The Mooney Flyer

The Official Online Magazine for the Mooney Community

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Features

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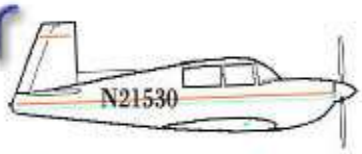
From the Editor

Phil Corman



To Oshkosh & Back

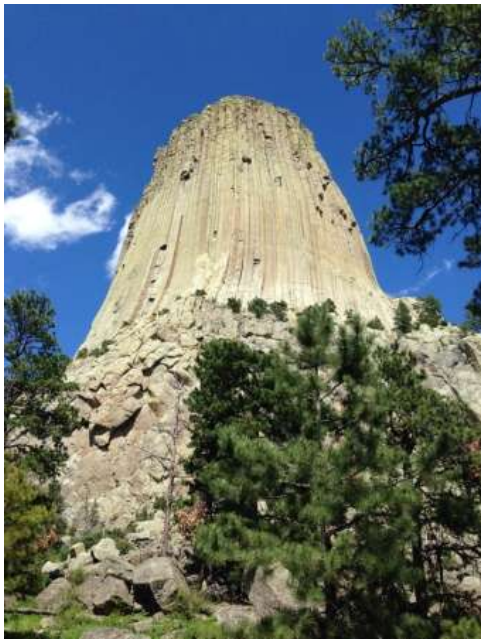
This month, we flew our Mooney as it was intended to fly – to Oshkosh's AirVenture from Paso Robles, CA. We took 2 weeks and zigzagged across the western and Midwestern USA. Our first stop was Bryce Canyon (KBCE), UT (7,589' MSL) which was, to date, my highest altitude landing. It was also filled with a direct 14 knot crosswind, which turned out to be no problem at all. We got to see our kids and grandkids from New Hampshire, who were RV'ing around the southwest. We hiked with the grandkids on our backs, swam, and played UNO. The storyline was, "Mooney brings Family Together".

The next morning, we departed for Spanish Fork, UT (U77), near Provo, UT. The flight from KBCE to U77 took us up a stunning green valley filled with rivers and ponds. We spent a few days at Park City and Sundance Resort. At Sundance, we hiked a few miles up to Stewart Falls. The picture to the right is on that trail, with Mt. Timpanogos in the background. Park City is filled with great restaurants and shopping for my copilot. Robert Redford's Sundance is a picturesque and serene place on the north side of Provo Canyon with creeks flowing through it.

After a few days in Utah, we departed at "O-Dark-Thirty" for the Black Hills Airport, South Dakota (KSPF). We flew at 11,500 over Evanston, WY to Spearfish, SD. The scenery once again was amazing. However, for most of the flight, we did NOT have ADS-B "In" reception. The weather was beautiful and there were not a lot of airplanes, so it was not an issue. The final 20 minute descent into Spearfish was absolutely breathtaking. The Black Hills are stunning and the forest covering them is a

Dinner & Wine at EOS Winery

verdant green. In South Dakota we visited Devils Tower, the Black Hills, Deadwood, Badlands National Park and the South Dakota Air & Space Museum. South Dakota is indeed, a hidden gem.



From South Dakota, we flew to Eau Claire, WI for no particular reason other than we had never been there before and it looked the most interesting. The city has more bridges per capita than we have typically seen and we found a great bar called Mona Lisa.

From there, we flew into Dodge County (KUNU) where we would be based for the Oshkosh experience. It's about a half hours drive to Wittman and very easy in/out. We spent the next 2 ½ days at AirVenture. This was perhaps the best AirVenture that we have been to. There were several parties and get togethers and I

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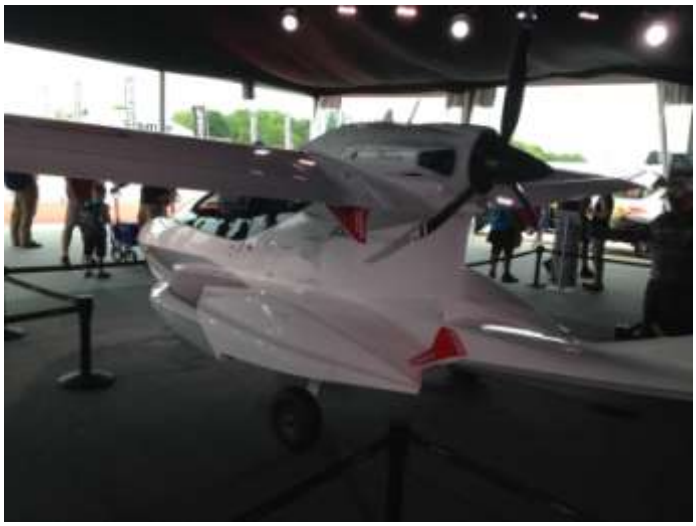
participated in the well attended *Mooney Owners Forum* with many other wonderful Mooney people.

We attended many excellent seminars at AirVenture, where, as always, we learned some new things. To me, learning is what flying is all about, as well as meeting new friends and getting reacquainted with old ones.

Every day there were air shows, giving us a great excuse to stop walking and relax. Some of our favorites included the Warbird formation fly overs. I love the sound of those radial engines in the afternoon. This year, an Airbus 350 dazzled the crowd as it flew some amazing low level maneuvers. There were countless solo aerobatics, but my favorite remains the simply amazing Sean Tucker.

Over in the Warbird area, there were dozens and dozens of airplanes, including P-51 Mustangs, P-40 Warhawks, a de Havilland DH.98 Mosquito, an Avro Lancaster Bomber, T-28 Trojans, T-6 Texans, F4U Corsairs, and many more. There was even a replica of a WWII encampment.

Here is just a glimpse of what we saw!



On our way home, we continued zigzagging across the west. Our first stop was Centennial Airport (KAPA), just south of Denver. Our timing was perfect and we were able to spend another day with our kids and grandkids who were wrapping up their marathon RV adventure. Here's a pic of our three grandkids, enjoying the fountains outside of Union Station in downtown Denver. Again, thanks to our Mooney, we got to spend more quality time with our kids and grandkids, while enjoying a short Mooney flight from the Oshkosh area to Denver.

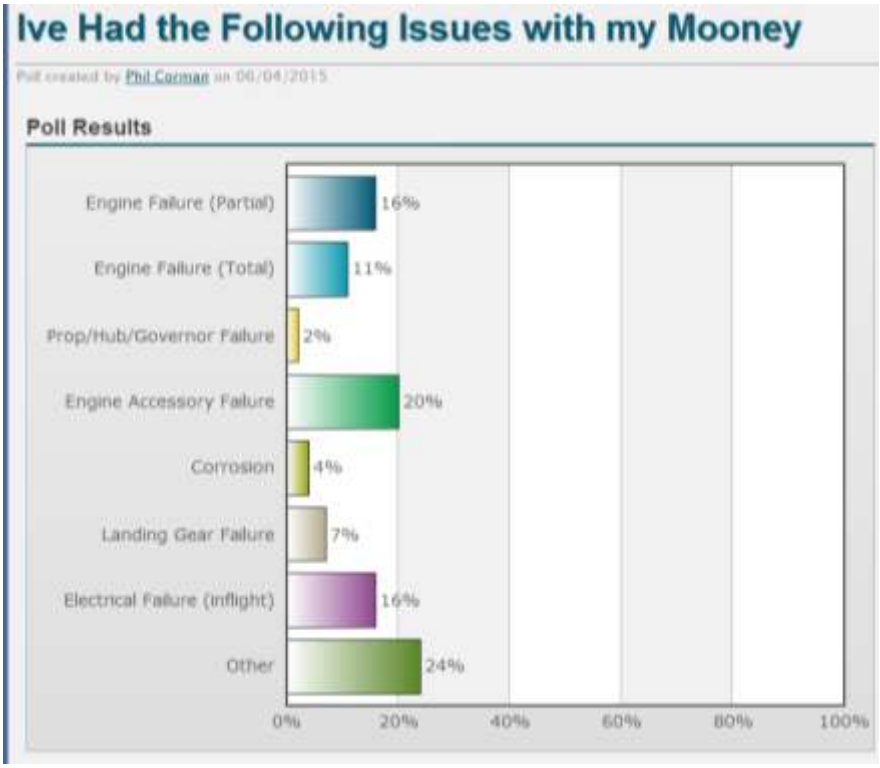
From Denver, we flew down the front range of the great Rocky Mountains, past Colorado Springs and the USAF Academy, en route to Santa Fe, NM. It was only a 1 hour 20 minute flight,

but with stunning aerial views. We turned over the Rockies just north of Angel Fire, which is nestled in a high Rocky Mountain valley, then over Taos, NM and then began our descent into Santa Fe (KSAF).

Landing at Santa Fe from the north provided gorgeous views. We followed an American RJ onto Runway 02. We planned on spending 1 day in Santa Fe, but couldn't leave until the 3rd morning. We checked into a typical Pueblan style Santa Fe hotel, and spent the day downtown in Santa Fe shopping, drinking and eating. That evening, we walked to the Plaza and heard a free concert by local native people.

The next day we drove into the mountains and through Los Alamos National Labs, past Valle Caldera (a huge volcanic caldera), past the Jemez Springs mission/ruins and ended up at Kasha-Katuwe Tent Rocks National Monument. This place is definitely worth a hike. It has unique rock formations and is a hybrid of Utah's Bryce Canyon and SE Arizona's Chiricahua National Monument.

From Santa Fe, we departed at 6:15 am on our final leg to Paso Robles. The next page has a few pictures of our flight as we departed westward from Santa Fe. The aerial scenery just wouldn't quit. It's as if our Mooney was saying that this trip is not over until you put me back in the hangar at Paso Robles, CA.



Last month's poll asked, **"I've Had The Following Issues with My Mooney?"**

No surprises here. Mooney owners primarily fall into one of two categories; they perform their own pre-buy or bring it to a good MSC. Bravo Zulu!

Next month's poll: "Did you Attend AirVenture and related events there?"

CLICK HERE to vote.

Appraise Your Mooney's Value

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

M20C M20E M20G M20F M20J

The first transponders were developed during WWII. German aircraft snuck into British formations and attacked Britain. The first transponder was called the "Parrott"

RE: **The Mooney Flyer Event** - I thoroughly enjoyed the Mooney Summit. As a companion flyer, I found the events geared toward the non flyer to be entertaining and informative. I feel a lot more comfortable after Phil and Linda gave us a simple guide, in the **Flying Companion Seminar**, on what to do if our pilot is incapacitated. Just no nonsense and clear information. The "**Mooney Destinations**" seminar was my favorite as I am always looking for getaway ideas. Again Phil and Linda had some great ideas that I am looking forward to trying. Thanks for thinking of the companion flyer at this Event!
Vikki B

As a fairly recent Mooney M20J owner (since September 2013), I love reading Mooney Flyer! Keep up the great work. I learned about the "Appraise your Mooney's Value" calculator through Mooney Flyer, but noticed that it didn't have an option for a GDL 88 install, which is an increasingly popular piece of equipment for traffic/weather and to ensure compliance with the FAA's upcoming ADS-B mandate. I e-mailed the **The Mooney Flyer** with my request to add that equipment to the valuation calculators. The next day, Phil Corman wrote me back and informed me that he had updated the calculators per my request. Talk about fast turnaround! Thanks to the Mooney Flyer!
Jason C

RE: ADS-B Ghost - I had my first ghost last Wed during my BFR. I have Garmin 430W and GDL--88. It was 1/4 mile away and 400 ft lower off my left rear quarter. A friend at my airport also has them with his 750 and GDL88.. I believe they are due to the latency of the system when merging radar data and ads-b out data.
Bill H

We attended AirVenture this year and I was thrilled to meet ½ of The Mooney Flyer team, Phil Corman, during a Mooney Panel. I told Phil that The Mooney Flyer is everything I have been looking for in a magazine dedicated to Mooney Pilots and Aircraft. The articles are both informative and entertaining. Where else can I get maintenance information from experts like Paul Loewen, Tom Rouch, and Cliff Biggs as well as flying info from Bruce Jaegar and Geoff Lee. Please keep up the excellent work.
George B

RE: For the Want of a Nail – I have been a proponent of the saying that "accidents typically do not happen because of a single error, but because of a chain of issues/errors". Cliff Biggs article NAILS IT! (No pun intended). My philosophy is that after the second issue/error occurs, a landing should be seriously contemplated to break the chain. Another key point is that the PIC should check the "easy stuff" first, thereby eliminating as many items and narrowing the troubleshooting to fewer issues. Again, Cliff nails this. When I started the article, I wondered what a Boeing 757 had in common with a Mooney. It's obvious, they both have human pilots. Thanks Mr. Biggs!
Tom M

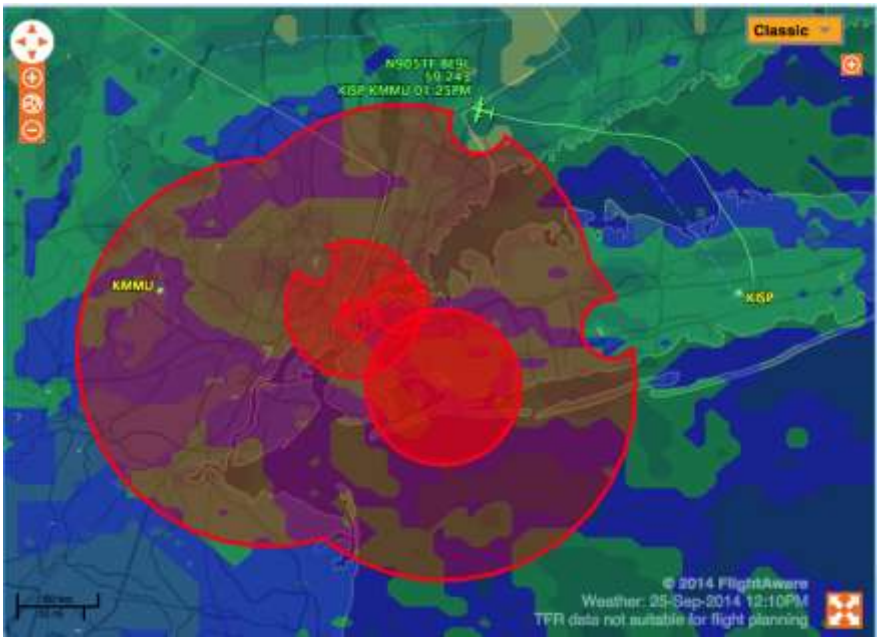
RE: Built Like a Mack Truck – I am glad that Jim Price wrote this article. There are a few more things that I think are also like a Mack truck. I get soooo tired of Cirrus parachutes. Mooneys are built tough to last and to protect the pilot. The roll cage and the wing are the built like a Mack truck feature in any general aviation aircraft… PERIOD.
Don C

The initial Parrots clogged preliminary radar screens, so they were only turned on at the request of a radar operator. The operator would say "Squawk your Parrot" and that's the origins of squawk codes today.

ADS-B Has Warts

We have been a strong proponent for the adoption of ADS-B for Mooney pilots and continue to be so. So this article should not be construed as bashing ADS-B, but we will write about some idiosyncrasies and FAA "stranger than fiction" things that we have discovered.

Our first "we can't make this stuff up" item comes from the FAA itself. If you are relying on your iPad or other display device such as a Garmin 500, GTN 650/750, etc for TFR rendering, read this carefully. A pilot reported in a recent AOPA Article (CLICK HERE for full story), that he was "thumped" by an F-16 for entering a TFR. The pilot claimed that the TFR was not rendered on his iPad. NOTE: He did not mention if "TFR" was selected "on" in his ForeFlight. The FAA wrote "The FAA attempts to issue a graphical depiction of restricted airspace for the convenience of pilots. The FAA is not required to do so, and the absence of a graphical depiction does not render a published flight restriction invalid." Our only take away from this is that FIS-B for weather, NOTAMs and TFRs, is only advisory and cannot be relied upon for completeness or accuracy, at least when it comes to the graphical rendering of TFRs; a somewhat important bit of information. For the time being, your only source of good TFR information appears to be a Lockheed briefing or DUAT/DUATS. This is somewhat disconcerting to us.



Unrelated to ADS-B, but related to this pilot's story, getting a DUATS briefing from an App such as ForeFlight does not constitute a "Legal Briefing". The use of the EFB to obtain my DUATS briefing was also ruled a violation of FAR 91.103(a) because it was "not an FAA-approved source of preflight and safety of flight information." Apparently the FAA's QICP certification of the "reliability, accessibility, and security" of the EFB's network infrastructure somehow did not apply to retrieving and delivering the FAA-approved DUATS briefings

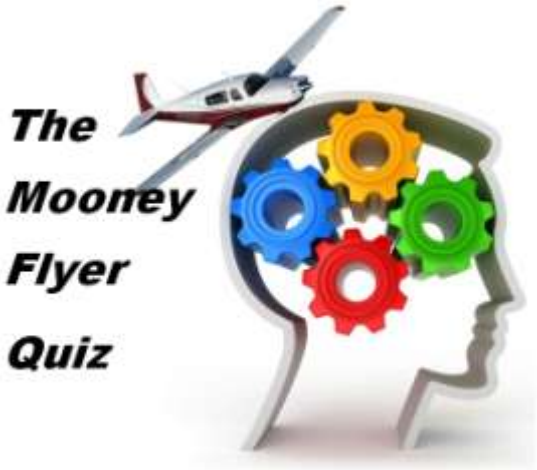
Another ADS-B quirk comes to us on the TIS-B (Traffic Information System Broadcast). It's called "Ghosting". Many of us have observed this on our GDL88 systems with GTNs. One reader recently wrote to us that, "There was a traffic depiction 1/4 mile away and 400 ft lower off my left rear quarter." Others have reported the same on GS430/530 displays with a GDL88. It may well be due to the latency of the system when merging radar data and ADS-B OUT data.

While flying to Sacramento (KSAC), we saw a "target", but it was outlined in yellow instead of the normal "white" on our GTN 750/GDL88. It concerned us, since it was new and heretofore never observed, and was in our flight path. It was over Stockton (KSCK). We touched on the target and saw that it had a ground speed of 15-17 kts. Immediately we thought it might be a balloon or drone. We diverted slightly around it. On the return flight, it showed up again. It turns out that this target was most likely a ground target since the ground speed varied from 0-17 kits. Later we confirmed this. A ground target should not be showing up if we are airborne at 7500' MSL. It's another wart, this time on the TIS-B side of ADS-B.

Here's another ADS-B TIS-B (Traffic) item to be very aware of. At this time, most airplanes do not have ADS-B OUT. So what traffic do you actually see? If you have a GDL88 for instance, and you're not within range of an ADS-B ground tower, you will only see traffic that is ADS-B OUT equipped. That means you will only see the traffic with a 1090ES transponder or a 978UAT ADS-B transceiver. Stratus, used with ForeFlight, are only receivers. So, unless you are ADS-B OUT equipped, you will not see all traffic since it will not be "centered on your ADS-B OUT GPS location. If you are within range of an ADS-B Tower, equipped with ADS-B OUT and are receiving the TIS-B signal, then you will see all traffic that ATC is seeing (those with their MODE C or MODE S transponders on). But, you will still not see planes that are not equipped with a transponder, or that are not operational or active. So TIS-B interpretation requires extreme vigilance in order for the pilot to know exactly what traffic may or may not be rendered at any given moment. See & Avoid is still the main traffic avoidance method. It's not a wart per se, but remember that some software provides filters on TIS-B traffic. The GDL88 enables altitude and distance filtering. Your current filter settings allow you to see the vertical and horizontal traffic that you desire.

It's ironic that one of the places you want TIS-B traffic the most is within the traffic pattern. Unfortunately, unless there is an ADS-B ground tower within line-of-sight of the pattern at pattern altitude, you will not see traffic there, except in the case of other ADS-B OUT equipped aircraft.

And then there's the installation issues that are arising. There have been problems with some installations, as measured by the FAA's ADS-B compliance monitor system. About 754 of the 2,034 aircraft equipped for 1090ES ADS-B Out (for flights above FL180) and 94 of the 1,106 aircraft equipped for 978UAT, are sending inaccurate ADS-B Out position, velocity and time information. CLICK HERE for more information.



It's important to keep in mind that, from our standpoint, that ADS-B, which is part of the FAA NextGen system, is really in "Beta Test" phase. There are not enough planes equipped to have fully debugged the system and the mandate is still four+ years away. It's useful to understand what is available and that it is mostly advisory for the time being.

1. The shortest route between two points on the earth's surface is called a (_____ _____ _____)

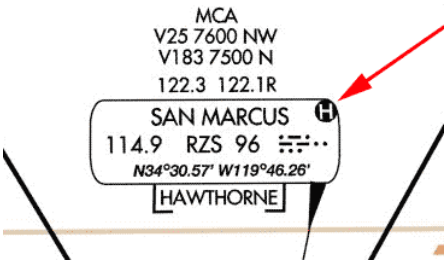
- **A. Great northern route**
- **B. Great circuitous route**
- **C. Great circle route**
- **D. Great Caesar's route**

Answer: **C**, the Great Circle Route. It's the shortest distance between two points on the surface of a sphere.

If you're flying from Sacramento to San Jose, you don't need to worry about this. But, flying a direct route from San Jose, Calif., to New York requires slight changes to your desired track. Here's the full definition of a great circle route, from the FAA's Advanced Avionics Handbook (FAA-H-8083-6)

2. While listening to the Los Angeles Center controller, you hear this broadcast: "Attention all aircraft. Hazardous weather information SIGMET Romeo 2, for Southern California, available on HIWAS, Flight Watch, or Flight Service frequencies." Decode "HIWAS."

- **A. Horrendous Inflight Weather Advisory Service**
- **B. Haphazardous Inflight Weather Advisory Service**
- **C. Hazardous Inflight Weather Alert System**
- **D. Hazardous Inflight Weather Advisory Service**



Answer: D, Hazardous Inflight Weather Advisory Service. This automated, continuous service broadcasts in-flight weather advisories (SIGMETS, AIRMETS, Convective SIGMETS, Center Weather Advisories and Urgent PIREPs) over select VORs (annotated by an "H", as shown on the San Marcus VOR). HIWAS usually doesn't offer enough detail, so call FSS or Flight Watch on 122.0. (AIM, Chap. 7)

3. A Mooney pilot in command (PIC) has great power, and with that power he or she must have a certain amount of discretion. When

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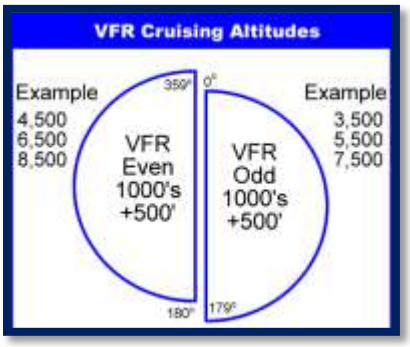
ATC says, "Mooney 456, descend at pilot's discretion, maintain 5000," the discreet Mooney pilot knows that ATC has authorized a decent at will, at any rate, plus the pilot may temporarily level off at any point and even return to the original altitude.

A. True

B. False

Answer: B, false. Well, it's partially false. A pilot's-discretion descent (or climb) does not allow the pilot to return to a vacated altitude. You can, however, saunter your way down. You can even level off without permission. For instance, you may want to level off to remain above some icy clouds.



4. The FAR 91.159 VFR cruising altitudes begin where?

- **A.** More than 2,000 feet above the surface
- **B.** More than 3,000 feet above the surface
- **C.** At or above 2,000 feet above the surface
- **D.** At or above 3,000 feet above the surface

Answer: B, more than 3000 feet above the surface. Remember, this applies only to cruising flight. (FAR 91.159)

5. Refer to this simulated NOTAM and the sectional chart illustration below:

Minneapolis Center (Farmington MN) [ZMP]: October NOTAM #82 issued by Fort Dodge IA [FOD] Service(s) DES MOINES approach CONTROL out of service contact ZMP 125.65

With the Des Moines approach control out of service, the Class C airspace _____ [End the sentence with the best option.]

- **A. Remains unchanged**
- **B. Reverts to Class D**

C. Reverts to Class E

D. Reverts to Class G

Answer: **A**, it remains unchanged. The NOTAM indicates that approach control duties have been assigned to Minneapolis Center (ZMP). The tower remains open with Class C airspace still in effect. Minneapolis Center will run the arrivals and departures until Des Moines' approach control is back on line.

Things are different when you're dealing with Madsion, Wisconsin's Class C airspace. See the note north of Madison's Class C 10-mile ring:

The NOTAMs/Directory, indicates that Madison's Class C airspace isn't open 24/7 and reverts to Class E after hours. The hours of operation are also listed on a current sectional chart, shown below.

Class C Hours of Operation, (from the Chicago Sectional)

GRAND RAPIDS CLASS C	124.6 257.6 (N) 128.4 257.6 (S) O/T 128.4 257.6 CHICAGO CNTR	0530-2400 O/T CLASS E
MADISON CLASS C	120.1 350.3 (E) 135.45 343.7 (W) O/T 133.3 380.35 CHICAGO CNTR	0600-2300 O/T CLASS E
MICHIANA CLASS C	118.55 257.8 (270°-099°) 132.05 257.8 (100°-269°) O/T 118.55 263.1 CHICAGO CNTR	0530-2400 SUN-FRI 0530-2345 SAT O/T CLASS E
MILWAUKEE CLASS C	118.0 317.725 (SE) 126.5 307.0 (NW)	CONTINUOUS
MOLINE CLASS C	118.2 (S/SE OF ACTIVE RWY) 125.95 257.8 (N/NE OF ACTIVE RWY) O/T 118.75 351.7 CHICAGO CNTR	0530-2230 O/T CLASS E
PEORIA CLASS C	124.675 326.2 (126°-304°) 125.8 269.2 (305°-125°)	CONTINUOUS

When the Time Comes

by Bruce Jaegar

Purchasing your first Mooney was an exciting life changing event. The day to sell or trade will be another time you will not forget. When that time comes, will you be ready? Having sold new and used Mooneys for nearly 40 years, I can attest that most are not. You may discover that finding a new owner may not be as much fun as buying your Mooney in the first place. Today's prospect is well aware of the risks and has the perception of it being a buyer's market. Something positive needs to distinguish your airplane.

Preparing your Mooney for trade or sale started the day you bought it. Flying regularly with conservative power was a good beginning. No damage and specialized Mooney service documented in complete, well written logbooks, are really good things. As service bulletins will need compliance for an ultimate new owner, why not do this for yourself? The same would apply to repairing anything that needs attention. Safety equipment to include an up-to-date GPS would be a plus. Since your aircraft was purchased in compliance with SB 208, and you have a hangar, corrosion or tubular rusting should not be a problem. Engine history has been good and you were always willing to accept the depreciation for your flying time. After all, you expected to invest in the pleasure of flying a Mooney. Don't forget about the propeller, because time in years and hours will be a negotiating point for any prospect.

Consider having your next annual inspection include items typical in an evaluation for sale. This may be educational as there is quite a difference between evaluating for sale and what is required for an annual. Wherever you have service completed, give credit for anyone willing to get involved with a pre-purchase evaluation. The risks of missing something now that could surface later are high. That would not be a good way to keep a customer.

As the time approaches, ask yourself this question. If you were interested in purchasing an airplane of the same model, vintage or perceived value as your own, would your Mooney be high on the list? If not, what would it take to move up? Makes sense that these items become priorities.

The decision is made and you are going to make a move. Is it best to do this on your own or is it time to ask for help? Certainly, if you have a prospect, I hope you have kept contact information. If a prospect database does not exist, the advantages of using a professional sales agent become obvious. The following few thoughts should help you reinforce your decision and assist in making a selection.

- Selling airplanes requires a dramatic amount of time not available to most Mooney owners. A sales agent truly earns a commission while you keep your day job.
- Pick someone who specializes in Mooney and ask for references. Someone local would be nice, but keep in mind a real buyer is probably not in your backyard. A sales agent will do what it takes, as long term success depends on repeat happy clients.
- An organized and experienced agent will have a prospect database and tools in place to act quickly. Someone to respond immediately to the phone or email is critical.
- Determine a fair price for the condition and current market. Remember that the goal is to find a new owner, not just advertise. Because you have tolerated the paint and interior doesn't mean a prospect will be willing to do the same. Do not expect sympathy for all you have invested.
- Be prepared to invest in a good pre-qualification from an experienced technician. The results will provide critical information for advertising, answers to prospect questions and saving of time.

- Demand high quality photography that includes important internal parts of your Mooney and confirms inflight performance. A well written ad that emphasizes positives with full disclosure would also be refreshing.
- A sales agent has experience with trades, financing, paperwork, FAA records search, insight into export, service, tax advice, avionics, fuel tank repair, training, escrow...
- Allow your agent to take control of your Mooney. Immediate response to inquiries and ability to arrange timely demonstrations are critical. It would be hard to trust someone who has not personally flown the sale aircraft.
- Be open to negotiation, especially for those questionable service items. Using the word "firm price" does not provide a very good feeling for that serious prospect.
- All is lost when a prospect discovers something that should have been revealed.
- Set a reasonable time frame to complete a sale or change of strategy

On a more personal note, in all these years, I truly have yet to regret a sale. I have however, seen clients who regretted not selling when a few months later they were considering something less.

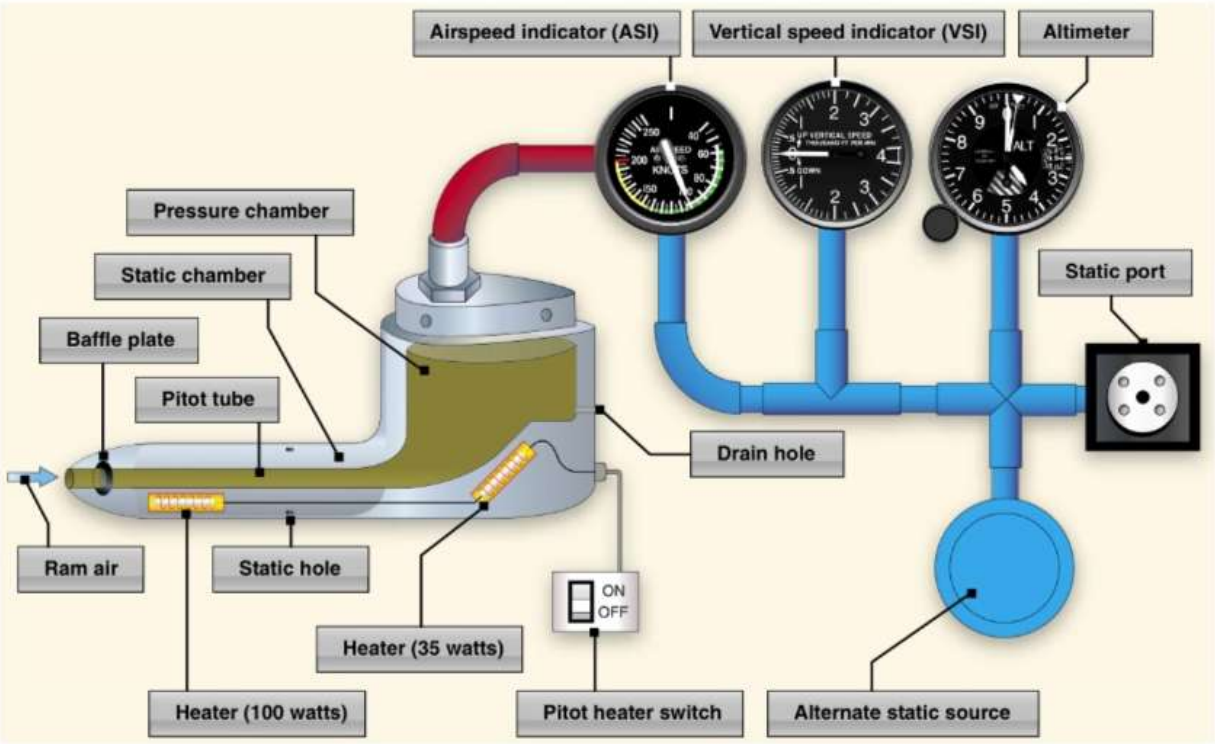
Enjoy your Mooney and when the time comes, be prepared to make a change.

Fly Safe,
Bruce Jaeger

Editor Phil Corman's Granddaughter Checks out the M20S Cockpit for Size & Fit!

When radar operators wanted the pilot to turn off their transponder (ie Parrot), they would say " Strangle your Parrot"

How Does Your Airspeed Indicator Work and What Happens when it Fails?

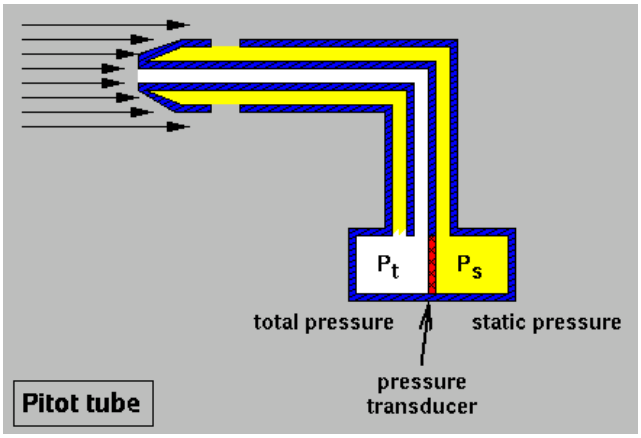


It doesn't matter if you are flying with "steam gauges" or a glass panel, both airspeed displays use the same principles.

How Does it Work?

The airspeed indicator is a member of the pitot-static system of aviation instruments. It measures pressure in the pitot and static circuits. Your airspeed indicator measures dynamic pressure, the same pressure caused by your airplane's movement through the air. However, your airspeed indicator needs to be able to measure that dynamic pressure correctly, so it needs static air, too. You probably remember that the higher you fly, the lower the atmospheric pressure.

First, the pitot tube measures the combination of static and dynamic pressure. This combination is also known as "ram air".



Second, your static ports also connect to your airspeed indicator, constantly measuring the air's static pressure.

Your airspeed indicator is simply a scale that measures the difference between the static pressure from your static ports, and the ram pressure (dynamic + static) from your pitot tube.

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Ps (static pressure)

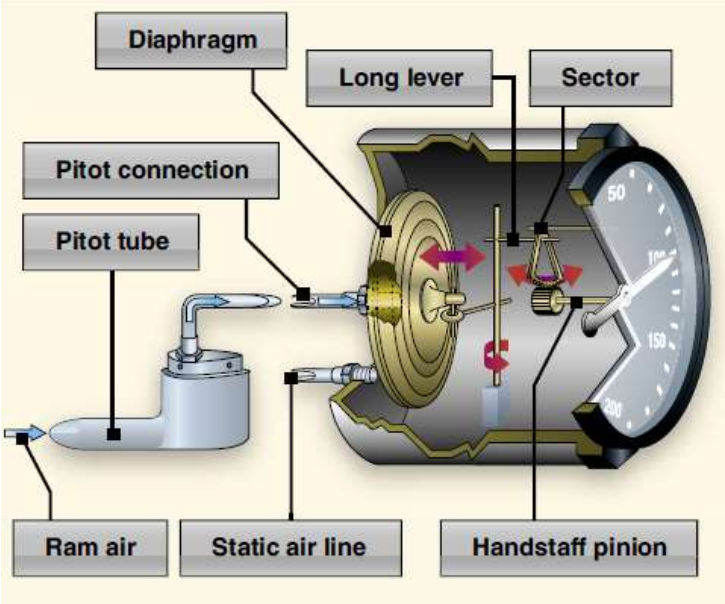
–

Pt or “ram air” (dynamic pressure + static pressures)

= Dynamic Pressure

The static pressures cancel each other out, and this leaves the dynamic pressure.

The instrument case is filled with **static air**. Then, the pressure diaphragm is filled with **ram air**.



Gears in the case make your airspeed needle move.

As the diaphragm fills up with more ram pressure, it expands, the gears move the indicator (usually clockwise) and your indicated airspeed increases.

How Do Glass Panel Systems Work?

They also compare and measure ram and static air. If you need a more in depth explanation, please contact a Garmin Geek.

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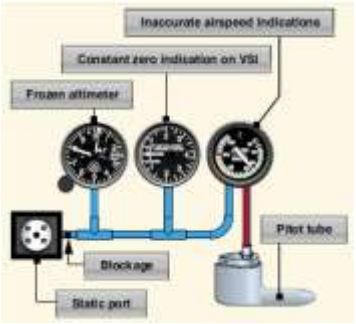
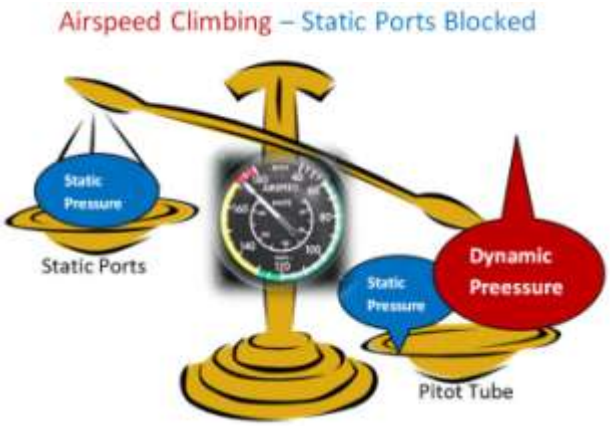
Failures

When your airspeed indicator fails, it's usually because either your pitot tube is clogged or a static port has become clogged. Let's look at each of these scenarios.

Static Ports Clog, but Your Pitot Tube Stays Open



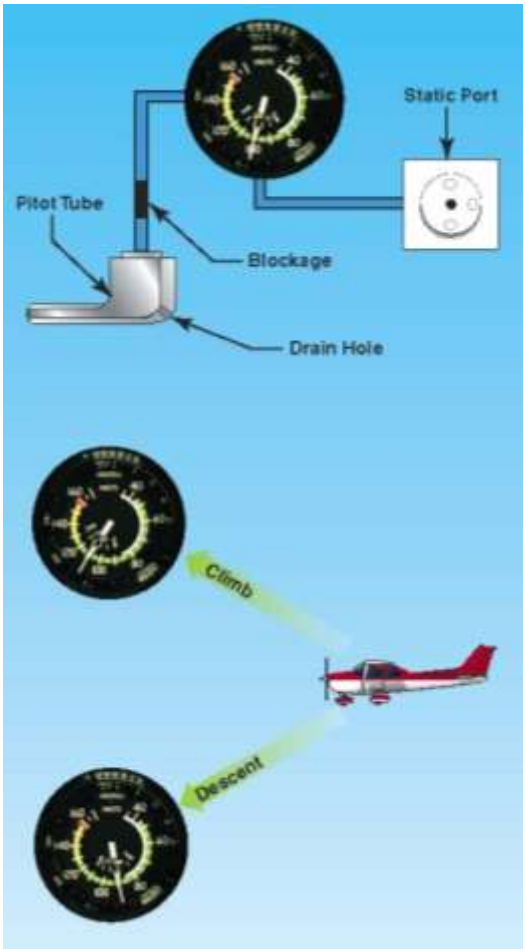
I can't for the life of me understand why you would fly in icing conditions, but let's say that you did and your static ports have iced over. Now, all the static pressure that was in your airspeed indicator at the time of freeze over, is trapped. As long as your barometric pressure stays the same and you stay at the same altitude, everything will work fine. However, what happens if you want to climb?



If you climb at a constant airspeed, the static component of your ram pressure goes down. But, the static pressure in your instrument's casing remains the same. Because you don't have enough ram pressure, your airspeed will decrease, or under report, and you'll start flying faster than what's indicated.

After a while, you will probably want to descend and land. What happens then? The exact opposite. The airspeed will be "over reported". You'll be flying slower than the indicated airspeed, because you have too much ram air for the static pressure trapped in your airspeed indicator.

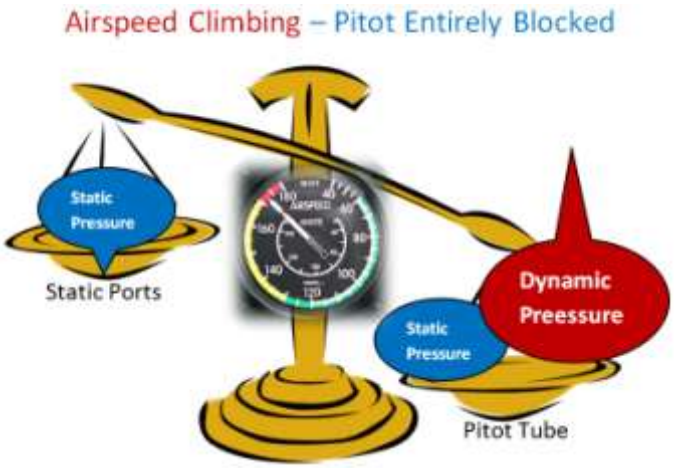
Pitot Tube Clogs, but Your Static Ports Stay Open



Let's say the whole pitot tube becomes iced over, including the drains. If this happens, your ram pressure gets trapped. And just like the iced over static port scenario, if nothing changes, you're fine.

But if you start climbing, your static pressure will decrease, and the trapped static pressure component of your ram air will be too great. This means that the airspeed indicator will be "over reporting"; indicating a faster speed than you're actually flying.

If you descend, ***the exact opposite will occur.***



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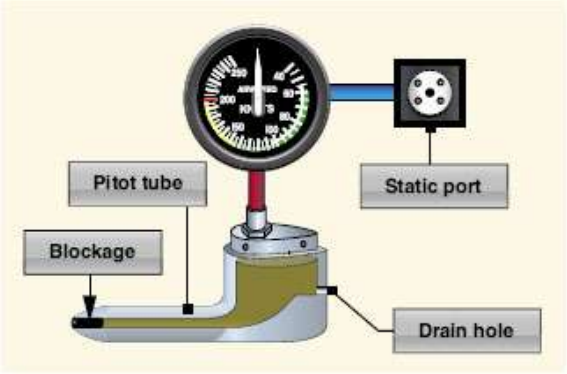
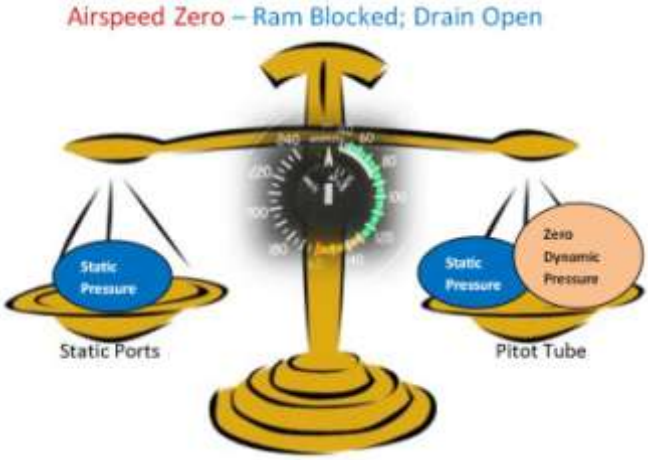
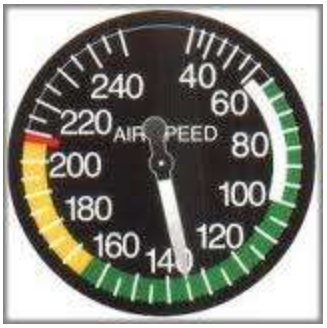


The Pitot Tube is Clogged, but the Pitot Drain and the Static Ports are Open

All of your ram air will leak out the drain. That leaves you with nothing but static pressure and your airspeed goes to zero.





Everything Ices Over

This just isn't your day and you may have more and bigger problems than just airspeed. In this case, your airspeed indicator will freeze in place. You won't be able to measure changes to static or ram pressure.

Staying Out of Trouble

Many Mooneys don't have static port heat. When flying in icing conditions, the static ports can become blocked. Perhaps that's one of the many reasons why many older Mooneys are not to be flown in known icing?

It's critical that you make sure your pitot tube and static ports aren't clogged with during your preflight.

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Transponders back then (and still today) have the option of numbers 0-7. That's because each number can be represented by only three bits, or three 1s or 0s.

Geoff lee.
CFI

Multitasking

Aviate, Navigate, Communicate. That's the necessary order of business when you are piloting an aircraft.

We had just descended through a layer of clouds via a decentl sized gap in the under cast, supposedly headed for a 260 MSL airport, 7 nm away and at our 2 o'clock position. Our descent rate was about 500 FPM. Immediately in front of us was a 1700 ft ridge with some scud hugging the crest. The ceiling at the airport was reported at 1900 ft with 10 miles visibility. At 1800 ft we were a little squeezed between the cloud above and the ridge in front. The lower ground beyond the ridge was visible through an obvious low point in the ridge toward which we were pointed. As we approached the ridge, the VFR pilot commenced to tune the number two radio to the airport AWOS frequency and he was also reaching to tune the number one radio to the UNICOM frequency. Immediately, the aircraft commenced a left turn at about a 20 degree bank angle and a climb into the cloud layer. Our ground speed was about 150 kts, and we were approximately 3 minutes from the airport. I was not in the instructing mode on this flight, but when I strongly suggested that he increase power and continue his climb until we cleared the cloud layer into which we had become immersed, the pilot refocused his attention This would be better than heading for the trees!

The obvious lesson herein is that if you are in marginal VFR conditions, and you are placing more importance on tuning the radio or playing with your iPad, but you are allowing the plane to wander from the course line and descending toward terrain which is situated within 500 ft of the belly of the craft, you have a poor order of priorities.

Further scrutiny of this pilot while "under the hood", revealed that when he was directed to hold altitude and heading and given tasks such as radio tuning, engine power adjustment or a navigational change, he had a tendency to tighten his left hand grip on the yoke and simultaneously apply a modicum of back pressure, plus some bank angle. The condition worsened as the number of tasks was increased and tension blossomed.

I am certain that this all seems somewhat clumsy to the reader. However, I have found that it is not a totally uncommon syndrome, particularly in the case of an inexperienced or low time pilot.

The capability to multi-task is inherent in most humans. The full development of the capability is optimized via repetition and practice to the degree that certain tasks become reflexive in nature and thus require minimal or no portioning in the thought process. An example of learned multiple mental and physical reflex actions would be when driving an automobile, one rarely ponders interactions with the brake or accelerator pedal while glancing in the rear or side view mirrors.

Many of us do not fly the plane every day in order to fully develop the reflexive capabilities of certain aviating tasks, so it should be incumbent upon us to practice as much as possible in the areas that we feel most deficient. Practicing and gaining the capability to execute a 360 degree, 45 degree banked turn at

maneuvering speed holding altitude within 100 feet, (when under the hood with a qualified safety pilot in the other seat), will do wonders for expanding the multitasking capability.

Successful completion of this exercise requires a competent instrument scan of the *altimeter, gyro horizon and VSI,* combined with subtle use of rudder, yoke pressure and the trim wheel. Seek smooth air, with an observer on board, but unhooded. Prior to commencing any exercise, the general practice area must be visually "cleared" for any possible traffic conflict; the aircraft should be established at maneuvering speed and at a chosen altitude with a specific roll in, roll out compass heading determined. Start by using shallow bank angles (*35 degrees at least*) and focus only on the relative panel instruments. The task will be to arrest the altimeter needle movement. Left turns are a little more difficult than right turns due to the fact that the propeller is tending to push the nose earthward. Attempting to practice the routine in bumpy air will be fruitless, so I suggest an altitude above 5000 ft AGL. Increase the practice bank angle as your skill improves. Then, transition to using a view limiting device. The rough air concern will diminish as your scanning and manipulative skills develop.

In the initial phase of the learning process, when the bank angle exceeds 45 degrees, there is a common tendency to over bank and increase back pressure on the yoke to maintain altitude. So, if the VSI needle is at the 6 o'clock position and the altimeter is unwinding, if you begin to apply harder back pressure with a sense of obvious increase in G load, you should realize that you probably over banking. Just **ease the G load by promptly reducing the bank angle** by an appropriate amount.

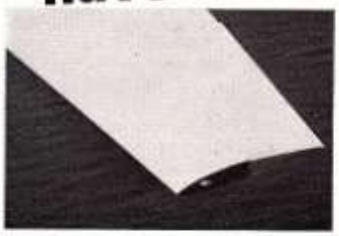
To commence the steep turn, roll into a ball centered left turn with a little nose up pitch trim. Glance at the gyro horizon, (if it's in *the Brown, you are going down*), the altimeter needle (*not moving*), and the VSI needle, (*in the 9 o'clock position*). Fixating on any one instrument will produce difficulty, so keep the scan moving. The bank angle can vary very slightly about the 45 degree point. The task here is to arrest needle movement on the altimeter. The altimeter is an instantaneous vertical speed indicator, no lead or lag, but initial movement is tiny and hard to perceive. The VSI gives an easy to see indication, but the movement is imprecise and exhibits lead and lag. It primarily tells you when you should be pulling or pushing on the yoke. The trim wheel provides a fine grain control over the VSI indications. Use rudder pressure to keep the ball centered.This will minimize the exposure to a heart exciting event (*cross controlled stall*) if some gross overbanking and excessive G loading occurs. **The immediate response to any unusual/uncontrollable attitude attained during the steep turn maneuver is to level the wings and reduce power simultaneously if the aircraft is pointed at the ground.** You might want to remove the hood if you get to this point.

There are some naturally occurring human survival reflexes/responses that must be controlled in the event of certain adrenaline spiking situations. The natural, instinctive response when the windshield is filled with an unobstructed view of the terrain is to pull back hard on the yoke. You should resist doing that. Rather, you should remove all power and gently ease the nose skyward, using up most of the altitude available within reason. Apply power only when a positive climb rate is indicated by the altimeter needle reversing its direction of travel and when there is a positive climb rate on the VSI.

You have arrived when, without outside visual reference, you can complete consistent, 360 degree turns at 45 degrees of bank while maintaining altitude within 50 feet. If you can do that, this will mean that you have a competent instrument scan, a very reasonable multitasking capability and an acceptable state of manipulative skill. I would endow you with a "A plus" if you can simultaneously tune the radio.

In 70 years, very little has changed for the transponder. The original system had two numbers (0-7), for a total of 64 different code combinations. Today's system has 4 numbers, for a total of 4096 different code combinations. Basically, the only thing that's changed are two more knobs stuck in the middle of the transponder.

The plane you buy and fly should have all these modern advantages



LAMINAR FLOW WING... this efficient air foil has 31% less drag than cumbersome old fashioned air foils still being used by some planes today. Flush riveted wrap around skins provide maximum speed and efficiency.

POSITIVE CONTROL... provides lateral stability for greater flight ease and safety. Acclaimed the greatest advance in aircraft design in recent years. Only Mooney has it!

RETRACTABLE GEAR... dragging your wheels costs you speed, fuel, and performance. Modern aircraft pick 'em up and go... makes a big difference!

LOW WING DESIGN . . . for ultimate efficiency modern aircraft use low wing design. You get extra stability on the ground and extra performance in the air.

GO MODERN . . GO MOONEY. Fly the plane that incorporates more of aviation's advanced engineering than any plane you can buy. How does your plane rate? For quick comparison check the chart at right.

Mooney is a modern design that gives you more speed per horsepower, more range per gallon, and more plane per dollar than any other plane flying.

So, fly modern, fly Mooney . . . the fastest selling 4 place retractable for the third year in a row.

how does your plane rate? ... in modern features

Design Feature	MOONEY Mark-21	Skylane 182	Cherokee 235	Comanche 250	Debonair C-33	Lockheed Jet Star
Laminar Flow Wing	√		√	√	√	√
Sealed Control Surfaces	√					√
Wet Wing Fuel System	√					√
Positive Control	√					
Retractable Gear	√			√	√	√
Tubular Control Rods	√					
Full Trim Tail	√		√	√		√
Low Wing	√		√	√	√	√
... in range — speed — price						
Range No Reserve	950	695	935	780	675	2250
Speed Max-cruise	180	162	156	185	185	550
Price (Std)	16,450.00	17,995.00	15,900.00	22,600.00	23,950.00	1,492,200.00

FLY A MODERN AIRPLANE

MOONEY

Mooney Aircraft, Inc., Kerrville, Texas

Where the able disabled find employment

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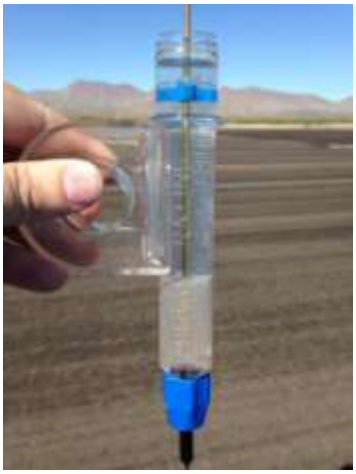
CIRCLE NO. 56 ON READER SERVICE PAGE

Send your questions for Tom to TheMooneyFlyer@gmail.com



Question 1 (WATER IN THE TANKS): I've owned two Rockets over the years and have flown them many hundreds of hours. The first one was an '86 and the current one is an '84. That's why I was shocked to learn that some water can be trapped in the long range tanks. I had a bad fuel cap outer washer that didn't last the year between annuals. Before realizing that, we had the following problem. The plane was outside for about a month. We discovered water only after landing one day and getting fuel only in the right tank and naturally thought we had gotten bad fuel. The tank was certainly checked before flight that day and appeared free of water. When the outer fuel caps got switched a few weeks later, we subsequently had fuel in the other outer tank. Some of this water would get to the inner and outer drains but not all of it. That's when I replaced the washers. I was offered a bunch of remedies to get rid of this residual water for what, it seems, is a known problem. It was news to me, I'll tell you that. Why would this be the case? How can water get trapped in tanks with drains? What can be done about it?

- When faced with an engine overhaul, what do you recommend?
- When I need a top overhaul, do you recommend overhauled cylinders or new cylinders?

Answer: A good question! The most likely cause is from water entering through worn O-rings in the fuel caps, but it also could be from loose caps, worn tabs, caps that are not on correctly, etc.
Another source, but rare these days, is water received from a fuel servicing. Also, in high humidity areas, condensation can put water in the tank. Top Gun, (and most other great shops), routinely change the inner and outer O-rings each Annual, but we don't assume they are good for a year. There are a lot of reasons, especially high heat, that can cause the O-rings to deteriorate sooner.
The second part of this question is how can water be trapped in a tank?
This was the subject of AD 85-24-03. Water can be trapped when the drain holes in the tank ribs become clogged. Fuel moves back and forth in the tank through small holes in the bottom of each rib and the AD was written because, for a short time, when the planes were being built, some of these holes became plugged with fuel sealant. I remember one K model that had 7 gallons of water trapped in an outboard bay. We had to open many planes to accomplish this AD. Today, it would be rare to find a plugged hole.
After that initial inspection, subsequent inspections are required anytime a fuel tank is repaired. Just be sure that you sump the tanks before every flight.

Question 2: Tom, what do you think about engine overhauls.
Answer: My answer is always tied to the history of how much work we have had to do on "field Overhauls" versus factory engines. Answering this question gives us about 4 to 1 in favor of factory engines.
I don't go into cost because that is not the question. I answer to reliability first. Just do a lot of research on what you get for your dollar and you will find comparable cost.

When it comes to "top overhauls", I am usually in favor of overhauling cylinders, but there can be circumstances when it is not recommended. For instance, the TCM cylinders on the turbo 360s are very thin walled and if you bore .015 oversize, they can be pretty thin and I don't think they will last as long as a Lycoming 360 cylinder. So we look at the time on the engine until TBO, cost of new versus O/H, make of the cylinder, and if there is an aftermarket available. Then we make a decision that is most cost effective. Sometimes it doesn't involve all the cylinders, so we usually will go with an overhaul in that case. Since some engines can have as low as a 1,200 hour TBO, you really have to put a pencil to the numbers when it comes to cylinder overhauls.
Keep the questions coming.

Today's Mode-C transponders translate altitude into a 4096 code, starting at -1,200' pressure altitude (0400), all the way up to 126,700' pressure altitude (0042). So no matter what altitude you're flying (almost), your transponder can tell ATC what altitude you're at, within a 100 foot increment.

Cliff Biggs

ATP, 767,757,737,727, A320, LRJet, CE500, MU-2, Wright Bros Award, A&P 46 Yrs, B707, B727, B720, B747, DC-10, DC9, DC-8, CE500

"It Only Flew 30 Hours Last Year, so it Should be an Easy Annual".

Can anyone see an issue with this commonly heard statement?

We are flying airplanes that are, in many cases, a half a century or more old! Even many of the "newer" ones are approaching 30-35 years old. Yes, they can be classified as "antiques".

How many of us are driving a car every day that is over 30 years old? Don't count that "garage Queen" '55 Chevy you have (we'll get back to that one in a minute) but look at your daily driver. I'll bet your daily driver is less than 10 years old. Why is it so young? Because you want it dependable? You don't want it to break down on the road? You don't want to deal with lots of maintenance on an old car? Why is that any different than your airplane?

You accept that your airplane is approaching a half century in age, but you want to scrimp on maintenance. You try to get by as cheap as you can and yet you trust your very life to it; relying on it every flight.

"It only flew 30 hours last year, so it should be an easy annual!" Does that make any sense? It doesn't matter that you only fly your airplane 20 days a year. It is your "daily driver" in the airplane world.

Now let's get back to the more than half century old "garage Queen" '55 Chevy. You say you drove one just like it in high school and now you have your "baby" all wrapped up nice and clean, completely restored in your garage to be driven only on special occasions. It has been gone through from top to bottom with no expense spared to make it like new. It is clean, neat and DEPENDABLE!

Now, can you say the same thing about your 50 year old M20C that's sitting at the airport? Has it been gone through from top to bottom with no expense spared? And yet, you expect it to be 100% dependable on each and every flight!

How can you expect that with an attitude of – "it only flew 30 hours last year, so it should be an easy annual?" Haven't you've made the same statement every year for the past several years at annual time?

Let's look at a couple of items that age just from calendar time alone and not flight time.

When was the last time ALL the flexible hoses in your engine compartment were changed out for new? Have your landing gear donuts ever been changed? How long ago? How about your vacuum pump hoses? Rubber deteriorates with nothing more than chronological aging, getting more brittle as time goes by. Also, think about the hot engine compartment environment that develops while flying.

Hoses can “look” just fine from the outside, when in fact, they are as brittle as glass. If they don’t feel supple and if they don’t flex easily when grasped and pulled, they are more than likely too old. Anything made of black rubber, that’s 5-8 years old or more, should be suspect.

Here’s a good question: When was the last time the fuel pressure hose from the firewall to the fuel pressure gauge was changed? I recently worked on one that had a date code of 1963! When it was removed and I tried to pull it, straightening it from its crooked shape, it snapped open in 2 places; brittle as glass. What flows through that hose? Gasoline! The gas goes right into your cockpit if it breaks.

Another area that almost no one ever considers is the electrical wiring in our older airplanes. Airplane wiring has gone through many changes over a half a century. In many cases, our old airplanes have cloth covered wiring. When subjected to decades of age, that covering becomes brittle and as soon as the wire is disturbed and moved (like with new radio installations), that covering breaks open and exposes the inner wires.

A prime example of wiring issues is with our “P” leads for the magnetos. How many times have your “P” leads been changed over the years? Has it been a long time? I would suspect that they need to be changed. “P” lead wiring has a central core of multi-strand wire for the control of the magneto. It has an outer shell of woven wire to “shield” the transmission of magneto generated noise so it won’t get into the radios. With age, the insulation gets brittle and all the vibration from the engine causes the inner insulation to break, allowing the outer noise shielding, which is grounded to the airframe, to come in contact with the center core and ground out the magneto. That’s what happens when you switch the magneto switch to off!

A/C 43.13 has a very long and enlightening chapter on electrical system inspection and maintenance. Check it out sometime. Here’s a question for all you “vintage” Mooney owners, the ones with the “Charlie Armstrong” gear and flaps:

What hydraulic hose has probably never been changed on your airplane and is original from date of manufacture; maybe 50 years ago? It is one that is very hard to change, but nonetheless, should be checked and changed, if needed?

Take a look at your Flap Suction hose, from your hydraulic system to your flap pump. In all probability, the “pressure” side hose has been changed, but I’ll bet not one in 50 have had the suction side hose changed since the airplane was built.

We have just touched on the effects of vibration on our older airplanes. This and corrosion are two more areas of concern for “aging” airplanes that we will get into in a later article.

In closing, shouldn’t your 50 year old “antique” airplane be given the same treatment as your garage Queen Chevy when it comes to maintenance?

Your very life could be in the balance.

Mooney Flyer Fly-Ins

October 9-11: Here We go Again PAGE/LAKE POWELL FLY IN

Come for a weekend of fun and information

The Plan- Lunch as usual at the airport on **Saturday Oct. 10th at 12 noon** sharp! Be there or be square. Last one to the trough gets the leftovers. A donation for lunch would be appreciated.

The Information- This time we will have a hands-on maintenance session. We'll have one Mooney on jacks to show you how to jack the airplane and how the gear pre-loads are taken. We'll show you how to find wear on your nose gear steering, how to check your tail section for wear, what we mean by "zero bungee force" elevator setting on vintage Mooneys, and how to "level" the airplane. We'll also show you how to change, clean and inspect a spark plug, how to use a torque wrench the correct way and maybe have time to change a tire the correct and safe way. Try your hand at safety wiring if you've never done it before. You will look at the Type Certificate Data Sheets (TCDS) for Mooneys so you will know what they contain. We'll go over just what YOU can do as a licensed pilot AND owner of your airplane for Preventive Maintenance. You can do a lot of your own work AND sign it off in the log books. We'll go over the sign offs also. It will be a busy afternoon for about 2–3 hours.

Other Interesting Stuff- For those who arrive on Friday, we'll get together for dinner at a local restaurant (TBD). For those staying Saturday night, we'll have dinner somewhere, but beforehand, we may be able to tour a new large houseboat and "walk the docks" among million dollar houseboats. Sunday is on your own.

There are always other tours and things to see in Page if you don't need the hands on experience:

- You can do an air tour of Lake Powell from your airplane (better than Monument Valley @ 30 mins away by Mooney). The lake tour directions are on the VMG website.
- A dinosaur museum is about 15 miles away with a new, previously unknown Velociraptor discovered nearby, by a local amateur paleontologist.
- A guided tour of Antelope Canyon (a 15 min drive from the airport).
- A short drive (10 mins) and then a walk out (1/2 mile) to view Horseshoe Bend on the Colorado River from atop a 900' canyon wall. This is right where John Wayne stood at the beginning of the movie "Red River" in 1948.
- A morning float trip down the Colorado River from the Glen Canyon Dam to Lees Ferry. There is NO WHITEWATER and it takes about 3 hours. If you take this trip, ask Cliff where to see the dinosaur footprints on the trip. No one will tell you except him.
- A guided fishing trip on Lake Powell
- A tour boat ride on the Lake
- You can rent jet skis and boats on the lake
- Off Road 4 wheelers are available in town for excursions.
- Of course, we'll have an FBO fuel discount and group parking.
- Sign up early so we can have something to plan on, Thanks!

CLICK HERE to Register for the Fly-In

August 8, St. Augustine (SGJ)
September 12, Lakeland (LAL)

Lakeport, CA (1O2) - Clear Lake Sea Plane Splash In (Sept. 25-27) and the Pear Festival (Sept. 26). For more information, CLICK HERE

Atlantic City, NJ **September 11-13, 2015**
Fort Worth, TX **October 23-25, 2015**

Plane Perfect enters GA Market

Plane Perfect, a new aircraft detailing supply company, has entered the general aviation market with a new line of specially-developed products and tools that will help aircraft owners maintain the appearance and extend the life of their aircraft's exterior finish and interior components.

The new company has packaged products ranging from detailing sprays, windshield and interior cleaners, with special cleaning tools, dual action buffers and pads.

PlanePerfect
Detailing supplies for discerning pilots

Companies Team to Provide Unbiased Aircraft Valuations

Asset Insight and SAI Valuations have entered into a collaborative agreement to provide aircraft owners, buyers, sellers, financial institutions and others with an unbiased opinion of an aircraft's value and maintenance risk.

An interested party can contact either company to obtain maintenance analytics and valuation data for a specific serial number aircraft.

The cost of an Asset Insight Index analysis is $299, comparing an asset to similar aircraft listed for sale costs another $199, while a 60-month Scheduled Maintenance Analysis runs $469.

READ MORE

AI² ATFC Score ATFE Value ATC Score
Asset Insight, Inc.
Asset Optimization Solutions
Manage your aircraft as you do your other Financial Assets

SAI

Garmin Pilot Adds Obstacles and Terrain for Android

The Garmin Pilot app for Android has been updated, now incorporating the display of both terrain and obstacles overtop Garmin's navigation maps, VFR Sectionals, IFR high and low enroute charts. READ MORE

Two New Stratus Models Announced

Drawing on the success of their popular Stratus Automatic Dependent Surveillance-Broadcast receiver, the team of Sporty's, ForeFlight, and Appareo Systems announced a new model—or two on July 7. The Stratus 1S and 2S are evolutions of the market's most popular route to subscription-free traffic and weather in the cockpit. The team decided to make improvements behind the scenes to better performance and reliability. And by stripping out certain features, the new S1 retails for $549.

There are a number of differences between the two models. Most important are traffic and synthetic vision. The 2S has dual-band traffic and the attitude heading reference system capability to display ForeFlight's synthetic vision. The 1S has only single-band traffic and no AHRS. (For airplanes without ADS-B Out, dual-band traffic capability will show aircraft transmitting on both ADS-B frequencies, whereas single-band only shows those transmitting on 978 MHz.)

The 2S also includes a pressure sensor that enables a cabin alert system and pressure altitude display in ForeFlight.

Both have hardware and software updates that result in better cooling and better connectivity.

A little-used feature for most GA users is new Wi-Fi encryption. This enhancement is a window into ForeFlight's growth with corporate, airline, and military users, none of whom want unauthorized users to be able to access the device.

The new 1S and 2S are available now at www.sportys.com, and retail for $549 and $899, respectively.

ForeFlight and Garmin Collaborate on Wireless Connectivity

ForeFlight Mobile users can use Garmin's Flight Stream wireless gateway to receive Garmin ADS-B weather and traffic, GPS data, and dynamic pitch and bank information on their iPhones and iPads running ForeFlight Mobile 7.2.

Flight plan transfer capability is "currently in development and will be available in a future app update," ForeFlight says.

Through the collaboration, ForeFlight Mobile now connects to the **Flight Stream 210** ($999 retail price) and **Flight Stream 110** ($549 retail).

The Flight Stream 110 offers GPS, weather and traffic streaming from the GDL 84 or GDL 88 ADS-B datalinks and GDL 69 SiriusXM™ datalink, while the **Flight Stream 210** will, in the future, add the capability for flight plan syncing with the GTN 750/650 series and GNS 430W/530W series navigators.

The 110 and 201 are Garmin's Bluetooth wireless units. The Flight Stream 210, with its internal attitude sensor, will power ForeFlight's Synthetic Vision and add a backup attitude capability with dynamic pitch and bank information.

WAAS GPS position information from GTN 650/750, GNS 430W/530W navigators, or GDL 88 with an internal WAAS receiver can also be used to power features like ForeFlight Mobile's moving map, geo-referenced approach plates, and taxi diagrams to enhance situational awareness in the air and on the ground. READ MORE

Garmin Introduces All-Digital Radio Panels

Garmin on Thursday announced it will roll out a series of all-digital audio panels that feature voice command technology, wireless connections and other audio improvements. The 350c, 35c and 350Hc provide Bluetooth connections to smartphones and tablets. The panels also can be paired with Garmin's Virb video camera to capture cockpit audio and the Pilot app to transmit terrain, obstacle and traffic alerts during flight. Voice commands can switch audio functions hands-free, while the 3D audio feature helps the pilot distinguish between audio sources. The GMA 350c can be a direct replacement for existing GMA audio panel installations and is a slide-in replacement for the GMA 350. The GMA 350c, GMA 35c and helicopter-compatible GMA 350Hc are expected to be available in the **third quarter** of this year. The units will retail for **$2,295**.

"With the **GMA 350c**, it's easier to complete important tasks such as opening a flight plan on the ground before departing an uncontrolled field. This, coupled with Telligence Voice Command and 3D audio, combine to make this the most-capable audio panel on the market." READ MORE & HERE

AOPA Opposes Canada's Proposed 406-MHz ELT Mandate

AOPA communicated its objections and recommendations to the Canadian Aviation Regulations Advisory Council in formal comments on a notice of proposed amendment that would mandate replacement of 121.5-MHz ELTs within one year for commercial operators, and over a five-year period for private aircraft owners who use their aircraft for recreation. (Members may comment on the proposal until July 27 as noted below.)

Transport Canada has taken the position that the five-year implementation period for noncommercial operators would reduce the cost of compliance, and spread it out over time. The agency noted that "the costs of 406 MHz ELT equipment have decreased since the time when this upgrade was last proposed."

READ MORE

FAA OK's Aspen's AOA

Aspen Avionics announced July 21 that its integrated Evolution angle of attack (AOA) indicator has received FAA certification. Aspen said a software upgrade seamlessly integrates AOA information into its Evolution primary flight and multifunction displays. The upgrade, priced at $1,995, is available for immediate installation. READ MORE

Aspen Avionics and L-3 Join Forces to Offer More ADS-B Options

L-3 and Aspen will offer an integrated system that includes the Aspen primary and multi-function displays and L-3's Lynx® NGT-9000 MultiLink Surveillance System. READ MORE

FreeFlight and Garmin Offer ADS-B Integration

Buyers of ADS-B upgrades in aircraft already equipped with Garmin 430W/530W navigators have a new option: integration with the *FreeFlight Systems* Rangr ADS-B system. The new interface capability also offers increased equipage flexibility for 430W/530W owners, according to *FreeFlight*. READ MORE

Garmin, ADS-B and G1000

Finally, Garmin has announced new ADS-B display compatibilities with select G1000 Integrated Flight Decks, GMX 200/MX 20 multi-function displays (MFDs) and third-party displays using the GDL 88® ADS-B Datalink and a publicly available protocol. Read more

FreeFlight Launches ADS-B Hotline

After dialing 1-844-ADS-BNOW, the customer will be put in touch with a member of FreeFlight's support organization. During normal business hours (8 am to 6 pm Central Standard Time), inquiries will be responded to within two hours. Inquires received outside of normal business hours will be responded to the next business morning.

Cleano

There are many products to consider when cleaning your Mooney. For more than 12 years, I have cleaned my Mooney exclusively with Wash Wax All. The only time that my Mooney has seen water is when it flew through it.

But at The Mooney Flyer Event in Paso Robles (June 12-14), one of the Exhibitors was demonstrating a product called Cleano. I had never heard of it, and I'm very skeptical to try new products on my aircraft. They demonstrated it on someone's airplane, and I was impressed. First off, let me say that it is Boeing D6-17487 certified. Secondly, it's both biodegradable and environmentally friendly with no volatile organic compounds.

It comes as a concentrate and serves three purposes:

- **DEGREASER:** Requires three parts of purified water to one part CLEANO® concentrate (3:1 formulation).
- **WASH:** Use seven parts purified water to one part CLEANO® concentrate (7:1 formulation).
- **GLASS AND CANOPY:** Mix half an ounce of concentrate with one gallon of purified water.

You can purchase it in different amounts of concentrate or in a handy plastic spray bottle.

I sprayed Cleano on my Mooney Eagle's belly and with essentially a "wipe off" stroke completely removed the grease and exhaust stains after only 2 applications.

CLICK HERE to purchase your own.

Mooney Instructors Around The Country

Arizona

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

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

Connecticut

Robert McGuire, Durham, 203-645-2222 cell, rmcguire007@hotmail.com

Winslow Bud Johnson, smgemail@aol.com, 203-348-2356

California

Geoff Lee, San Martin, CA, 69050@comcast.net

Don Kaye (Maser CFI) located in Palo Alto, CA, (408)-249-7626, Website: www.DonKaye.com

Chuck McGill (Master CFI) located in San Diego, CA 858-451-2742, Master CFI, MAPA PPP Instructor, M20M, M20R, M20TN, Website: Click Here

Rodrigo Von Contra, Oakland, (510) 541-7283, Rodrigo@vonconta.com

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

Colorado

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

Florida

Mike Elliott (CFII) Master CFI located in Tarpon Springs, FL, Contact 317-371-4161, Email mike@aviating.com, Quality instrument & commercial instruction, transition training, ownership assistance, plane ferrying

Robert McGuire , Hawthorne, (203) 645-2222, (Dec – Feb), rmcguire007@hotmail.com

Georgia

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

Kansas

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

Massachusetts

Ralph Semb, ralph@bowling4fun.com, 413-221-7535

New Jersey

Parvez Dara, daraparvez@gmail.com, 732 240 4004

New York

Jack Napoli, Long Island, TT 6,000 hrs & Mooney time 3,000, kj4kqvh1@yahoo.com, 631-806-4436

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.

Texas

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

Brian Lloyd, Kestrel Airpark (1T7), 210-802-8FLY, Brian@Lloyd.aero

Mark Johnson, mjohnsonf16@hotmail.com, 832-773-4409

Jerry Johnson, mooney9281V@hotmail.com, 817-454-2426

Vermont

Ted Corsones, tedc@corsones.com, 813 435 8464

Virginia

William Wobbe, william.wobbe@gmail.com, (713) 249-7351
Leesburg, VA. 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. Can answer questions on the Washington, DC SFRA and ICAO Flight Plans.

For Sale – 1978 Mooney M20J 201. Aspen with extended warranty, Avidyne traffic, storm scope, very good paint 8, interior a 7. King 200 autopilot coupled to the Garmin GNS 430 and Aspen. Factory engine with 850 hours. $ 88,000 - mbmaksymdc10@aol.com

Mooney M20J/201, N9269N, S/N 24-0751

TTSM 961/TTSN 3189
Engine time 961 SMOH by Triad
Propeller HC-C3YR-1RF 3-Blade 961 TTSN
Annual due 3/31/2016
Useful Load 1024
Avionics: GNS 430 w/ GI-106SCDI (cable wired for WAAS)
KX-155 Nav/Com w/KI-208
KMA-28 Audio Panel
KR-85ADF w/KR-225 Indicator
KT-76A Transponder Mode C
JPI-700 Engine Monitor w/Fuel Flow (monitored to GPS)
Century 11B Autopilot w/ Heading Bug

Other: Yoke Mounted Electric Trim and Map Light
Vertical Card Compass
Davtron Digital Timer
Sigtronics 4-Place Intercom
Electric Gear, Trim and Flaps
True Airspeed Indicator
Overhauled Magneto w/New harness
New Landing Gear Donuts, New Muffler, New Engine Lord Mounts
New Concord Sealed Battery

New Engine Vacuum Pump
LASAR Mod Enclosed Strobe Wing Tips
Wing Root Fairings
Clam Shell Nose Gear Door, Panel Overlay
New Leather Interior Seats

Contact Eddie Smith @ 803 684-3425 or easeddie@aol.com. More views at http://www.heraldonline.com/news/business/biz-columns-blogs/don-worthington/article12303545.html. Appraised at $85,750.00, asking $78,500.00 or best reasonable offer. I have owned for fourteen years; selling for medical reason.

Mooney Cover

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

1959 M20A for Sale, As Is

My brother was a Mooney enthusiast, who died nearly 12 years ago. My parents inherited his Mooney M20A (SN 1276). It's been sitting in a hangar at Hicks Airfield near Fort Worth since that time. It was flying until maybe November, 1989, when the prop was tagged.
Total time, 2608 and Tach time 187.
This is a definite fixer-upper. My brother loved his plane and maintained it very well. We have all the documentation and log books back to its original purchase in 1959.
Please make an offer. The buyer would have to transport it.
Contact information: Deborah Evans
Home: 972-985-8471; Cell: 214-213-0865; email: Deborah.parker@verizon.net

More Photos, next page

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Fly Ties

As advertised in the last newsletter. Used only once in Kerrville where nothing else would work. These worked great. Easy and convenient. Price: $50.00. Free shipping.

Call 678-848-9899

LASAR'S Free Site

Check out Lake Aero Styling & Repair's " LASAR" Web Site: www.lasar.com : New under Mooneys for Sale, "List your Mooney for free" and "Mooney Instructors." Also check out Parts, Mods, and Services! LASAR, est. 1975 **(707) 263-0412** e-mail: parts-mods@lasar.com and service@lasar.com