

# *The Mooney Flyer*

The Official Online Magazine for the Mooney Community  
[www.TheMooneyFlyer.com](http://www.TheMooneyFlyer.com)

September 2020



## Editors

Phil Corman | Jim Price

## Contributors

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

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# From the Editor

Phil Corman



## Reminiscing about Fly-Ins

With the Covid-19 thing going on, there are practically no Mooney Fly-Ins. And that made me reminisce about the old days. I headed up a group called the Vintage Mooney Group (VMG) and for several years, we averaged 8-10 fly-ins per year. Some were "Lunch Runs" and others were "Weekenders". They were always fun and always free, but attendees were responsible for the cost associated with the lunch or BBQ.

The first VMG fly-in was August 23, 2003 to Jean, NV. What were they thinking with the intense summer heat? However, this started an amazingly fun group.



Eighty-Six (86) fly-ins later, the group dissolved. But during that run, we had fly-ins all over the American West.

Fly-ins encouraged Mooniacs to fly to places that they might otherwise have not ventured to. Lots of friendships were made and still last to this day. The best attended fly-in was at South Lake Tahoe, which gathered 79 Mooneys. It kicked off with a dinner on Friday evening with more than 60 attending. There were more arrivals on Saturday, and pilots attended Top Gun, LASAR, and Don Maxwell seminars. Lunch was provided by Top Gun which included a 75th birthday celebration for Tom Rouch. On Saturday evening, we had a party by the pool. What a great time!

Before the VMG, Paul & Shery Loewen ran the West Coast MAPA group for 20 years. Paul & Shery have done more for Mooney owners than anyone else we know, running LASAR for almost 50 years.

**The Mooney Flyer is contemplating a Weekender fly-in to Paso Robles (May 21-23).** Please let us know if you would attend, and what you would like to see planned. Email us at [Editor@themooneyflyer.com](mailto:Editor@themooneyflyer.com)

### 2014

[Page, AZ](#) August 15-17  
[LASAR, Clearlake, CA](#) September 27  
[Gold Beach, OR](#) August 15-17  
[Santa Ynez, CA](#) June 28  
[Laughlin, NV](#) April 4-6

### 2013

[Lake Tahoe, CA](#) June 21-23  
[Big Bear, CA](#) January 12

### 2012

[Prescott, AZ](#) September 22  
[Methow Valley, WA](#) August 24-26  
[Catalina, CA](#) August 18  
[Camarillo, CA](#) June 23  
[Columbia, CA](#) May 12-13  
[Sedona, AZ](#) April 28  
[Mojave Spaceport, CA](#) April 21  
[Borrego Valley, CA](#) January 28

### 2011

[Camarillo](#), December 10  
[Lake Havasu](#) October 29  
[Sunriver, OR](#) September 10-11  
[Minden, NV](#) August 14  
[Walla Walla, WA "Wings & Wheels"](#), June 24-26  
[Monument Valley "Full Moon Tour"](#), June 14  
[Chiriaco Summit](#), March 5

### 2010

[Paso Robles "Toys for Tots"](#), December 4  
[Sunriver, OR](#), October 1-3  
[Friday Harbor, WA](#), August 20-21  
[LASAR 35th at Clear Lake, CA](#), July 17 [LASAR Tribute Video](#)  
[Minden-Tahoe, NV](#), June 11-13  
[Globe, AZ](#), May 8  
[Redlands, CA](#), April 17  
[Bisbee, AZ](#), March 5-7  
[Bullhead/Laughlin, NV](#), February 12-14   
[San Jose, CA \(Reid Hillview\)](#), January 9

### 2009

[Page, AZ](#), October 9-11   
[Friday Harbor, San Juan Islands](#), August 21-23  
[Lake Tahoe, CA](#), June 12-14, 2009 [Top Gun Tribute Video](#)  
[Deer Valley, AZ](#), April 18, 2009  
[Redlands, CA](#), March 21, 2009  
[New Years Day](#), January 1, 2009

### 2008

[Oceano, CA](#), December 6-7   
[Payson, AZ](#) November 8-9   
[Tehachapi, CA](#) October 11   
[Jackson, CA](#) September 5-6   
[Lake Tahoe, CA](#) June 14-15   
[Alamos, Mexico](#) April 27-30   
[Sedona, AZ](#) April 26-27   
[Mulege, Baja Mexico](#) February 14-18  
[Lake Havasu, AZ](#) January 12-13

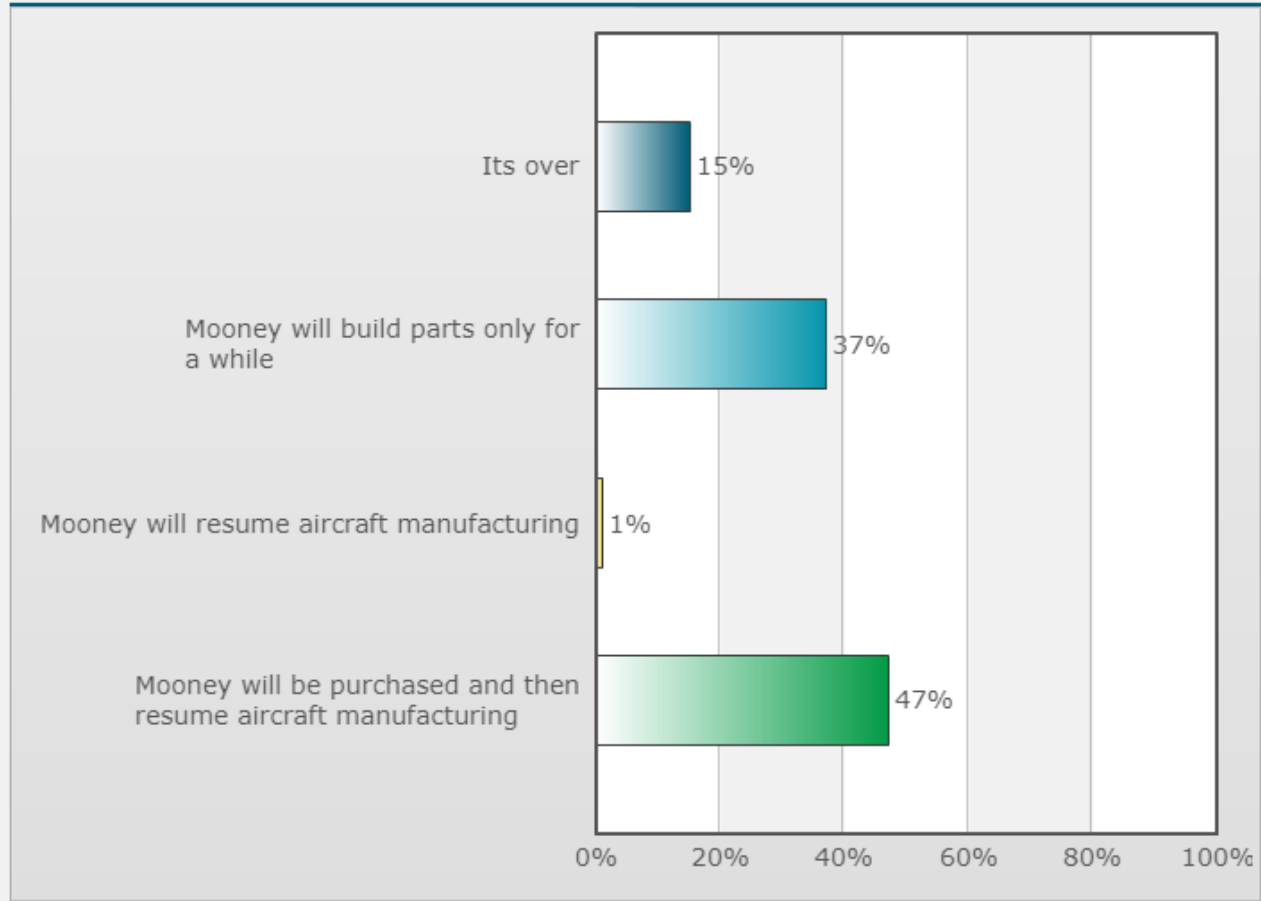
### 2007

[Ramona, CA](#) December 15   
[Tempe Bar, AZ](#) November 10  
[Tucson, AZ](#) October 13-14  
[Jackson, CA](#) September 7-8   
[Chino, CA](#) August 18  
[Big Bear, CA](#) July 14   
[Paso Robles, CA](#) June 9   
[Catalina Island, CA](#) May 5  
[Kingman, AZ](#) March 24

# I think the future of Mooney is

Poll created by [Phil Corman](#) on 06/27/2020

## Poll Results



Next month's poll: "The following have contributed the MOST to Safety of Flight" [CLICK HERE](#) to vote.



**APPRAISE IT**  
Check Your Mooney's Value



[M20C](#) [M20E](#) [M20F](#) [M20G](#)  
[M20J](#) [M20K](#) [M20R](#) [M20M](#)

**Mooney Instructors**

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# Letters to the

# EDITOR

Editor@themooneyflyer.com

**RE: Killing Sacred Cows** -- Just finished reading Brian Lloyd's August article «Have you killed your sacred cow today?» I must react about the part where he states, as part of the «Overhead Approach» segment;

«...the Overhead Approach Maneuver is the standard way to enter the traffic pattern at a non-towered airport in Canada»

The way he explains it is not the way it should be done up here and I have included a link to a graphic that will explain operations at an uncontrolled Aerodrome «Canadian style! The «Military style» flat break entry is not approved at an uncontrolled field. If you come on a straight in, it is because you are evaluating that there is no conflicting traffic and you will come on a straight in approach to land. Same thing with a base leg entry or a slant final. What is meant by the Overhead Approach is to overfly the traffic pattern and the airport at 500' above the pattern and go on the inactive side (upwind) of the pattern to descent to pattern altitude, then overfly the airport and rejoin the downwind leg.

<https://www2.tc.gc.ca/publications/en/tp11541/pdf/hr/tp11541e.pdf>

Hope that clears things up,  
Pierre D



## Mooney Update - August 21

Jonathan Pollack is the temporary CEO of Mooney. He has been running Mooney for the past 6 months. No additional details at this time.

In the short term, Mooney will only be providing Parts & Service; not building airplanes. There is only a 10% gross margin on the Acclaim. They need to right the ship before restarting the manufacturing of airplanes. Current owner wishes to manufacture Mooneys in China and Africa.

Mooney is fixing the G1000 issue. They will also offer a "carbon cowl", saving 15 lbs.

Jonathan wants to increase the useful load by 400-500 lbs. He did not have a timeframe for this. This opens the possibility for a ballistic parachute or increased cabin space.

Mooney will joint venture with an outside company to refurbish and recertify those airplanes. This could result in more affordable M20s.

Mooney wants to create an Advisory Board including the Mooney Community. We think this is a good step.

# So You Want to Paint Your Mooney

At some point, we all come to a point where we discuss the possibility of painting our beloved Mooneys. Our 2000 Mooney Eagle has held its paint remarkably well. We have done three things to increase the life of its paint:

- Kept it hangered, except, of course, on trips away from our home airport.
- Kept it clean *without water*, using Wash Wax products
- Used Plane Perfect Clear Coat, which gives it an amazing shine and lasts at least 6 months

However, at some point, our Mooney will need new paint, either because of paint deterioration, or because we simply want a new design so she can shine in the sky!

The process is very involved, and you should be, too. Painting is very intensive, and all of your control surfaces will be removed, stripped, and reinstalled. There are lots of opportunities to make mistakes. Pay close attention to potential problems and become hyper aware.

## Common Mistakes when Selecting a Paint Shop

The first mistake that is often made is to simply make your selection of paint shop based on one that is nearest to your home airport. There is no scientific data to suggest that this decision-making process is wrong or right! ☹️ In fact, you are basically rolling the dice.

A second very understandable mistake is getting a recommendation from another person soon after they got their Mooney painted. You should be asking, “How long will the paint last?” A Mooney can leave the paint shop looking great, only to have flaws appear soon thereafter. We’d like our paint to last at least 15-20 years.

A third mistake is to take it to a paint shop unfamiliar with Mooneys. It’s like taking your Mooney to a non-MSA. When it comes to paint, it’s important to understand that Mooneys corrode in many different places. You want a paint shop that knows where to look and will fix the corrosion before re-painting. If not, you may find that you’ll need another paint job sooner than you or your budget desire.

## Some Common Paint Shop Mistakes

Paint shops are operated by human beings and so mistakes can happen. Here are a few tips to help you avoid those mistakes.



Phil Corman

Co-Editor



First, the paint shop needs to remove all your control surfaces, weather stripping, etc. Then they should typically power wash your Mooney. If they are not careful, all that water can find its way into your cabin and soak your panel. Think it has never happened? Think again. Ensure the shop doesn't make this mistake.

Second, where they put your Mooney after its stripped is important. I've heard tales of putting the airplane out on the ramp. That's not good, especially when it's stripped and/or near humid air.

Last, did they re-rig your control surfaces properly? We've heard of situations where the ailerons were rigged backwards so that when you turned the yoke left, the ailerons were rigged for a right turn, and vice versa.

## Here are some Paint Shop Selection Tips

Obviously, check multiple sources for information about paint shops, including:

- 1) Price
- 2) Time to Paint Completion
- 3) Meeting Cost & Time Estimates
- 4) Longevity of the paint
- 5) Warranty coverage and period

These should all be primary in your selection process.

The biggest phase of painting is the preparation phase. We recommend that you replace all of the hardware, fasteners, etc. Do not cheap out on this as it will enhance your paint and its lifetime. Consider zinc-plated and paint matched screws over stainless steel. You won't be sorry.

It seems obvious to us, but you should ensure that they do not paint your antennas, but rather remove and replace them. Painted antennas don't have good reception.



STANDOUT PAINT SHOPS		Aviation Consumer
THREE OR MORE FAVORABLE REVIEWS, LIMITED NEGATIVE COMMENTS		
SHOP	LOCATION	CONTACT
Arizona Aeropainting	Eloy, Arizona	www.arizonaaeropainting.com 520-466-4336
Art Craft Paint	Santa Maria, California	www.artcraftpaint.com 805-925-5934
Boss Aircraft Refinishers	Salisbury, North Carolina	www.aircraftpainting.com 704-310-1421
Corona Air Paint	Corona, California	www.coronaairpaint.com 951-283-2948
Dial Eastern States Aircraft Painting	Cadiz, Ohio	www.desapi.com 740-942-2316
Ed's Aircraft Refinishing	Shirley, New York	www.edsaircraftrefinishing.com 631-281-8236
Flying Colors Aviation	Benton Harbor, Michigan	www.flyingcolorsaviation.com 269-925-9418
Hawk Aircraft Painting	Zephyrhills, Florida	www.hawkaircraftpainting.com 813-623-5819
Lancaster Aero Refinishers	Smoketown, Pennsylvania	www.lancasteraero.com 717-394-5805
Master Aircraft Services	Wickenburg, Arizona	www.masteraircraftservices.com 928-684-4926
Prestige Aircraft	Swanton, Vermont	www.paintaircraft.com 802-868-3443
Three In The Green	Selinsgrove, Pennsylvania	www.3inthegreen.net 570-617-7754

After the stripping process, with lots of chemicals involved, a good shop will then pressure wash with hot water (See above warning of protecting your interior).

Next, your body should be acid etched and possibly Alodined. This process can mean the difference between a nice paint job and a nice paint job that lasts years.

Next, mineral spirits and any dents or other bruises should be addressed.

Ensure that you are getting the type of paint that you asked for.

Do you want a new wing walk applied? Now is the time.

You can expect that a decent paint job will take four to six weeks. Your time may vary depending on your paint scheme design complexity or the condition of your fuselage and wings.

### How Much

New paint will run at least \$12,000 and could easily run up to \$20,000 with complications and paint design.



# Thank you, Sun Oil and Eugène Houdry



During World War II, the Germans were at the top of their game when it came to scientific advancement. They developed powerful tanks and their aviation advances were nothing short of amazing. Throughout the war, the German Luftwaffe used 87 octane aviation gasoline and for the first two years of the war, the Royal Air Force (RAF) also used 87 octane fuel. However, in mid-1940, the Royal Air Force started filling its Spitfires and Hurricanes with 100-octane gasoline that was imported from the United States.



87 octane petrol was fairly satisfactory in the German Daimler-Benz V-12 engine, but it was a marginal fuel in the British Rolls-Royce Merlin XX engine. The low octane gas fouled the spark plugs, caused the valves to stick, and created frequent engine repair problems. British engines hated 87 octane gasoline and the American (General Motors-built) Allison 1710 engines loathed and despised it. Something had to be done!



**Enter Eugène Houdry.** Raised in wealth, this World War I French Army veteran had a love for automobiles. A chance encounter with a chemist in the early 1920s set him onto the fascinating properties and opportunities of catalysts. Houdry believed that he could run crude oil or lightly refined oil through a vessel containing a catalyst and transform the heavier molecules in the oil to gasoline. This could be done at a higher-octane rate without adding substances such as tetraethyl lead. He struggled to find financial backing and finally found it in the United States, ultimately partnering with Sun Oil which was owned by the Pew Family. Together, their research led to more efficient manufacturing techniques. They experimented with better catalysts, many of which used a form of silica or clay as a foundation. By the late 1930s, when the other refiners were producing 60 octane gasoline, Sun Oil was delivering 81 octane gasoline.

With Houdry's invention of the "Cracking Tower", things improved rapidly, and Sun Oil was able to produce 100 octane fuel.

Cracking Towers are filled with a catalyst that assists in the conversion of oil into lighter fuels.



When a Spitfire was fueled with 100 octane gasoline, at 10,000 feet, it was 34 miles per hour faster. The RAF engine replacement schedule improved. Now, instead of replacing an engine every 500 hours of operation, they could now fly the engine for 1000 hours.

Spitfires that previously could not catch German ME-109 and FW-190 Fighter planes, started outrunning them. The battle in the skies over Europe in 1940 was transformed, helping the Allied cause during one of the darkest periods of the war. With the balance tipped towards the British, Hitler turned his sights toward the east, allowing the UK armed forces time to regroup and to revive.



The American Allison engines improved remarkably with 100 octane gasoline, but performance went through the roof in 1944 with Sun Oil's introduction of 130 octane gasoline. 130 octane fuel also improved the performance of the radial engine bombers. I shudder to think of a B-29 with four turbocharged 3,000 HP engines flying at 30,000 ft on 87 octane gas!!



A tip  
of the  
hat to Sun Oil and  
Eugène Houdry for  
their foresight,  
ingenuity, and  
tenacity!!!





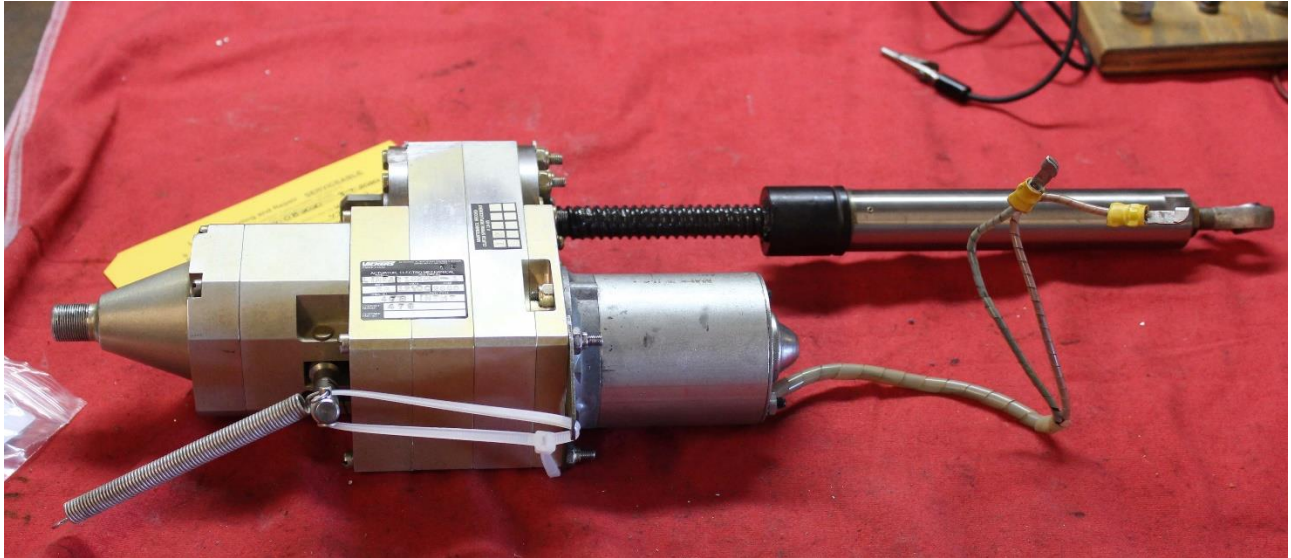
# Gear Down? ... Maybe

By Damon Trimble, Commercial, IFR, ASEL/MEL, Helicopter, DC-3 Type, U.S. Navy Aviator F-4, A-4  
[damon@pacific.net](mailto:damon@pacific.net), Mooney M20J N57492

Before we get started, those of you with a *Johnson Bar* may not want to continue with this article. My subject only applies to landing gear that is electrically actuated.

A couple of days ago, I was chatting with Pascual Puertolas at Lake Aero Styling (LASAR), a Mooney Service Center (MSC). He was working on a landing gear actuator on the bench. What I heard from Pascual, a specialist that has logged over 200 actuator rebuilds, frankly, scared the hell out of me.





The gear actuator contains a little spring. I was told that if (when) that little ***“no back” clutch spring*** fails, the gear **WILL NOT** go down, period. It is a failure point common to both normal and manual (that red handle on the floor) gear extension. Prepare for some new belly paint and a bent prop!

A search at Mooney.com (Service Bulletin M20-282A) confirmed a mandatory “1,000 HOUR REPLACEMENT OF ‘NO BACK’ CLUTCH SPRING.”

This S/B also requires a 100-hour inspection of the spring. But to simply inspect the spring, the entire actuator must be removed from the airplane so the case can be opened up.

Paul Loewen, a veteran of nearly 50 years in the Mooney biz, thinks that maybe the factory’s 1,000-hour S/B might be based on a worst case for the number of gear cycles. Since we do not have a way to count gear cycles, the factory likely based the actuator TBO on aircraft hours. Perhaps this was set for the hours logged by typical Mooney usage at a busy flight school? Because of pattern



work and other training exercises, a school requires lots and lots of gear cycles per 1,000 hours.

In my case, my Mooney is my company car. I normally fly two or more hours before putting the gear down. One flight, one gear cycle. Not anywhere near the cycles per hour of a flight school airplane.

The reason I am writing is because my 1984 201 has 3,400 hours total time since I bought it new. It still sports its original factory gear actuator, and no inspections or repairs.

OK, maybe I have been lucky. WAY lucky. So, how did I get past all those visits to the shop, most of which were at an MSC, with no “red flags” for this apparently much overlooked gear actuator overhaul?

Needless to say, I have scheduled a gear actuator inspection before my next flight.



# ***Learn from Those Who Fly Amongst Us***



The pilot had flown the airplane from KEST to KFLY earlier that day and planned to return to KEST. During the preflight engine runup and magneto check, the engine was running rough, so he taxied the airplane to a maintenance facility at FLY to troubleshoot the issue. The pilot stated that the mechanic checked the magnetos and disconnected a primary lead wire. The mechanic provided information about how the pilot should set the airplane's fuel mixture at a high elevation airport. The pilot completed another engine runup and set the fuel mixture according to the mechanic's instructions, then taxied to the runway for a "mock" takeoff roll to see if the engine was capable of producing takeoff power, which was completed successfully. The pilot then taxied the airplane back to the mechanic and completed one final fuel mixture adjustment to reach full engine power at 2,700 rpm. The pilot then taxied back to the runway and began the takeoff roll; the airplane rotated for takeoff at 76 knots and 10° of flaps were extended. After climbing through 100 ft above ground level (AGL), the engine experienced a loss of power and was unable to maintain altitude. The pilot stated that the stall warning horn was sounding so he lowered the nose to increase airspeed, then made a forced landing into a field straight ahead; the airplane stalled and then impacted the ground.

The KFLY mechanic stated that the left side magneto was inoperative and that the primary leads were wired incorrectly. After disconnecting the primary leads, the pilot started the engine and appeared to be able to achieve full power. The mechanic did not repair the left magneto, nor did the pilot request that it be repaired.

During a post-accident examination of the airplane, the left magneto was removed and tested. It did not produce a spark at any terminal, and the contact points did not open. Additionally, the spark plugs connected to the left magneto did not exhibit signs of recent operation, which was consistent with an inoperative magneto.



The disconnected P-leads, found dangling in the engine compartment, would not have affected the right magneto's ability to energize half of the spark plugs. With an inoperative left magneto

and a high density altitude, the available engine power would have been reduced, and the airplane's climb performance would have been degraded.

The reduction in the available engine power, combined with the high-density altitude, resulted in the airplane's inability to maintain a positive rate of climb after lifting off.

**Probable Cause:** The pilot's decision to depart with an inoperative left magneto, which resulted in degraded climb performance in high-density altitude conditions and a subsequent emergency landing.



If it doesn't look,  
sound or feel right,  
**don't fly.**



## One Boy's Opinion Of Pilots

The following was written by Tommy Tyler, 5th Grade, Jefferson Grade School, Beaufort, S.C. It should be of interest to all airplane drivers.)

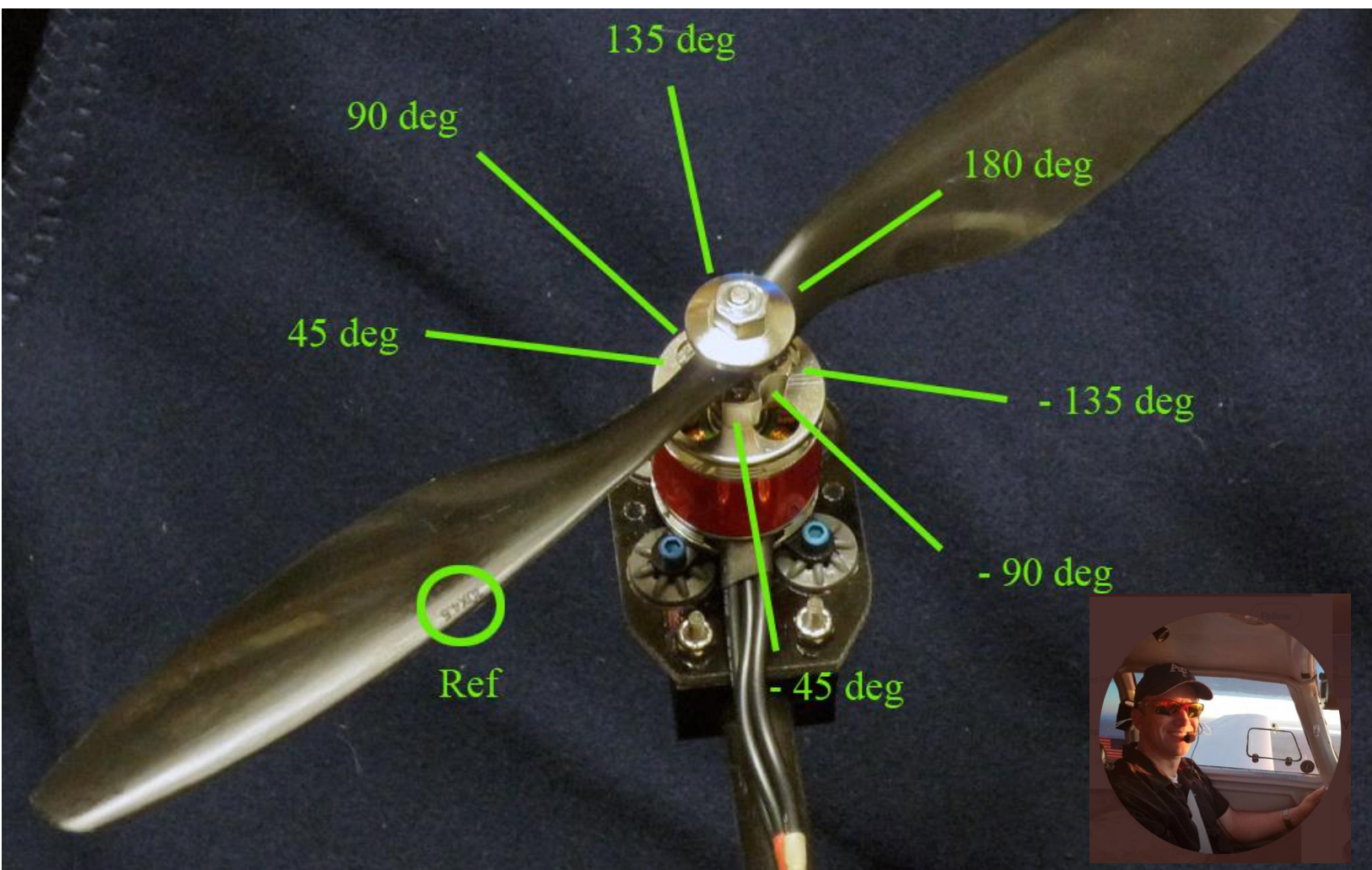
### Why I Want To Be A Pilot

When I grow up I want to be a pilot because it's a fun job and easy to do. That's why there are so many pilots flying around these days. Pilots don't need much school, they just have to learn to read numbers so they can read instruments. I guess they should be able to read road maps too, so they can find their way if they get lost.

Pilots should be brave so they won't get scared if it's foggy and they can't see, or if a wing or a motor falls off they should stay calm so they'll know what to do. Pilots have to have good eyes to see through clouds and they can't be afraid of lightning or thunder because they are much closer to them than we are.

The salary pilots make is another thing I like. They make more money than they know what to do with. This is because most people think that plane flying is dangerous, except pilots don't because they know how easy it is.

I hope I don't get airsick because I get carsick and if I get airsick I couldn't be a pilot and then I would have to go to work.



## Dynamic Prop Balancing? Yes, You Really Should

by Richard Brown

Let's face it, the Mooney crowd (and probably other owners who are flying an inferior plane) are mostly a fiscally conservative group. Perhaps fiscally conservative isn't the right description. After all, we will burn a bunch of Avgas to have a meal at a nearby airport when it would be less expensive to just drive down the street to a local restaurant that probably has as good or better food. Maybe the right word is "Cheap", which is tossed around along with a second word questioning the legitimacy of our birth.

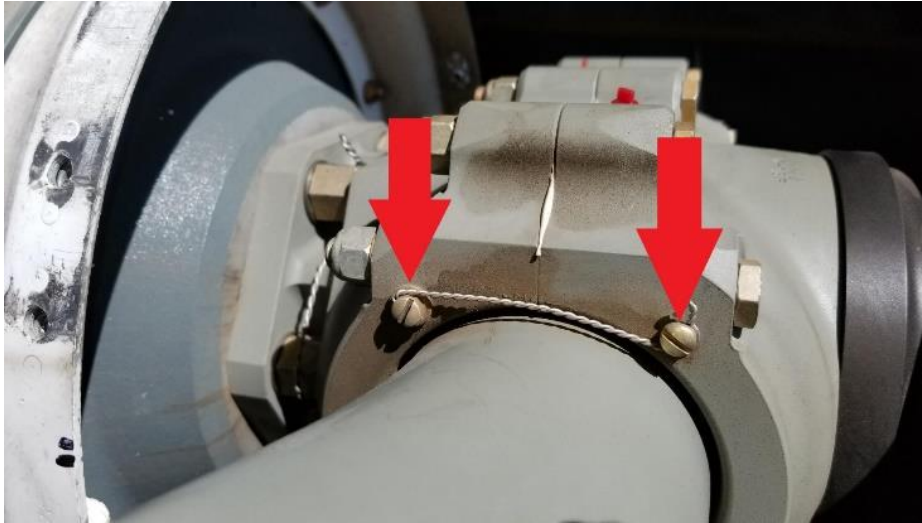
My experience has been that pilots don't mind spending money as long as they see the benefits. We will burn that gas to go get some food because we experience the pleasure of flying and get a meal out of it in the process. Heck, we will even go up for a flight to just burn gas and punch holes in the sky. Ask us to spend money on something like Dynamic Prop Balancing and we start to say things like, "My plane already runs pretty smooth," or "A four-cylinder plane will never run very smooth."

Another common question is the one my neighbor a few hangars down asked, "Did it really make a difference, or do you think you just imagined it?"

Vibration is not good for a lot of things on your plane, and the engine and prop can generate a lot of vibration. Pay close attention the next time you have the cowling off after an oil change.

When you start the engine up and shut it down to check for leaks, it will make you wonder how long the cowling, when replaced, will actually stay on the airplane.

I have heard good things about dynamic balancing and had the contact information saved for a local “balance” guy for over a year. Finally, I contacted him to have it done. I wish I had not waited so long. My plane didn’t feel rough. No one has complained, and things I have read from others



made me think, “Hey, I’ve got a pretty smooth-running airplane.”

After having it done, I’m in the “I wish I had done it sooner” category.

Jim Fackler operates out of Cable Airport (KCCB) in Upland, CA. If you are anywhere nearby, (which at Mooney speeds is a big circle), I would encourage you to see him for your dynamic

balancing. Jim is the expert. He wrote the program that is used for dynamic balancing as well as “The Smooth Propeller”, which is an approved data source and cited in Advisory Circular 20-37E. He has a hangar at Cable and for less than a couple \$100 burger runs, he will take care of you. If he comes to you, there is a small travel charge, which is well worth it. His background, FAQ’s and contact information are on his website at <http://www.ifdynamics.com/>.

Jim arrived right on time and after pulling my plane out, he hooked up a sensor to the engine. This is an optical reader, on top of the cowling, used to measure RPM’s. He ran the wires out to the right wingtip where he plugged them into his monitor. For me, it was a simple procedure. After letting the engine warm up, he had me run it at 1,000 rpm, then 1,500 rpm, and then 2,000 rpm. I tried to watch him for signals to speed up or slow down. However, if I was looking at the panel and he needed my attention, he just wiggled the aileron. He has the system all figured out.

After watching and taking readings, I shut down. He attached some weight to the hub, and then I ran it again. I had no idea that those little screws are for attaching weights when balancing the prop.

He kept dialing it in and it “seemed” to me that I could tell a difference in how smooth the engine was running as he proceeded with the balance. The big “Ah-Ha” moment came with the engine at 1,000 rpm. He asked if I could tell a difference and then said, “Pull it all the way back to idle.” My idle is set just above 600 rpm. Any slower and it feels like the engine is going to shake off and go rattling across the ramp. I pulled the throttle to idle and ... it was smooth. It wasn’t smoother, it was smooth, I couldn’t believe it.

Jim finally had it dialed in and removed the spinner so he could safety wire the screws holding the weights. With the spinner off, he saw that there was a screw through the bulkhead that held a stack of washers to the bulkhead which had probably been put on at the factory 55 years ago.

Rather than just wrapping up the job, he removed the washers, put the spinner back on, and started over. Jim wanted to make sure it was “done right.”

Once he had it dialed in the second time, he removed the spinner, safety wired the screws, put the spinner back on, and removed the two sensors he had attached at the beginning of the process. While I put the plane back in the hangar, he got out his printer and gave me a printout of the readings and a log-book entry. It was a little over two hours and would have been about an hour and a half, had he known about those weights on the inside of the bulkhead.

I was pleasantly surprised when I asked how much I owed. I had misread the text from him and didn't realize the rate he had quoted was a flat rate, not hourly. Jim said that he does it at a flat rate because no matter how long it takes, he can make sure it is done right without the customer thinking he is “dragging it out” for more money.

I'm sure everyone is wondering what the numbers were on the report. The main reading is measured in IPS (Inches per Second) and mine came in at 0.49 IPS. After balancing, it was reading 0.03 IPS. If I am doing my math correctly, that is a reduction of 94%.

Now, like my hangar neighbor, you are saying “Sure Richard, but can you actually feel the difference, or is it all in your head?”

I'll be honest. In cruise, my plane already felt pretty smooth, and it does feel smoother in cruise, but where I really notice the difference is at full power turning 2,700 rpm on takeoff and climb-out. A week after Jim balanced my prop, I took my wife and sons flying. Later that afternoon, I flew with a friend who has flown with me in the past. All of them said they could tell a difference.

When it comes to value spent on maintenance, it is hard to argue with something that makes your ride smoother in all phases of flight and will also prolong the life of various parts of the engine and airframe for less than two \$100 burger runs.

How often do you need to have your prop dynamically balanced? According to Jim, the guy who wrote the book, it shouldn't have to be done again until either the prop or the engine is overhauled.

Should you have your prop dynamically balanced? Yes, you really should.



# Crosswind Takeoff Procedure for Mooneys



Phil Corman  
Co-Editor

A Mooney takeoff is straightforward, but taking off in a brisk crosswind requires some knowledge and a little skill. We spend a considerable amount of time landing in strong crosswinds, but taking off correctly is just as important.

Our Mooney fuselage and wings are closer to the runway than most other aircraft and we also don't have as much rudder authority as some aircraft. So, take that into account when departing in a crosswind.

Turn the yoke/ailerons into the crosswind before you add takeoff power. If the crosswind is strong enough, you may need to apply full aileron. After you begin your roll, to avoid weathervaning, you will need to apply enough rudder to keep your nose down the runway. You probably end up cross-controlled a bit. Do not over deflect your ailerons during the roll. Your goal is to keep your wings level with ailerons. If you over deflect, you risk a wingtip strike and unnecessary side loads on your landing gear.

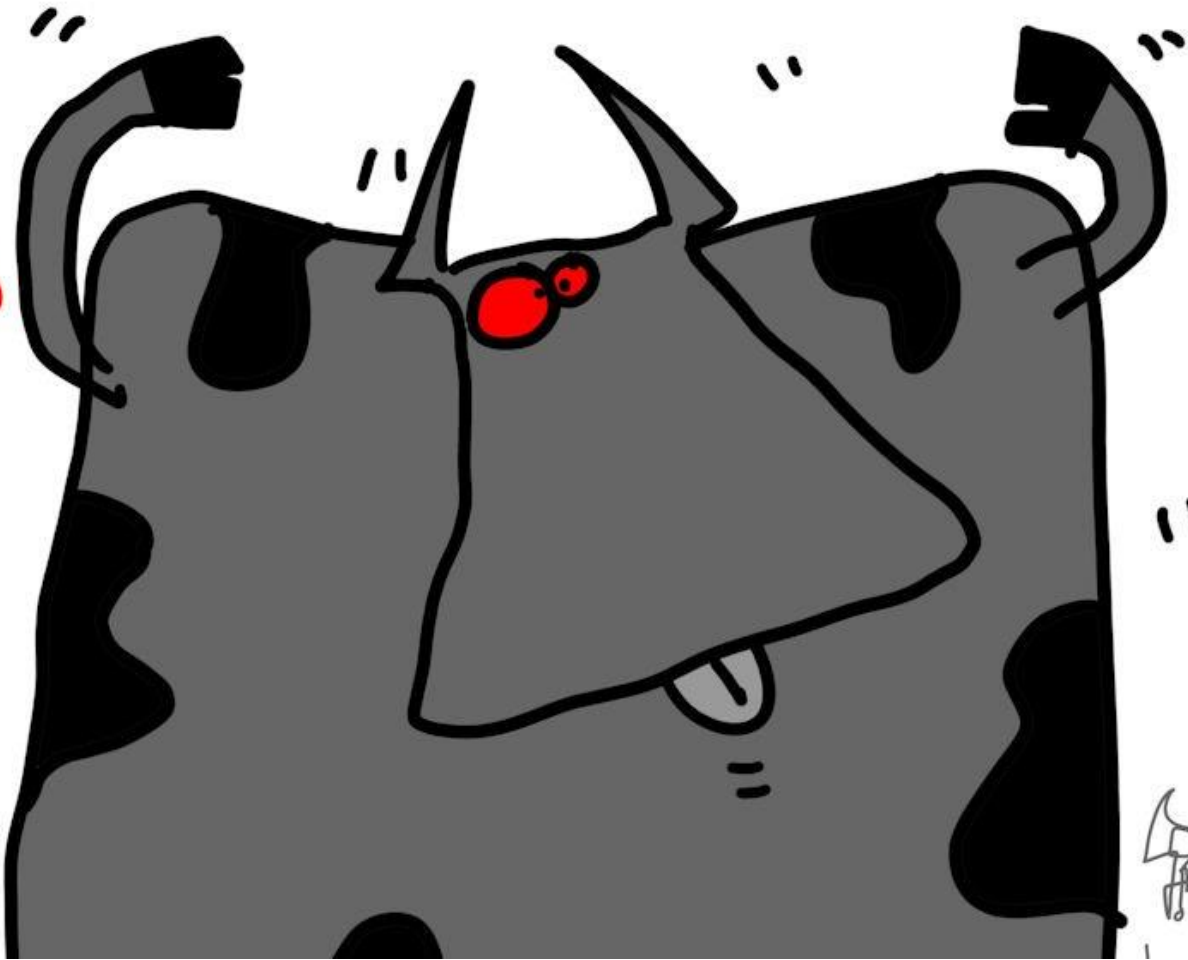
As you accelerate, you can decrease your aileron deflection. On liftoff, you want your nose to lift first, followed by the downwind main gear, and finally your upwind main gear. If the crosswinds are particularly strong, consider keeping your Mooney on the runway a bit longer so that when you rotate, you will have more control.

Once aloft, crab into the wind to maintain the extended runway centerline.

No sweat. Have fun

have you  
killed  
YOUR  
SACRED  
ZOMBIE  
COW  
today?

## Installment XII



by **Brian Lloyd**, CSEL/CMEL, CFIA/CFII

Last month I made the following comment in my opening paragraph.

“May you live in interesting times,” is said to be a curse. I have come to believe that. I do so wish that my life would offer me a bit of boredom. Now I am going to tell you why. For the last two-and-a-half years, I have been the defendant in a lawsuit that was brought against me by my property owners’ association for doing flight instruction from my house. Yes, I live in an airpark and flight instruction is allowed at the airpark. So why would my POA sue me? That is a very good question; one that I have been unable to answer for 2.5 years. It seems that a small group of people who controlled the POA Board of Directors didn’t like me and wanted to teach me a lesson. One of them actually went so far as to say that to a neighbor.



A year ago, a new board was elected. I guess a majority of my neighbors did not agree with the people who started the lawsuit and did NOT reelect any of them to the board. The new board settled with me almost immediately. Unfortunately, the people who started the suit were afraid of that and had themselves added to the suit so that no matter what happened with the board member election, the suit against me would go on.



When I wrote last month's installment of *Killing Sacred Cows*, I was preparing to finally go into the courtroom to defend myself and to have my fate determined by what I hoped would be an impartial Judge and Jury. I knew it was a crap shoot. Needless to say, my mind was elsewhere and I was not really on my writing game.

Fortunately, the Jury, after deliberating for 30 seconds, agreed with me and acquitted me on all counts. I could go on about the lawsuit, but I am just so glad to have it behind me.

And now for the other big announcement: I am no longer a Mooney owner. Don't get me wrong, I love Mooneys and may get another one someday, but for now, I am Mooney-less.

The sale was a very interesting one. A young man called me on the phone to talk about flying around the world. He was headed to a well-known Mooney broker to purchase a 231 but wanted assistance configuring it for a pole-to-pole circumnavigation. On a whim, I asked him if he might be interested in my Mooney since it was already set up for circumnavigating and has many modifications necessary for long-distance over-water flying. I explained that he would probably save \$20,000 by purchasing my airplane rather than trying to set up another one. He agreed and bought my airplane.

It really was the perfect deal for both of us. The only way I would ever get close to getting what I had invested in the airplane, was to find a buyer who wanted an airplane set up for long-distance, over-water flying. He now has a proven circumnavigation airplane for less than it would cost him otherwise. There is only one thing missing: he doesn't have a pilot's license yet. That's right. He is going from zero to circumnavigation. (Yes, my eyes got a bit wide at that revelation too.)

So we are transferring the airplane to a corporation which will operate it. I will be the chief pilot, which makes getting insurance possible and also means I will keep flying *Spirit*. He will finish his PPSEL and then I will instruct his complex/high-performance sign endorsement. I will also see him through his instrument rating. That will let me spend a lot of time teaching him about long-distance flying and dealing with weather in an airplane that is operating over its certificated max gross weight. A Mooney operating at 110% of max gross weight with the CG close to the aft limit is very interesting and challenging. It is extremely easy to stall on take-off, so the pilot has to be gentle and not over-control the pitch. You have to be very patient on the take-off roll because it takes a long time with a heavy airplane (less acceleration) and you have to wait much longer than usual to rotate since lift-off will be at a higher speed.

The most uncomfortable thing about taking off in a Mooney that is configured and loaded like this is what the nose wheel does in the later part of the take-off roll. Every little bump pops the nose up. Normally I would apply a little back pressure and lighten the nose, but I really don't want to do

anything that impedes acceleration. Before rotation, I need to get the airplane up to  $V_x$ . So, with every bump, I work to gently get that nose wheel back on the ground. To me, this the most difficult and dangerous part of a long-distance flight — nursing an over-loaded Mooney off the ground. I have done it many times, but every time I do it, my heart-rate increases. For you instrument pilots, it is like hand-flying an ILS to minimums while precisely maintaining less than a one-dot deviation of the glide-slope needle.

So what does all this mean for me when teaching others to fly Mooneys? I have no intention of quitting. I love the Mooney. It is such an ideal, efficient, personal traveling machine. I hope that many of you will contact me for things like transition training, flight reviews, and Upset Prevention and Recovery Training (UPRT).

But now comes my dirty little secret: I am going to be flying a V-tail Bonanza for a while. My neighbor has an absolutely beautiful Bonanza that he has offered to let me fly when I need to go places. It is not as efficient as the Mooney, so I plan to spend some time figuring out how to efficiently fly the Fork-Tailed Doctor Killer. Bonanza owners brag about how fast their airplanes are, but anyone can go faster if they are willing to burn a ton of fuel. I am more interested in covering the most miles while burning the least amount of fuel. I see a fair amount of test flying in my future, at different altitudes and power settings, so I can figure out where to operate the Bonanza most efficiently. I am spoiled because my 231 could fly 1500nm with IFR reserves. It is what made it possible for me to get on-site right after Hurricane Maria decimated the Caribbean three years ago. The Bonanza won't get me nearly as far. I need to figure out if it is possible to fly it non-stop from Florida to Puerto Rico. I figured out how to do that in my Aztec and I should be able to do it with the Bonanza as well.

When I test fly, the first thing I do is confirm the accuracy of the airspeed indicator. I fly the airplane at several different indicated airspeeds and fly triangles, recording ground speed and ground track from the GPS, noting the OAT and IAS. I have a spreadsheet that converts the GPS data into TAS and winds aloft. From that, I work backwards to CAS using the venerable E6B. The difference between my recorded IAS and my calculated CAS is the correction factor for the airspeed indicator. Yes, many aircraft manufacturers provide that table in the POH, but who knows how accurate that 40-year-old airspeed indicator is.



Once I have a good airspeed correction table, I then go up and do my test flying at different power settings — lean-of-peak of course. With that information, I will be able to figure out what the REAL range of the aircraft is at different loadings. You would be amazed at just how much an airplane slows down when loaded to max gross weight. Maximum range comes with steadily reduced power as the fuel burns off, so that the airplane never speeds up above [Carson's speed](#), which decreases as weight decreases. Long distance flying is all about minimizing energy loss due to drag.

So, I guess I need to get to that point where I do in one of those religious cows. This month it is,

## ***You don't need to be Chuck Yeager to be a test pilot.***



US AIR FORCE

You know, nothing prevents you from doing this sort of thing with your airplane. Do you know how accurate your airspeed indicator is? You can find out for yourself. Want to figure out the correct approach speed? Calibrate your airspeed indicator, do stalls, and then calculate 1.3 VSO (stall speed in the landing configuration). Want to find out what your actual take-off distance is? Practice with a friend who can identify your exact lift-off point and compare that to what the POH indicates to see what your correction factor is. Being a test pilot is neither dangerous nor

glamorous. It is about being precise and methodical so that you can get good, repeatable data. It may not be the most exciting flying you can do, but it sure is rewarding. It will also make you a better and more proficient pilot. The best way to stay away from the edges of the air are to know where the edges are. You don't have to guess or build in a lot of unnecessary margin if you know what the limitations really are and then fly consistently well.



So as I end this month's installment, I have a big question for all you Mooniacs out there. You have been reading my missives for a year. Would you like me to continue or have you had enough? Future columns are going to still have Mooney content because people are likely to keep coming to me for Mooney

training. However, I will be spending more time flying other aircraft. I will be happy to continue here as long as you find my writing useful and entertaining. Please let Phil know what you think. ([editor@themooneyflyer.com](mailto:editor@themooneyflyer.com))

So that wraps up a year. Just between you and me, let's hope that the rest of 2020 and then 2021 are better. I want to see Oshkosh and Mooney come back.

Fly safely. Fly better. Have fun!





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

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



**The Mooney Maintenance Puzzle**



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Search Mooney's Service area for Service Bulletins (SBs) and Service Instructions (SIs) applicable to your model



Search the FAA database for Air Worthiness Directives (ADs) applicable to your model



**Click here**



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





# Ask the Top Gun

TG



## Tom Rouch

Founder of Top Gun Aviation, Stockton, California



Send your questions for Tom to [TheMooneyFlyer@gmail.com](mailto:TheMooneyFlyer@gmail.com)

**Q**uestion: I fly a 67 M20F fitted with GAMI injectors. I recently experienced several changes in fuel flow pressure. Last week, when priming, I noted the fuel pressure was 14 psi, and not the 26 psi that I'm accustomed to. The engine started without hesitation (without the boost pump activated). Mechanical driven fuel pressure increased slowly to about 22 psi. Engaging the boost pump did not further increase fuel pressure beyond 22 psi. Upon shutting down, fuel pressure fell to zero. During sequential startups, fuel pressure behavior was like that detailed above, with one exception, the fuel pressure gauge does not return to zero upon shut down. The A&P suspected a faulty gauge. This seemed to be disproved when the fuel system line was broken and the pressure returned to zero.

We contacted several service centers and the consensus is that there is not a problem. In fact, one remarked, "It's a good thing when the fuel system holds pressure after shutting down". I'm concerned and have reservations about flying the aircraft until I understand why there's a reduction in fuel flow pressure. I don't understand why the fuel system is suddenly holding pressure after shutting down.

I would greatly appreciate any guidance you could provide on these issues.

Regards, **Robert**

**A**nswer: I suspect the problem is the gage because the readings are erratic, but the engine seems to run normal. You can prove it with a test gage hooked into the system. The other option is to remove the gage and send it to an instrument shop for a test. However, that takes more time.

**Q**uestion: A secondary gauge was installed and it corresponded with the cockpit gauge. The mechanics operated the boost pump numerous times and each time, the boost pressure was 23-25 psi. The pressure would slowly drop. I tested it several times yesterday and timed the bleed drop. It went from 26 to 14 psi in about 19 minutes if this helps.

To recap the situation, twice earlier the boost pump pressure achieved only the minimum 14-15 psi. Once the engine was started the pressure would increase slowly to 20 psi, activating the boost pump did not increase fuel flow pressure. The mechanics placed a second gauge in line and these two gauges were within a few psi of each other, always 22-24 psi. Tanks were sumped and Gascolator drained, and no containments were found.

It seems the problem lies not with the pumps, but elsewhere. Perhaps a servo or fuel system leak or injector issue??

**A** **nswer:** We now know the gages are pretty accurate so we need to look for another cause. Like any system that is based on pressure, if there is a pressure loss, then somewhere there is a leak causing a pressure drop. Since we have no puddles on the ground, then it is an internal leak in the system. If you look at the facts, it appears the drop in pressure is with the boost pump. With the engine running, the engine pump increased the pressure. If I read the tests right, then the loss of pressure occurs when the engine is not running. The fact that there was pressure with everything off and that pressure went to zero when the line opened, indicates the system is not the cause of the loss of pressure. That, to me, leaves the problem with the pump. The original pumps in that plane were made by Dukes and should be worn out by now. They were later replaced by superior Weldon pumps. I think the pump is worn and internally leaking/bypassing the pressure. To me, when the pump only indicates 12-15 psi, this indicates it is a pump problem.

I want to add that there was a Service Bulletin years ago that added an inline fuel filter next to the pump. It is located under the left tunnel panel just below the pilot's left foot. I don't remember if the filter has a bypass, but it could cause the pressure problem.

## ***Top Gun Aviation***



Specializing in Mooney and Cirrus

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or visit our website at [www.topgunaviation.net](http://www.topgunaviation.net)



***Avionics Repair and Installation Services now available on site thru J&R Electronics***

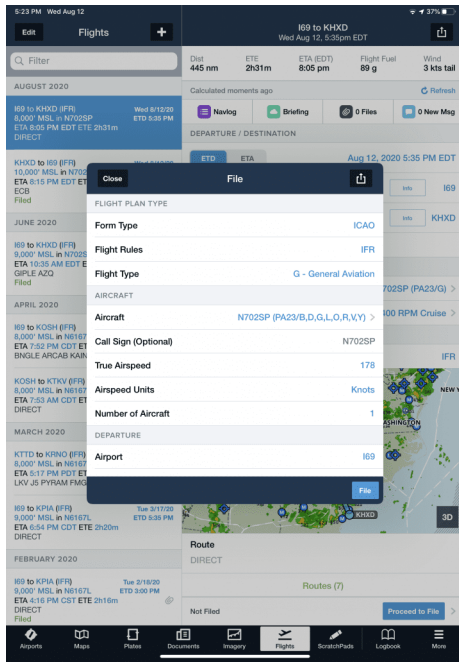


Have you HEARD?

# BREAKING AVIATION NEWS



## Setting ICAO flight plan aircraft profiles and equipment codes – ForeFlight and Garmin Pilot



Filing a VFR or IFR flight plan today is a breeze when using an aviation app like ForeFlight or Garmin Pilot, since the File function is integrated right into both apps' standard flight planning features. The one area related to this which can be slightly confusing though is entering all the correct aircraft equipment codes when you go to file. You would be wise to check to see if you're doing it right

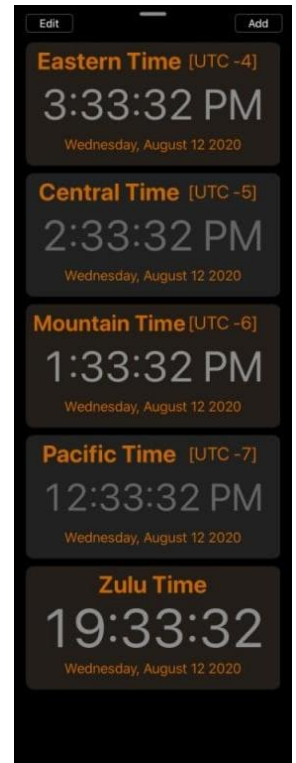
[Read More HERE](#)



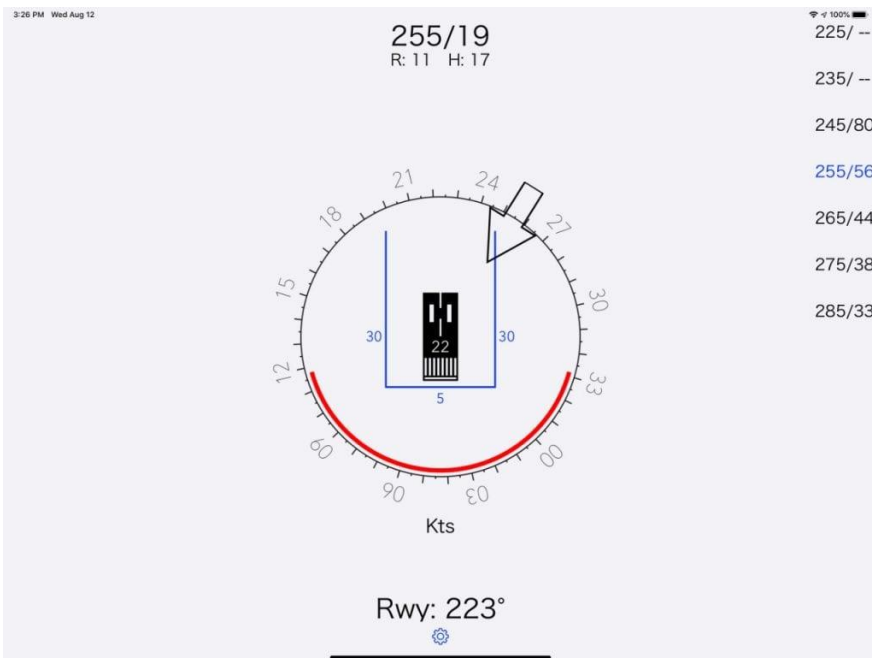
# Apps you might Love

## Zulu Time app

Pilots live by Zulu time, whether it's decoding METARs or writing down IFR clearance void times. Calculating this isn't hard for your home time zone, but sometimes things get complicated if you're on the other side of the country. That's where this app comes in—once you set up the time zones you want to display, there is no chance of making a mistake. It uses your iPad's built-in clock to stay in sync, and can display multiple time zones at once. Two features we really like: it works great in split screen, so you can run it next to your favorite EFB app, and it has a solid Apple Watch app. Zulu Time is available for 99 cents [on the App Store](#).



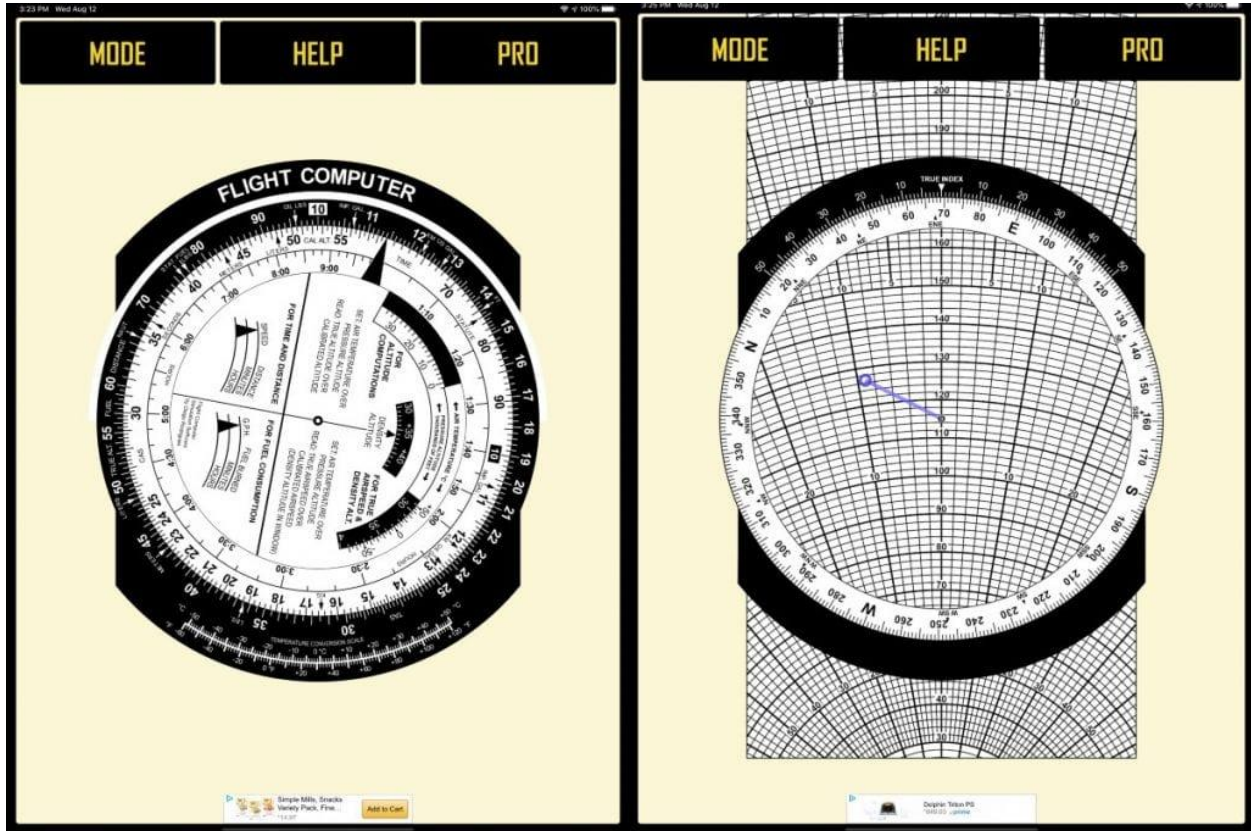
## xWind app



There are plenty of ways to compute crosswind component—many EFB apps like ForeFlight will show headwind/crosswind component automatically. But this only shows you current conditions, and sometimes it's helpful to play around with different scenarios, especially if you're a student pilot. This app won't win any design awards, but it's free, easy to use, and allows you to test different wind conditions. You can also set a maximum crosswind/tailwind speed and the app will

alert you in red when you'll exceed those values. xWind is [free to download](#) on the App Store.

# Flight Computer Sim app



Most pilots ditch the E6B after the FAA knowledge test, but if you're preparing for that (or if you're a glutton for punishment) this app helps you explore the old school "whiz wheel" in all its glory. Just like the real thing, you can spin the dial and try out different problems. You can even virtually flip over the E6B and run wind correction angle calculations. It's a helpful training tool and a reminder of how good we have it these days. Flight Computer Sim works on iPhone and iPad, and is [free to download](#).



Get in your seats and buckle up. We are leaving RIGHT NOW!

WELCOME ABOARD FLIGHT 687

## ***Spatial Interior for your vintage Mooney***

Simple, quick and effective repair methods add new life to cracked and discolored plastics. Optional STC approved lower side panels add space and elegance. Installed without screws will please any mechanic.

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**Jaeger Aviation**

**Email: [bruce@jaegeraviation.com](mailto:bruce@jaegeraviation.com)**

**320-444-3042**



## AROUND THE WORLD

	<p>Contact Dave at <a href="mailto:daveanruth@aol.com">daveanruth@aol.com</a> or (352) 343-3196, before coming to the restaurant, to have an accurate count. Events begin at 11:30</p> <p><b>CANCELLED</b></p>
	<p><del>Sep 10-13: Advanced Formation Clinic (PDT)</del> <b>CANCELLED</b></p>
 <p>MAPA Safety Foundation Pilot Proficiency Program</p>	<p><b>2021</b></p> <p>Jan 28-31: Lakeland, FL          April 22-25: Santa Fe, NM          June 17-20: Fort Worth, TX</p> <p><b>Sign Up at</b> <a href="https://www.mooneysafety.com/ppp-registration/">https://www.mooneysafety.com/ppp-registration/</a></p>
 <p>MOONEYSUMMIT</p>	<p><a href="#">CLICK HERE</a> for details</p>
<p>Australian <b>Mooney</b> Pilots Association</p>	
	<p><a href="#">CLICK HERE</a> for details</p>
 <p>WEST COAST MOONEY CLUB FAST FLYING - FUN TIMES</p>	
<p><b>Other Mooney Events</b></p>	<p><b>May 21-23</b> <i>The Mooney Flyer</i> is planning a Paso Robles, CA (<a href="#">KPRB</a>) Fly-In. Dinner on Friday ... Saturday Ramp Arrivals and Seminars for Pilots and Passengers ... Sport competitions on Saturday, with Wine &amp; Food Party on Saturday night.</p>



# Jupiter Folding Electric Bicycle



My wife and I just purchased two Jupiter Bikes. These are folding electric bikes that fit through our Mooney Eagle’s Cargo Door and sit side-by-side.

There are three bikes in the Jupiter Bike family, and we settled on the Discovery X5. At 25 MPH, it has enough battery power to travel 30 miles (or more if you pedal a little bit). That is more than enough for us. We love to fly to an airport, unload the bikes and motor our way to a restaurant that could be up to 15 miles away. We can also travel to our hotel without renting a car or Uber.

The bike is solidly built with cool features including a headlight, blinking taillight, front and rear disk brakes and rear shock suspension. An LCD on the handlebars shows you the level of battery charge, miles traveled, and which of three motor speeds you have selected.

You can buy new or refurbished Jupiter bikes. We chose refurbished, which comes with the full warranty and both appeared to be like new.

[CLICK HERE](#) to get all the info on the family of Jupiter Bikes!

Specifications		
✓	Max Speed:	16 mph / 25 mph
✓	Distance per charge:	30 miles
✓	Motor:	350 Watt Hub Motor
✓	Battery:	36V, 5.2Ah Lithium-Ion
✓	Full Charge Time:	4 hours
✓	Brakes:	Front and Rear Disc
✓	Wheels:	16" Inflatable (40-60 psi)
✓	Kickstand:	Yes
✓	Folded (L x W x H):	30" x 15" x 21"
✓	Unfolded (L x W x H):	52" x 21" x 34"
✓	Product Weight:	40 lbs
✓	Weight Limit:	265 Lbs.



**Parts for Sale**



This Cowling was removed from a M20E and replaced with a M20J (201) cowling. The cowling is located at Fullerton Airport (KFUL) and is in excellent condition. Offers accepted

Contact: Bernard Lee – [leebern@msn.com](mailto:leebern@msn.com) (562-865-2547)



P/N 310309-501

P/N 310309-502

These fairings are new and priced @ \$280.00 each or \$525.00 for both. Priced elsewhere @ \$362.69 each.

Contact: Bernard Lee – [leebern@msn.com](mailto:leebern@msn.com) (562-865-2547)



Bushing P/N 914007-003 - 2- Bushings in the original package @ \$35.00 each. Priced elsewhere @ \$45.00 each.

Bushing P/N 914007-005

1-Bushing in the original package @ \$59.00

1-Bushing loose @ \$50.00

Priced elsewhere @ \$69.00 each

Contact: Bernard Lee – [leebern@msn.com](mailto:leebern@msn.com) (562-865-2547)



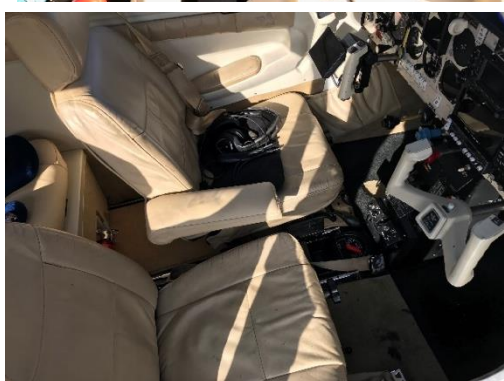
Access Covers P/N 3000-901 (2-available) - 1-without nuts attached.

Make offer. Contact: Bernard Lee – [leebern@msn.com](mailto:leebern@msn.com) (562-865-2547)

## 1/3 SHARE FOR SALE

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

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



Give me a call anytime at 510 377 0129 or email [bradinc@astound.net](mailto:bradinc@astound.net). Thanks! Steve



## X-Naut Cooling Case for iPad (Air 1-2 6<sup>th</sup> Generation and Pro 9.7")

**Like new, \$90.** (Includes US shipping).

**Does not include** a mounting ball or a standard Micro USB charging/power cable.

Powered by 8AA batteries or standard Micro USB cable.

Compatible with RAM and MyGoFlight mounting systems.

Contact Jim Price, ([jim@themooneyflyer.com](mailto:jim@themooneyflyer.com) or 480-772-1527)

## RAM iPad Air/Pro 9.7" (6<sup>th</sup> Generation) Cradle

**Like new, \$17.** (Includes US shipping).

Mounts the iPad 9.7" (2017), iPad Pro 9.7" and iPad Air 1-2 (without cases).

Includes 1" RAM mounting ball.

Contact Jim Price,

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Rusty pilot,  
dreaming of  
becoming active  
again . . .**

**. . . or  
you're a  
proficient,  
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