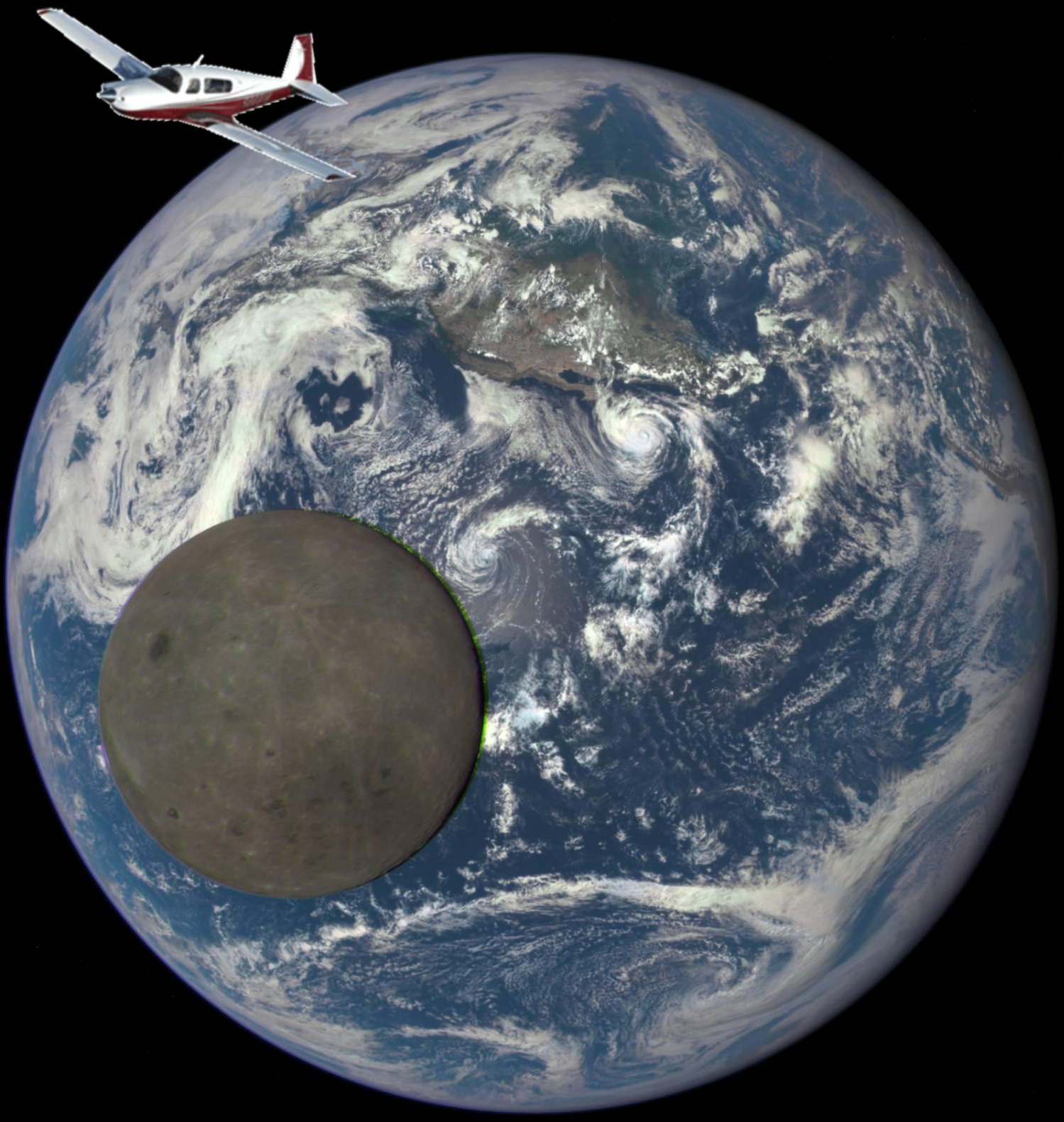
The Mooney Flyer

The Official Online Magazine for the Mooney Community

www.TheMooneyFlyer.com

September 2016



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ADS-B FIS-B Update

As our readers know, The Mooney Flyer is a big fan of the FIS-B service component of the new ADS-B system. It provides a basketful of weather and aviation-related data for pilots in flight. These include NexRad (regional and national), AIRMETs/SIGMETs, Winds Aloft, TFRs, Special Use Airspace, NOTAMs, PIREPs, and more. But the FAA has not been idle. Beginning in 2017, FIS-B will be enhanced to provide: 1) Lightning Strikes, 2) Cloud Tops, 3) Icing (Current & Forecast), and 4) Turbulence. Additionally, I found it discouraging that AWOS was only updated hourly on FIS-B despite the fact that it is updated every minute. The FAA is looking at updating these AWOS weather reports when they are changed, keeping the report up-to-date.

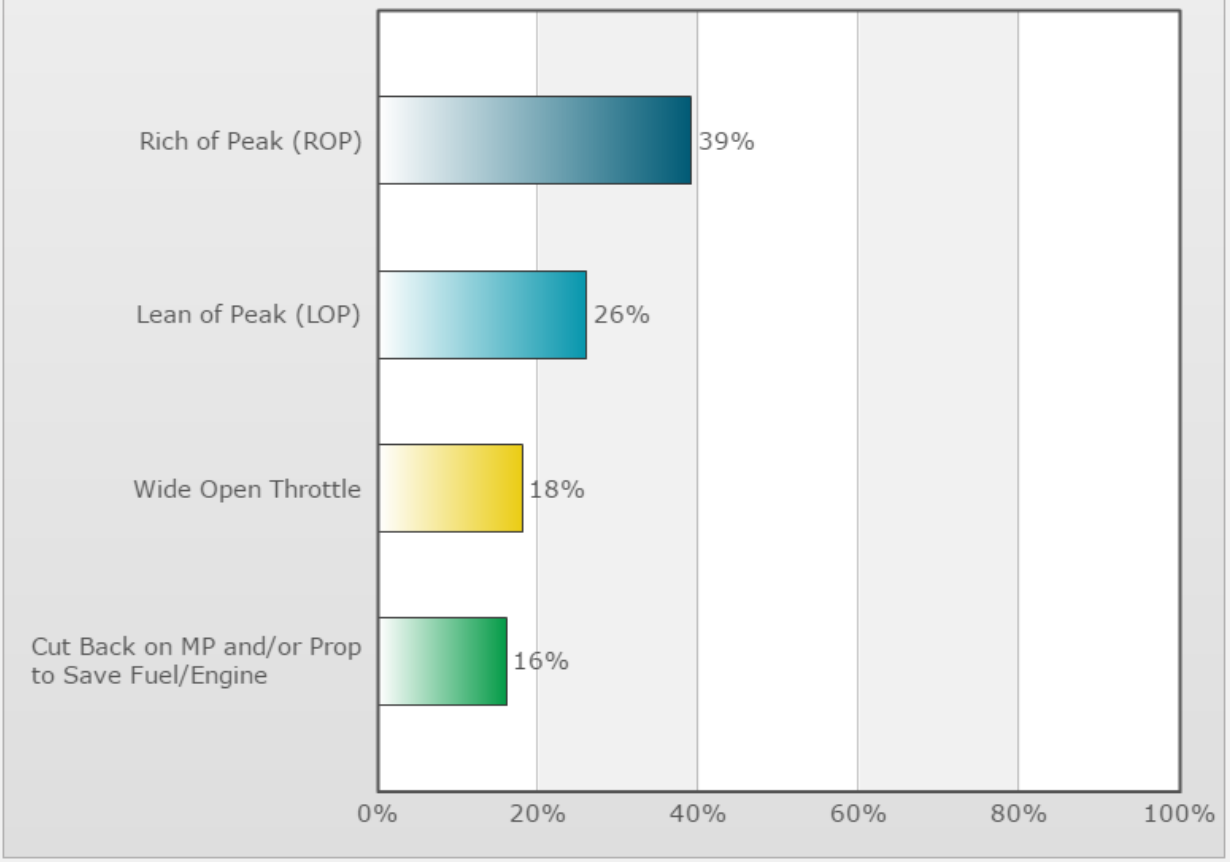
Pre-Flight vs Post-Flight Inspections

All of us perform, or should perform, detailed Pre-Flight Inspections. But do you do, or have you considered, doing, Post-Flight Inspections? A Post-Flight Inspection is performed after you tie-down your Mooney on the ramp; put it in a shelter, or in a hangar. Why consider a Post-Flight Inspection? Well, it just sounds like a good idea and here's our thinking. It has a little "get-home-itus" component to it. When you are pre-flighting, you are usually anxious and ready to depart. Psychologically, you might not be as detailed or you might overlook something in your desire to get going. This certainly doesn't happen to everyone or anyone often, but it could happen. In a Post-Flight, you are not in as much of a hurry. As you wipe down the leading edge of the wing or clean your windscreen, you may notice a new oil streak, a lose screw or missing camlock. Simply put, you are more relaxed, more attentive, and perhaps less rushed, unless of course you are rushing off to a business meeting. Another significant advantage of the Post-Flight is that you might find something that needs an A&P's attention. Now, you can call and get it attended to before you need to depart. Just food for thought…

I run my engine:

Poll created by Phil Corman on 07/08/2016

Poll Results



Next month's poll: "If I have to crash, the single biggest safety factor would be:"

CLICK HERE to vote.

Appraise Your Mooney's Value

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

M20C M20E M20F M20G M20J

RE: Mooney Flyer Poll of the Month -- Excellent August issue as usual. I've just voted in the "I run my engine" poll, but I have a small issue with the wording. In the words of John Deakin, I run my M20J "WOTLOP", so should I vote LOP or should I vote WOT? I ought to be able to vote for both!!!
Neil F
Editor's Note: Great catch Neil. We changed the Poll to multiple selection. We are strong advocates of John Deakin, and also Mike Busch.

RE: Point v Counterpoint -- Interesting and always controversial. However, I would like to make a couple of points, because I teach THREE valid pattern entries to an uncontrolled field to my students. The one pattern entry I do NOT allow is to fly over the field at pattern altitude +500'. You do not want a low-wing plane descending into inbound traffic. Instead, I allow my students to enter the pattern either upwind, slightly offset to the right (left traffic) or left (right traffic) or on crosswind in order to see the entire pattern and to gauge when to turn crosswind in order to best fit into the flow of traffic. This allows the pilot to take spacing from other aircraft simply by deciding where and how much to turn.

For those of you jumping up and down denouncing me on the upwind pattern entry, I direct you to the "overhead maneuver" described in the AIM as a standard pattern entry. Military pilots will recognize this as the overhead break. I would also direct your eyes to our brethren to the north in Canada who make the upwind pattern entry standard, not a 45-degree to downwind.

And, of course, the 45-degree to downwind is acceptable. For my students the following pattern entries are strictly verboten:
• Direct into downwind (swing out and enter on a 45)
• Base
• Straight-in
Thanks for the thoughts.
Brian L
Editor's Note: Brian, thank you for your insight. Our new feature of Point v Counterpoint is not intended to preach what is right or wrong, but to present two sides of a contested debate. Your ideas, as an informed CFI, are very valuable to the Mooney Community. And we thank you.

Another Super Issue! I don't know how you and Jim can keep this up!
Ivan P

RE: Point v Counterpoint - So, after being such an AIM purist on the types of entries, why does the "Point" writer make a sudden 180 in the final traffic pattern "Point" and go contrary to AIM 4-1-9? It sure sounds like recommending not listening in during the approach and, instead, using "any traffic in the pattern. Please advise. " This is a phrase the AIM says "should not be used under any condition."
Mark K
Editor's Note: The intention is of The Mooney Flyer in this new feature is to air controversial topics that have contrasting viewpoints. We look to informed readers such as yourself to weigh in. And thank you for doing so.

What a great issue, keep 'em coming and keep on flying those Mooneys..
Dan L

RE: Point v Counterpoint - With respect to pattern entries in Point/Counterpoint, August 2016 edition: Whenever I fly a real or practice an instrument approach, I make a long straight-in final, because that is what the approach plate calls for. How can this possibly be contrary to the AIM?
John K

You are a brave guy to broach the uncontrolled airport pattern on your first "Point, Counterpoint"! That is a sensitive subject as every self-appointed pattern policeman will tell you. Who were the contributors to the two points of view? In 48 years of flying, I can tell you there is no consensus on all the fine points, but I will also testify that there is very little documented FAA enforcement action on the various "techniques" some pilots use. Seems like as long as you successfully land and didn't hit anyone else, there is no FAA interest in how you got there.

I would suggest that for some operations, the straight-in approach is the safest, fastest and overall best way to get into an uncontroled airport with the smallest risk of "mixing it up" with slower aircraft. The only caveat is that generally, aircraft in the pattern have the right of way over straight-ins, including aircraft on instrument approaches.

Once again, great job
Gus H

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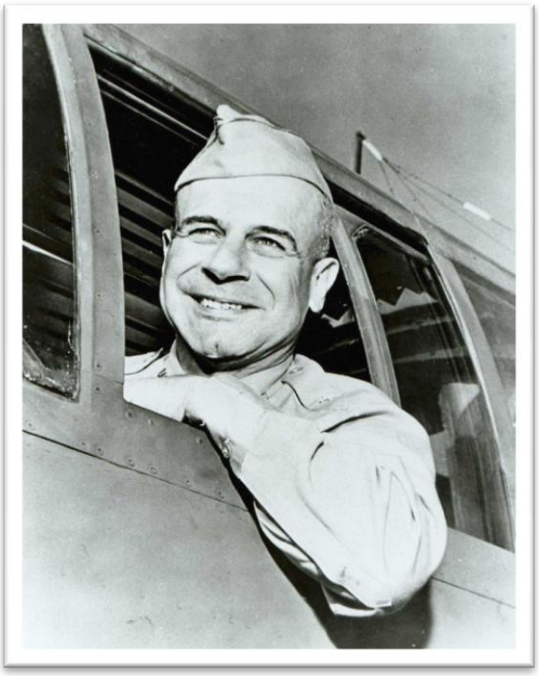
The Clear Lake Seaplane Splash In has been held annually in Lakeport since 1979, and is advertised as "the oldest and largest fly in West of the Mississippi." It will be held in Lakeport, **September 15-18** (a week earlier this year, and NOT in conjunction with the Kelseyville Pear Festival.)

Paul and Shery Loewen, owners of Lake Aero Styling & Repair, extend a special invitation to our Mooney friends. There will be a welcome get together for early arrivals on Thursday evening. Friday evening, we'll have a wine and cheese event (cost $15), and a BBQ on Saturday evening (cost $20). PLUS, there will be Seaplane flying events both Friday and Saturday. Please **RSVP to Shery at 707 263-0462** if you plan to attend. For more information: www.clearlakesplashin.com. Volunteers plan to provide transportation from the airport to the event, but in case you need it, there is also Riley's Cab: 707 263-1690

The annual **Kelseyville Pear Festival** will be held **Saturday, September 24**, and will feature musicians, dancers, over 100 craft and food vendors, as well as wonderful exhibits. It is Lake County's most popular event and typically draws over 10,000 visitors. For more information: www.pearfestival.com. Riley's Cab: 707 263-1690

Flying a Stinson in 1938

The Stinson Reliant SR-10 was the corporate aircraft of the day.



The one shown above, NC 21104, was owned by Shell Oil Company and the corporate pilot was Jimmy Doolittle. He flew for Shell Oil from 1938 to 1940, when he quit the corporate pilot life and returned to active duty in the Army Air Corps.

The SR-10 flew much slower than you now fly in a Mooney. How slow? 120 MPH or to make it really sound like crawling, that equates to just under 105 knots. To go that fast, you'd need to fuel the common engine of the day, the 9 cylinder 300HP Lycoming R680 Radial Engine. It burned 14 Gallons per hour from its 100 gallons of fuel, fed by three fuel tanks.

"Check the gas and fill up the oil tank, please"

When you checked the oil, you'd need to think in gallons instead of quarts. You would start your flight with 6 ½ gallons of oil, and then after a four hour trip, you'd need to add about 1 ½ gallons (6 quarts).

Limo of the Air

Stinson was based in Detroit and it makes sense that they designed the SR-10 with a lot of automotive features. They wanted the Sinson to be the corporate limousine of the air, complete with a wood grained instrument panel.

It could carry five people. The pilot and a passenger would sit up front. Yes, those are roll down window cranks that you see; one on the left and one on the right.

Three passengers shared the bench seat in the back.

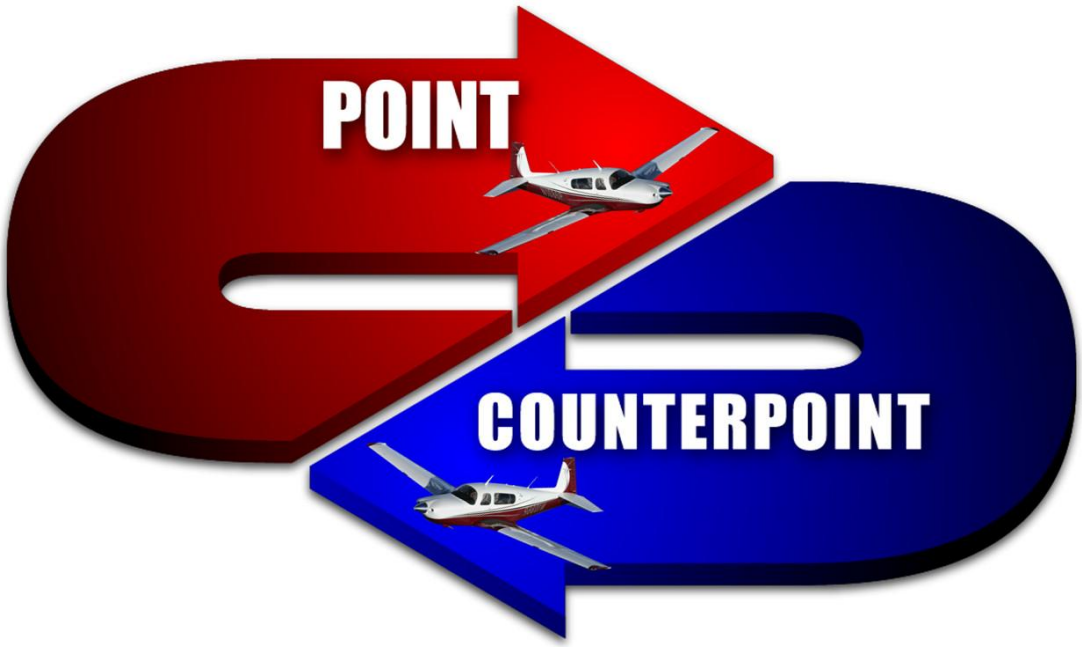
How about a Night Flight?

In 1938, most of the landing spots were large fields and they did not have runway or approach lighting. So, Stinson installed flare tubes. Do you see the four ports on the left rear fuselage?

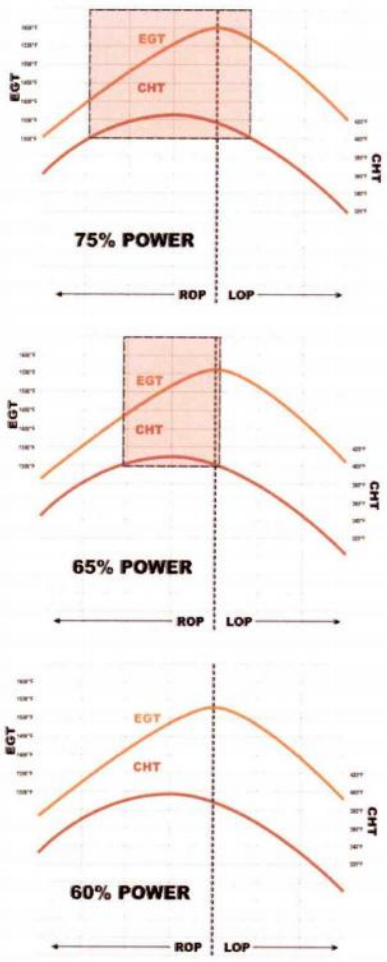
One would simply circle the field and, at the right moment, pilot would electronically fire off ***paraflares***. These were powered by a little rocket motor, and once they were clear of the aircraft, the flare would ignite and float down, illuminating your landing area.

Theoretically, the flares were designed to be extinguished by the time they reached the ground. But, in reality, they were still blazing upon ground contact. After you landed and shut down, you stretched your legs by running around, hoping that you could stomp out the fires you had started.

I like the Stinson's cabin space, but that's where envy ceases. I sincerely hope that you, like me, feel ever more grateful for your Mooney's speed, comfort and grace.



Point vs. Counterpoint – ROP v LOP



The positions presented in our Feature "Point vs. Counterpoint" do NOT reflect the opinions of The Mooney Flyer. Rather, it is meant to shine light on differing positions held by Mooney pilots. It is intended to give our readers some information to use as they see fit, to guide them in the decision making process. The names of the authors are intentionally withheld so the positions can be fully vetted.

It was the best of times.. it was the worst of times… or so Charles Dickens claimed. It's ROP for me.. it's LOP for me… We don't have the magic answer, hence our article Point vs. Counterpoint. We strongly recommend that Mooniacs learn about the "Red Box" and keep their engine settings outside of the Red Box. This should be done regardless of whether you're running ROP vs. LOP. CLICK HERE to read Mike Busch's article on the Red Box for more information.

Other Articles

EGT, CHTand Leaning: CLICK HERE
Leaning Basics Webinar: CLICK HERE
Understanding LOP: CLICK HERE

Regardless of whether you like to run ROP or LOP, you should make every attempt to avoid operating within the Red Box. That's because you have the highest internal cylinder pressure when operating within the Red Box and this is not good for your Lycoming or your Continental. It's just as important as keeping your CHTs below redline temps. Why? Because above those redline

CHT temps, metallurgical changes take place in your cylinder which is not a good thing.

Another consideration is to follow the recommendations found in your POH (Pilot Operating Handbook). 99% of the time, this is the right thing to do. But some old/vintage Owners Manuals suggest leaning until your engine is rough and then giving it 2 enrichening twists on the Mixture. This usually puts your engine at about 50 ROP, not always, but sometimes. Depending on your Throttle setting, this puts you smack in the middle of the Red Box. Hmmm…

Let the opinions begin…

Rich of Peak

This is pretty straightforward to most pilots. You follow the instructions in your POH concerning engine settings. Almost every POH I have read dealing with this topic is telling you to run your engine ROP. Why would you ever go against that? Mooney and Lycoming/Continental should know, so what am I missing.
In fact, it's much more important to run your engines that way. Some Mooney pilots running ROP pull their throttle back to save fuel. On the IO550, this may result in a buildup on your rings, which could result in increasing oil consumption and needing new rings before TBO.

Some engine people recommend running our Mooneys as they were intended, at full throttle. After all, didn't we buy our Mooneys to go fast? "Full Throttle" is good for your normally aspirated engine and might be another factor that lets it arrive safely at TBO.

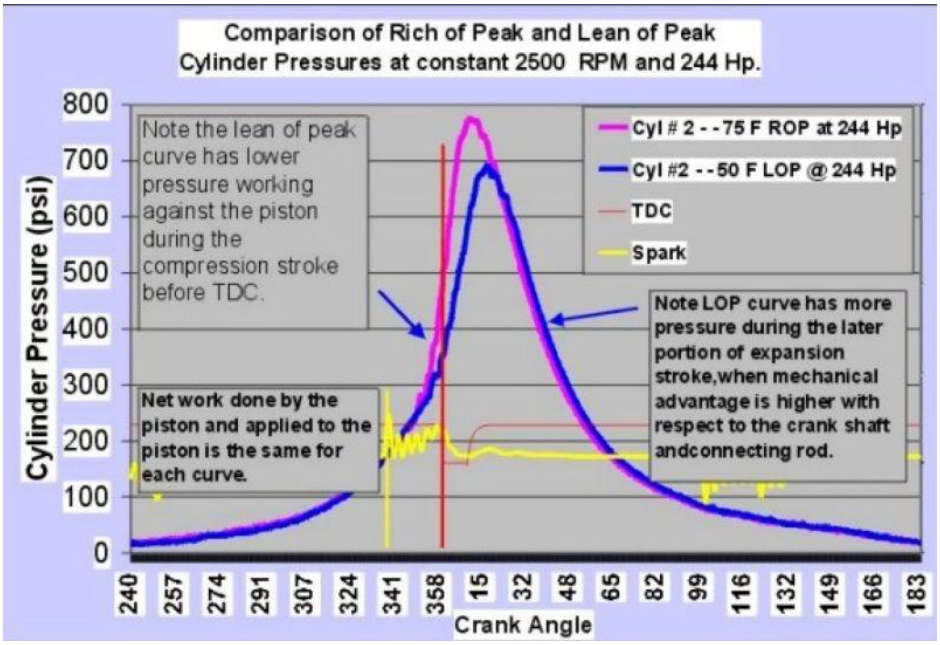
Lean of Peak

The Lean of Peak method has been around for decades. When done properly, your engine runs cooler and cleaner. The only expense for this is the loss of a few knots on your airspeed. I think this is a valuable tradeoff.

Can everyone run LOP? No. Generally, you need a fuel injected engine. Carbureted engines, for example, lack precise fuel/air metering systems and at LOP, they typically run rough and lose power. The danger of flying LOP with a single-cylinder CHT or EGT probe is that some rich-running cylinders could become too hot, damaging internal valves and guides, and causing a loss of engine compression that would require a top overhaul. Therefore, you need an engine monitor to determine all of this. But most importantly, all your cylinders need to have Peak EGT within .5 gallons per hour. You determine this by doing the GAMI Test (CLICK HERE to read about it). In summary, you setup a slightly rich mixture at cruise and write down all your EGTs. Then, lean your mixture by about .2 to .3 gallons per hour and write down the EGTs again. Keep doing this until you have noted that each cylinder has peaked. Then take the difference in fuel flow between the first cylinder that peaked and the last. If it's .5 gph or less, your engine is eligible for LOP operation. You can send your results to

GAMI and they will actually tell you. Sometimes, your fuel injectors are “tuned” or provide an acceptable variation. If not, GAMI is happy to sell you their GAMI injectors. But, you may not require them. Do the test.

“I disassemble a lot of engines and the differences are obvious,”. “With an engine flown rich of peak its whole life, you can take a knife and cut out the buildup on the exhaust ports in sheets. With engines run lean of peak, there’s less residue and less buildup on the pistons and in the combustion chamber. The components of the engine are cleaner. We hardly ever see warped valves on a lean-of-peak engine—and we get [warped valves]on rich-of-peak engines all the time.”



Summary

The reality is you can do damage to your engine running ROP or LOP if you run with High Internal Cylinder Pressures.

You can safely run ROP or LOP if you ensure that you are leaning properly and your engine can handle it.

Still undecided? Talk to a respected Lycoming or Continental Engine person and/or a respected Mooney Service Center.

Oops, Wrong Illustration

PILOT WORKSHOPS .com

Pilot Proficiency

Pilot's Tip of the Week

Circling Approach Pattern

Featuring Wally Moran - view Wally's profile

Subscriber question:

"When making an instrument circling approach, I have trouble judging my pattern to stay within the lateral limits and not overshoot the runway. Do you have any tips for that?" - Martin C.

Wally:

"Since a circling approach almost always requires us to make a different pattern than we would do if VFR, it can present a lot of risk. As you mentioned the lateral limits of protection are very small. This requires us to stay closer to the runway than normal and can easily result in overshooting the final. Additionally, we are usually below the normal 1000 foot traffic pattern, so the sight picture is quite different. Further, we may have never seen this airport or the surrounding terrain before.

Ideally, we would like to stay as far out as possible, but not exceed our protected airspace. For category A aircraft, the limit is 1.3 nautical miles. To help me judge this distance I like to use the runway as a ruler. I check the runway length as published and since I know a nautical mile is about 6000 feet, I now have sort of a ruler right in front of me as I approach the airport. I mentally move the approach end of the runway ninety degrees out towards the base leg turn and pick a landmark there that I intend to fly over. It's nice if the runway happens to be 6000 feet long, but no problem if it's not. You just need to add a little for a 5000 foot runway or add ½ if it is a 4000 foot runway.

Having picked a spot to fly over to be in a good position for base leg has lots of advantages. First, you can be looking forward rather than sideways, watching the runway. Looking forward allows you to maintain aircraft control much better and to see obstacles. Second, you will be able to see any wind drift and correct for it so as to be in the correct place to turn base leg. Lastly, you don't have to worry about going beyond the obstacle protection area.

Circling approaches can be done safely, but they require more planning and skill. Using the runway as your ruler will help solve some of the problems."

You can get the PilotWorkshops Tip of the Week for free here: http://pilotworkshop.com

Geoff lee.
CFII

Altitude

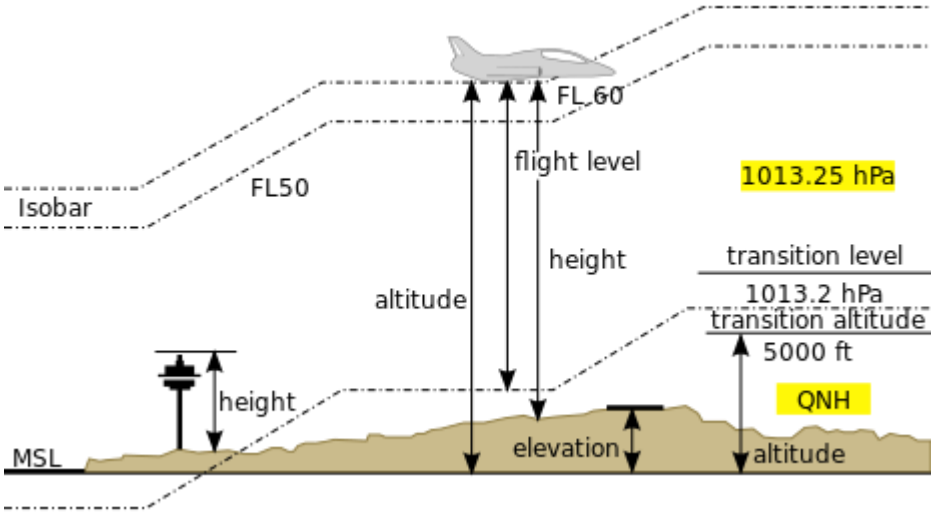
And references to

The height of an object or point in relation to sea level or ground level.

The definition seems simple enough. Ah!, but not to us aviators. We have managed to uncover variations and thus devise many forms and specific definitions of ”ALTITUDE”.

Let me count the ways

INDICATED ALTITUDE is the **height above sea level** as read on the aircraft altimeter, but it needs to be adjusted to the local atmospheric conditions or set to the known ground elevation at that location. The indicator reading is only valid for the local conditions under which it is adjusted (*Kollsman window*) and the readout will vary in accuracy as the aircraft moves away from the setting location. There is a need to reset the altimeter as the aircraft proceeds through areas of varying barometric pressure and temperatures. (*Check the ATIS at airports along the route.)* Setting the altimeter to the ground elevation requires that any discrepancy between the stated barometric pressure from the ATIS and the Kollsman setting concomitant with ground elevation should be noted.



PRESSURE ALTITUDE is the **height indicated on the sensitive altimeter when 29.92 is entered** into the Kollsman window. *All aircraft flying above 18,000 ft are required to set the altimeter to 29.92. The reason being that local lower level atmospheric temps and pressures can vary widely over short distances with terrain, thus varying altimeter settings/readings would abound in different aircraft at the same true altitude. This would be frenetic. Atmospheric conditions above 18,000 ft are somewhat more stable over larger areas.*

DENSITY ALTITUDE *is pressure altitude corrected for nonstandard* temperature and barometric pressure: 29.92" and 59°F are the aviation standards. (*We rarely see this, so most altimeters will be reasonably correct if the* ***local Barometric pressure*** *is entered into the "Kollsman" window). Since* ***aircraft and engine performance are directly tied to the density altitude*** *they are operating in, a prudent pilot should calculate the local density altitude on a computer app, or there is usually a convenient chart in the POH. Compute using local temperature and pressure particularly before departing from high altitude and or short runway airports when at full gross weight.*

There are so many "altitudes" that vary from each other. Knowing them is crucial to being a Pilot-In-Command

TRUE ALTITUDE is the actual height above **sea level**.

ABSOLUTE ALTITUDE is height above **ground level**. (A radar altimeter would present a decent approximation of this, depending upon how far the "look ahead" setting is adjusted to.)

GPS ALTITUDE is minimally and variably accurate so a wide margin for error (*hundreds of feet*) must be applied to its use. It only occasionally concurs with the aircraft barometric altimeter. (*You should have good, paid up insurance if this is your only source of altimetry in the dark of night at low altitude.*)

MEA (*Minimum enroute altitude*) guarantees obstruction clearance and Navaid reception along a Victor airway. (Within 4 nm each side of the airway and 1,000 ft in none mountainous areas; 2,000 ft in mountainous terrain). In certain mountainous areas, that 2,000 foot minimum may be reduced. A 1,500 foot clearance is allowed in the mountainous areas of the Eastern U.S., Puerto Rico and Hawaii. In the Western U.S. and Alaska, the clearance may be reduced to 1700 feet.)

To VFR pilots, if the journey brings you over high terrain, I would advocate some **study** of the **IFR low enroute chart,** in addition to the Sectional map covering your route. IFR charts provide MEA information over the victor airways, but a usable safe and "NavComm" available altitude can be derived for GPS direct routes by perusing the MEAs of airways adjacent to and crossing your "off airway" **GPS** flight path. **The Victor airways usually follow the lowest available path across mountain ridges**.

MOCA (*minimum obstruction clearance altitude*) provides only obstruction clearance until the aircraft is **within 22miles of a VOR**, within that range it also guarantees Navaid reception.

MSA (*minimum safe or minimum sector altitudes)* provide **1,000 ft of obstacle clearance within 25 miles** of a "facility". There is no assurance of radio or Navaid reception. This altitude should be regarded as an emergency height. (*MSA designations are usually located on approach charts*).

MVA (*minimum vectoring altitude*) is the lowest altitude, expressed in feet above sea level to which a radar controller may issue aircraft altitude clearances during vectoring. The MVA is the lowest altitude that meets obstacle clearance requirements in the airspace specified.

When I find myself operating in reduced visibility or VFR in an unfamiliar area, within 3,000 ft of the ground, I usually ask the controller what his MVA is. Alternatively, I look up the MSA denoted on an appropriate approach plate. During night VFR, this is really useful knowledge, especially when you are not over familiar turf.

The minimum vectoring altitude in each sector provides 1,000 ft above the highest obstruction in non-mountainous areas and 2,000 ft above the highest obstacle in designated mountainous areas.

Each MVA sector boundary is at least 3 miles from the obstruction used to determine the MVA in that sector.

MCA (minimum crossing altitude) is the **lowest altitude at specified fixes,** at which an aircraft, under IFR, must cross when proceeding toward a higher minimum enroute altitude. Examples are depicted here.

MDA *(Minimum descent altitude)* is the lowest altitude (in feet MSL) to which descent is authorized on final approach, or during circle-to-land maneuvering when executing **a non-precision approach,** unless visual contact with the runway is made.

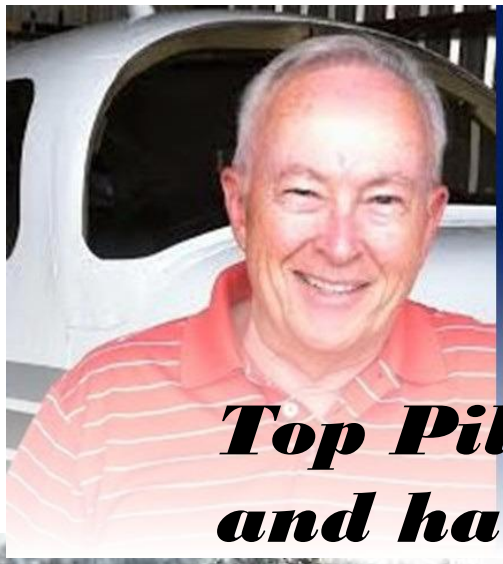
MRA (*Minimum reception altitude***)** identifies an intersection from an off-course NAVAID using DME. If the reception is line-of-sight based, signal reception will only be available at the MRA or above. On NACO charts, the MRA is indicated by the symbol and the altitude preceded by "MRA" ("*MRA 9300"). Of course, a named intersection can be identified by GPS in current times, so the denotation is almost redundant. Just be aware that you cannot adequately define a fix by VOR radials in that vicinity when positioned below the indicated altitude.*

THE INITIAL APPROACH ALTITUDE prescribed on an approach plate, is to be attained / maintained from the initial approach fix until the point where the descent path should be initiated. *On an ILS approach, that would be at glide slope intercept. It is usually the highest altitude on the* ***profile view of the plate*** *and is underlined, signifying it as a minimum altitude for that segment of the approach. (I use this altitude in the calculation of my needed descent rate, versus my available time, when descending or being vectored from a cruise altitude into an approach environment).*

*Google "**Instrument Procedures Handbook**"* and download the PDF version at the *FAA's website*. *It's FREE and it* provides a wealth of reference information useful to all pilots.

KNOWLEDGE IS POWER

One should peruse the definitions occasionally and ponder how they could be useful during any particular flight or planning situation.



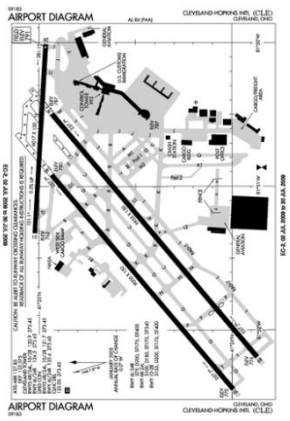
Jim Price

Co-Editor

Top Pilot Errors that can, and have, Led to Disaster

1. Not getting a full weather brief before every flight
2. Rushing through a pre-flight inspection
3. Doing an incomplete run up or skipping it entirely
4. Multi-tasking while taxiing. (Entering the flight plan in the GPS can wait)

5. Not using a checklist on each flight
6. Not filing a VFR flight plan
7. Not utilizing flight following
8. Misuse of Special VFR
9. Not using enough rudder (especially during a go-around)
10. Not having a taxi diagram out while taxiing. (Wandering can be costly and dangerous)



11. Planning an IFR alternative that's too close to the destination airport. (It's the same weather pattern)
12. Not understanding installed technology. (What's this button do?)
13. Dialing the wrong frequency. (This is especially easy to do with the numbers after the "point")
14. Not asking for help earlier, before it's too late. (Fear of declaring an emergency has caused lots of problems)
15. Not briefing a departure and possible emergencies before departure. (Think about what you'll do if you have a fire or lose an engine after takeoff)
16. Not checking aircraft performance / density altitude. (Can you take off safely? Do you have a reject spot?)
17. Allowing distractions in the cockpit
18. Mismanaging single pilot resources. (Passengers and ATC can be a great help)
19. Not monitoring instruments.

I encourage you to reflect on and ponder these nineteen points. Do any of these seem familiar to you? Is there something on the list that you are constantly or occasionally doing? Bad habits, whether personal or relating to flying can be changed. Is there something that you could do to improve upon your flight habits?

Oregon

We just got back from a seven day visit to Oregon. Our first few days were at our favorite resort, SunRiver. However, I want to talk about the second half of our visit, and that was to Portland. In fact, we flew into Troutdale to have some work done on our fuel tank. As we were so close to Portland and had a few days to kill, we decided to rent a car and do some exploring. Let me say I loved Troutdale and the Troutdale airport. After we landed and got our plane squared away with the guys at Advanced Aviation, we headed to the small town of Troutdale.

The center of town is cute and has interesting shops. All along the main street are big bronze statues of moose and cowboys. We wanted coffee and a Danish so we went into a combination coffee shop and furniture store. A strange

combination, but it works and the coffee was very good. After enjoying our morning snack, we drove a couple of blocks away to the Columbia Gorge Outlets. If you have followed me at all in The Mooney Flyer, you know I have the shopping gene. The outlets were fun and we went through the whole place in less than an hour. Our next stop was to visit Trillium Lake and Mount Hood. Speaking of Mount Hood, it is huge. It takes up most of the skyline and can be seen from almost anywhere. It is the highest mountain in Oregon at 11,245 feet and the second most climbed mountain in the world, after Japan's Mount Fuji. We were told the most spectacular perspective of Mount Hood is at Trillium Lake and they were right. As all the parking spaces were full and we had a limited amount of time, Phil just took a couple of stunning pictures and we were on our way. We headed back toward the Portland area along the Columbia Gorge River and stopped at one of our favorite restaurants, Joe's Crab Shack. This one is actually located in Vancouver, WA. It is situated almost under the I-5 bridge that connects North Portland to Vancouver. Phil and I love sea food and the best thing on the menu is Joe's classic steam pot, a combination of Dungeness Crab, sweet Snow Crab, corn, red potatoes and smoked sausages, all with a Margarita. By this time, we were ready to check into our hotel back at Troutdale.

The next day we planned out a visit to Portland. I have always heard the city of Portland is called the city of roses, but I really never knew the reason why. Now I know. Portland has a park called Washington Park. Why not Oregon Park? No one asked me to name it. They have a beautiful International Rose Garden full of roses in any color you could imagine. We are not especially big flower people, but we were amazed at the variety of plants and colors. Washington Park is very large and it includes a zoo, an arboretum, a children's museum, a memorial to Vietnam Veterans, a world class Rose Garden and our new favorite place, the Japanese Garden. Because the park is so large, they have a shuttle that stops every 15 minutes at the shuttle stops throughout the park. You do need to get to the park early in the day, as the parking spaces fill up fast. The good news is there is a light rail station inside the park that starts at the Beaverton and Sunset transit center and travels through the park to the city center along Jefferson Street. We were lucky because we found parking and as we love to walk and hike, we found that getting around the park was fairly easy.

After walking through the Rose Garden, we wandered over to the Japanese garden. There is an entrance fee to go into the Japanese garden and they don't open until 10 a.m. on most days. Walking around the rest of the park for a few hours is a good way to kill time until the garden is open. When we were there, they were doing a huge remodeling project at the garden entrance, along with a couple of new buildings inside the garden area. Because of the remodel project, the opening is through a fenced area and up a winding path to the top of a small hill. The walk was easy and didn't seem to hinder anyone who could walk, but I think wheelchairs would be a problem. I have never been to Japan, but Phil has and he said the gardens were very authentic. I know they made me want to visit Japan. The garden was filled with tranquility and stunning beauty. It was designed by Professor Takuma Tono in 1963 and encompasses five and a half acres with five separate garden styles. There is a Japanese tea house, meandering streams, walkways, and ponds with the biggest Koi fish I have ever seen. Some of the highlights of the garden are the Wisteria arbor that leads to a five tiered stone pagoda lantern, the strolling pond garden that features an authentic Moon Bridge, the zig-zag bridge, and the sand and stone garden. It seemed to fill you with a desire to go back home and toss out your old garden and rebuild in the Japanese style. At least it gave me some good ideas for improvement in my garden. This is the kind of place where you just want to sit down on a stone bench and take in the quiet and the soft sounds of slowly moving water. So, if you ever get to Portland, I highly recommend visiting Washington Park and of course the Japanese Garden.

As our plane was ready for departure the next morning, we had to say goodbye to the city of Portland and town of Troutdale. And of course, as always, this adventure would not have happened if we didn't have our Mooney.

Send your questions for Tom to TheMooneyFlyer@gmail.com

Question 1: How can I get the most from my brakes? What is the normal replacement time period (hours)? How often should I change the brake fluid?

I have no idea about how many hours brakes last, but I can tell you how you can make them last longer. Don't try to make the first runway turnoff. Let the plane roll out without using brakes, because using the brakes during the roll out is when most of the wear occurs. When I was at Hayward, we had a short and a long runway. We changed right brakes and a lot of flat spotted right tires because everyone wanted to make the first right turnoff to the parking ramp. About the only other tip would be to slow your taxi speed and your brake use will be less. Brakes can really last quite long time, but it is totally up to the pilot. The heavier planes, of course, wear out the brakes the most, i.e., a TLS has higher brake wear than an M20C.

Changing brake fluid is really a judgment call, but if you compare new fluid with the fluid in your plane, the new fluid will be quite bright red. Older brake fluid turns almost black. Checking this is best done at Annual of course, and usually we might recommend it when we are changing o-rings in the calipers, bleeding brakes or any other reason that gives access to the fluid. Dirty fluid will wear o-rings quicker and cause the caliper piston to get "sticky", causing wear in the master cylinders. We don't have to do this very often, but just guessing, we probably do this only about every 1,000 hours or so.

FAA Plans to Pull the Plug on over 300 VORs

In July, the FAA issued a final policy statement that outlines its plan to establish a VOR Minimum Operational Network (VOR MON) as it moves forward with a NextGen transition to Performance-Based Navigation (PBN). The policy statement includes a list of just over 300 candidate VORs selected for discontinuance as well as the criteria used for phasing them out. The FAA remains committed to retaining a VOR MON that will enable pilots to revert from PBN to conventional navigation in the event of a GPS outage. For more information, and for the complete list of VORs being considered for discontinuance, go to: **https://www.gpo.gov/fdsys/pkg/FR-2016-07-26/pdf/2016-17579.pdf**

Lockheed Martin Flight Service Changes Name
ALL FLIGHT SERVICES REMAIN THE SAME

On Aug. 15, Lockheed Martin Flight Service was renamed *Leidos Flight Service*. The services that the company provides to pilots remain the same. The name change reflects *Leidos* shareholders' approval to complete a previously announced agreement with Lockheed Martin, which separated and combined its Information Systems & Global Solutions business segment with Leidos Holdings, Inc.

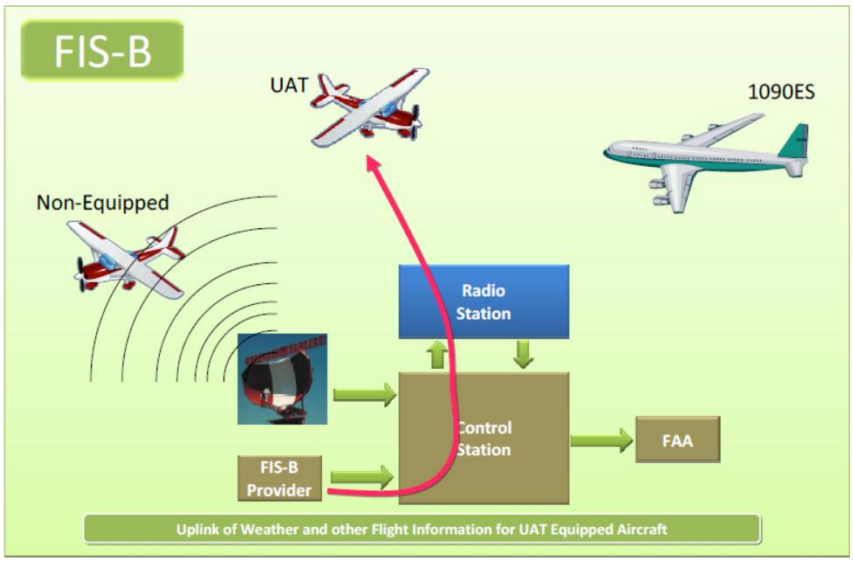
The full transition could take up to a year and its overall effect to aviators will be minimal. During the transition, flight service personnel will begin answering the phones as ***Leidos Flight Service*** and the web portal's branding will change.

Leidos specializes in providing solutions for national security, health, and infrastructure environments and had signed the agreement with Lockheed Martin Information Systems & Global Solutions in January. The company is headquartered in Reston, Virginia, and reported 2015 annual revenues of approximately $5.09 billion, according to a *PR Newswire* article.

FIS-B Advisory Service is Adding DATA, Curtailing Older NOTAMs

New weather products that will become available on the Flight Information Service-Broadcast (FIS-B) beginning next year. Pilots also should note new limitations in the delivery of notices to airmen (NOTAMs) that will take effect in September.

The new weather products to become available via FIS-B in 2017 include information on lightning strikes, cloud tops, icing (current and forecast), and turbulence. The FAA is also studying uplinking one-minute automated weather observation station (AWOS) observations or center weather advisory (CWA) and graphical AIRMET (G-AIRMET) products.



Starting this September, the FAA will limit NOTAMs uplinked by FIS-B to NOTAM-D and NOTAM-FDC products that generally have an effective or issuance date that's **less than 30 days in the past**. However NOTAMs advising of temporary flight restrictions (TFRs) will continue to be transmitted. The change is expected to reduce the number of NOTAMs transmitted to aircraft by about 20 percent.

INTERNATIONAL (ICAO) FLIGHT PLAN FORM TO TAKE EFFECT IN JANUARY

The FAA has delayed the Oct. 1 implementation of the international flight plan form for all civil domestic flights. Flight service vendors are working to implement the change to their systems in late January 2017.

Pilots can already file IFR or VFR flight plans using the international flight plan form. AOPA and the FAA encourage pilots to use the international flight plan form for non-SFRA flights to ensure they are prepared for the removal of the domestic form next year.

If you use ForeFlight, you can easily set up ICAO flight plan filing. Go to **https://blog.foreflight.com/2016/02/05/filing-icao-flight-plans-in-foreflight/** for step by step instructions. For more information, **CLICK HERE**

FAA IMPROVES ADS-B PERFORMANCE MONITOR

IF YOU HAVE ADS-B OUT INSTALLED, YOU CAN CHECK TO SEE IF IT'S WORKING PROPERLY. THE FAA'S NEW WEBSITE SENDS YOUR ADS-B REPORT VIA EMAIL WITHIN 5 MINUTES

Previously, requests for an ADS-B Aircraft Operation Compliance Report were submitted by email and the reports were generated manually. Now, requests for reports are made through the online Public ADS-B Performance Report Request web page, (**https://adsbperformance.faa.gov/PAPRRequest.aspx**)

Here, aircraft owners can complete a few data fields, in many cases select aircraft equipment from drop-down menus, and submit a request in minutes. Your ADS-B Compliance report will be emailed to you within 30 minutes. (It usually takes just five minutes!)

The online system has officially replaced the previous email service, said James Marks, who leads the FAA's ADS-B Focus Team. Reports are currently available from Dec. 19, 2015, to present, he noted.

Shortly after submitting your request, you should receive an email with a six-page PDF file attached—and the last two pages are "intentionally left blank." Marks said, "We opted to remove some technical data from the public reports that provide little value to aircraft owners, to improve request-processing efficiency."

Anything on the report highlighted in red indicates that the aircraft's ADS-B Out system did not meet the corresponding performance requirement. Additional information about the items in the report are available in the online user's guide, which the FAA said is a living document. "It will evolve based on feedback from users, manufacturers, and changes to the Performance Monitor and FAA policy. **CLICK HERE** for the full article

Five-Knot Airspeed Assignments Coming Soon

New speed assignments are all part of the NextGen plan.

A new FAA order — specifically JO 7110.65, paragraph 5-7-1 — may leave some pilots wondering if they've misunderstood ATC's instructions when they're asked to fly airspeeds such as 255 or 195 knots, speeds all calculated in 5-knot increments.

The change which began August 29, is part of the agency's effort to create more time-based ATC separation standards, as more and more distance based standards disappear, under the evolving Performance Based Navigation (PBN) standards of NextGen. Pilots may notice use of the new speed restrictions results in slightly longer vectors to the final approach, according to the chairman of the NBAA's ATC working group Rich Boll. But he added that the ability to more precisely tune an aircraft's final approach speed should also lead to more direct routings that reduce overall flight time.

Boll said while pilots may only encounter the new speed changes during arrivals for the present, they should expect the use of the 5-knot separation standards farther and farther out from hub cities as the use of NextGen arrival procedures expands.

Medications and new regulations: What it means for you

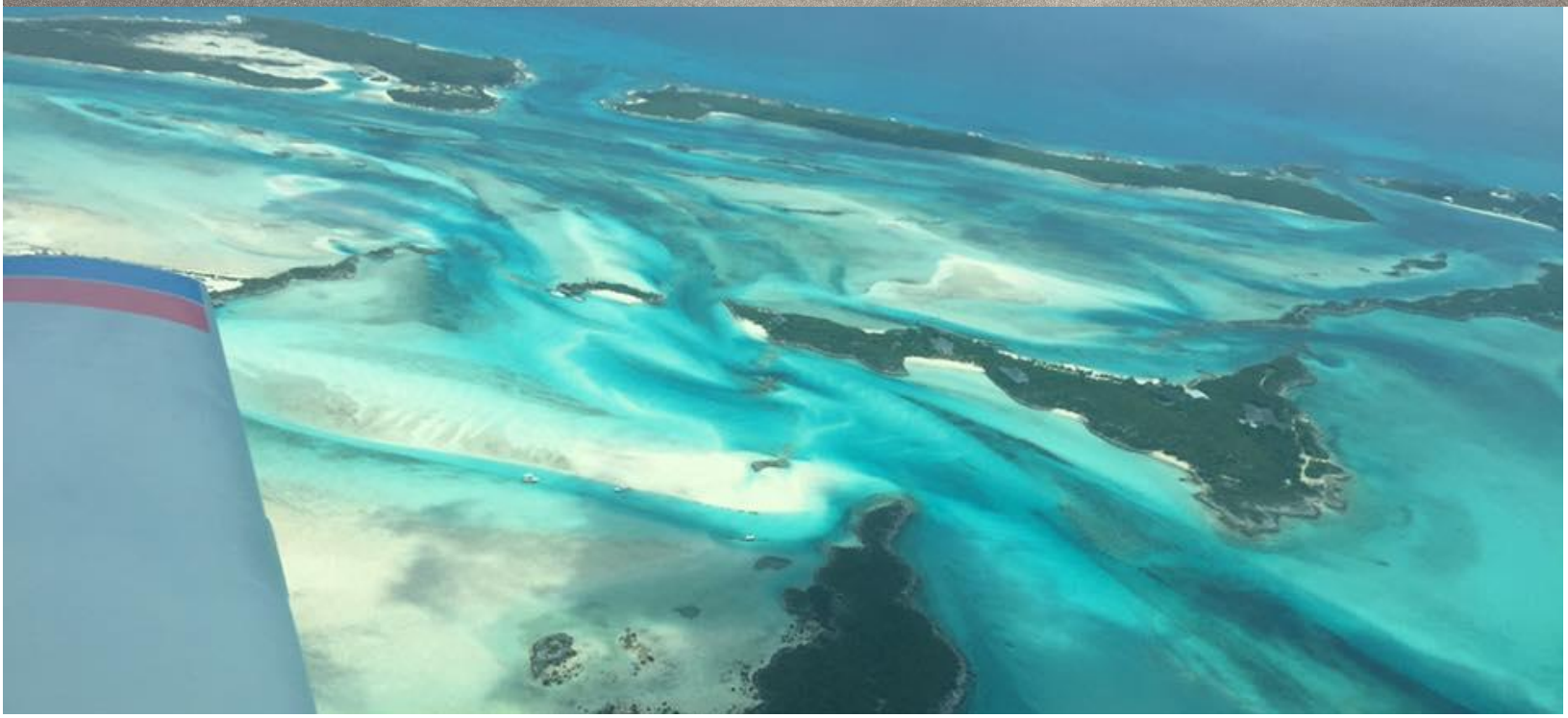
With the passage of the FAA reauthorization bill the use of medications is a topic of many questions. For now, until the FAA publishes the notice of proposed rulemaking (NPRM) that may provide more details, medications that the FAA currently considers unacceptable for flying will continue to be disqualifying when new rules are implemented. The FAA reviews many medications to determine the possible adverse effects in the flight environment and their contraindications to safety. Medications can affect people differently, and drugs that may seem fairly innocuous on the ground can cause noticeable side effects at even relatively low general aviation altitudes of 3,000 to 4,000 feet msl. Although the FAA doesn't publish a comprehensive list of medications, the online Guide for Aviation Medical Examiners includes a list of "Do Not Fly/Do Not Issue"medications for reference.

Another very good source can be found at www.aopa.org This explains the FAA policy regarding medications usage, and includes an extensive list of frequently prescribed medications and their status with the FAA.

When the new regulations take effect in 2017, all of us who will be allowed to fly without the need for a current medical certificate will need to be well-versed on our responsibilities under the regulations, particularly 14 CFR 61.53 and 91.17 that address the use of medications while flying.

A New Head Set Under $400

Faro AIR has developed a head set with a revolutionary design, astonishing noise-reduction, and ultra comfortable fit. Connected, comfortable, and free of any bad hair days. $390. CLICK HERE for more information.



Future Mooney Events

MAPA Safety Foundation
MooneySafety.com Mooney Pilot Proficiency Program

September 9 – 11, Manchester, NH
October 7 – 9, Mansfield, OH
CLICK HERE to register

Florida Mooney Lunch Group

September 10: Lakeland (**KLAL**)
Contact Dave at daveanruth@aol.com or (352) 343-3196, before coming to the restaurant, so the group can have an accurate count.
October 8: Laurderdal (**KLAL**)
November 12: Vero Beach (**KVRB**)
December 10: Punta Gorda (**KPGD**)

Clear Lake Seaplane Splash In, Lakeport, CA, **September 15-18. For more information, see page 7.**

Mooney Summit IV

An educational event and social gathering, will once again be held at Panama City Beach, FL, **September 29th thru October 2nd, 2016. CLICK HERE for more details.**

MAPA Homecoming Convention

The Inn of the Hills, Kerrville, TX. **Oct 19 – 23, 2016. Click Here to Register.**

Elko Regional Airport is holding its annual "Airport Appreciation Day" on **Saturday September 10th**. We would appreciate your support of this wonderful event. Over the years, many pilots have flown into Elko for this fun filled day. If you fly in, the BBQ luncheon is on us! We are also seeking EAA pilots who might be interested in conducting Young Eagles flights on the 10th.

I didn't like my beard at first… then it grew on me

GoDirect Flight Preview by Honeywell

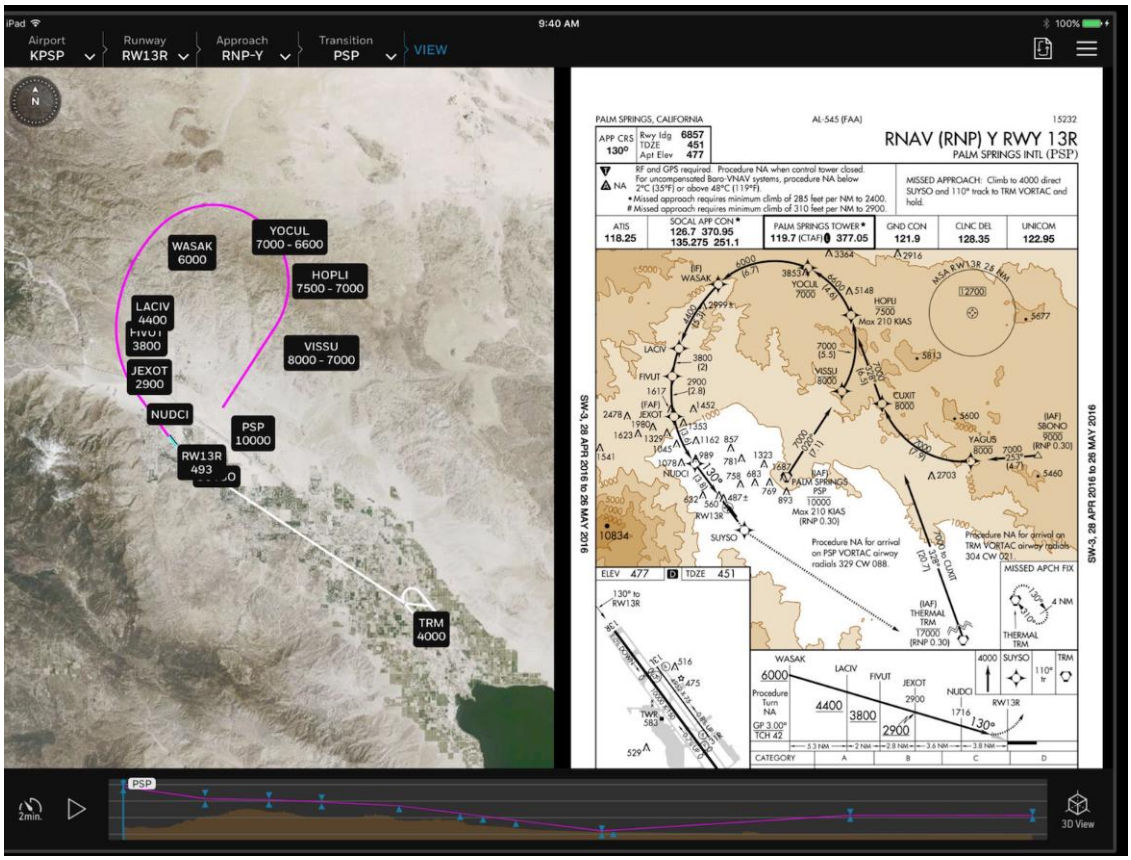
There are many tools out there to assist pilots now-a-days. ForeFlight, WingX, AeroWeather and many, many more. We came across an app by Honeywell and wanted to pass some information along to you. **CLICK HERE** for more information.

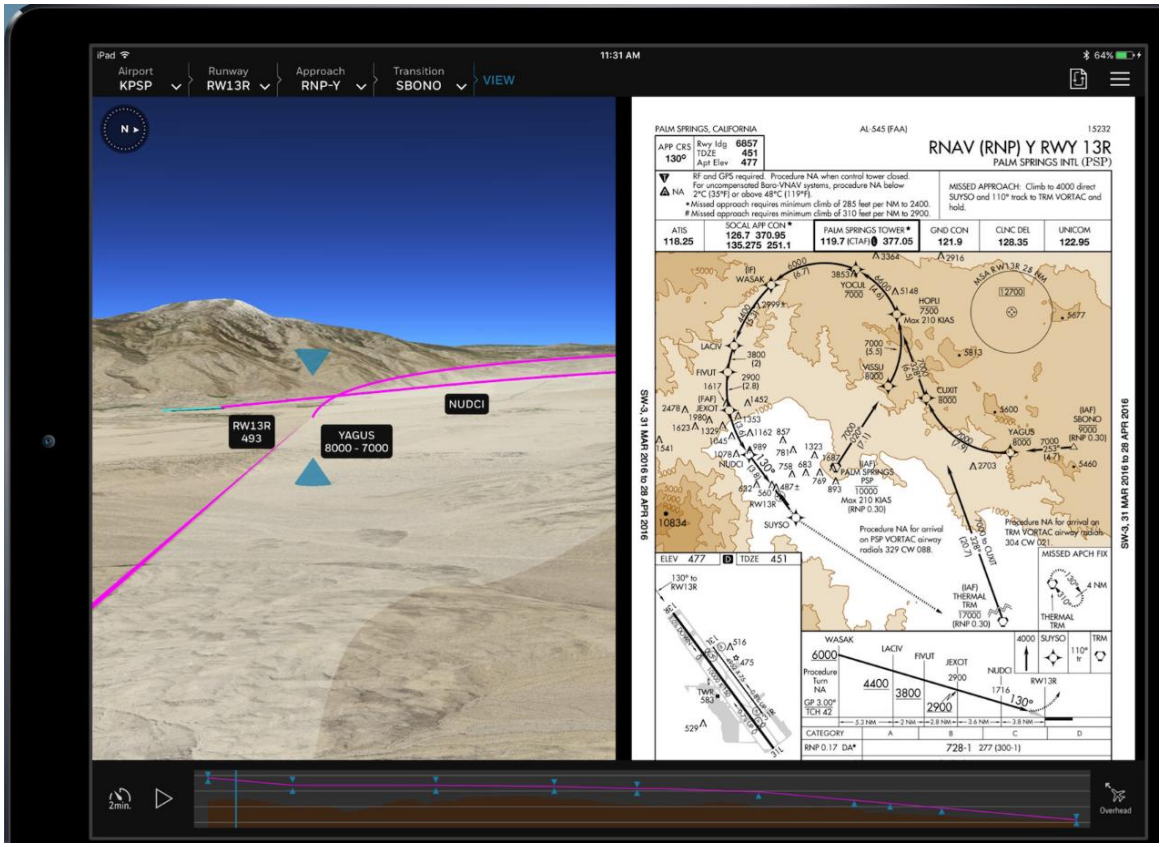
The mission of ***GoDirect Flight Preview*** is to provide you with a 3D Preview of an Instrument Approach. It does not replace any technique that you may have for preparing for a new or rarely used approach. However, in our mind, it's 3D animation of an approach is very valuable. Think of it as Synthetic Vision that will help you prepare for an Approach.

The 3D synthetic vision operates best if you have an internet connection, and since you are using this tool to prepare for an approach, it is likely that you will have an internet connection. But if you do not, it will also render the 3D animation locally.

GoDirect is currently available as an iPad app. The app is free, but you must subscribe to the data, much the same way as you do for ForeFlight and other flight planning apps. The Data costs $1.99/month or $19.99/year and is available in six regions: NW, SW, NE, SE, South Central and North Central.

It provides: 1) 3D approach path and terrain, 2) Most Approaches in the USA, 3) The FAA Approach Plate alongside the 3D rendering, 4) You can View an approach with either streaming satellite terrain or synthetic vision terrain.

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Approach RNP-Y
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PALM SPRINGS INTL (PSP)
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Rwy Idg 6857
TDZE 451
Apt Elev 477
ATIS 118.25
SOCAL APP CON 126.7 370.95 135.275 251.1
PALM SPRINGS TOWER 119.7 (CTAF) 377.05
GND CON 121.9
CLNC DEL 128.35
UNICOM 122.95
MISSED APPROACH: Climb to 4000 direct SUYSO and 110° track to TRM VORTAC and hold.
WASAK
YOCUL 7000
HOPLI 7500 Max 210 KIAS
LACIV 3800 (2)
FIVUT 2900 (2.8)
JEXOT
VISSU 8000
CUXIT 8000
YAGUS 8000
SBONO 9000 (RNP 0.30)
PALM SPRINGS PSP 10000 Max 210 KIAS (RNP 0.30)
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NUDCI
RW13R
Procedure NA for arrival on PSP VORTAC airway radials 329 CW 088.
Procedure NA for arrival on TRM VORTAC airway radials 304 CW 021.
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TDZE 451
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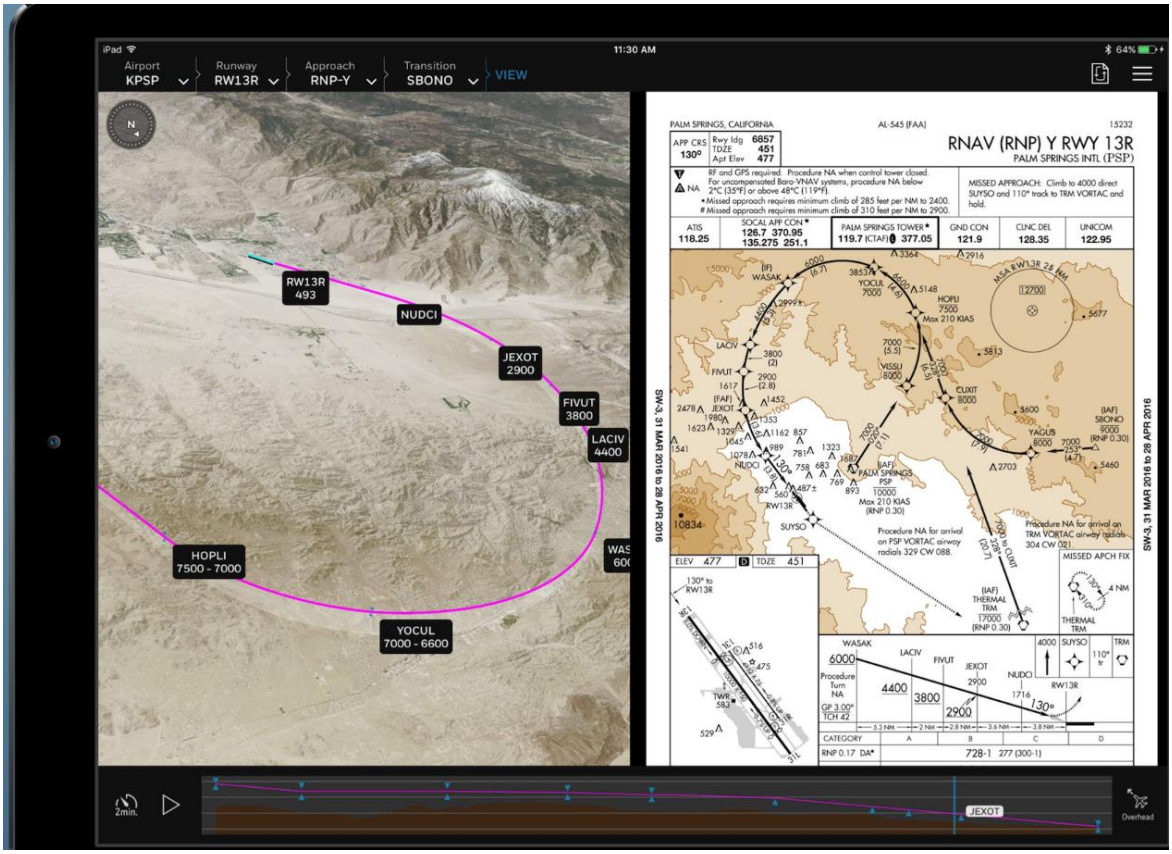
Overhead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YOCUL 7000 - 6600
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VISSU 8000
CUXIT 8000
YAGUS 8000
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PALM SPRINGS PSP 10000 Max 210 KIAS (RNP 0.30)
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2900
GP 3.00°
TCH 42
CATEGORY
RNP 0.17 DA*
728-1 277 (300-1)
SW-3, 31 MAR 2016 to 28 APR 2016
2min.
JEXOT
Overhead

Mooney Instructors Around the Country

Arizona

Jim Price (CFII, MEI, ATP). Chandler, AZ (KCHD). 480-772-1527. JasPriceAZ@gmail.com Proficiency training and IPCs. Website: www.JDPriceCFI.com.

Ken Reed (CFI, CFII, MEI, ATP), Tucson, AZ. 520-370-3693. Owns M20K and has previously owned an M20C, M20F & M20M. ***kr@klrdmd.com***

Boris Vasilev (CFI, CFII, MEI, AGI), Phoenix Area.
602-791-9637, boris@atjeuhosting.com.Time in M20C through M20R models. Private commercial and instrument training, BFR's, IPC's, and FAA Wings.

California

Geoff Lee, San Martin, CA. 69050@comcast.net. CFII, 11,000+, Mooney Rocket owner. Teaching since 1969.

Don Kaye (Master CFI) Santa Clara, CA. (408) 249-7626, Website: www.DonKaye.com. Master CFI. PPP Instructor, MAPA, 8 years; Owner: M20M. Total: 10,265; Mooney: 8454; Instruction: 5641

Chuck McGill (Master CFI) San Diego. CA 858-451-2742, Master CFI, MAPA PPP Instructor, M20M, M20R, M20TN, Website: Click Here. Mooney: 6000; Total: 13,000
Instruction: 9800

Rodrigo Von Contra, Oakland. CA. (510) 541-7283, Rodrigo@vonconta.com. Sets record in a Mooney. 7,000 hrs. CFII & Gold Seal; Garmin (including G1000) training; Ferry flights (experience in Central & South Amer) transition training & Aircraft Mgmt; Owner: M20J/Turbo Bullet

George Woods, Woodland, CA (O41). (530) 414-1679, georgemichaelwoods@yahoo.com.
Fixed wing CFII, Multi-Engine, Helicopter, Glider & Gyroplane CFI. Owns Mooney Rocket.

Paul Kortopates, San Diego Area. (619) 560-8980, Kortopates@hotmail.com. PPP Instructor, MAPA; Owner: M20K/252. Total: 2500; Mooney: 2000

Mike Jesch, Fullerton, CA. (714) 588-9346 (e-mail is best), mcjesch@pacbell.net. Total: 20,000
Instruction: 1500, FAASTeam Lead Representative, Specialites: Airspace, Garmin 430/530, Proficiency flying; Wings Program, VP Pilot's Asso. Master CFI for ASME, IA.

Colorado

Chad Grondahl, Colorado Springs (KCOS), chad@sundhagen.com.
CFI, CFII, MEI & ATP, Mooney owner (M20F) and FAA Gold Seal Flight Instructor specializing in transition and proficiency training, mountain flying, flight reviews, IPCs, turbocharged aircraft checkouts, ferry flights, and air-to-air photography of your Mooney. Experience: 4,500 hrs TT - 1,800 hrs Dual Given - 750 hrs in Mooneys (most models).

Ben Kaufman, Fort Collins. (KFNL). (CFI/CFII) – (801)-319-3218 - bkaufman.mba@gmail.com.

Connecticut

Robert McGuire, Durham. Cell: 203-645-2222, rmcguire007@hotmail.com. MAPA Safety Foundation Instructor; founding partner, Aero Advocates Aviation Consultant. Total: 6500; Mooney: 5000

Winslow Bud Johnson, smgemail@aol.com, 203-348-2356. Bud specializes in teaching in the M20K and has logged more than 1,500 hours in that aircraft.

Florida

Mike Elliott Tarpon Springs. (CFII) Master CFI. 317-371-4161, mike@aviating.com. Quality instrument & commercial instruction, transition training, ownership assistance, plane ferrying. Mooney: 1600; Instruction: 600

Ronald Jarmon, *Panama City. (850) 251-4181. IAELLC@gmail.com. Total: over 7000. WILL TRAVEL! Will accompany customer out of Country, ferry flights, mountain flying, avionics training, Garmin Products. Total: over 7000. Web Site: IslandAirExpress.com.*

Robert McGuire, Hawthorne. (203) 645-2222, (Dec – Feb), rmcguire007@hotmail.com. MAPA Safety Foundation Instructor; founding partner, Aero Advocates Aviation Consultant. Total: 6500; Mooney: 5000

Ted Corsones, Naples. tedc@corsones.com, 239-263-1738. Total: 7500, Mooney: 4500, Instruction: 2000+. ATP & MCFI for MEL, MES, SEL, SES, Instrument Airplane & Glider. **Master Instructor Emeritus. He serves with the MAPA Safety Foundation as an instructor, treasurer, and chief financial officer.**

Georgia

Jim Stevens, Atlanta. USAF, Col, (ret), CFII. 404-277-4123. Instrument, commercial, IPC, BFR, transition training, ferry flights. 20 year owner of 1968 M20F. Total: over 6000; Instruction:1500

Kansas

John R. Schmidt, Fort Leavenworth and the Kansas City area. (COL, USAF, Retired). Instrument and commercial instruction, transition training, BFR. (913) 221-4937. jspropilot@att.net

Maryland

George "Brain" Perry, Maryland area (Frederick). Commander, USN, Retired.
Senior Vice President, AOPA Air Safety Institute. 5000+ hours TT in lots of different aircraft, including F-14 and F-18's. 1000 Hours in Mooneys of all flavors. 1000 hours of dual given. CFII / MEI / ATP / 525S. He currently owns and flies a 1999 Eagle M20S and fly about 200.
George.perry@aopa.org

Massachusetts

Ralph Semb, ralph@bowling4fun.com, 413-221-7535. I own and fly a M20S Eagle.

New Jersey

Parvez Dara, daraparvez@gmail.com, 732-240-4004. ATP, MCFI SEL/MEL with an advanced ground Instructor rating. Parvez has owned a Mooney M20J and a Mooney M20M (Bravo).

New York

Jack Napoli, Long Island. TT 6,000 hrs & Mooney time 3,000, jacknapoli12@gmail.com , 631-806-4436. He has been flying since 1965 (before he owned a car) and has over 6,000 hours of total flying time including 3,000+ hours in Mooneys. He currently owns a M20K-231.

North and South Dakota

Doug Bodine, Commercial Pilot/Flight Instructor, Cell 605 393-7112, mei.cfii@gmail.com I am a retired USAF pilot, now working as a commercial contract pilot, so various model experience from WWII Warbirds through heavies. I have been flying Mooneys for 12 yrs and have a 201. I have been instructing since 1994 and am at about 10,000hrs. I actively instruct in tail wheel and turbine as well. I have flown all the common Mooney modifications – missile, rocket, screaming eagle, trophy, etc. Even have time in the M22 Mustang. (See also, Texas). Total: 9800; Mooney, 1300; IP: 5600/21 years

Ohio

Mike Stretanski, Delaware Municipal Airport (KDLZ), Delaware, Ohio, AGI, CFI, Mooney Owner/Flyer, Flight Physicals, Senior AME, Test prep/Written review prep, Transition Training, G1000, HP/complex endorsements. 614-975-1003.MFSTRETANSKI@gmail.com

Tennessee

Shawn Cuff, **Hohenwald, TN** (0M3) ATP/CFI-II-MEI. Flying an M20K with Garmin 530W for local company. Relaxed and pleasant flight instruction, flight reviews and instrument competency checks. Contact: **Shawn.M.Cuff@icloud.com** or 931-230-5400. Thank you for reading and safe flying! :-)

Texas

Austin T. Walden, Lubbock & Abilene. 432-788-0216, AustinWalden@gmail.com. PhD, Specializing in Models C thru J, www.WaldenAviation.com.

Doug Bodine, Commercial Pilot/Flight Instructor, Cell 605 393-7112, mei.cfii@gmail.com Retired USAF pilot, now working as a commercial contract pilot, so various model experience from WWII Warbirds through heavies. I have been flying Mooneys for 12 yrs and have a 201. I have been instructing since 1994 and am at about 10,000hrs. I actively instruct in tail wheel and turbine as well. I have flown all the common Mooney modifications – missile, rocket, screaming eagle, trophy, etc. Even have time in the M22 Mustang. (See also, North and South Dakota). Total: 9800; Mooney, 1300; IP: 5600/21 years

***Bob Cabe**, San Antonio. Cell: (210) 289-5375, Home: (210) 493-7223, bob_cabe@hotmail.com. Total: 5000; Instruction: 2000+. Pilot since 1965. Served as an instructor providing transition training for people purchasing new Ovations & Acclaims. Total: 5000; Instruction: 2000+*

Brian Lloyd, Kestrel Airpark (1T7). 210-802-8FLY, Brian@Lloyd.aero. WILL TRAVEL! Owner: M20K/231; Non-Mooney :-) specialist in spin training, upset recovery training, basic aerobatics formation training, tail wheel transition. Total: 8500; Mooney: 500

Mark Johnson, Houston area. mjohnsonf16@hotmail.com. 832-773-4409. CFII, SEL. Citation 501 and a King Air 350, F-16s and F-117s; currently a T-38 Flight Instructor at Sheppard AFB as a Reservist in the USAFR. Owns an '81 M20J 201. 5800 total hours, 2200 military and 1500 hours of it in Mooney aircraft.

Jerry Johnson, Southwest Texas**.** mooney9281V@hotmail.com. 817-454-2426. Commercial, SEL/MEL CFII, Glider, Typed in C-500's. Member MAPA Safety Foundation. Owned a Mooney for over 30 years. Total: 11,000 +; Mooney: 6000.

Vermont

Ted Corsones, Rutland. 813-435-8464, tedc@corsones.com. Total: 7500, Mooney: 4500, Instruction: 2000+. ATP & MCFI for MEL, MES, SEL, SES, Instrument Airplane & Glider. **Master Instructor Emeritus. He serves with the MAPA Safety Foundation as an instructor, treasurer, and chief financial officer.**

Virginia

William Wobbe, Leesburg. william.wobbe@gmail.com , (713) 249-7351. ATP, SES, SEL, MEL, MES, CFI, CFII, MEI, AGI, IGI, ADX. Time in M20B through M20TN models and very familiar with Garmin G-1000, GTN750/650, and G530/430 avionics. 1600+ dual given in Private through ATP training. MAPA PPP instructor and lots of experience in cross country all weather flying including TKS Known Icing Systems. Flight Service Station Specialist and familiar with iPad weather planning apps such as ForeFlight. I can answer your questions about the Washington, DC SFRA and ICAO Flight Plans.

Joseph Bailey, *Winchester. (540) 539-7394. b747aviator@yahoo.com. ATP MEL, Commercial, SEL, SES, Glider. CFI, CFII, MEI, CFIG. EXP in Mooneys A-J. Providing initial & transition training. Total: 7800; Mooney: 500; Instruction: 3000*

Lee Fox, Fredericksburg. 540-226-4312, LCFox767@gmail.com. Mooney Staff CFI, Mooney Safety Foundation. Retired American Airlines Check Airman. Owns a M20J 201. Total time: Over 20,000.

For Sale -- Mooney M20J, IO-360-A3B6D, Exhaust System. Removed recently to install a Power Flow Exhaust System. In good, serviceable, condition, according to the Mooney mechanic who inspected it at pre-buy (7 months ago) and the mechanic who removed it (2 months ago). Asking $450 plus shipping. Shipping calculated upon sale. Located in Perry, Oklahoma (F22). Call 405-338-8992.

Parts for Sale

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

Mooney Cover

This cover will fit a newer, long body Mooney. Asking $600 (When new, these covers cost $1,149), Contact Jason Herritz at Chandler Aviation, Inc. 480-732-9118 parts@chandleraviation.com

FOR SALE

1965 Mooney M20E Super 21

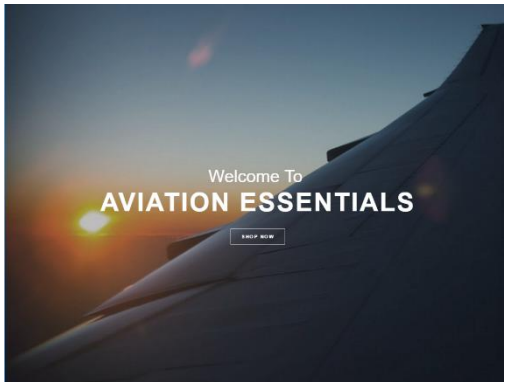
TT 6425, SMOH 780, SPOH 780, 200hp Lycoming IO-360-A1A, Hartzell Prop with "B" hub (no AD), 201-style instrument panel, manual gear and flaps, Century NDS360 HSI, KX-155 w/GS, KI-209, KX170B w/ GS w/ MAC1700 digital upgrade, KR22 MB, KR 86 ADF, Northstar M3Approach GPS w/ Argus 3000 moving map, CP125 audio panel, PS Eng. intercom, WX-8 stormscope, AT-50 transponder, Brittain wing leveler, standby vacuum system, IFR certified to 20,000 ft. UBG-16 engine analyzer, LASAR cowl closure and brake caliper rotation, tanks leak free, leather interior, inertia reel shoulder belts, all factory manuals on USB stick. Owned, hangared (AZ) and maintained by A&P/IA last 18 yrs. $45,000

K. McMullen, 480 460 0639, kellym@aviating.com

LASAR'S Free Site

Check out Lake Aero Styling & Repair's " LASAR" Web Site: www.lasar.com New, under "Mooneys for Sale", you can List your Mooney for FREE!

Also check out Parts, Mods, and Services. LASAR, est. 1975 **(707) 263-0412** e-mail: parts-mods@lasar.com and service@lasar.com



New and used aviation supplies.

In many cases shipping is free.

Thanks for looking,
Mooney N292LG

CLICK HERE to Browse/Shop

1978 Mooney 201VL
$ 85,500 New Price
MODEL 201 J - 200HP
mbmaksymdc10@aol.com
AIRCRAFT SERIAL# 24-0398
Lycoming IO-360-A3B6D

TIMES
AIRFRAME TOTAL: 5256

ENGINE TSMO: 878

Engine overhauled BY LYCOMING FACTORY INSTALLED 01/16/2004

Propeller governor INSTALLED 01/16/2004
OVERHAULED PRO - PROP
HOSE ASSEMBLIES FUEL OIL REWORKED 01/09/2004

GANN AVIATION

New propeller 04/01/91 MC CAULEY

Power flow exhaust system 2015
DYNAMICALLY BALANCER 5/23/95
VACUUM PUMP REPLACE 07/15/2015
NEW SKYTEC HIGH TORQUE STARTER and upgraded start relay
Electrical New zcftronics voltage regulator
INSTALLED M-20 AIR/ OIL SEPARATOR
NEW ENGINE TACK CABLE AND OVERHAULED TACH 2007

AIRFRAME
Alternate air door kit
Complete brake overhaul
PILOTS MASTER BRAKES CYLINDERS REPLACED 03/2008
ALL NEW TIRES AND TUBES
RIGHT and left FUEL TANK completely resealed 2015
12V CONCORDE RECOMBINANT GAS BATTERY

INSTRUMENTS
Altimeter, static, integrated system, transponder IFR

ANNUAL 09/01/2015

CORROSION TREATMENT each annual

RADIO
INSTALLED GARMIN GPS 430
INSTALLED GPS ANTENNA GA-56GPS
INSTALLED GARMIN 340 AUDIO PANEL

FOUR PLACE AUDIO I/C
ASPEN 1000 PRO
AVIDYNE TAS-600 traffic
STAND BY VACUUM GYRO
STORM SCOPE WX1000 PLUS
ENGINE EDM 700 4C A6 WITH FUEL FLOW
KFC 200 AUTOPILOT with altitude hold AND CONNECT TO ASPEN
1 COLLINS VHF 251ACOMM
1 COLLINS VIR351 WITH TO /FROM AIRTEX 345 406 February 2016
COLLINS TRANSPONDER TDR-950 UP DATED 03/2011
DAVTRON MODEL 811BDIGITAL CLOCK
NEW ENGINE TACK CABLE AND OVERHAULED TACH

GENERAL INFORMATION
ELECTRIC LANDING GEAR
ELECTRIC TRIM
ELECTRIC FLAPS
Control wheel steering
Navigation annunciation
System annuncator
ROSEN SUN VISORS
Mooney shoulder harness installed
Wing tip strobes
External power receptacle
Copilots brakes