The Mooney Flyer

The Official Online Magazine for the Mooney Community

www.TheMooneyFlyer.com

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Tom Rouch

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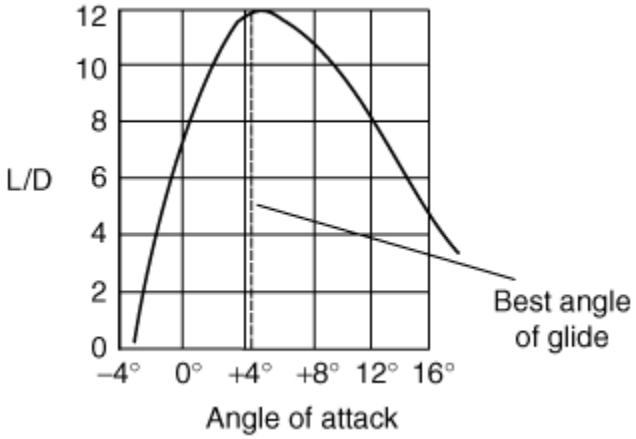
From the Editor

Phil Corman

It's hard to believe that we are in our second calendar year of publication. It's been a great ride and we sure appreciate all of the wonderful feedback and also the great suggestions we can make to improve The Flyer. At the end of our first year, our subscription base is skyrocketing thanks to word of mouth. We also added our website, www.TheMooneyFlyer.com, and a Facebook Page at https://www.facebook.com/TheMooneyFlyer. The website has an archive of all past issues and links on where to find parts for your Mooneys. We've included key MSCs, Good Salvage Places, and of course McFarlane Aviation which will make almost any part you need. With fewer than half a dozen employees at Mooney, owners need all the help they can find.



Engine Out Glides -- I was reading a lot on the internet about engine out best glides this past month, and thought I'd share some salient points and also summarize all the good stuff here. Let's say you are cruising along at 9500' and the engine goes quiet. Perform your "engine out" checklist and establish Best Glide speed. You should know this speed by heart. But do you remember that Best Glide is highest at gross weight and goes down with the weight of the aircraft. So you need to know how heavy your Mooney is in order to establish Best Glide speed. A good use of the excess airspeed is to climb (i.e., gain altitude) while slowing to best glide). This will increase your glide range. While you are doing this, you should be looking for a place to land. If your GPS has a Nearest Airport button, now is a good time to push it. If you made a change to your engine, now is the time to diagnose what the problem might be. If you changed fuel tanks, then unchange it. Rod Machado recommends unchanging things if any problem arises soon after a change. If you are flying into a headwind on your glide, you can extend your glide range by lowering the nose. It will increase your descent rate (feet per minute), but will increase your glide range. In a tailwind, do the opposite by reducing your best glide speed. How much should you adjust? There is no hard and fast rule, but using ½ the headwind component will work just fine.

What else can you do to extend your glide? Well, if your **gear was down, retract it**. If you had deployed your **speedbrakes, retract them**. And don't forget that big fan in front of you. Once the engine is idling

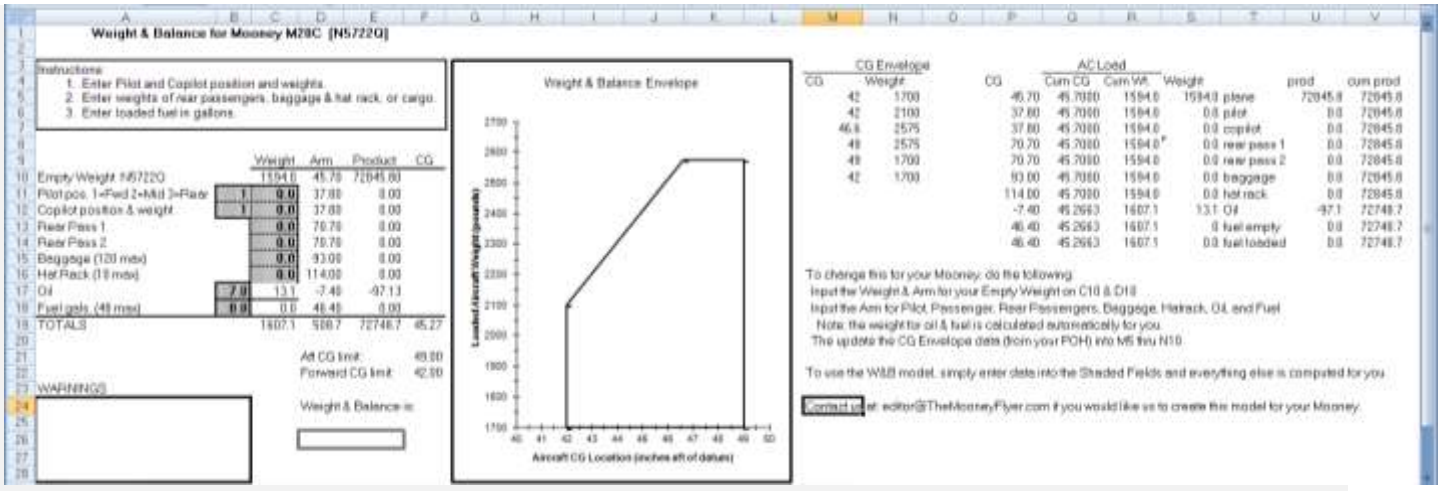
or windmilling, it is another source of drag, so **pull the prop all the way back**. I believe the glide ratios in most POHs assume the prop is pulled. And don't forget to **fully retract your flaps**.

Seems like a lot to remember, and it is. So the best way to deal with this is to ingrain it in your head and possibly to make yourself a checklist.

Weight & Balance Calculator

We continually strive to add useful tools for subscribers of The Mooney Flyer. This past month, we added our website, www.TheMooneyFlyer.com and also added a list of places and contact information for parts. We also have our Appraisal Form for estimating the value of your Mooney, as equipped. Now we are introducing a Weight & Balance model which you can download and easily customize for your Mooney. Instructions are included. If you are not knowledgeable in Excel, simply click on the link, supply the W&B information for your airplane, and we will email your customized W&B calculator.

Once setup, you simply enter the weights of 1-4 souls on board, the weight in your baggage and hat rack areas, the amount of oil (in quarts) and amount of 100LL (in gallons) and the model will show you where in the envelope (or not) that your Mooney is. There is even an alert box that highlights if you are NOT in the envelope.



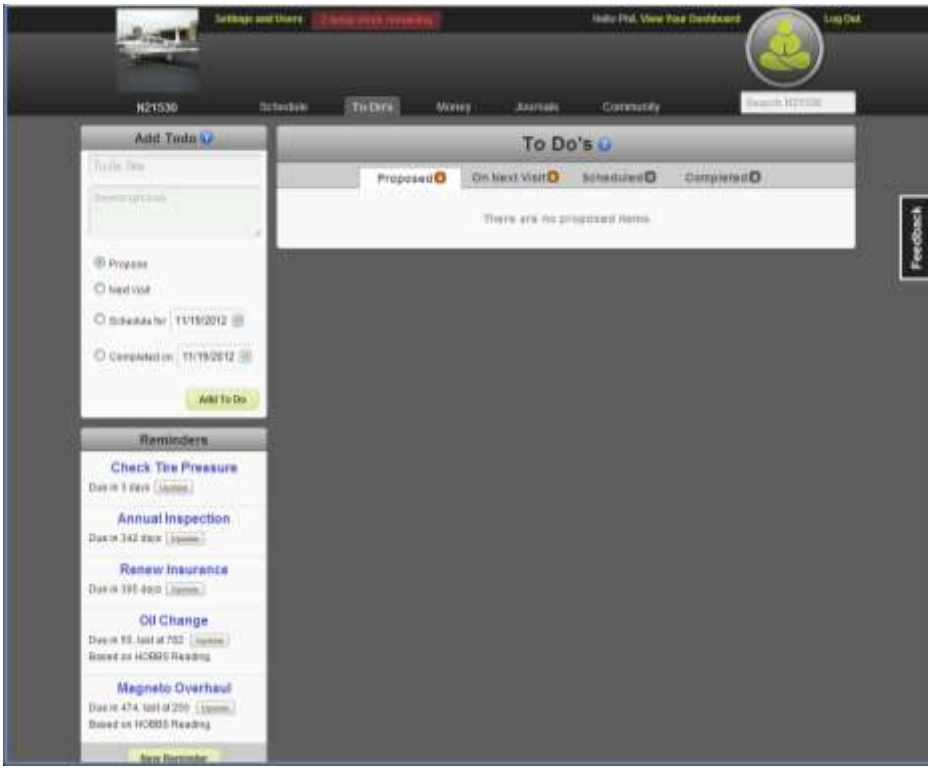
Appraise Your Mooney's Value

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

www.ShareZen.com

This is a nifty website and it's free. It's particularly useful for tracking costs, keeping track of "**Things to Do**", based on either Calendar time or Tach/Hobbs time. It even supports a **Journal** feature that lets you write notes on your aircraft that are time-stamped.



If you are sharing your aircraft, or in a club, then Sharezen shines even more, as each pilot can review and enter items and the results are shared with everyone. This is great for maintenance items, like changing oil and filters, etc.

For Things to Do items, Sharezen will send an email to you when that item is due. I set my Oil Change to every 35 hours on the Hobbs (or Tach) and it sends a reminder when that is due. You can also enter dates instead of flying hours for items to be due. It's useful for 1 owner and 1 pilot, but it really shines when you have people sharing as anyone can enter information which is then available to all users. Give it a try. It's free.

Happy New Year! Thanks for your efforts on behalf of the Mooniacs. Your publication is really great. Much appreciated.
Vincent Dunn

A Mooney pilot and friend of mine, Tom Campbell, did the attached production breakdown of Mooney's from 1948 to 2008. Thought you or your readers might be interested.

Lloyd Babcock, Ovation N2157L

Mooney Aircraft Production

1948 - 2008

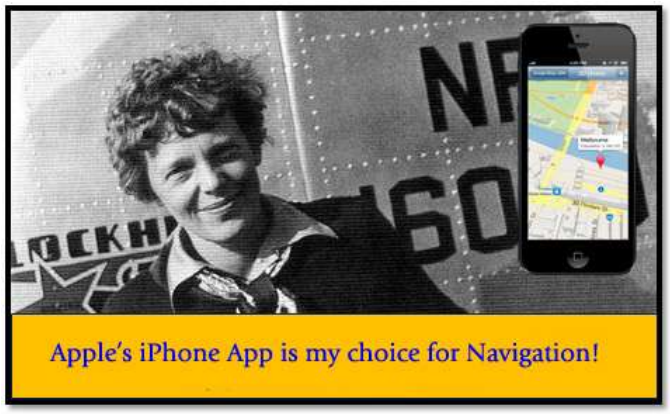
Model	Name	Years Built	Number Built
A2-A	Cadet	1968	38
M10	Cadet	1969-1970	59
M18	Mite	1948	11
M18C	Mite	1950-1955	157
M18L	Mite	1949-1953	126
M19	X499M (counter-liaison)	1951	1
M20	Mark 20	1955-1958	200
M20A	Mark 20A	1958-1960	499
M20B	Mark 21	1961	223
M20C	Mark 21/Ranger	1962-1978	2,199
M20D	Master	1963-1966	160
M20E	Super 21/Chaparral	1964-1975	1,478
M20F	Executive	1966-1977	1,246
M20G	Statesman	1968-1970	190
M20H	(engineering prototype)	1978	1
M20J	201/205/MSE/Allegro	1977-1998	2,134
M20K	231/252/Encore	1979-1990, 1997-1998	1,155
M20L	PFM	1988-1990	42
M20M	TLS/TLS Bravo	1989-2007	356
M20R	Ovation/Ovation2/Ovation3	1994-2008	518
M20S	Eagle/Eagle2	1999-2003	67
M20T	Predator	1991	1
M20TN	Acclaim	2006-2008	126
MT20	TX-1	1982	1
M22	Mustang	1965-1970	36
M22	Mark 22 (twin engine)	1958	1
M30	301	1983	1
		Total	11,026

Super presentation with so much interesting material. Keep up the great work.
Cheers, Don Rowling

As Emo Phillips used to say in his comedy act- "We have a winnerrrrr" This month's Mooney Flyer once again transcends the "footless halls of space" to bring us all another great installment. It only keeps getting better. Thanks!

On another note, for those of us with the "older" C and D models (and maybe Fs) we have a situation whereby Mooney has no prop or throttle controls available. With my D model in annual right now I have a need to replace the 48 yr old prop control cable. Having exhausted my options of a "factory made" cable I have embarked on the "owner produced part" avenue. Yes, it is legal (FAR 21.303)(d)(2). I have worked with the FAA KSDL to verify the correct procedures. Do you think an article here would be interesting? Keep your knots up!
Cliff Biggs

We discovered a new company, Plane Poop, this past month. Yeah, Poop is an acronym for Pride of Ownership Products. Dean Ritter, of BatteryMinder fame, is a founder. These guys make high quality stuff. We're talking about cosmetic touches like yoke medallions, seatbelt buckle appliques, fuselage nameplates and other "bling things" for your baby. Items you can no longer get from the original manufacturer and haven't been able to find anywhere else.....items that are made better and look better than the originals. We sampled a Mooney logo for our yoke and it is really nice. Where else can you do anything on your Mooney so inexpensively. For a limited time, you can buy a pair of Mooney medallions for your yoke at $19.95 instead of $24.95, just because you are a reader of The Mooney Flyer. Click on the Poop to visit their website.



Send us your Caption

And There I Was

A tale of a stuck landing gear on an M20C

by CG Lee

CG Lee is a CFI, ASMEL with 10,000+ hours, 5000+ in Mooney. He learned to fly in a Tiger Moth in England while he worked as an apprentice at The DeHavilland Aircraft Co. at 16 years of age. He has been instructing for 35 years.

Geoff bought is first Mooney Executive in 1968. He has owned 3 Mooneys since and claims “you can’t beat ‘em”. His current Mooney is a 1979 K, N231DV, which he has owned since it was new. He converted it to a Rocket. Geoff used to write the Rocket Newsletter.

It was a beautiful day to fly, returning home from a great lunch in my students '66 E model, an immaculate manual gear Mooney. I was in the right seat kibitzing as usual.

We commenced the 45 entry to runway 32 at E16, the gear lever was unlatched from between the seats and moved forward and up toward the latch point at the base of the instrument panel. It only got halfway and then stuck completely. We were both heaving mightily upward on that miserable lever. We could lower the handle back to the gear up position but only move it halfway to the gear down and locked point. Increasing throttle and departing the traffic area in a climb was the next move.

I took over the flying task while the owner manhandled the gear lever. I surmised that applying some G loading might encourage the gear to swing out, so I commenced a descent and executed a"sharpish" pull up while the owner took both hands to the gear lever...no luck there.

The next thought was same trick but executed with a slipping maneuver such that air loading would be applied to the nose gear door. This demanded a slip to the right; "top rudder" applied to the left foot.

The significance of this effort will be revealed...but the gear was still stubbornly resisting deployment.

The next maneuver, in retrospect, could be taken from a Laurel and Hardy movie. The owner decided that he would exit from the left seat, climb into the back seat...in which was my wife, holding his dog, and get both his feet against the gear lever while I performed the G/ slip maneuver.

This is a C model, short body Mooney, and very tight, but with a move that Houdini would have been proud of, he got into the rear seat squashing woman and dog to one side.

So here I am, performing high G, cross controlled slipping maneuvers with an aft C of G condition, and a guy pushing mightily with both feet on the gear lever. It didn't work. We flew quietly for a time gathering thoughts and deciding which airport would be best for executing a gear up landing.

I inquired of the owner if he had had any landing gear work done recently. The answer was negative but the nose gear door linkage had been adjusted to close a small door gap evident upon retraction. Contemplating defeat and a noisy landing, it crept into my feverishly working brain that, whereas in most retractable gear aircraft the nose gear steering linkage has a definite disconnect from the rudder pedals upon retraction the Mooney gear does not completely disconnect. There is a modicum of nose gear movement with rudder application evident even when the gear is up.

I had been slipping to the right with attendant full left rudder...I slipped to the left, right foot fully applied to the pedal, and the gear handle moved forward to the down and locked latch with no problem.

Now happily on the ground, inspection revealed that the nose gear deployment had been inhibited via the pivot bolt head on the strut "knee" joint coming into contact with the gear door to a degree that it cut a groove in the door almost all the way through the metal skin of the door.

The harder we pushed on the handle the tighter it got. Any pressure on the right rudder, ala the right slip, more firmly lodged the gear by slight rotation of the nose gear thus embedding the bolt head further into the door. Applying pressure to the left pedal rotated the gear just enough to pull it loose from the groove.

Moral of the story is, if the gear sticks up, fully deflect the rudder pedals before performing all the other recommended procedures. On C models and others examine the inside of your nose gear door or doors for any kind of marks suggesting contact with the gear assembly. 'Twas potential for excitement! The problem can be exacerbated by excessive wear on the nose gear pivot and steering horn bushings. Ensuing play in the nose gear allows some side to side play in the assembly.

The subject aircraft had excessive wear on both bushings and exhibited "generous" side to side

movement of the strut when on jacks. The pictures reveal clues where missing paint areas on the gear leg are an indication of door contact during retract and extend of the nose gear.

Keep your nose low!

Bounce…..Bounce…..Bounce…..Bang!

Results of Factory Flight Tests Investigating Prop Strike Incidents on Landing

By Bob Kromer
Mooney Factory Engineering Test Pilot 1983-1986
Mooney Executive VP and GM 1986-1991

Prop Strike Incidents Prompt Action

In the summer of 1985, the Mooney factory was hearing of a rather high number of prop strike incidents during landing from the operators of a number of different model Mooneys. The warranty/service group brought the issue to the engineering flight test department for investigation. As Mooney's engineering test pilot at the time, I was asked to conduct a number of test flights using the M20J flight test prototype aircraft to explore the issue and make suggestions. The test results we obtained are of high importance to all Mooney pilots and are as relevant today as they were in 1985. This article will discuss the flight tests performed and will present suggestions to keep you and your Mooney happy and under control on the runway during landing touchdown and rollout.

Your prop will look a lot like this after you bounce your Mooney onto the runway

Not the Airplane's Fault

The first concern was with the geometry of the Mooney nose landing gear and the diameter of the propellers used. We know that Mooneys do not have an abundance of prop tip ground clearance. Unlike a Cessna or Piper, the prop tips of all Mooneys come pretty close to the ground when setting on the runway with the gear down. For that reason, we don't fly the best airplanes for grass or soft surface operations. Put the rather stiff Mooney nose gear into a hole or depression on a soft field during taxi or takeoff and the prop can hit the ground. To help, factory flight testing revealed that using full aft wheel (nose up elevator) during ground operations is a must for any Mooney being operated on soft surfaces. We discovered doing so can add the equivalent of 1 inch of prop tip clearance compared to taxiing around with the control wheel and elevator left in the neutral or trail position.

But prop tip clearance by design was not the issue with the landing prop strike incidents being reported. These were more indicative of wild rides down the runway after touchdown. Each incident was described by the unfortunate pilot similar to this: "I touched down before the airplane was ready and it

bounced. Because the runway was short, I gently pushed the control wheel forward in an attempt to put the airplane back on the runway. It hit hard and bounced again. I pushed again, this time firmly to get the airplane back on the runway. I couldn't believe it, but it bounced a third time. I was getting desperate to get on the ground and stopped, so this time I pushed really hard. It was after the third bounce and push that the prop hit the runway". Because many of these incidents had a similar story, we started to call them "Bounce and Bang" landings.

Pushing Never a Good Idea During Landing Close to the Runway

Part of the solution seemed obvious. No general aviation airplane with a nose gear, even one with a lot of prop clearance, should be forced onto the runway with forward pressure or movement of the control wheel. That's a no-no, especially with a Mooney. Combine the Mooney's 1) small prop/ground clearance, 2) a powerful elevator at landing speeds and 3) a relatively stiff nose landing gear and the chances of getting into a "Bounce and Bang" landing incident is significant.

It's easy for the pilot to get quickly out of sync with the bounces, pushing at exactly the wrong times. The result is a PIO (Pilot Inducted Oscillation) of such magnitude that the pitch angle of the airplane gets high enough in the nose down direction that the prop can strike the runway. In the test airplane, I purposefully experimented with this scenario (pushing on the control wheel after a bounce) and found it was easy to quickly get a nasty result. Instructors teaching anyone to fly a Mooney should emphasize to refrain from pushing forward on the control wheel during the landing process. A go-around is a much better option than attempting to force the airplane down onto the runway. In a Mooney, a prop strike incident can be just one wrongly-timed push away.

It All Starts with Proper Approach Speeds

Of equal interest to us in flight test was why the airplanes reporting prop strike incidents were reluctant to stay put on the runway after initial touchdown. Mooneys generally aren't "bouncers" like airplanes with spring steel or oleo-strutted landing gear designs. Once on the ground, they tend to stay there. But one thing we knew from landing distance testing was the Mooney design does best with approach speeds kept at recommended values. 10, 15 or 20 extra knots (or MPH) of approach and touchdown speed might be okay in a Cessna or Piper (but doubtful). But in a Mooney, that excess speed results in an airplane that 1) could float and float (efficient high aspect ratio wing in ground effect), 2) if forced onto the runway, might rebound and bounce back into the air (stiff gear) and 3) even if you force it on the ground, braking action may be poor because there is very little weight on the wheels (wing lift due to excess airspeed). We saw several Mooneys return to the factory for service with bald and flat spots on the main gear tires. That's a giveaway of pilots landing with excessive airspeed. Without weight on the wheels due to excessive touchdown airspeed, activating the toe brakes would lock the wheels and tires, flat-spotting them. In addition to flat-spotting the tires, these pilots were also candidates for a potential prop strike incident.

So What is the Proper Approach Speed in a Mooney?

The easy answer is "The ones shown in the Pilot Operating Handbook (POH), Owner's Manual or Airplane Flight Manual". In researching this article, I looked at Mooney POH's and Owner's Manuals dating back to the one for the original Mark 20A. Each POH or OM contained recommend approach speeds for normal and short field landings, even for the very early airplanes. Clearly, from the very earliest days, the test pilots at the Mooney factory found it important to adhere to those speeds for pleasant and manageable landing characteristics and results.

So where do these recommended approach speeds come from? During development and certification flight testing, factory test pilots determine optimum approach airspeeds shown in the POH. They do it using this typical flight test technique: 1) they first determine indicated stall speed for gear down, flaps down, power off at maximum gross weight (Vso); 2) they multiply this Vso speed by 1.3 to get an indicated reference approach speed (Vref). This is the speed used in smooth air at 50' above the runway in the landing configuration when conducting landing distance testing; 3) conducting multiple approaches at Vref, if the test pilot determines the airplane feels good and doesn't require above average pilot technique, then Vref (1.3Vso) is the speed that will be shown in the POH for the recommended approach speed. If the test pilot judges a bit of speed must be added for gusty conditions or more positive aircraft control, then an adjusted speed slightly above Vref will be presented in the POH. ***Regardless, the approach speed shown in the POH, Owner's Manual or Airplane Flight Manual is the speed that must be used to duplicate published landing distance performance and ensure satisfactory handling qualities on the approach, during the landing flare and throughout the landing rollout.***

Adding to Approach Speeds Shown in the POH

Certainly, in wildly gusty or turbulent conditions, it might be wise to add some speed to the recommended approach values in the POH, especially if runway distance is not an issue. But in normal conditions, pilots will find the test pilots before them did their job well if they adhere to recommended approach speeds in the POH. Nailing this speed at 50' above the runway should be the goal on every Mooney approach and landing. Too slow and the airplane could feel mushy and sloppy. But too fast and a Mooney can float….. and float……and float, finally touching down well past the intended point on the runway. Adding to the float could be an airplane light on the wheels with greatly reduced braking action. All of this is not good if landing on a short runway.

But most importantly, the Mooney that is approached at an airspeed well above Vref could be in the unfortunate configuration to "Bounce and Bang". It's a terrible feeling to be at the controls of an airplane seemingly out of control and bouncing down the runway, pushing when you should be pulling. All of this can be avoided with strict airspeed control when crossing the runway threshold. Mooney pilots should modify the "GUMP" check at 50' above the runway to "GUMPA". That's *Gas, Undercarriage, Mixture, Prop and* ***Airspeed at POH recommended value.***

Nailing the proper POH approach airspeed at 50' should be a point of pride with every Mooney pilot. Doing so ensures you are operating your airplane the way it was designed to be flown. As an owner-pilot, there is no greater indication of professionalism than operating your airplane just like the test pilots did before you.

Mooneys in the Mountains

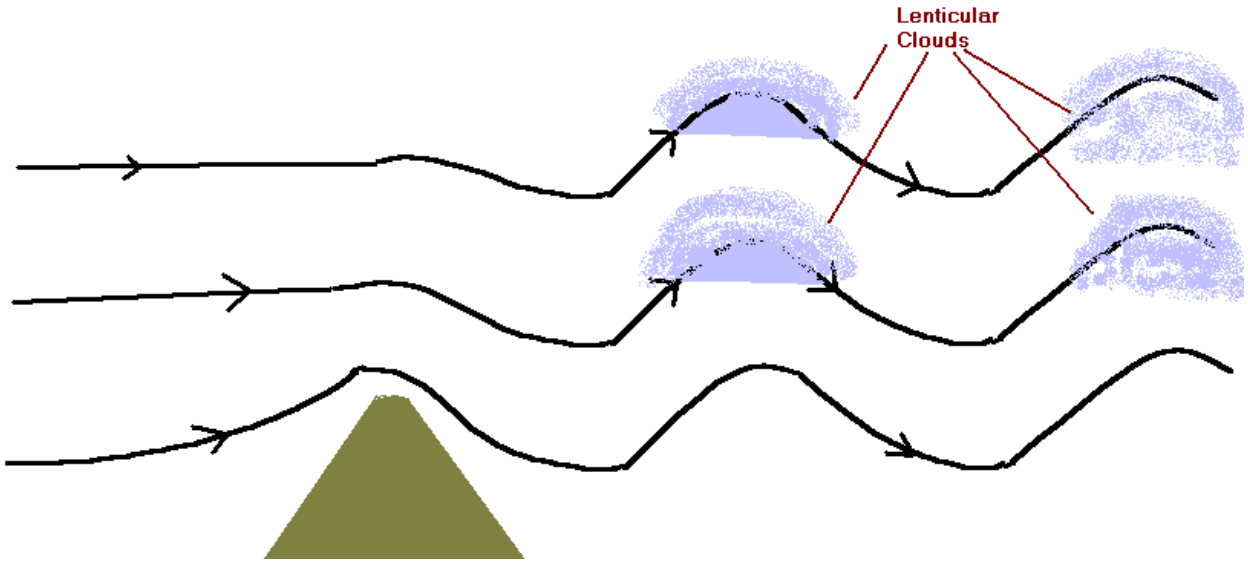
Our Mooneys were made to takeoff, climb, and then get you to your destination faster than anyone else and using less fuel. Occasionally we are not in a hurry. I know, don't send letters to the Editor about this heresy, but honestly, sometimes we just want to see this wonderful planet of ours from a few thousand feet. Mountains are a beautiful and sometimes unforgiving place. They have winds, and gusts, and weather, and few reporting stations, not to mention, not a lot of landing spots. But they can be beautiful to fly over if you are trained and the weather is cooperative.

Navigation

Normally when we flight plan for Mooneys, we pick routes that keep us close to a direct route to our destination. Clearly things like weather and terrain play a significant factor in route planning. When you

want to take your Mooney into the mountains and enjoy the view, it is very rare that you will be able, or maybe even want, to fly a direct route. Mountain routes usually follow drainage instead of those direct routes. Preflight planning in the mountains must include a familiarization with the drainage. It's imperative, also, that you figure out upstream versus downstream. Inadvertently flying upstream is also bringing you into higher terrain. That is not bad, but it can be if the terrain is out climbing your Mooney. Flying downstream, you just won't have that issue. So you are flying in a canyon and you start to hit some wind. It's important to know what direction the wind is coming from. Why? You ask. Because wind behaves like water, and as it blows over one side of the canyon, it falls/descends into the canyon. But what goes down, must go up. So the other side of the canyon most likely has an updraft. Fly that side. So what do you do on a day with calm winds in a canyon, when you want some uplift? Easy. Fly the sunny side. In a calm wind, there will probably be some nice uplift from convection.

You must become aware of what a **Mountain Wave** is and how they are formed. There are several circumstances. One is that the wind is perpendicular, or within 30^{o} of the mountain ridges. The second is if the winds are 20 kts or greater near the peaks. The third is either a stable air mass layer aloft or an inversion below about 15,000 feet. Once again, you can visualize the air, like water rapids flowing over rocks. The trouble with mountain waves is they can go for 50+ miles downwind from the ridges. So you must know your wind very very well.



There is one type of wind that should be avoided at all costs. We all know to avoid thunderstorm convection. It's always good to stay on the ground or fly at least 10 miles away from any cell. In the mountains, thunderstorms should also be avoided. But another type of wind that should be avoided is lenticular clouds. These clouds tend to remain stationary, so they don't seem to be a threat. But the winds in and around them are sure to provide you with severe or worse turbulence. Remain clear of these at all times. A bad situation also occurs when the wind is there, but there is not enough moisture in the air to form the Lenticulars.

Arriving and Departing in the Mountains

It's best to know your airport very very well, when landing or departing in the mountains. Most often, you are not going to be flying a standard pattern. More likely, you will follow the terrain and then voila, there's the landing strip. Knowing your landing strip is crucial. Plan for 250 ft per nautical mile descents and 100-200 ft per nautical mile for departures. The wind can drive your performance here, so make sure you know your Mooney's climb performance in calm winds, and then adjust for conditions. Remember, when you are planning these numbers, they are based on **ground speed**, and not indicated airspeed.

On departure, plan for Density Altitude. Your airport may only be 4000' MSL, but on a warm day, that could easily double to 7500-8000'. Plan for an extended takeoff run, lower climb rate, and lower engine performance. When planning for degraded engine performance, you can use this rule of thumb: You lose 3.5% of engine power per 1000'.

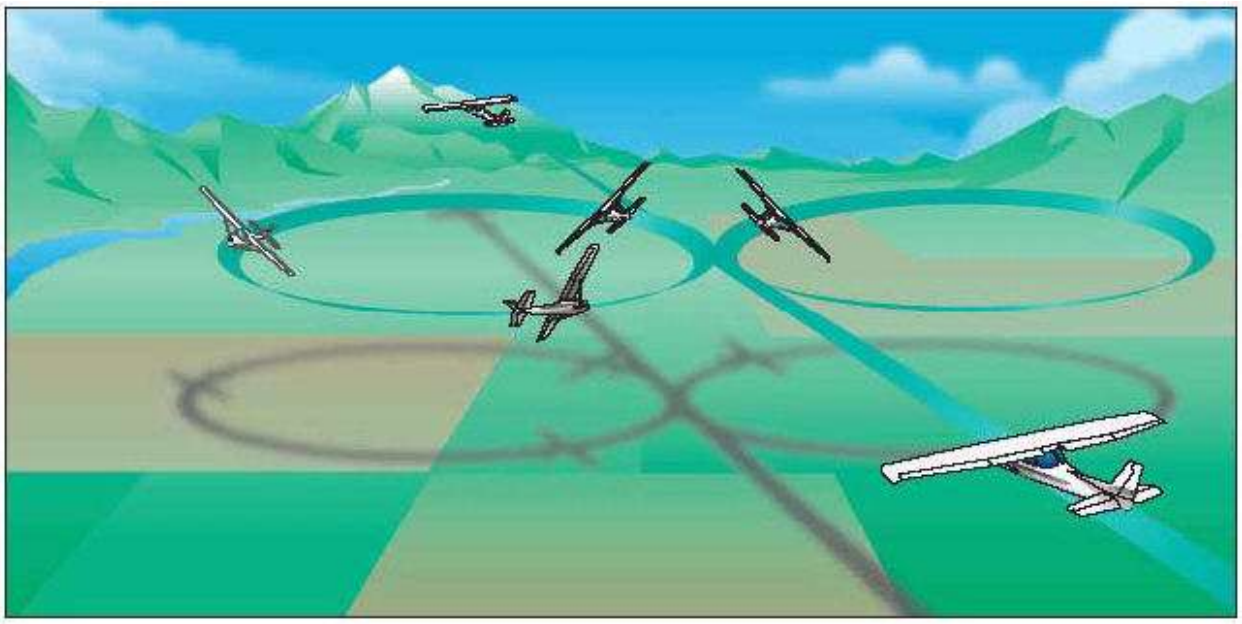
Weather in the Mountains

Sparky Imeson used to have a rule of thumb. If the winds at the peaks of your mountains are 20 kts or greater, change your arrival and/or departure to another time. Winds are often the most favorable in the morning and late in the day. This is just another rule of thumb. Your wind may vary. Figuring out your wind direction is trickier in the mountains since some landing strips do not have any reporting or

windsocks. You need to hope for someone on the radio who can advise you, or you need to read the wind yourself. If you are in the vicinity of a lake, the calm part of the lake is upwind. That is nice to know. You can even get a gauge on the speed. Whitecaps begin forming at around 10 kts. And finally, whitecaps appear to move upwind.

Clouds and ceilings also become far more important in the mountains. Rising air on upwind facing slopes often causes clouds and precipitation. Descending air tends to dry out. So, again, if you know the winds, you know where to look for clearer flying while in the mountains.

So imagine that you are caught in a nasty downdraft, what should you do. If you are flying into rising terrain, here are your considerations. First, consider executing a 180° turn. You need to balance your airspeed in this maneuver very perfectly. Turning radius increases with the square of your speed. And at the same time, your stall speed increases with increasing bank. Your turning radius at 70 kts is approximately 436 ft. At 140 kits, it's 1774 ft! That might be the difference between success, and camping in the mountains with your wrecked Mooney.



If you are in descending terrain, you may be able to fly through it. But here's an important thing to remember in this situation. If you have the altitude, then pushing the yoke and increasing your airspeed is the best solution. It will minimize your time in the descending air. Generally speaking you will lose less altitude by diving out of it.

Approaching a Ridge

We've all been taught how to cross a ridge. Enter it at a 45° angle so you'll only have to turn 90° if you hit a downdraft. When approaching a ridge from the upwind side, you are going to encounter a nice updraft to lift you over the ridge. This is the easiest. When approaching from the downwind side of a ridge, you'll encounter a downdraft, and depending on the wind speed, some turbulence. So, carry a little extra altitude in this second case.

In an Emergency

So stuff happens! If you find yourself having made an off field landing in the mountains, here are a few things to know. Most survival-to-rescue times are less than 72 hrs, especially if you filed a flight plan or let others know your plans. At the AOPA Summit, we learned about the Rule of Threes:

- Gain a positive Mental Attitude in 3 seconds
- You need air within the first 3 minutes
- You should have shelter in the first 3 hours
- Water in the first 3 days
- Food in the first 3 weeks

Before that emergency, you should have prepared at least the following:

- A 406 Mhz ELT or Personal Beacon
- A survival vest. Yes, you read that correctly. A survival pack in the cargo compartment is camping gear. Your survival gear is in your vest. Ensure it has a first aid kit, matches, mirror, PLB, utility knife, etc. Go to www.preparedpilot.com for a more thorough treatment.

Links

Mountain Flying Bible by Sparky Imeson: www.mountainflying.com
McCall Mountain/Canyon Flying LLC: www.mountaincanyonflying.com
Mountain Air Dance LLC, Helena MT: www.mountainairdancellc.com
Middle Fork Aviation, Challis, ID: www.middleforkaviation.com

Send your questions for Tom to TheMooneyFlyer@gmail.com

What are the best settings to run my engine for climbout, cruise, and descent in regards to maximizing my engine life?

This question gave me some problems trying to figure out how to answer. We are dealing with a wide range of engines from the early O-320, and the widely used O-360 to the big TIO-540-AF1B, in the TLS.

To go with all the different power settings would take pages and for those that follow the chat page, would be challenged for every setting by everyone with their own procedures and lead to more LOP/ROP "discussions".

I think for those who don't know much about me, a brief resume is in order. I spent 26 years in the Air Force and retired as an Aircraft Maintenance Superintendent with about 19 of those years on B-52's. After retirement, I worked for about 8 years at a Mooney Sales Center as Director of Maintenance, and started Top Gun in 1989.

When I was a Crew Chief on a B-52, we had a Service Manual to work by, like we have for all GA aircraft, only it was called a "Technical Order". I want to emphasize the word "Order". Here's a short story to show that the word "order" was exactly that.

One day I had my B-52 in the main hanger for gear work, and just behind that hangar was the fuel cell dock where they had just finished fuel cell repair on a KC-135 and were ready to pressure test the tank for leaks. The procedure called for using a pressure gage and testing to about 1.5 PSI. They didn't have the gage handy and sent an airman to get it. In the meantime, The Technical Sergeant in charge decided to go ahead with the test and almost blew the left wing off the aircraft. Investigation revealed it blew at about 15PSI. The Technical Sergeant was prosecuted under Article 15 for disobeying an Order (Technical Order). PS: To repair that tank, they shipped in a wing for a 707 and put it on the KC-135. The left wing was about two feet longer than the right.

Back to the question, because of my background, as an AP/IA, I try to follow the manufacturer's tech data, especially the Mooney Service Manual and POH. I tend to go with the power charts and procedures in the manuals. The main problem with the GA industry is the tech data is not updated and we work with manuals 40 plus years old so we have to use some common sense when something in an old manual is outdated. I also believe that the people that build the engines and airplanes give methods to operate the engines with the majority of pilots in mind. In other words, "read the book".

In general, I feel that for "climb out", that a cruise climb setting is best for the engine. It definitely is the best to keep CHT as low as possible, and, in my opinion, of all the temps, CHT is the most important.

Cruise settings can be a wide range, depending if your object is to get there the fastest or the most economical. I know many owners fly LOP and depending on the engine, that's fine. Myself, I preferred

speed, so mostly flew at 75% power. The one thing I believe in is keeping CHTs in the recommended range as well as keeping them out of the redline. The little red book that comes with all Lycoming engines has some very good basic data on temp ranges. TCM (now Genuine Continental) has a full sized manual with their engines that also has good data. In regards to descent power settings, it is more important on turbocharged engines to keep the CHTs in the green when reducing power.

With all the new multi probe engine monitor systems we have today, there is no reason not to control temps which is the most important thing you can do for the longevity of your engine. Spending some time with the manuals that came with the engine and the airplane is time well spent. While we spend most of the time keeping CHTs low, I believe that running too cool can have negative effects. That's why car manufacturers put thermostats in their engines to maintain optimum temps.

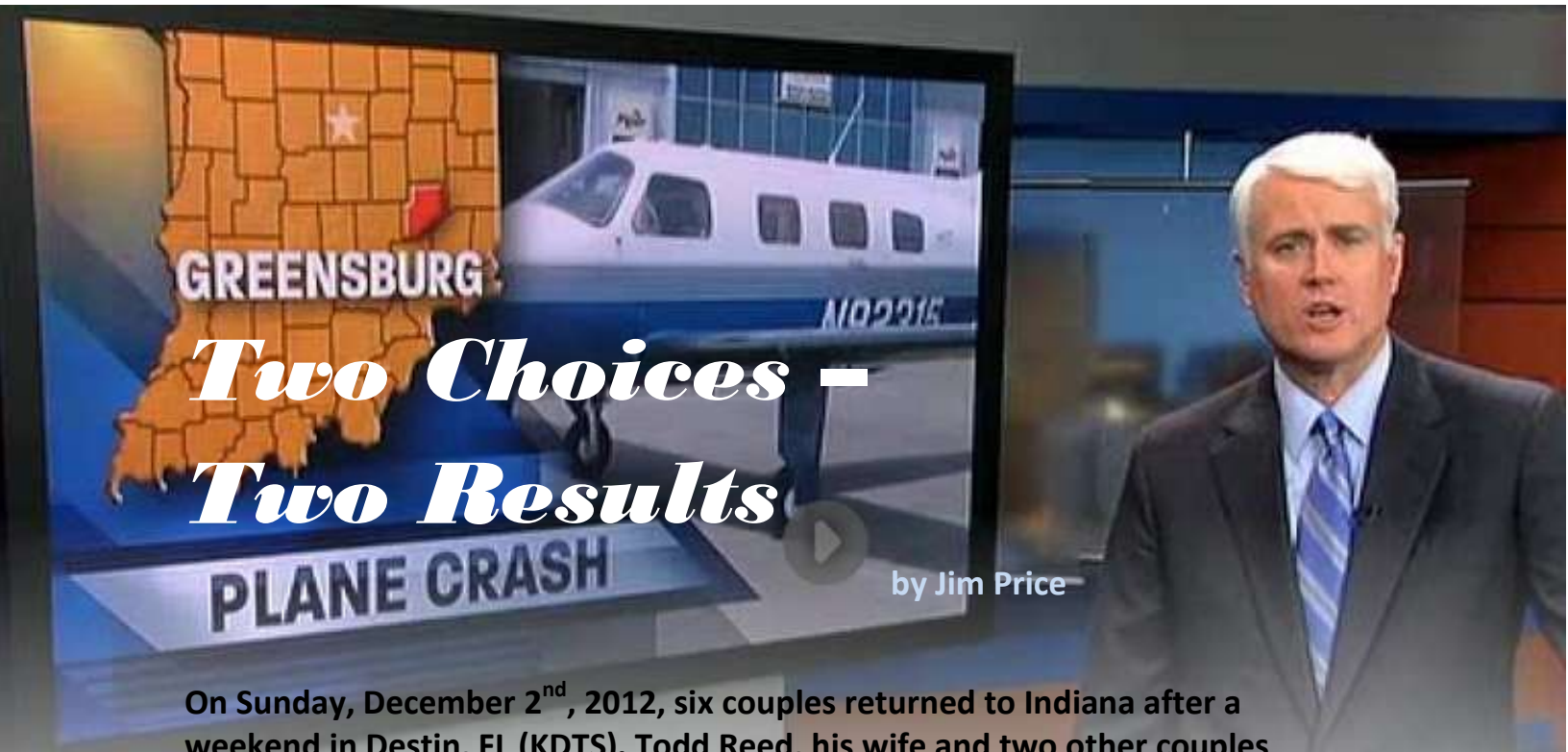
Since the question was really about extending engine life, I want to make some other points.

When starting a very cold engine or one that hasn't been run for a long time, let the engine warm up and run for a while before going to full power. This provides additional time for oil to get to the camshaft and lifters, especially on Lycs.

Change oil often. We are seeing planes come in for Annual with less than 50 hrs in a year with the same oil we put in a year ago. You could just drain and put in new oil without changing the filter. We started changing oil in the TIO 540s years ago every 25 hours, with dramatic improvement in oil consumption. While that engine requires a little more TLC, changing oil every 4-6 months or 35 hours can only be a benefit. Both engine manufacturers recommend "pickling" an engine sitting over 30 days and almost no one does it.

Engine maintenance: Baffling condition, spark plug wiring, injector cleaning, and general engine maintenance will add many hours to the life of your engine.

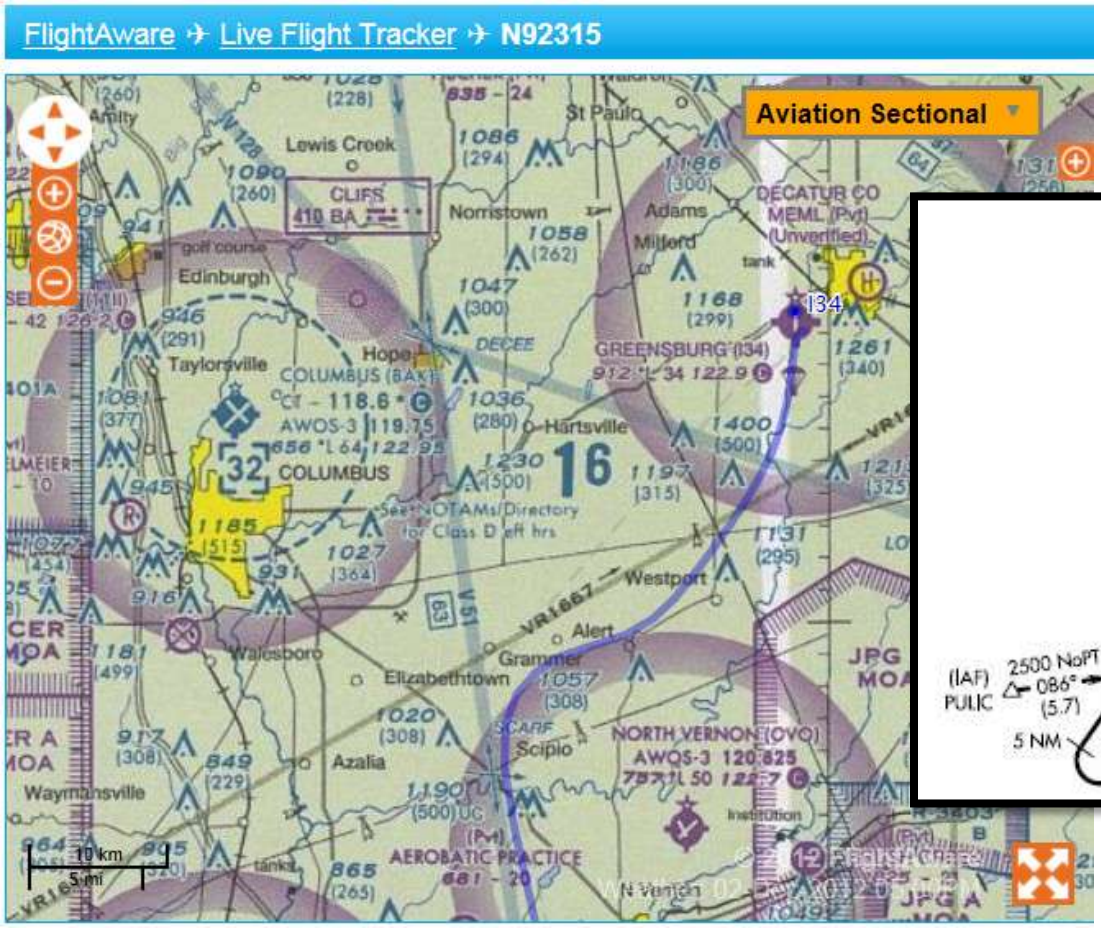
We do a fair amount of pre-sale inspections during the year, and it is amazing how many log books I have reviewed with year after year of Annual signoffs with no maintenance entries for those years. It does speak very well of the soundness of the Mooney in that it flies well even when neglected and still very safe. For an aircraft mechanic like me, I want to fix everything; and for the owner, who would like to fix everything but has to balance a checkbook, we have to find the middle ground to have a safe plane but somehow cost effective. Very challenging as the planes age and the economy, well that's another discussion.



Two Choices – Two Results

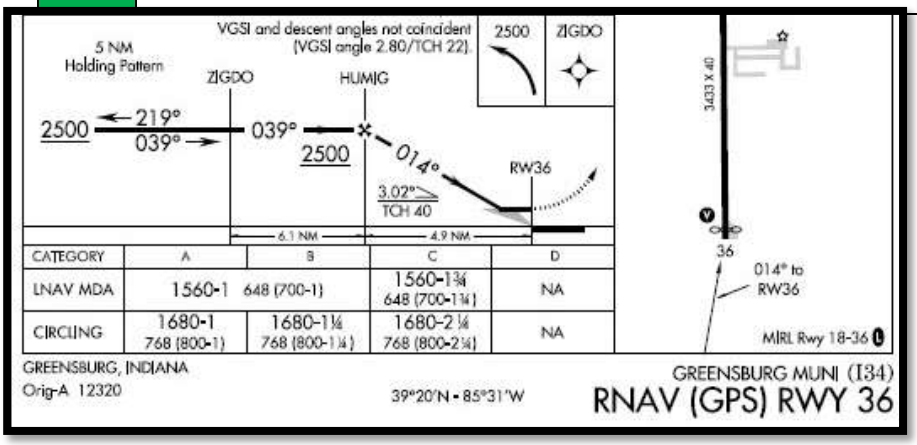
by Jim Price

On Sunday, December 2nd, 2012, six couples returned to Indiana after a weekend in Destin, FL (KDTS). Todd Reed, his wife and two other couples departed Destin for Greensburg, IN (I34) in his aircraft. Then, Bob Horan and his wife, along with another couple departed for their three hour flight home in their new, 1993 Piper Malibu Matrix. Reed found the weather at I34 to be ¼ mile drizzle and fog. He "shot" the RNAV (GPS) Rwy 36 approach (which requires 1 mile visibility). He could not see the runway, so he accomplished a missed approach, diverted to Columbus (KBAK), 18 nm West, and successfully landed. (Columbus has an ILS approach, control tower and longer runways).



Forty-five minutes later, after Reed had diverted, Horan, facing the same weather situation, tried the RNAV (GPS) Rwy 36 approach at Greensburg. A few minutes later, all four were killed when Horan's Piper Malibu Matrix PA46-350 crashed in an area 1 ½ miles south of the runway. Flight Aware stopped tracking the Horan's Malibu at 6:19. What do we know about the crash and are there any red flags?

No problem	Could be a problem	Big Problem
	The accident occurred about an hour after sunset, which was at 5:15 pm. Flying at night is more difficult.	
	The runway lights are pilot activated (by NOTAM).	
	There is no record that Horan activated the approach lights.	
	With no AWOS/ASOS at Greensburgh, pilots must obtain the weather from nearby Columbus' AWOS.	
	Horan had been flying for 5 years. We assume that he was current for night operations.	
		Horan had passed his initial instrument check ride a year earlier. We assume he was qualified and current to file IFR. Did this inexperience add to the stress of night and IFR? Undoubtedly.
		Horan bought his new 1993 PA46-350 just two months before the accident. Did inexperience in a new aircraft add to the stress at night and IFR? You bet!!
	The visibility was 1/4 of a mile. The approach minimums for the RNAV (GPS) Runway 36 require one mile.	
	It's a standard 3° descent from the final approach fix (HUMIG) to the threshold. Not an extreme descent.	



I have been an instrument pilot since 1971. I have 22,000+ hours and about 1,000 hours in actual instrument conditions. Air Force and Airline pilots are forbidden to attempt an approach unless the required visibility conditions are met. Can Part 91 pilots fly an approach when the reported weather does not meet the approach requirements? Yes. They can do it all day and all night. However, I have found that following what I learned in the professional world has always served me well.

The FAA's Personal and Weather Risk Assessment Guide encourages all pilots to establish a personal minimum. For instance, if a pilot is rather new to instrument flying, it might be prudent for the pilot to add ½ mile or more to the published approach visibility.

The FAA has never and never will suggest that pilots fly approaches when the weather is below the required visibility. The risks are just too great. In addition, if a pilot is new to an aircraft, personal minimums need to be increased until he or she has a lot more time in the aircraft!

Two pilots. Same way, same day, same conditions. Two choices. Two very different results.

The Olympic Peninsula

by Linda Corman

Here we go on another adventure from the right seat. This time we decided to travel to the great northwest, the Olympic area of Washington State. After a beautiful flight we landed at Port Angeles on the north side near Vancouver Island. As we were entering the pattern to land at Port Angeles we saw another Mooney just ahead of us. After exchanging nice words about each of our airplanes we landed and taxied to the fuel pumps. We met the other Mooney's crew and found that they lived in the area. Dave and Barb Boerigter were kind enough to recommend places to go and things to see while there. We left them at the airport not knowing that later they would become really great friends in our hour of need.

We checked into our hotel in downtown Port Angeles and proceeded to Hurricane Ridge, in the Olympic National Park. This particular trip was in the month of August so of course we were surprised to find the top of the mountain covered in snow. We waded through the snow to the overlooks that had panoramic views of Port Angeles, Vancouver Island, and all the smaller islands in the Puget Sound.

After hiking around a mountain top all day we decided to head for town to get a bite to eat. We drove to the harbor area and found a nice seafood restaurant called the Downriggers on the water, great views of the ferries coming and going to Vancouver Island. That's when we decided to take the ferry the next day to see Victoria on Vancouver Island. It was a good thing we always carry our passports.

The next day we lined up at the ferry harbor for our tickets and a scan of our passports. The ride over to Vancouver Island was a little longer than I thought but watching the sea lane traffic go by was enjoyable. We arrived at Victoria Harbor and it was as beautiful as all the pictures I've seen. The Empress Hotel and the Parliament buildings are right at the harbor and an easy walk from the ferry. In fact we walked the whole town, almost. The sites and the buildings are wonderful. Loved the shopping and came home with good stuff. We stopped to eat at a very French restaurant called Bon Rouge on Courtney Street which had very good food. Going back on the

ferry was no problem as the weather had improved over the day and the water was calm. Re-entering the U.S. was painless as the lines were short and the staff very friendly.

The next day took us to the Olympic National Park and the Hoh Rain Forest. We drove west to Forks then south and east to make a large "C" as there is no direct road to the middle the peninsula. We hiked around the Hoh Rain Forest and saw some very interesting trees with hanging moss, very eerie looking. On the way back to Port Angeles we stopped at a few beaches on the west side of the peninsula and saw some sea stacks. For anyone who watched the trilogy "The Twilight Sagas" you would probably recognize the town of Forks and Rialto Beach from scenes in the movies.

Now this is where our journey takes a little turn for the worse. The following day we were flying to Friday Harbor for lunch when our plane decided to misbehave. On landing (or attempting to land) at Friday Harbor our throttle cable broke and we had to abort the landing and head back to Port Angeles with the idea of doing a dead stick landing there. All was uneventful and needless to say we landed without difficulty. We found a mechanic on the field who was a huge help and Phil started calling around to find us a replacement part. While he was doing that I called Dave and Barb and asked their advice on where to go and what to do while we waited for the part to come in. They were great! Not only did they have advice for us, but they invited us to their home for a BBQ and offered their home if our stay in Port Angeles was long waiting for the repair of our plane. What incredible people. The part only took a day to be found and replaced so we didn't need to impose, but it was nice knowing that their hospitality was available.

We did go to Port Townsend as we waited the next day for the part to arrive and be installed. Port Townsend is a very cute little town with a lot of history, cute shops and good food. I recommend a visit there if you have the time.

We had a wonderful time in the Olympic Peninsula thanks to Rite Bros Aviation, Inc. and Dave and Barb who saved the day for us. Mooney folks are usually wonderful, but Dave & Barb are even more wonderful!

This was a great adventure from the right seat and I hope you can enjoy some wonderful flights to beautiful destinations.

Down in the Boondocks

The GCO and National Clearance Delivery

by Jim Price

You find yourself at a God forsaken air strip and you're thinking that your Mooney's navigational system has transported you to the planet Tatooine. Perhaps you can communicate with Flight Service through a nearby VOR or Remote Communications Outlet (RCO). Nope. None of those around! You draw your cell phone and . . . No bars – no signal. Now what?

Perhaps the airport has a GCO or Ground Communications Outlet. But, you've never heard of a GCO and have no idea how it works! This is a relatively new technology that allows you to communicate with Flight Service Stations and Air Traffic Control (ATC) facilities for the purpose of filing, opening and closing VFR or IFR flight plans; obtaining weather briefings and IFR clearances. Airports like Petaluma, CA (O69) have have a GCO that uses a 2 to 5 watt VHF radio receiver to "ground link" through a modem to the Approach Controller, Center Controller, or Flight Service Station.

A GCO uses the airport's listed frequency (either 121.725 or 135.075). If you want to talk with ATC, click the mic four times. FSS can be contacted with six "clicks".

The system will ask you to click the mic twice if it is dialing the correct location. If it's dialing FSS and you want ATC, wait five seconds and start again.

When the briefer or controller answers, just communicate your needs.

There is a timer on the modem connection and if no voice is heard for sixty seconds, you'll hear, "timing out". Just key the mike once within three seconds, and that will give you another 30 seconds of air time.

If the system is not responsive, try repositioning your aircraft and locate to a spot with a clearer path to the antennae.

To terminate the call, click the mic three to five times while the frequency is clear. Wait six seconds before trying another call.

Using your Cell Phone

Flight Service

Everyone knows that you can call for a weather briefing or file a flight plan using the Lockheed Flight Service 800 number, 992-7433 (WX-BRIEF). However, few pilots know about the *National Clearance Delivery 888 number.* If you have already received a weather briefing and have an IFR flight plan on file, you can get an IFR clearance by calling 766-8267. I have used it and it works great.

IFR pilots should consider program this number into their cell phones.

PHIL CORMAN

Buying a Mooney

Here's what you want to know

Part 3, The Long Bodies (L-TN)

This is the final part of our three-part series on buying Mooneys. In part 1, we covered the short body Mooneys with the M20E our favorite. In part 2, we covered the medium bodies, and overwhelmingly, the M20J was the sweet spot. Many argue that the M20J remains the best price/performance airplane in the M20 stable.

In this final installment, we will provide you with the details and information to evaluate which Long Body Mooney might meet your mission. The long body models run from M20L thru M20TN.

The **M20L PFM** fuselage is 26' 9" long and sports a 217 hp six cylinder liquid cooled Porsche PFM 3200 N03 engine and was certificated in 1988. Gross weight was a meager 2900 lbs and cruised at 155 kts. The M20L was equipped with a single control lever with automatic mixture and pitch control. Production ended in 1990. Only 42 were built.

The **M20M Bravo** (1989–2006) boosted output initially to 270 hp and was also turbocharged. The M20R (1994–) started at 280 hp (210 kW) and was normally aspirated. The M20M was type certified on 28 June 1989 and was equipped with the 270 hp Lycoming TIO-540-AF1A or -AF1B. With 89 useable gallons and a 3368 lb gross weight, you could bring a lot of humanity very far at more than 214 kts, at about 18 gph.

One of the things I like in the panel, which is the same as found on my M20S, are the Moritz gauges. These gauges allow me to quickly see Manifold pressure, RPM, CHT, EGT, Oil Temp, and Oil Pressure in both analog & digital. V_{s0} is 59 kts, Best Rate of Climb is 1130 fpm, Ground Roll of 1080 ft, 2050 over a 50 ft obstacle are very useful in this big bore Mooney. You can cruise where only eagles soar, and in our opinion, the M lands very easily if you are on the numbers.

Introduced in 1994, the **M20R Ovation** mated a long body fuselage to a Continental IO-550-G normally aspirated powerplant of 280 hp. This model was named Flying Magazine's single-engine plane of the year in 1994. The M20R was type certified on 30 June 1994 and is equipped with the 280 hp (210 kW) Continental IO-550-G(5), -G(6) or -G(7) engine. The Ovation has a gross weight of 3368 lbs and can cruise at 190 kts (book, your speed may vary). The Ovations became Mooneys best sellers after they were introduced.

The **M20S Eagle** was introduced in 1999 and was powered by a Continental IO-550-G engine of 244 hp (182 kW). In 2001 the Eagle 2 was introduced. This model included such refinements as a 3-bladed propeller, a 100 lb (45 kg) gross weight increase and standard leather interior.[11]

The M20S was type certified on 07 February 1999 and is equipped with the 244 hp Continental IO-550-G(6) engine.

The very cool upgrade to the Eagle is the Screaming Eagle STC from Midwest Mooney. The STC increases the maximum propeller RPM from 2500 to 2700 with the installation of a new propeller governor. This change allows the existing engine to produce 310 hp instead of 280 hp at full power. The STC also specifies a Hartzell 3-bladed metal or composite scimitar propeller and increases the gross weight to 3,374 lb (1,530 kg) on certain older models. This STC can also be applied to the Ovation 1 and 2.

The **M20T Predator**, a canopy-equipped version of the basic M20 design powered by a Lycoming AEIO-540 engine, was Mooney's entrant in the USAF Enhanced Flight Screener competition. The prototype was built in 1991 and displayed in tiger-stripe paint scheme. The contract was won by the ill-fated Slingsby T-67 Firefly and the M20T was not developed or certified. The sole prototype, registered N20XT, was flown in the *Experimental - Market Survey* category and was still owned by Mooney Aircraft in 2008.

The **M20TN Acclaim** was the last version of the M20 design produced and is powered by a turbo-normalized Continental TSI0-550-G powerplant with twin turbochargers and dual intercoolers. The Acclaim replaced the Mooney M20M Bravo in the company's product line.

The M20TN was type certified on 15 October 2006 and is equipped with the 280 hp (210 kW) TSIO-550-G(1), -G(2), -G(3) or -G(4) engine. The Acclaim screams along at a cruise of 237 kts and has a service ceiling of 25,000'.

January, 2013

Xarelto now an approved medication for flight

Good news on the medication front: The FAA recently accepted Xarelto as an allowed anticoagulant for use in aviation. Xarelto (rivaroxaban) is a new type of anticoagulation drug that has a much more favorable side effect profile than its pharmaceutical cousin, Pradaxa (dabigatran) that produced disappointing side effects associated with uncontrollable bleeding in some patients who were using it. READ MORE at AOAP

FreeFlight Systems upgradable XPLORER ADS-B receiver now available. WACO,

Texas — Now available from FreeFlight Systems is its XPLORER receiver, a datalink weather receiver with upgradability to full ADS--B In weather and traffic data capabilities when installed with a certified ADS--B Out transmitter.Based on FreeFlight Systems' certified RANGR family of 978MHz ADS--B systems, XPLORER receives the full ADS-?B Flight Information Service Broadcast (FIS--B) that includes graphical weather. READ MORE at GA News

NavWorx ADS-B now on a variety of aircraft ROWLETT, Texas – NavWorx reports the

successful installations of its Universal Access Transceiver (UAT) delivering the benefits of NextGen air transportation technology to general aviation aircraft. The company's flagship product, the ADS600-B, is a single device that transmits and receives flight data and information services into the cockpit. The ADS600-B is designed to meet the FAA's 2020 mandatory compliance requirements for ADS-B equipage. READ MORE at GA News

Dual Electronics is now shipping its new XGPS170 GPS + ADS-B Weather & Traffic Receiver for iPad, iPhone and Android devices

to authorized resellers in the U.S. The receiver carries a suggested retail price of $799.

*Designed to work with 3rd party EFB apps, the in-flight weather and traffic information from the XGPS170 is integrated into **WingX Pro7** from Hilton Software. Additional compatible apps for Apple, Android and Windows devices will soon be available from a number of software companies including: Anywhere Map, Avilution, Flight Guide, Fltplan.com, Global NavSource, Jeppesen, Naviator and Seattle Avionics, company officials said. READ MORE at GA News*

Mooney Memory Jogger

Preparing for a Flight

By Jim Price

You may have been flying for over 40 years, but you can still forget a few things. We're all still learning. Hopefully for me, that process won't stop until someone pries my cold, stiff fingers from my Mooney's yolk. Take a minute to review a few flight preparation tasks.

Preparation Prior to Each Flight *(FAR 91.103)*

If you plan to fly outside of the airport area, or file IFR, you must:

- Study weather reports and forecasts.
- Determine fuel requirements.
- Plan alternatives if the planned flight cannot be completed.
- Check with ATC for known traffic delays.
- Determine takeoff and landing distances by evaluating:
  - Runway lengths, elevation and slope.
  - Aircraft gross weight.
  - Wind and temperature.

For Local Flights: You should know about the airport(s) you intend to use, including the runway lengths, takeoff and landing distances for the day's conditions.

Planning Fuel Requirements *(FAR 91.151 & 167)*

- **VFR Day:** Fuel to destination + 30 minutes.
- **VFR Night:** Fuel to destination + 45 minutes.
- **IFR:** Fuel to destination and alternate + 45 minutes.

"Any attempt to stretch fuel is guaranteed to increase head winds."

According to AOPA's Air Safety Institute, in an average week, three general aviation aircraft crash due to improper fuel management.

Deviating From the Rules *(FAR 91.3)*

- If an in-flight emergency requires immediate action, the PIC may deviate from any rule necessary to deal with that emergency.
- If the PIC deviates from a rule, he or she shall, upon the request of the Administrator, send a written report of that deviation to the Administrator.

PIC Responsibilities *(FAR 91.413)*

- The PIC must make sure that his/her aircraft is airworthy. That includes:
- Ensuring that your Mooney has received an Annual Inspection within the past 12 months. (The annual expires the last day of the 12th month). (FAR 91.409).
- Ensuring your Mooney's transponder has been tested and inspected within the past 24 months. (Expires the last day of the 24th month).
- If you're flying IFR, ensure the Pitot/Static System has been tested and inspected within the past 24 months. (Expires the last day of the 24th month).

Required Documents in the Aircraft *(FAR 91.203, 91.9)*

- **A** irworthiness certificate.
- **R** egistration certificate.
- **R** adio license, (if traveling outside the USA, and/or for some commercial operations).
- **O** perating limitations (The Mooney Owner's Manual).
- **W** eight and balance data.

180-Degree Turn - A sometimes difficult maneuver to perform; the degree of difficulty is usually determined by the size of the pilot's ego.
A & P Rating - Enables you to fly grocery supplies.
Aileron - A hinged control surface on the wing that scares the hell out of airline passengers when it moves.
Airfoil - 1. Sword used for dueling in flight. Often used to settle disputes between crew members and passengers. 2. What pilots wrap their sandwiches in.
Airplane - The infernal machine invented by two bicycle mechanics from Dayton, Ohio and perfected on the sands of the Outer Banks of Kitty Hawk, North Carolina. Precursor of the Frisbee.
Airspeed - 1. The speed of an airplane through the air. 2.True airspeed plus 20% when talking with other pilots. Deduct 25% when listening to a Navy aviator. 3. Measured in furlongs-per-fortnight in student aircraft.
Air Traffic Control Center - A drafty, ill-kept, barn-like structure in which people congregate for dubious reasons.
Alternate Airport - The airport that no aircraft has sufficient fuel to proceed to if necessary.
Angle of Attack - Pick-up lines that pilots use.
Arctic Frost - Attitude shown by uncooperative stewardess (also see "Horizontally Opposed").
Arresting Gear - Police equipment used for keeping order at airport parties.
Autopilot - A would-be airplane pilot who flunked his checkride.

Florida Mooney Lunch Group

January 12: Williston (X60), Pyper Kub Cafe

February 9: Sebring, (SEF) Carol Ann Garratt will be talking about her last trip around the world in her Mooney, her third trip around, and selling

March 19: Venice (VNC), Honoluana Island Grill

All events start at 11:30.

I really appreciate it if you can E-mail me by Thursday night of the week of the event and let me know if you are going to try to make it, so I can call the restaurant on Friday with a head count. No one is obligated to come if they told me they are coming and can't make it for mechanical, weather, health, or any other reason.

Hope to see you soon,
Dave and Ruth

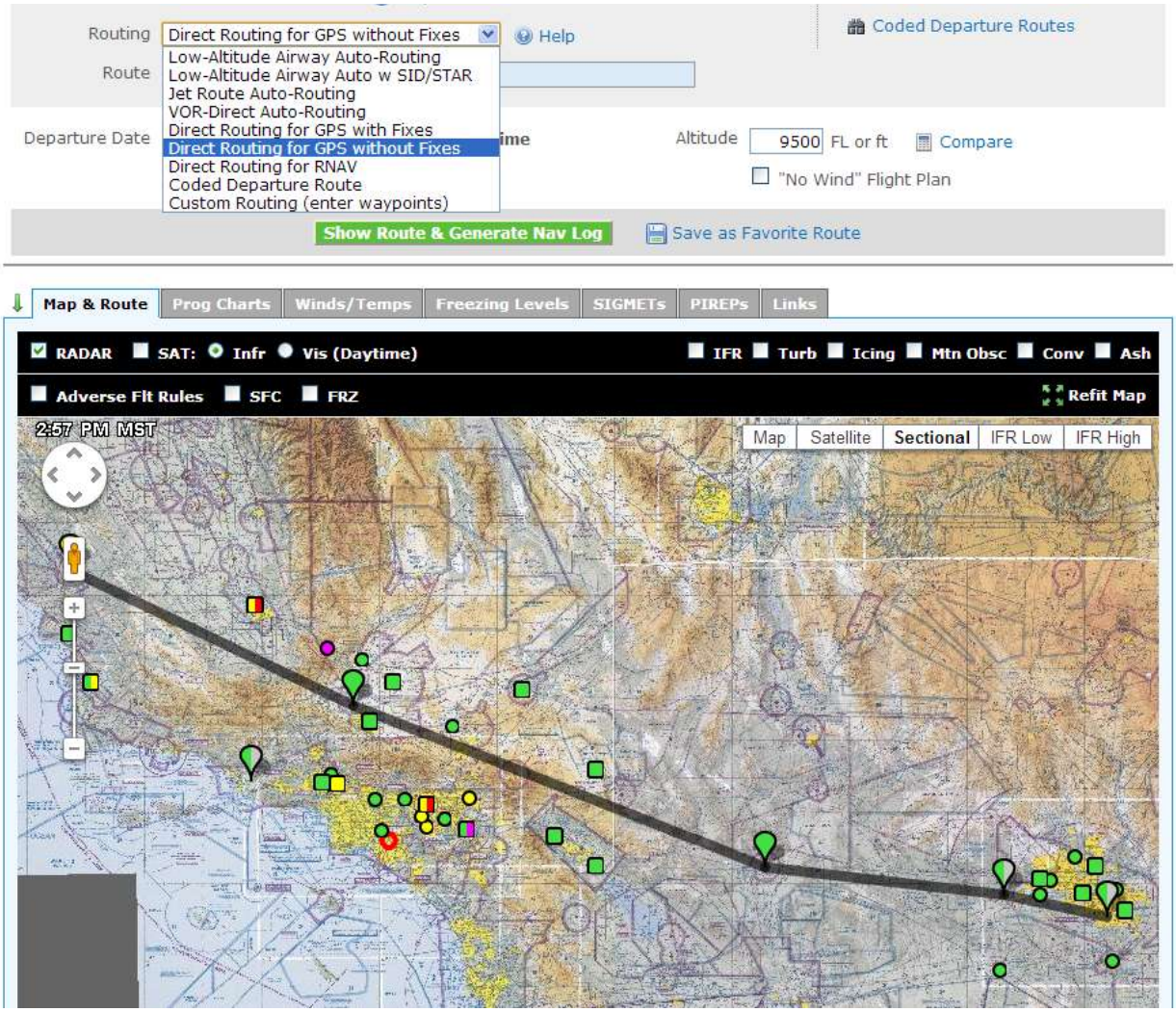
VINTAGE MOONEY GROUP USA

January 12: VMG Fly-in to Cable Airport (KCCB)… Click Here for details and to register.

iFlightPlanner – www.iFlightPlanner.com

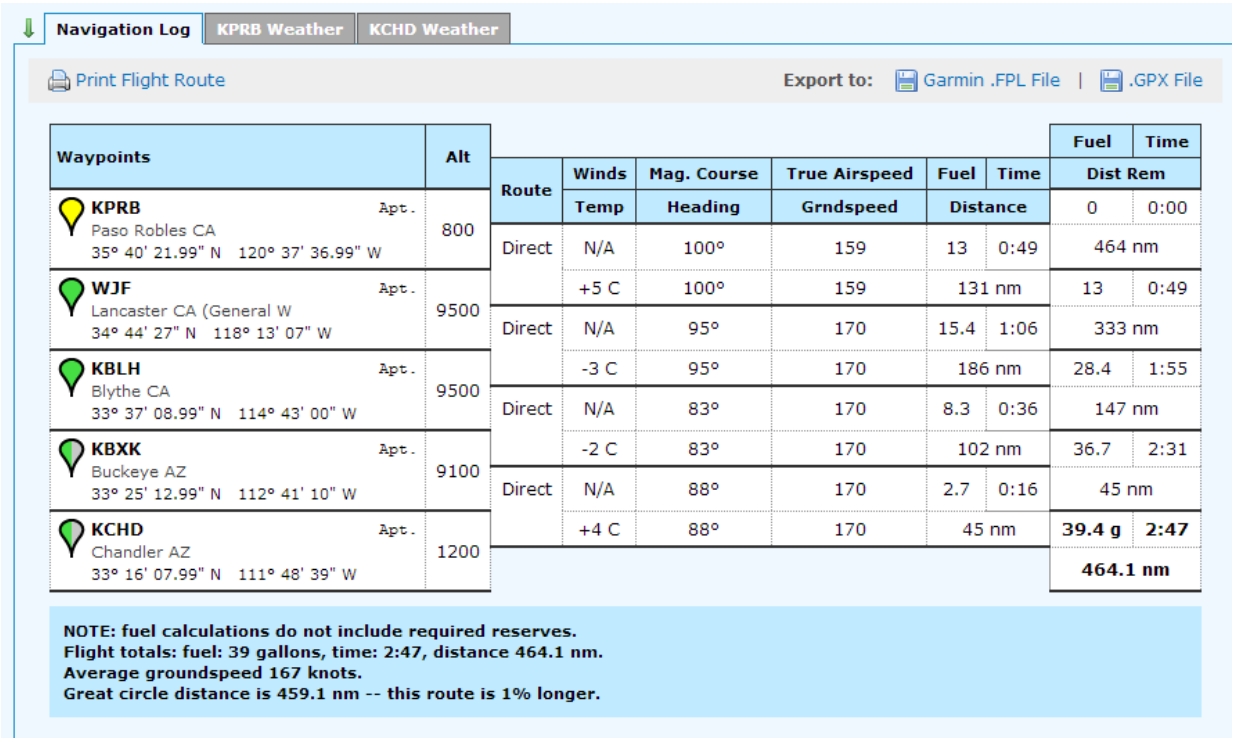
by Phil Corman

There are a preponderance of flight planners on the market and new ones coming online each month. iFlightPlanner caught our eye this month and we were impressed. It runs on PCs & iPads and syncs between the 2, so you can plan on a desktop and fly with your iPad. The interface is intuitive and it is quite useful for all flights including IFR. To get started, you'll want to enter all the details about your Mooney, which are then used to compute your flight plans and Nav logs.



It supports all the usual features such as rubberbanding to add new waypoints.

Based on that data, iFlightPlanner provides you with your flight plan overlaid on VFR or IFR charts and also provides the Navlog shown below.



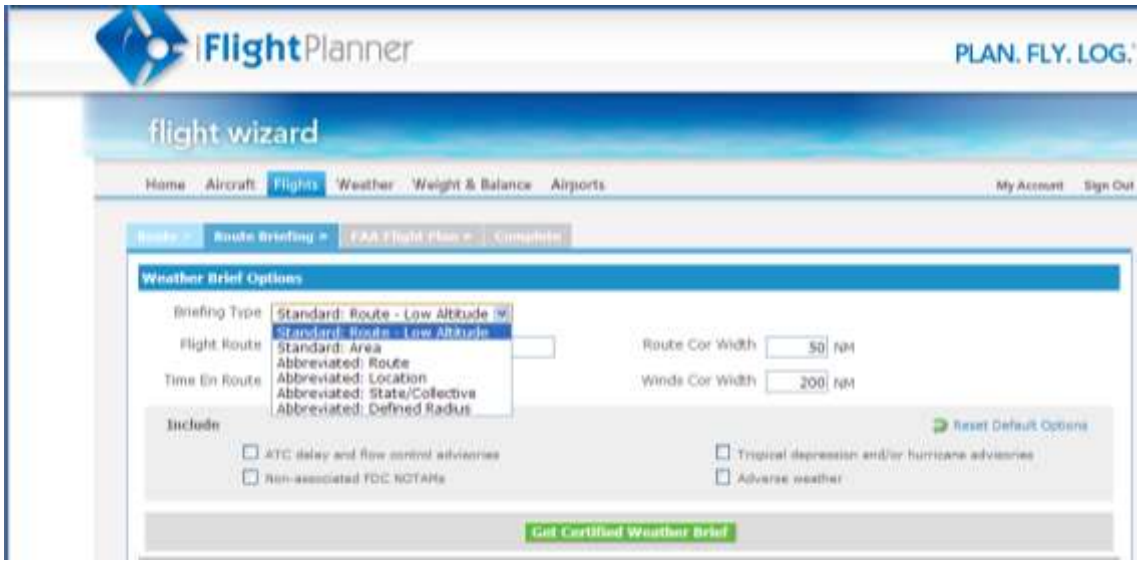
Navigation Log | KPRB Weather | KCHD Weather

Print Flight Route — Export to: Garmin .FPL File | .GPX File

Waypoints	Alt	Route	Winds / Temp	Mag. Course / Heading	True Airspeed / Grndspeed	Fuel / Distance	Time	Fuel Dist Rem	Time Dist Rem
KPRB Apt. Paso Robles CA 35° 40' 21.99" N 120° 37' 36.99" W	800							0	0:00
		Direct	N/A	100°	159	13	0:49	464 nm	
			+5 C	100°	159	131 nm		13	0:49
WJF Apt. Lancaster CA (General W 34° 44' 27" N 118° 13' 07" W	9500	Direct	N/A	95°	170	15.4	1:06	333 nm	
			-3 C	95°	170	186 nm		28.4	1:55
KBLH Apt. Blythe CA 33° 37' 08.99" N 114° 43' 00" W	9500	Direct	N/A	83°	170	8.3	0:36	147 nm	
			-2 C	83°	170	102 nm		36.7	2:31
KBXK Apt. Buckeye AZ 33° 25' 12.99" N 112° 41' 10" W	9100	Direct	N/A	88°	170	2.7	0:16	45 nm	
			+4 C	88°	170	45 nm		**39.4 g**	**2:47**
KCHD Apt. Chandler AZ 33° 16' 07.99" N 111° 48' 39" W	1200							**464.1 nm**	

NOTE: fuel calculations do not include required reserves.
Flight totals: fuel: 39 gallons, time: 2:47, distance 464.1 nm.
Average groundspeed 167 knots.
Great circle distance is 459.1 nm -- this route is 1% longer.

Then it's on to the Weather briefing, depicted below. It utilizes DUATS and will count as a "certified" weather briefing to satisfy the FAA.



Finally it will file your flight plan via DUATS.

There is also a corresponding iPad app, also called iFlightPlanner, which syncs completely with the web-based service. This smooth integration essentially lets you take your plan with you on the flight and even close your flight plan via your iPad.

All of the stuff we've shown you so far is FREE. If you want more, you can upgrade to iFlightPlanner Premium. If you do, you'll get the following additional stuff:

- Custom Locations & Waypoints
- Integrated Weight & Balance Calculation
- Garmin FPL & GPX Flight Plan Exporting
- Unlimited Online Logbook
- Logbook Import & Export
- Aircraft Tasks & Reminders
- Aircraft Maintenance Log

Cool Weight & Balance computation with Premium

Pictures of an Air Salvage Yard, from the December VMG Fly-In

Here are some pictures from the VMG Fly In to Air Salvage in Dallas on December 8th.

Pretty sobering to see so many damaged or wrecked planes in one place. On the good side, out of hundreds there, only three (3) were Mooneys. Guess that is a good ratio. Also interesting that all the Mooneys had the cabin intact, thanks to the strong steel cage construction.

FOR SALE Mooney Stuff

I am a member of WWAMM (Western Assoc of Mooney Mites). I have two elevators and a rudder for a wood wing **M20**. The parts came from a wood tail to metal tail conversion. These are your for the cost of shipping.

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