anniversary of the Florida Mooney Lunch Group will be hosted by EAA Chapter 534 of Leesburg (LEE). They will cook lunch for us in their hangar.

October 12 at the Wings Over North Georgia Airshow in Rome, GA (KRMG). We'll be meeting around 9am at Cole Aviation, one of the premier MSCs in the area and having a talk with the owner Joey Cole. Folks should know that once the air show starts there will be no departures, so expected departure time will be 5:30 pm. We'll have Sunday the 13th as a rain day option.

VINTAGE MOONEY GROUP USA

October 5: San Marcos, Texas – Join the VMG South Central for a fly-in and buy 100LL for $1.00 per gallon. Click Here for more details.

Mooney Accidents

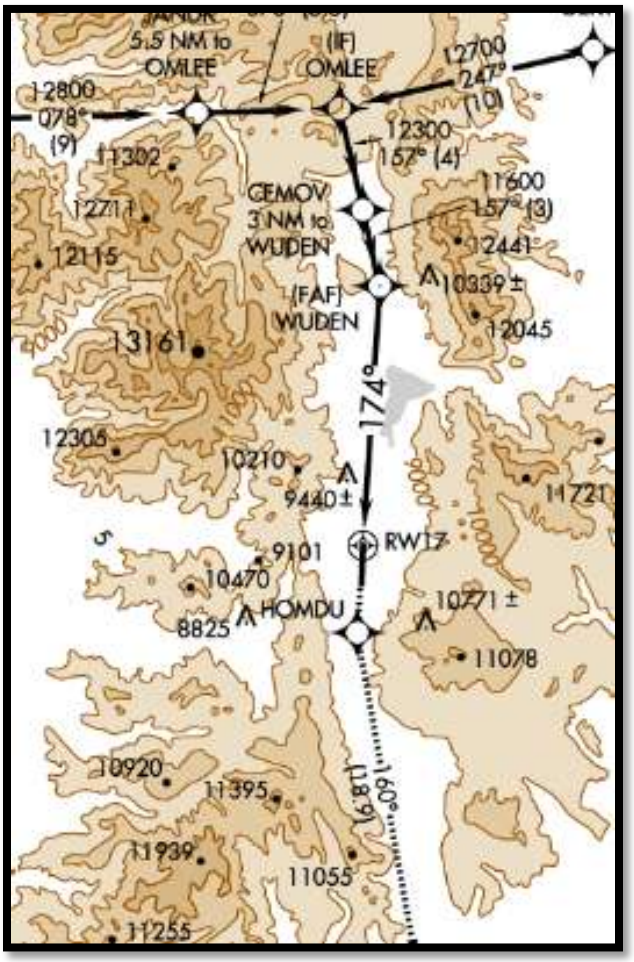
What can we Learn?

by Jim Price

Wait for Better Weather

On March 3, 2013, about 1320 mountain standard time, a Mooney M20E, N3484X, impacted terrain after departing the Angel Fire Airport (KAXX), Angel Fire, New Mexico. The private pilot **John Verhalen 33, his sister Sarah Verhalen, 41 her 13 year old daughter, Chloe Jameson, and John's girlfriend, Jennifer Warren, 26 were** fatally injured. The airplane was substantially damaged and a post-impact fire ensued. The aircraft was registered to and operated by Verhalen Flyers LLC, Scottsville, Texas. Visual meteorological conditions prevailed for the flight, which operated without a flight plan. John and his passengers were departing KAXX at the time of the accident on their way home in the Dallas-Fort Worth area.

About the Angel Fire Airport (KAXX)



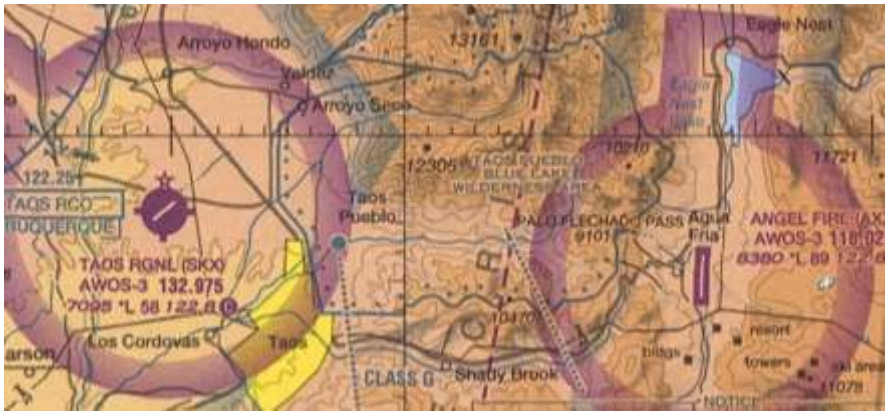
Angel Fire is the 5th highest airport in the United States. I start wheezing just thinking about the **8,300'** field elevation. The airport is in a north-south valley surrounded by mountains. The graphic to the left is from the RNAV GPS RWY 17 approach. It dramatically shows that valley. The Angel Fire runway is **8,900** feet long and it stretches north and south, (runways 17 and 35). Unfortunately, the prevailing winds come from the west.

In the wintertime, the crosswinds are more prevalent than they are in the summer.

The shape of the Moreno Valley creates mountain waves; severe updrafts and downdrafts that occur when wind flows over the mountain.

Notes from a local pilot

"Taking off to the south can be a bit of an experience for underpowered or overloaded airplanes," said Angel Fire pilot Dave Pangrac, who lives near the Angel Fire Country Club on the south side of the village. ". . . The departure from the airport tends to be pretty close to our house. During the summer, we have a lot of planes that get out of here just barely. They can't be a couple hundred feet above the trees."

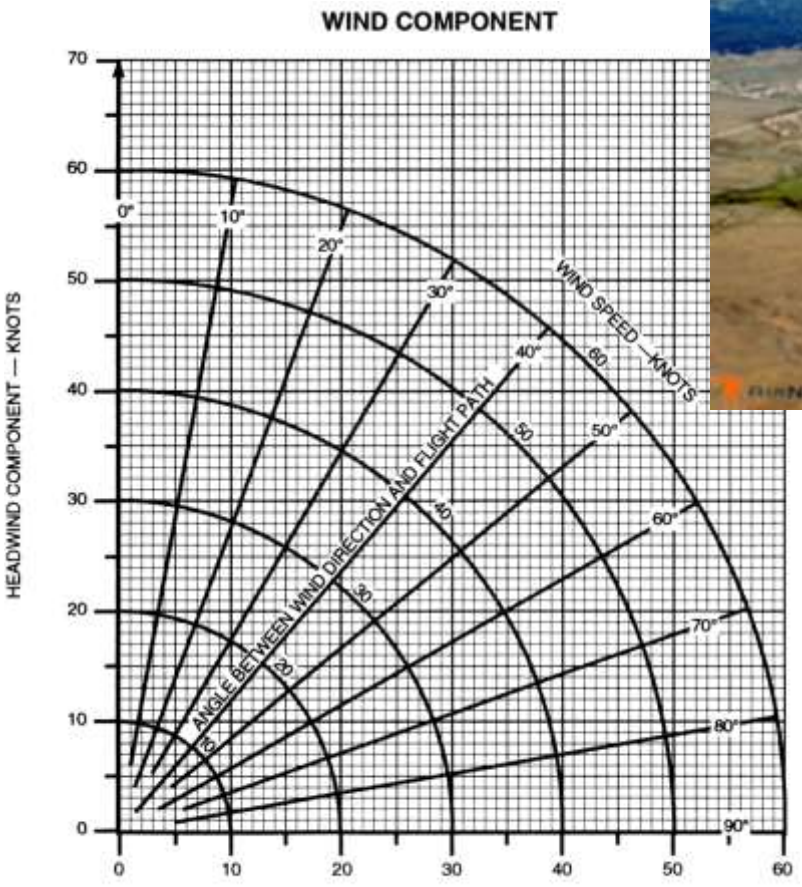


Pangrac also indicated that many pilots from the lower altitudes struggle with the high density altitude in Angel Fire because they have not flown in it before. They expect the airplane to fly normally, but it just doesn't want to fly and perform like it does at 800 feet MSL.

"Not a Problem"

When the pilot arrived at the fixed base operator (FBO), an employee from the FBO questioned the pilot's intent to fly in the windy weather. The pilot indicated that he planned to fly and that the winds would not be a problem. When the pilot radioed on the CTAF frequency, 122.8, that he was taxiing to runway 17, the current wind and altimeter were relayed to the pilot by the FBO employee, and the pilot repeated the information.

At 1315, the KAXX AWOS reported visibility 10 miles, a clear sky and temperature 47 degrees F (8 degrees C), altimeter 29.93. The wind was the problem that day. It was reported from the west at 250 degrees, (80 degrees off the runway heading), 33 knots gusting to 47 knots.



Due to snow piles on the airfield, the FBO employee could not see the Mooney as it took off, but he did see it after it was airborne with a significant crab angle **into the wind**, about 40 degrees right of the runway heading.

The airplane rose and fell repeatedly as its wings rocked. The employee then saw the airplane's right wing rise rapidly.

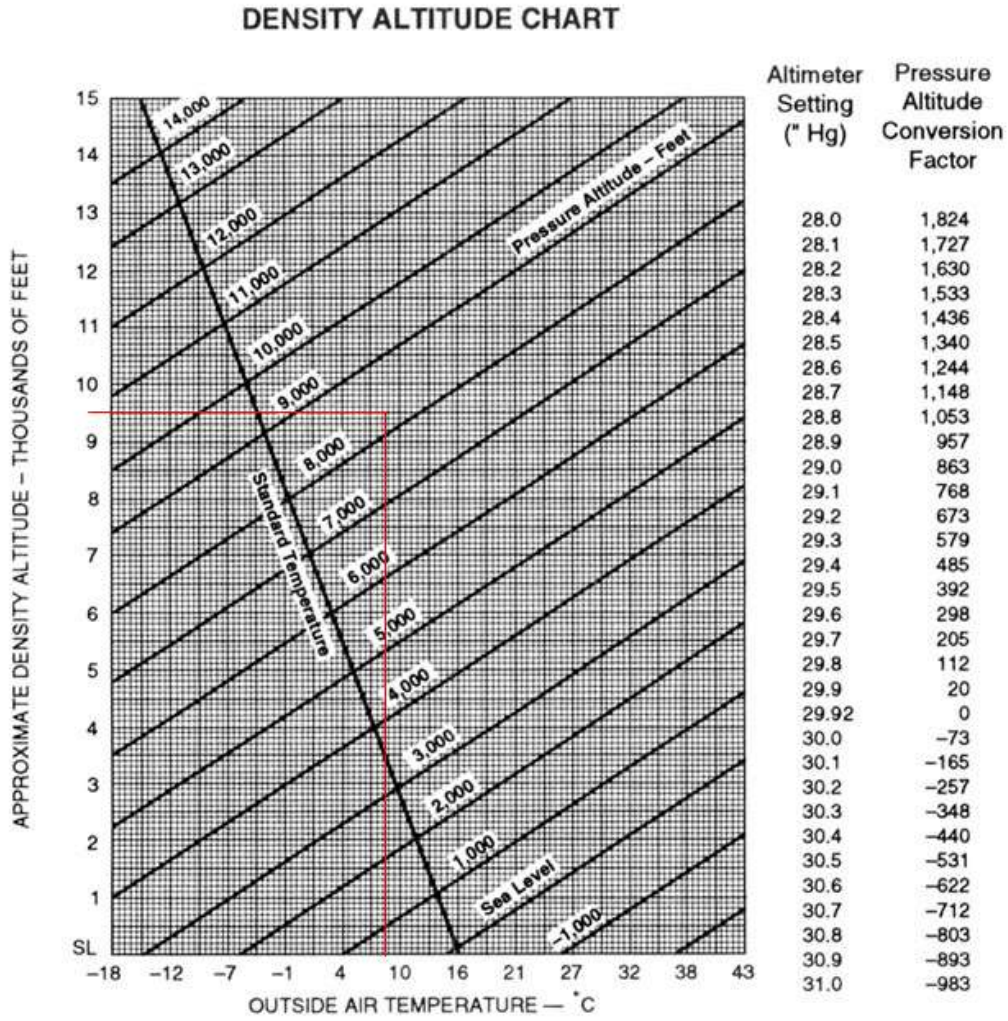
The airplane rolled left, and descended inverted with the airplane's nose pointed straight down.

What can we learn?

Many Mooney pilots have made takeoffs in the summer from high altitude airports such as South

Table of Contents

Lake Tahoe KTVL, at 6,264' and Big Bear L35 slightly higher at 6,748'. You might recall the tenuous takeoff, even with a headwind flowing down the runway. You gingerly applied back pressure, and tried to not demand much of a climb, as you watched the airspeed slowly increase to a safe and comfortable speed.



Can you imagine John Verhalen's challenges in the inhospitable flying environment of Angel Fire's Moreno Valley?

- All his seats were filled and he needed enough fuel to take them about 450nm. (HEAVY)
- He faced strong crosswinds and possible downdrafts as they rolled off the western mountains.
- Even though the temperature was a cool 8 degrees C, the Density Altitude was a performance sapping 9,600 feet.

Any one of these circumstances would be challenging for any pilot. Put all three together and the results are disastrous. Be smart when you fly and don't take chances. That flight that you desperately need to make – **IT CAN WAIT**.

October, 2013

Bendix King is back in the GPS game

Bendix King expects their GPS to have FAA approval any day. When that day comes, they will be ready to supply avionics to the GA avionics market. READ MORE

Avidyne IFD540, 440 near certification

Avidyne Corp. has completed the design phase of its IFD540 and IFD440 and expects to submit the 540 for certification by the end of 2013, Avidyne President and CEO Dan Schwinn said.
The local FAA office has assured the company that sequestration-induced budget cuts will not slow certification programs, Schwinn said, and so Avidyne expects a quick turnaround. Certification of the IFD440, which shares hardware and a code base with the IFD540, will follow the larger unit; Schwinn estimated it would be certified three to six months later. The IFD540 and IFD440 are plug-and-play replacements for the Garmin GNS530 and GNS430 GPS navigators, respectively. READ MORE

Details about $1 avgas experiment released

The folks at Redbird Skyport in San Marcos, Texas, are conducting an experiment, to study the effect that fuel price has on flying activity as well as to understand how fuel price factors into the complete cost picture.

The offer is open to any piston-powered GA aircraft that can fly into the San Marcos Municipal Airport under its own power. Only the regular tanks in the aircraft will be filled.

To maintain a reliable supply for everyone and keep delays to a minimum, the fueling limit is 200 gallons per aircraft per day. Aircraft requiring more than 200 gallons may purchase that additional amount at the regular price. The $1 price is valid for the entire month of October during normal operating hours, 6am to 10pm. READ MORE

ForeFlight Mobile Version 5.4 introduces "Annotations"

"Annotations" allows you to add your own full-color annotations to Approach plates, SIDs, STARs, Airport Diagrams and PDF Documents. This is useful for highlighting important elements such as crossing altitudes or taxi instructions, or adding notes to your PDF documents. CLICK HERE for the video

Product Review: Garmin's VIRB HD Camera

Garmin announced its entry into the jam-packed world of handheld HD cameras, currently dominated by venerable Go Pro. Garmin announced its VIRB and VIRB Elite models.

Let's start with the VIRB. It has a long battery life of 3 hrs in 1080P recording mode. That seems like plenty for most digital video shoots. It has a 1.4" color display for menus, etc. Two features that are necessary for flying are digital image stabilization and lens distortion correction, both included in the VIRB. Compatibility with other Garmin devices is one of the features that Garmin is using to differentiate from other cameras. For example, Garmin's Oregon outdoor GPS receiver can lend its GPS data to the standard VIRB. The Fenix outdoor GPS watch can pull off this same trick and can also serve as a remote control for the VIRB cameras, stopping and starting video recording with the touch of a button on its bezel. Cycling data can be captured from a Garmin Edge 810 cycling computer and overlaid onto the video when editing. No other camera that I've tested can boast that level of connectivity.

It's got a water resistant case, that is reported to work to about 30 minutes in 1 meter of water. Hopefully this is never tested in your Mooney!

A necessary feature for Mooney pilots is the ability to control the camera remotely. In Garmin's inimitable, and proprietary manner, you can do this with other Garmin controllers via their ANT+ capability. It appears that they will add iOS and Android capability sometime in 2014.

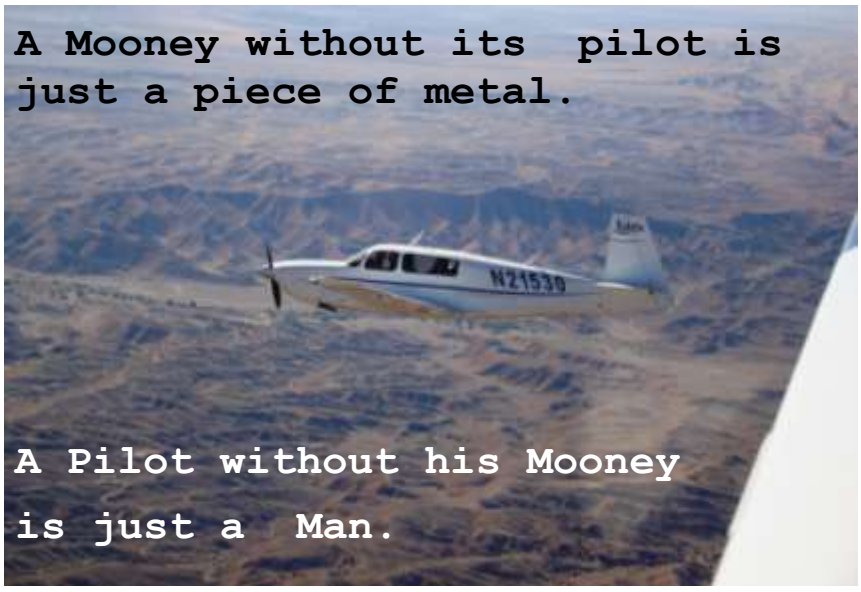
With just the touch of a button you can capture 16 megapixel, 12 megapixel or 8 megapixel pictures with a single shot.

VIRB Elite incorporates all these features, plus has built-in WiFi, data sensors and a high-sensitivity GPS.

A couple of downsides must be

mentioned. The camera is really targeted more at sports enthusiasts such as skiing, hiking, running, etc. Currently we see no method of providing remote audio input, which is highly desired for aviation video. And there is no feature to deal with the distortions and/or elimination of the annoying propeller when shooting forward through the windscreen. We also did not see any statements about Bluetooth, which makes a lot of sense in the cockpit.

The bottom line: Garmin was late to the handheld HD video camera market and has entered with a more general purpose camera that comes up short when compared to its Go Pro equivalent for Mooney pilots. But if compatibility with other Garmin products is high on your list of priorities, then the VIRB deserves a second look.



C-130 Pilot's Description of Approach into Baghdad

There I was at six thousand feet over central Iraq , two hundred eighty knots and we're dropping and we're dropping fast. It's a typical September evening in the Persian Gulf; hotter than a blast furnace and I'm sweating like a dog in the heat of Phoenix waiting to be neutered.

But that's neither here nor there. The night is moonless over Baghdad tonight, and blacker than a Steven King novel. But it's 2006, folks, and I'm sporting the latest in night-combat technology - namely, hand-me-down night vision goggles (NVGs) thrown out by the fighter boys. Additionally, my 1962 Lockheed C-130E Hercules is equipped with an obsolete, yet, semi-effective missile warning system (MWS). The MWS conveniently makes a nice soothing tone in your headset just before the missile explodes into your airplane.

At any rate, the NVGs are illuminating Baghdad International Airport like the Las Vegas Strip during a Mike Tyson fight. But I've digressed. The preferred method of approach tonight is the random shallow. This tactical maneuver allows the pilot to ingress the landing zone in an unpredictable manner, thus exploiting the supposedly secured perimeter of the airfield in an attempt to avoid enemy surface-to-air-missiles and small arms fire. Personally, I wouldn't bet my paycheck on that theory but the approach is more fun than a Disneyland E-ride, and that's the real reason we fly it. We get a visual on the runway at three miles out, drop down to one thousand feet above the ground, still maintaining two hundred eighty knots. Now the fun starts.

It's pilot appreciation time as I descend the mighty Herc to six hundred feet and smoothly, yet very deliberately, yank into a sixty degree left bank, turning the aircraft ninety degrees offset from runway heading. As soon as we roll out of the turn, I reverse turn to the right a full two hundred seventy degrees in order to roll out aligned with the runway. Some aeronautical genius coined this maneuver the "Ninety/Two-Seventy." Chopping the power during the turn, I pull back on the yoke just to the point my nether regions start to sag, bleeding off energy in order to configure the pig for landing. "Flaps Fifty!, landing Gear Down!, Before Landing Checklist!" I look over at the copilot and he's shaking like a cat that has been rescued from an icy lake. Looking further back at the navigator, and even through the Nags, I can clearly see the he’s sweatin’ bullets. Finally, I glance at my steely eyed flight engineer. His eyebrows rise in unison as a grin forms on his face. I can tell he's thinking the same thing I am .... "Where do we find such fine young men?" "Flaps One Hundred!" I bark at the shaking cat. Now it's all aim-point and airspeed. Aviation 101, with the exception there are no lights, I'm on NVGs, it's Baghdad , and now tracers are starting to crisscross the black sky.

Naturally, and not at all surprisingly, I grease the Goodyear's on brick-one of runway 33 left, bring the throttles to ground idle and then force the props to full reverse pitch. Tonight, the sound of freedom is my four Hamilton Standard propellers chewing through the thick, putrid, Baghdad air. The huge, one hundred thirty-thousand pound, lumbering whisper pig comes to a lurching stop in less than two thousand feet. Let's see a Viper do that! We exit the runway to a welcoming committee of government issued Army grunts. It's time to download their beans and bullets and letters from their sweethearts, look for war booty, and of course, urinate on Saddam's home. Walking down the crew entry steps with my lowest-bidder, Beretta 92F, 9 millimeter strapped smartly to my side, look around and thank God, not Allah, I'm an American and I'm on the winning team. Then I thank God I'm not in the Army.

Knowing once again I've cheated death, I ask myself, "What in the hell am I doing in this mess?" Is it Duty, Honor, and Country? You bet your sweet bippy! Or could it possibly be for the glory, the swag, and not to mention, chicks dig the Air Medal. There's probably some truth there, too. But now is not the time to derive the complexities of the superior, cerebral properties of the human portion of the aviator-man-machine model. It is however, time to get out of this hole. Hey copilot how's 'bout the 'Before Starting Engines Checklist." God, I love this job!!!!

Top Lies in Aviation

I'm from the FAA and I'm here to help you.
Me? I've never busted minimums.
We will be on time, maybe even early.
Pardon me, ma'am, I seem to have lost my jet keys.
I have no interest in flying for the airlines.
I fixed it right the first time, it must have failed for other reasons.
All that turbulence spoiled my landing.
I'm a member of the mile high club.
I only need glasses for reading.
I broke out right at minimums.
The weather is gonna be alright; it's clearing to VFR.
Don't worry about the weight and balance — it'll fly.
If we get a little lower I think we'll see the lights.
I'm 22, got 6000 hours, a four year degree and 3000 hours in a Lear.
We shipped the part yesterday.
I'd love to have a woman co-pilot.
All you have to do is follow the book.
This plane outperforms the book by 20 percent.
We in aviation are overpaid, under worked and well respected.
Oh sure, no problem, I've got over 2000 hours in that aircraft.
I have 5000 hours total time, 3200 are actual instrument.
No need to look that up, I've got it all memorized.
Sure I can fly it — it has wings, doesn't it?
We'll be home by lunchtime.
Your plane will be ready by 2 o'clock.
I'm always glad to see the FAA.
We fly every day — we don't need recurrent training.
It just came out of annual — how could anything be wrong?
I thought YOU took care of that.
I've got the field in sight.
I've got the traffic in sight.
Of course I know where we are.
I'm SURE the gear was down.

Mooney Instructors Around The Country

California

Chuck McGill (Master CFI) located in San Diego, CA 858-451-2742, Website: Click Here

Florida

Mike Elliott (CFII) located in Tarpon Springs, FL, Contact 317-371-4161
Quality instrument & commercial instruction, transition training, ownership assistance, plane ferrying

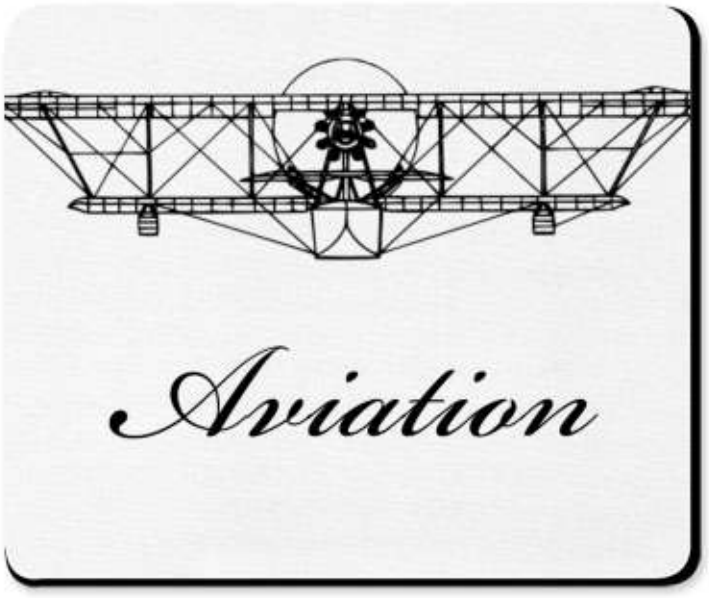
Georgia

Jim Stevens, USAF, Col, (ret), CFII. Atlanta, Ga area. 404-277-4123. Instrument, commercial, IPC, BFR, transition training. 20 year owner of 1968 M20F.

South Carolina

Wallace Moran – Charleston SC, 843 822 9725, Email wallace.moran@gmail.com

A NAFI Master CFI with extensive Mooney experience. He is also an FAA Designated Pilot Examiner and has been awarded the FAA Wright Brothers Master Pilot Award. Wallace is a retired airline pilot and Mooney owner.



Pictures from Vietnam

I bet you will not guess what you are looking at until you scan down a few pictures. This is the ultimate in ingenuity and recycling. They are obviously canoes, and we have told you that they are in Vietnam.

Yes, they are made from all of those fuel tanks jettisoned by the USA during the Vietnam War!

PRICE REDUCED

FREE Bose Headset cases (2). Just pay $8 for the shipping.

Send $8 to my PayPal account - jimpriceaz@gmail.com

Don't forget to send your mailing address to jimpriceaz@gmail.com

Wanted: Looking for the following M20J MSE parts: 1) Cowl, 2) One Piece Belly, 3) Front Gear Doors, 4) Exhaust tunnels. Please call Scott at (574) 292-1059