

The Mooney Flyer

The Official Online Magazine for the Mooney Community

www.TheMooneyFlyer.com

June 2019



Editors

Phil Corman & Jim Price

Contributors

Bruce Jaeger | Bob Kromer | Tom Rouch | Geoff Lee | Linda Corman

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Mooney Mail – *Feedback from our Flyer readers.*


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The FAA now has a “Topic of the Quarter” to help you stay proficient

Subscribe and we’ll email you when a new issue is published.



Find all the back issues (starting in 2012) or use our powerful search engine to find a past article.





From the Editor

Phil Corman

The POH

We have seen quite a bit of social media and forum discussion lately regarding some pilots who are deviating from their Mooney POH. Social media and forums can be an amazing source of valuable information, but when the choice is between following the POH or an online post, we are going with the POH every time.

A good example occurred recently regarding the use of flaps for landing. My POH says to use full flaps under most conditions and partial for crosswinds. This is presumably to have more rudder control on touchdown. But it never recommends landing without flaps. At The Mooney Flyer, we feel that no flap landings should be practiced in preparation for a time when the flaps may fail to extend.

Also, some pilots recommend no flap takeoffs. Usually, this decreases your stall speed and increases your takeoff run. Using takeoff flaps increases lift with minimal drag.

Caveat Piloto to those who deviate from their POH.

**PILOT'S OPERATING HANDBOOK
AND
FAA APPROVED
AIRPLANE FLIGHT MANUAL
MOONEY
M20M**

THIS HANDBOOK INCLUDES THE MATERIAL REQUIRED TO BE FURNISHED TO THE PILOT BY THE FEDERAL AVIATION REGULATIONS, AND CONSTITUTES THE FAA APPROVED AIRPLANE FLIGHT MANUAL.
THIS DOCUMENT MUST BE CARRIED IN THE AIRCRAFT AT ALL TIMES.

MOONEY AIRCRAFT CORPORATION
LOUIS SCHREINER FIELD
KERRVILLE, TEXAS 78028

SERIAL NUMBER: _____

REGISTRATION NUMBER: _____

FAA APPROVED *Michelle M. Owsley*

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FAA APPROVED in Normal Category based on CAR PART 3 and applicable portions of FAR PART 23; applicable to Model M20M S/N listed above only.

ORIGINAL ISSUE 7 - 91
Revision E 7 - 97

POH/AFM NUMBER - 3502

Raising the Gear after Takeoff

There are two schools of thought on when to raise the gear on takeoff. The first is to raise when you cannot land on the runway in the event of an emergency, such as an



engine failure. The second idea is to raise the gear as soon as you have established a positive rate of climb. You should pick the method that works best for you.

As for me, I like to raise the gear as soon as I have a positive rate of climb. This is because after I retract the gear, my Eagle accelerates dramatically, giving me a better vertical climb rate. This is most useful on shorter runways or when there are obstructions at the departure end.

Mid Airs

In May, within a few days, there were two midair collisions. One involved two float planes in Ketchikan, Alaska and the other involved two Ag planes that were crop dusting in close proximity. To be sure, midair collisions are relatively rare, but generally involve fatalities.

Did you know that the highest number of midair collisions occur in the traffic pattern? Most pilots scan the 180 degree view out the windscreen. However, did you know that most midairs occur when both accident aircraft are going in the same direction? This was the case with the Alaskan floatplane tour operators. A recurring theme is when two planes meet up on final... ouch! It's easy to do when a pilot on base doesn't see another aircraft on final. NORDO aircraft also present a higher risk in the pattern.

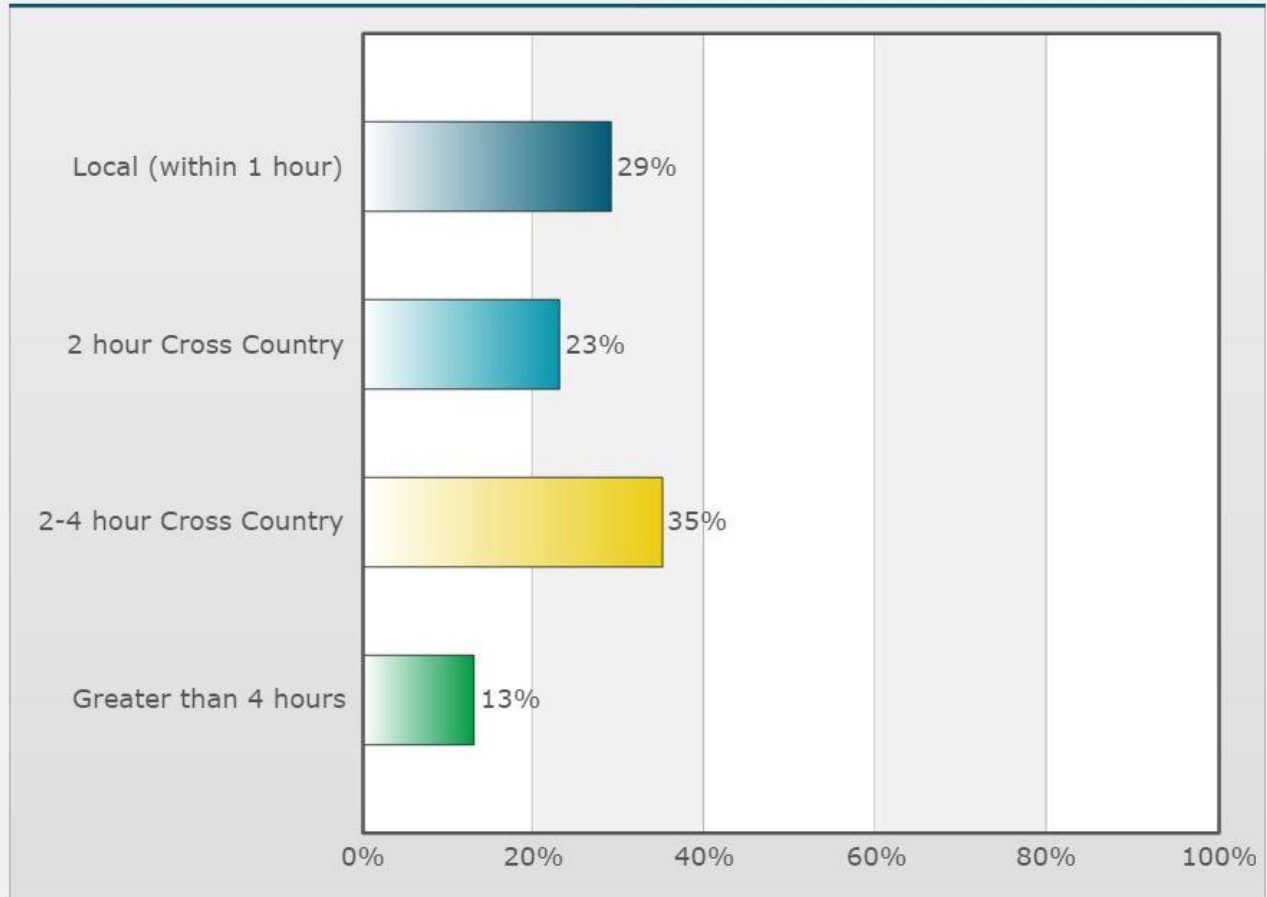


Poll Report

Most of my Mooney Flying is

Poll created by [Phil Corman](#) on 04/03/2019

Poll Results



Next month's poll: "I do Most of my Mooney Flying at: " [CLICK HERE](#) to vote.



APPRAISE IT
Check Your Mooney's Value 

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

Mooney Instructors

CLICK HERE for the most comprehensive list of Mooney instructors in the United States

PROP SUPER CENTER



We won't be undersold!

Mooney Props



Airplane Eligibility	Prop Style	STC #
M20A-J	2 bladed Scimitar	SA0241 CH-D
M20C, D, E, F, G	3 bladed	SA4529NM
M20J	3 bladed	SA4529NM
M20K	3 bladed	SA1505GL
M20R	3 bladed Scimitar	SA02004CH
M20R, S, TN	3 bladed Scimitar	SA03024CH
M20R, S, TN	3 bladed Composite	SA02482CH



McCAULEY

BLACKMAC

Airplane Eligibility	Prop Style	Part #
M20A-G	3 bladed Scimitar	PL60152
M20C, D, G	3 bladed Scimitar	PL60154
M20E, F	3 bladed Scimitar	PL60149
M20J	3 bladed Scimitar	PL60136
M20K	3 bladed Scimitar	PL60199
M20R	2 bladed	M20R241-01
M20R	3 bladed	M20R418-01
M20S	2 bladed	M20S239-01

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Engine Fax: (254) 752-3307 | Parts Fax: (254) 756-0640



**We are so
depressed!
Nobody wrote
us last month.**

Send your comments to
editor@themooneyflyer.com





WINGS Spring 2019 Topic of the Quarter

Pilots who participate in the FAA WINGS Pilot Proficiency program fly with more confidence. We and our passengers are comfortable in the air. And, proficiency training expands our horizons and challenges us to become better and safer pilots. Proficiency training works best if it's not done all at once, but rather spaced out at regular intervals. That's why the FAA Safety Team is introducing the new WINGS Topic of the Quarter; a program consisting of eight activities pursued over the course of one year.

Spring

Basic Knowledge Topic 1

Aeronautical Decision Making (ALC-62)



<https://bit.ly/2G0TY0r>

How Does it Work?

The FAASTeam suggests WINGS flight activities and knowledge topics for each quarter that together meet the requirement for a WINGS phase. In the course of a year, four knowledge topics and four flight activities are suggested. However, only the Spring, Summer & Fall events are required to complete a WINGS phase. The Winter events are considered an elective.

This Spring, it's time to think about doing some proficiency training to keep things safe during the flying season ahead. And what better way to do that than to participate in **WINGS**, the FAA's Pilot Proficiency Program for pilots. Pilots in the **WINGS** program expand their knowledge by taking online courses or attending seminars/webinars in addition to performing specific flight activities to refresh their flying skills.

The knowledge topic for spring is **Aeronautical Decision Making**. You can access the online course at <https://bit.ly/2G0TY0r>. Be sure to log on to your FAASafety.gov account to enroll in the course.

Spring is also a great time to prepare for the summer flying season with a **Takeoffs, Landings and Go-arounds** review with your flight instructor. Here's a link to the spring Flight Activity: <https://bit.ly/2L1WceL>.

Flight Activity: A070405-07 Takeoffs, Landings, Go-Arounds



<https://bit.ly/2L1WceL>

Objective: To develop, review, or improve the airman's knowledge, airmanship and understanding the importance of maintaining positive aircraft control during takeoff, landing, and go-arounds.

Need Help? Ask a WINGSPRO!

If you need help getting started with WINGS, there's a WINGSPRO in your area that can help you with the program. Just search the FAA Team directory on FAASafety.gov to find a WINGSPRO near you!

Click <http://bit.ly/GetYourWINGS> to see more on the WTOQ and to get started on your **WINGS** today!

And be sure to check out this informational video on Soaring with **WINGS**: <https://www.FAATeamTV.com/WINGS>.

With the FAATeam's recently added **WINGS** Topic of the Quarter (WTOQ) program, it's now even easier to earn your next phase of **WINGS**. The WTOQ are preselected courses and flight activities that add up to getting a phase of **WINGS**. In addition to helping you sharpen your flying skills, completing a phase of **WINGS** also satisfies your flight review requirement, gets you a set of wings to wear on your favorite flying hat, and gives you a chance to win a cash prize!

Please note that you may also continue to select your own flight events and knowledge topics for WINGS according to your own personal preference.



Tips to



A friend recently asked me, "What is the best single engine aircraft?"

I replied, "I don't know, but I can tell you this: When non-Mooney owners see my aircraft on the ramp, they are helplessly in love, like girls who had just spotted the Beatles back in the 60s".



Yes, Mooneys are amazing creations and there's nothing like a clean and shiny Mooney to make an aircraft enthusiast's heart go pitter patter. Here are some tips to keep yours at showroom quality.

Remove Rings, Watches and Belts. These will most likely put new scratches in your painted and finished surfaces, so as you prepare to clean, get rid of them!





Clean the wings, fuselage, and belly with an airplane-friendly cleaner such as *Extreme Simple Green* or *Belly Wash*.

Don't Use Acetone, Ammonia, Dish Soap or Methyl-Ethyl-Ketone (MEK). These are BAD for your aircraft finish.

Although perfectly suited for degreasing last night's pizza pan, these finely scented **dish soaps** make for poor overall degreasers because they can leave behind filmy/soapy residues. In addition, the fact that many of these products now carry anti-bacterial agents and even perfumes, means they should be left where they belong – under the sink and not on an aircraft.



While not technically damaging to your aircraft if used properly, **Methyl Ethyl Ketone (MEK)** came under fire within the last decade due to its extremely hazardous effect on its user's health. These effects have been so negative that, according to the [International Union, United Automobile, Aerospace and Agricultural Implement Workers of America \(UAW\)](#), members have reported that long-term use has resulted in years of chronic headaches, asthma, flu-like symptoms, dizziness, general malaise and fatigue. These health issues, as well as the availability of effective alternatives, make MEK a chemical you should never use on your aircraft.

Don't use *Simple Green All-Purpose Cleaner*. If it's left too long on some metal surfaces, it promotes corrosion.

When cleaning windows, always use a clean microfiber cloth!

They are cheap and you can afford to get a pile of them! **Use warm water and your hand** to clean insects and smudges from the airplane's windows. Follow up with an application of a cleaner designed for your Plexiglas windows, such as [Plane Perfect's Eyes Outside](#). It works great and is just \$11.95 for 16 oz or \$40 for a gallon. *Plexus* is also a great cleaner. Depending on where you buy it, *Plexus Plastic Cleaner* costs \$17 to \$25 for 13 oz.



Don't use dirty cloths or paper towels on your windows because these will scratch the plexiglass. You're so rich; go out and buy a generous supply of microfiber towels.



Don't use Windex or other window cleaners that are not approved for aviation. These can cause "crazing," or micro-sized cracks on the surface of the windshield/plexiglass.



Cover the pitot tube and static ports to protect them from water and debris. Flag these areas with bright-orange banner tape so you won't forget about them.

Warm water and a cloth can be used to remove most insects and bird excrement from the leading edges and fuselage.

Now, make it Shine

Follow up with something to give the paint a shine and help minimize the next round of bugs. I have used *Lucas Slick Mist Speed Wax* for years and testify that it makes your aircraft paint "pop". My plane was last painted in 2003, and people are in awe of its newly painted look. Cleaning the bugs from the nose and fuselage is a snap with *Lucas Slick Mist*. When a bug hits, most of it will slide right off, leaving you with just a small reminder that it's summer. *Lucas Slick Mist* is available at auto part stores like *AutoZone*, *O'Reilly*, and *Pep Boys*. It can be safely used on windows, as well.



Furniture Wax.

Wood care products should never be used on an aircraft because the Dimethiconene "film former" and preservatives found in many of these products, can actually leave layers of wax. Over time, these layers can build up and trap dirt and oils under them. What's more, if these layers are not removed, they can leave a haze on the aircraft's paint.



Want a Speed Mod?

All you need to do is clean your wings! When bugs explode against the wings of airplanes, they create a problem. Not only are the bugs unsightly and damaging to your paint, but did you know that the bug remnants clinging to your aircraft's wings also disrupt the smooth flow of air. This can cause the aircraft to lose 5% of its fuel efficiency. 5% may not seem like much on a single fueling, but over time that really adds up! Always de-bug your aircraft before washing it! Who knows, you might even gain a knot or two of true airspeed.

Speaking of speed mods. I was at a Mooney fly-in, just helping people park on the ramp, when I saw a lady get out of the back seat of an M20F. I asked the pilot if his wife enjoyed the back seat and he replied, "No, but if she sits back there, it increases the aft CG and that increases my True Airspeed by two knots!"

Now that's why we fly Mooneys!



Don't use a pressure washer

Sure, a pressure washer will easily remove all of the loose dirt and soot built up on your aircraft. However, it will also force water into gaps around the windows, and your fuel cap. It can also spread dirt and filth around, damaging your paint.

Don't Hose Down Your Landing Gear

Sure, your landing gear tends to get grimy, but when you use a hose to spray the gear, it also speeds up the destruction of your bearings.



Sun is Bad

Your aircraft paint has pores. In the hot sun your paint's pores can expand and then absorb more dirt. In addition, the Sun's UV rays will dull your finish. If you can, keep your Mooney in a hangar, or under a cover.

Upholstery

Soap and water can remove stains, but after the cleaning, you might be faced with that wet carpet smell. Try to use upholstery cleaners and treatments.

Water? What's that?

I never hose down my airplane. Instead, I use something like [Plane Perfect's](#) waterless wash, [EcoClean Waterless Airplane Cleaner](#). It's great for cleaning the whole Mooney, including the wheel wells. \$10 for 16 oz spray and \$35 for a gallon refill.



Instrument panels are easily cleaned with an anti-static cleaning wipe. Do not use liquid spray cleaners.



Removing Exhaust and Soot

Did you know that if exhaust soot is left on your plane, it can get into the pores of your paint and wreak havoc on your finish? Eventually, you may end up needing to use a mild buffing compound to get under the paint surface. It is always better to wipe Exhaust Soot off after every flight and then wax the area to reseal the finish. [Plane Perfect](#) has [Buddah Belly](#) and it's one of the best products I have found to remove oil, grease and soot. \$13 for 16 oz and \$40 for 1 gallon. Just spray it on, let it work for a few seconds and then wipe it clean.



The Hubba Hubba Effect

For maximum protection and shine on painted surfaces, follow up with [Lucas Slick Mist Speed Wax](#).

Our Mooneys are precious investments; a major jewel amongst our personal treasure. You can increase your Mooney's *Hubba Hubba factor* by investing a little more time, money and elbow grease. It will be worth every penny and all that effort, because non-Mooney pilots will be magically drawn to your plane and – cue the romantic music – to your amusement, they will fall hopelessly in love.





MooneyMAX

June 6-9, 2019



GGG
Longview
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MAXimum SPEED
MAXimum SAFETY
MAXimum PERFORMANCE

Events

- Seminars and Presentations by top aviation professionals, all day Thursday and Friday
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- MooneyMAX Maintenance Clinic (value \$199)
- Right Seat Ready® - non pilot 2 day clinic (value \$199)
- Mooney Zoom Speed Trials
- Mooney Mixer Cocktail Party
- Lunch provided all 3 days
- Homemade Ice Cream Feast

Registration: \$295.00

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Alfred "Lucky" Louque

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Jimmy Garrison

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Dr. Chuck Crinnian

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Don Maxwell and Paul Maxwell,
MooneyMAX Maintenance Clinic

Jolie Lucas and Jan Maxwell,
Right Seat Ready®- Non-Pilot Clinic



TECH IN THE COCKPIT

UNINTENDED CONSEQUENCES



Phil Corman
Co-Editor

During my life, the two biggest changes in General Aviation aircraft have been 1) The introduction of composite airplanes and 2) High Technology in the Cockpit. Let me be clear, I love my mostly aluminum Mooney airframe and really love the steel roll cage, but those are older than me. Furthermore, this article will discuss the “unintended consequences” of high technology in the cockpit. I do not



intend to bash anything. These new technologies have improved the safety of GA immensely. But, as with most new things, they are double edged swords. They help us, but they can also be “not helpful, at times”.

Learning How to Use a New Device



' THAT'S NEW '

It was fun when I installed my GTN-750; I also installed ADS-B with a Garmin GDL-88. I took off from Sacramento Executive (KSAC), and my GTN-750 immediately flashed “Warning, Warning Will Robinson... Traffic at twelve o’clock”. I first transitioned my eyes to the GTN-750 because it was flashing yellow warnings with audio alerts. I realized that’s the last place my eyes should have gone, so I quickly resumed my scan for traffic. I found it; a Cessna that was entering downwind from “the 45” and it really was not a factor. New technology is like a drug and when it’s new, it’s addictive, constantly drawing your attention to it.

The second problem is that if you are like me, you are enamored with the new device and want to play with it. This is OK if you do it in short doses, while not in busy airspace, and have your Mooney trimmed in cruise.

Remember when you first used ForeFlight/Wing X/FlyQ? I spent hours playing with it in my home office. But, with a GTN-750/G-500/Aspen/etc., you don’t have that luxury. Instead, you might have a device simulator or an inch-thick user manual. That’s the best way to familiarize yourself before yelling “Clear Prop”.

When flying VFR, keep your eyes outside the airplane. Flying IFR, do your primary instrument scan. You can then confirm your knowledge of the new device or learn a new and handy capability. Start with short scans on your new, highly capable device with lots of bells and whistles. And finally, it’s best to learn the key functions on the ground and not in the cockpit. Seems like common sense, but we get pretty excited about our new and more capable panel devices because, well, we’re human.

Being Distracted

Even after we learn our new devices, sometimes, we still tend to concentrate too much on them. Have you ever got caught up looking at all the weather data when flying in challenging weather, or been paying a little too much attention to all that traffic info? Again, these devices are amazingly valuable to us, but equally distracting. Perhaps the best policy is to make shorter scans of the different screens of info, and then get back to “flying... flying... flying”.

Relying Too Heavily on a Device (Over Reliance)

A friend of a friend was flying my friend to an unfamiliar airport. He programmed it into his GPS and flew perfectly to the airport, but seldomly look out the windscreen. When he was finally, almost on top of the airport, he looked out, but could not find it. He spent way too much time following the magenta line and failed to transition to the real world and finding the airport.

When is the last time you navigated VFR, on a longish cross country, and turned off your GPS? It's akin to practicing engine out landings! To keep your skills sharp, turn off your intelligent devices periodically and navigate without their assistance.

Flying instrument approaches with your Autopilot is a great safety feature, but don't you think that periodically, you should hand fly a difficult approach? It's great practice. What if your autopilot or GPS goes haywire? Can you adeptly finish an approach if your autopilot disconnects or the GPS fails when you are near the MDA? What if your fat fingers disable the Missed Approach and you need to execute it on your own? Again, practice makes perfect. It's just common sense. Use the technology, but do NOT become a slave to it.

Expecting Too Much of a Device



I love the ADS-B Weather and ADS-B Traffic information. It's amazingly informative, but there are limitations and it's worthwhile review them.

ADS-B traffic is INCOMPLETE. It does NOT show all traffic. We see this on almost every flight. First, you can always see other ADS-B OUT traffic as that is transmitted airplane-to-airplane. Next, you can see additional Mode C airplanes if you are within range of an FAA Rebroadcast tower. But, remember that their Mode C

must be turned ON and operational, or you won't be able to see them. There's the subset of GA airplanes that do not fly into Class C or Class B, or above 10,000' and are not transponder equipped. You will only see them out your windscreen.

You can receive weather information via ADS-B or Sirius XM. These are amazing safety tools. But, two things can happen with unintended consequences. First, you may be tempted to fly in weather that's below your personal minimums, thinking that you will have up-to-date weather to make real-time decisions. Going below your minimums should always make you think twice before starting the engine.

Secondly, there are delays in weather data reception. If you are threading a needle with the weather, just remember that you are dealing with info that is not up to date; perhaps as much as 20 minutes old.

Transitioning to Other Devices (of Lesser Capability)

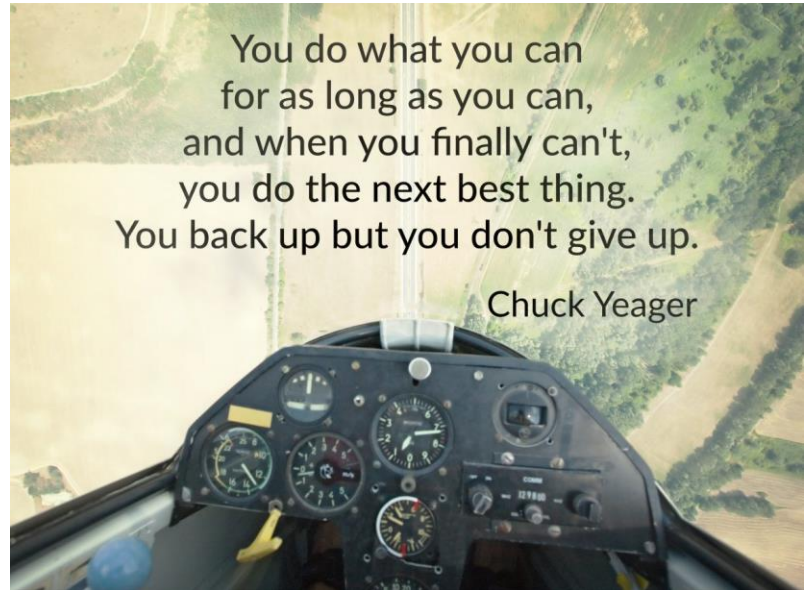
If the inputs to your Autopilot are bad, or your Autopilot fails completely, can you quickly and easily recognize the failure, disable the inoperative device(s), and seamlessly hand fly? You need to be able to do this. Remember the 737 MAX

MCAS events. Those pilots were not able to seamlessly transition in a timely manner. This can be challenging if you have a failure while departing, especially if you have a failure right after you raise the gear. There may not be a lot of time to figure out things.

Another failure that can bite you badly is runaway electrical trim, either full up or full down.

Summary

Overall, new technology in the cockpit has been a wonderful safety tool for pilots, but they come with "gotchas". The Key Things to remember are 1) Learn how to operate these devices on the ground, 2) Do not be over reliant on technology, 3) Periodically, practice flying without these tools to keep your hand flying skills sharp, and 4) Always remember to "Aviate, Aviate, Aviate", using the technology to back up your already excellently honed Mooney flying skills.



Preparing for an Instrument Approach



Jim Price
Co-Editor

An acronym to help you prepare – ABC MAID.

After obtaining the ATIS or “1-minute weather” (AWOS/ASOS):

“Brief” the approach using the approach plate. Brief it out loud, especially if you’re all alone up there! There’s something about verbalizing the approach that etches the information into your memory.

Start your briefing by reading aloud the information in the top “briefing box”:

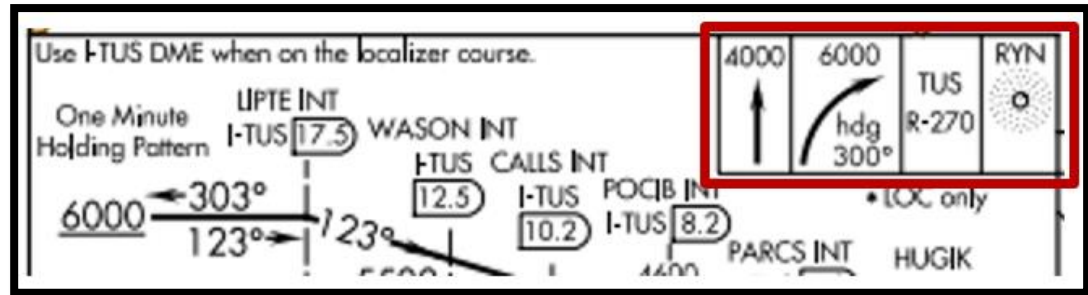
TUCSON, ARIZONA		AL-430 (FAA)		ILS or LOC RWY 11L TUCSON INTL (TUS)	
LOC/DME I-TUS <u>111.7</u> Chan 54	APP CRS 123°	Rwy Idg 10996 TDZE 2599 Apt Elev 2643	MALSRL	MISSED APPROACH: Climb to 4000 then climbing right turn to 6000 via heading 300° and TUS R-270 to RYN NDB/TUS 12.8 DME and hold.	
▼ For inoperative MALSRL, increase S-ILS 11L Cat E visibility to RVR 5000, S-LOC 11L Cat D and Cat E visibility to RVR 5000. ADF or DME required. ▲		MALSRL 			
ATIS 123,8 279,65	TUCSON APP CON 119,4 318,1	TUCSON TOWER 118,3 257,8	GND CON 124,4 348,6	CLNC DEL 126,65 326,2	
(IAF)					

Things to consider while briefing:

- Ensure the proper and current approach plate is selected. (Approaches are effective 0901Z on the day specified).
- Ensure the correct NAVAIDs are tuned and identified.
- Ensure the marker audio is ON.
- If it’s an RNAV/GPS approach, ensure that the correct approach has been selected on the GPS. (Don’t forget to “Activate the Approach” once you are cleared for the approach).

- Commit to memory the Missed Approach procedure’s first heading and altitude.

The missed approach can also be found (written symbolically) in the upper right corner of the profile view.



- What type of runway and approach lighting can you expect?
- Is the lighting Pilot Controlled?

Pilot Controlled Lighting (PCL) While the CTAF is commonly used to activate pilot-controlled lighting, the proper frequency, if different from the CTAF, can be found in the Chart Supplement (formerly the Airport Facility Directory or A/FD) and on standard instrument approach procedure charts.



Here’s a sample from The Chart Supplement, (formerly the Airport Facility Directory or A/FD): “When twr clsd ACTIVATE HIRL Rwy 10-26 – CTAF”.

Clicking seven times within five seconds should give you the highest intensity.



When the inverted L symbol is found next to the frequency on the Approach Chart, this indicates PCL. For example:







Mooney CFIs

The Mooney Flyer has an extensive list of CFIs that have Mooney experience. You can find a CFI at themooneyflyer.com, by clicking on the “MOONEY FLYER STUFF” drop down menu and selecting “MOONEY CFIS”.

If you’re a Mooney CFI, and you want to be listed, simply send your information to themooneyflyer@gmail.com

If you're "flying" a Precision Approach, brief the:

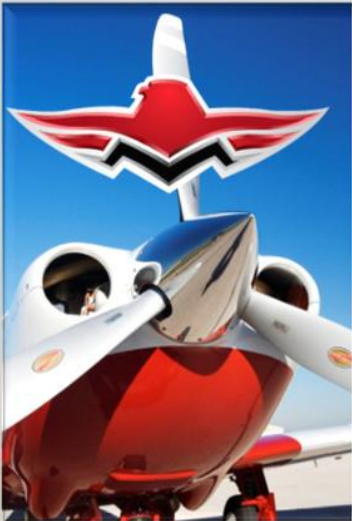
- Step-down altitude(s), the glide slope interception altitude, the altitude at which you'll cross the marker, and the approximate rate of descent in Feet per Minute. DH and the weather required. Note: If 1800 RVR is authorized, the pilot must use either a Flight Director, Autopilot, or Heads Up Display (HUD), all the way to the decision height.

 For inop MALSR, increase S-ILS 13 Cat E visibility to RVR 4000 and S-LOC 13 Cats C/D/E visibility to RVR 5500.  #RVR 1800 authorized with use of FD or AP or HUD to DA.	MALSR				
	 				
CATEGORY	A	B	C	D	E
S-ILS 13#	246/24 200 (200-1/2)				

- Should the glide slope fail while you're on the approach, what is the Localizer MDA?

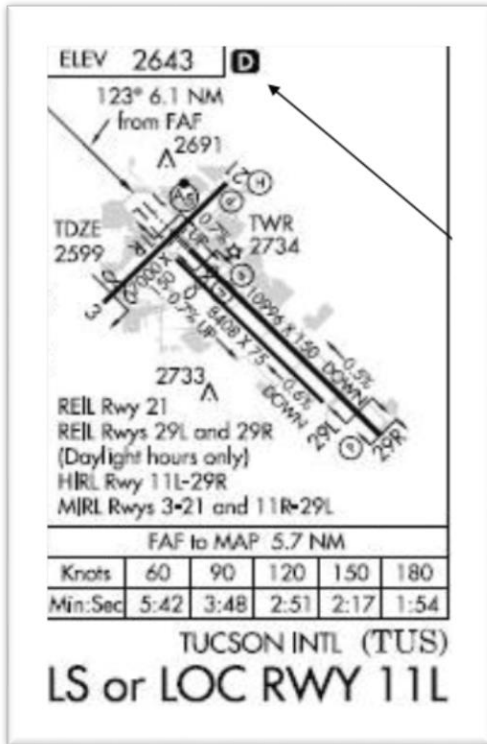
If you're "flying" a Non-precision Approach, brief the:

- Step down altitude(s). If a VDP is not indicated, calculate a VDP for a 3° glide slope, and the approximate rate of descent in Feet per Minute.
- MDA and the weather required.
- Runway's length, lighting, VASI/PAPI, etc.
- FAF to the MAP – the distance and time.



The Mooney Flyer has a comprehensive list of Mooney Service Centers, plus shops and mechanics that are great when it comes to the Mooney. You can find these at themooneyflyer.com by clicking on the "MOONEY FLYER STUFF" drop down menu and selecting "TECH-MECH".

If you would like your favorite shop or mechanic added to the list, send us an email at themooneyflyer@gmail.com



Check the runway diagram for:

- Runway lighting types, such as HIRL, MIRL, etc.
- Approach lighting
- REIL
- PAPI, VASI & PLASI

The negative “D” indicates that “Runway Declared Distance Information” is available in the Chart Supplement (formerly the Airport Facility Directory or A/FD).

The chart supplement breaks down the Runway Declared Distance Information. This will most likely include the Takeoff run available (TORA), but it may also include:

- TODA: Takeoff distance available,
- ASDA: Accelerate stop distance, available
- LDA: Landing distance available

If you have a GPS



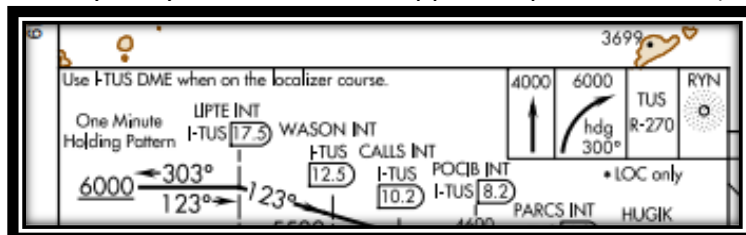
Don’t forget to “Brief” the GPS. Scroll through the approach and the missed approach waypoints and ensure every fix is accounted for and that you understand the GPS’ name for every fix on the approach.

Approach Notes – 10, 10 and Cleared

- You may descend from ATC’s assigned altitude to the published altitude that begins the approach when you are “10, 10 and Cleared.” (Within 10 nm of the runway, 10° of the approach course, and cleared for the approach).
- ATC won’t turn you over to the tower controller unless you are established on the final approach course.

The GPS Missed Approach

When you fly over the missed approach point, “SUSP” (suspend) will appear above the OBS button.



This will give you a chance to accomplish the first steps of the missed approach.

In this case, you’ll climb straight ahead to 4,000 feet, then perform a climbing right turn to 300° while continuing the

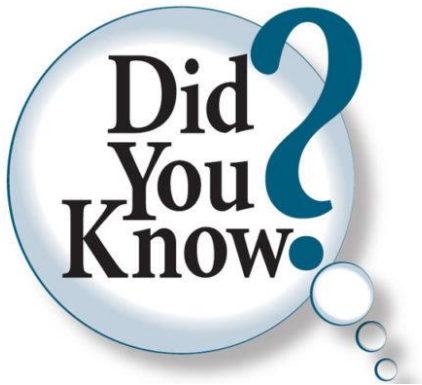
climb to 6,000. Now, it's time to intercept the TUS 270° radial. For that, you'll need the GPS. Press the OBS button and ensure that GPS now appears above the CDI button. This will give you GPS guidance so you can intercept the TUS 270° radial and proceed to the RYN NDB where you will hold.

As you study the approach chart and give yourself a briefing, it will bring things to your mind, that otherwise might have been missed. As you continue to "brief", your instrument flying skills will improve and soon you'll be the darling of ATC.



DEFINE TURN & BANK INDICATOR

An instrument that's usually ignored by pilots.



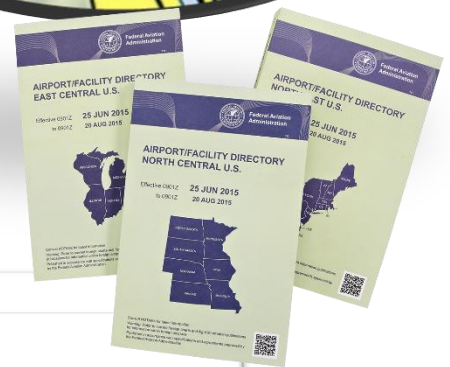
You are planning a flight to the Rostraver Airport (KFWQ) in Monongahela, PA. While looking at the Sectional, you see **RP***. You've seen "RP" on the Sectional before and you know it means "Right Pattern". However, "RP" is usually followed by the runway or runways that require a Right Pattern, for instance, "**RP 4R, 22R**".

So, what does the asterisk indicate?


It means that for clarification, you should consult the Chart Supplement (formerly the A/FD or Airport/Facility Directory, although ForeFlight is "old school" and still refers to the Chart Supplement as "A/FD"). You were able to find Monongahela Rostraver (KFWQ) and check the Chart Supplement. The mystery is solved! Under AIRPORT REMARKS, you find . . .



**Rwy 08 Rgt tfc helicopter/ultralights.
Rwy 26 Rgt tfc helicopter/ultralights.**



MONONGAHELA
ROSTRAVER (FWQ)(KFWQ) 5 E UTC-5(-4DT) N40°12.58' W79°49.89'
 1228 B NOTAM FILE A00
RWY 08-26: H4002X75 (ASPH-GRVD) S-26, D-30 MIRL
RWY 08: REIL. VASI(V4R)—GA 3.0° TCH 51'. Trees.
RWY 26: REIL. VASI(V4L)—GA 3.0° TCH 48'. Trees.
SERVICE: S4 **FUEL** 100LL, JET A, A+ **LGT**ACTIVATE MIRL Rwy 08-26, REIL Rwy 08 and Rwy 26—CTAF.
AIRPORT REMARKS: Attended Mon-Fri 1200-2200Z±. After hrs ctc 724-640-6349/2409. Deer and birds on and infov arpt. **Rwy 08 rgt tfc helicopter/ultralights. Rwy 26 Rgt tfc helicopter/ultralights.**



TO FLAP OR NOT TO FLAP: THAT IS THE QUESTION

BY PHIL SHAPIRO



About the Author

Phil Shapiro is an active duty USAF U-2 Pilot. He holds a CFI/CFII for multi and single engine aircraft and an ATP. He is a graduate of the US Air Force Advanced Instrument School, Air Force Safety Investigation Board President Course, a C-130J and U-2 evaluator pilot, and most importantly a Mooney owner and operator.

Techcedure – When a Pilot’s **T**echnique becomes **P**rocedure

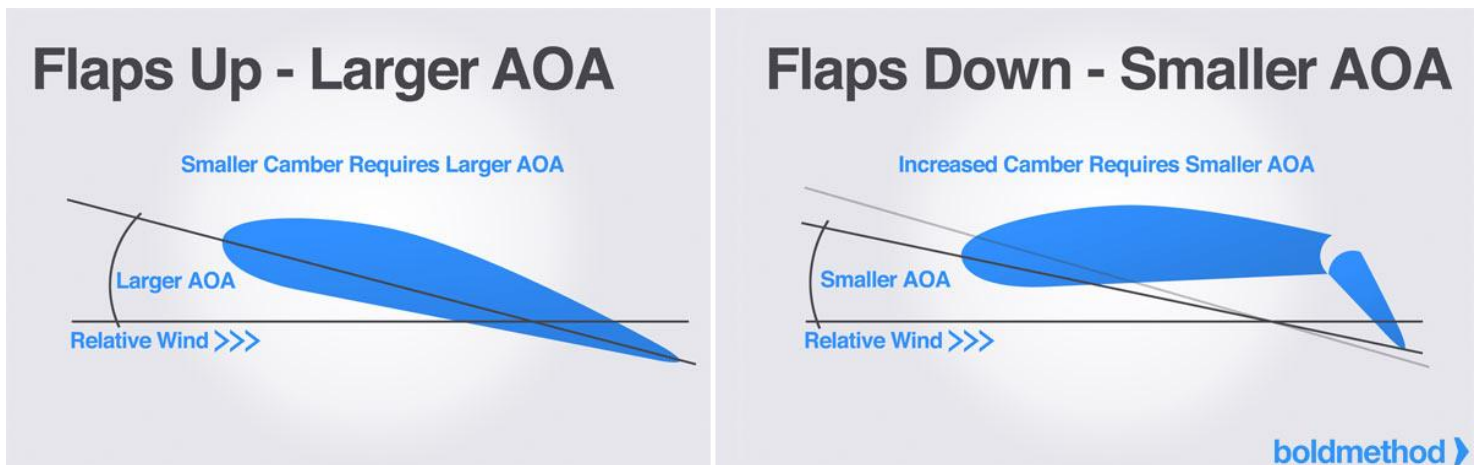
“Techcedure” is a term we use in the Air Force when an instructor teaches his or her personal technique as if it is a prescribed flight manual procedure. In the Mooney community there has arose a “techcedure” of regularly taking off and landing without the use of flaps. Arguments for the use of no flaps on takeoff include Takeoff Runway Available (TORA) that greatly exceeds runway required, faster acceleration to V_y , and reduced pilot workload on climb out. Landing no flap arguments center around greater control authority due to increased airflow over the rudder, and everyone’s favorite, easy main gear touchdowns due to the high angle of attack approach. I would never recommend taking off no flap unless you are ferrying the aircraft for maintenance following a flap malfunction. In this case, I would ensure as many factors as possible (winds, temperature, weight, runway available etc.), were in my favor prior to takeoff.

I am certainly a proponent of maintaining proficiency in no flap landings. However, they are not a substitute for competency in fully flapped landings. Failure to effectively utilize flaps in the Mooney community invalidates our performance charts and reduces our safety margin from the critical angle of attack. This puts both our aircraft and passengers at increased risk.

Case Study

Following an instrument practice flight, a Mooney M20K pilot and his CFI were conducting a go-around following a bounced landing. As the aircraft passed “30-50 feet”, the CFI became concerned that the aircraft was not climbing fast enough. The CFI raised the landing flaps to the up position. The aircraft immediately entered a stalled condition and crashed into several parked aircraft. The NTSB investigation found the cause of the mishap was, “the safety pilot's raising of the flaps, while the airplane was at an inadequate airspeed during the aborted landing, which resulted in a stall...”¹ This mishap dramatically highlights the significant increase in stall speeds between a flapped or partially flapped aircraft and an aircraft with no flaps. Though it is true that reduced drag allows a non-stalled wing to accelerate faster, in this sad mishap, the increased wing camber and subsequent increase in lift provided by the flaps was all that allowed for a continued climb.

2



Scope

This article will not address performance specifics particular to various Mooney models. Rather, it will address the risk that all Mooney pilots assume when they fail to use their flaps appropriately.

Takeoff and Obstacle Clearance

Universally in aviation, the takeoff flap setting provides the greatest lift benefit with the lowest drag penalty. All Mooney POHs that I have seen are directive about the use of a takeoff flap setting.

¹ National Transportation Safety Board Aviation Accident Final Report, Accident #NYC96LA122. <https://app.nts.gov/pdfgenerator/ReportGeneratorFile.ashx?EventID=20001208X06086&AKey=1&RType=Final&IType=LA>

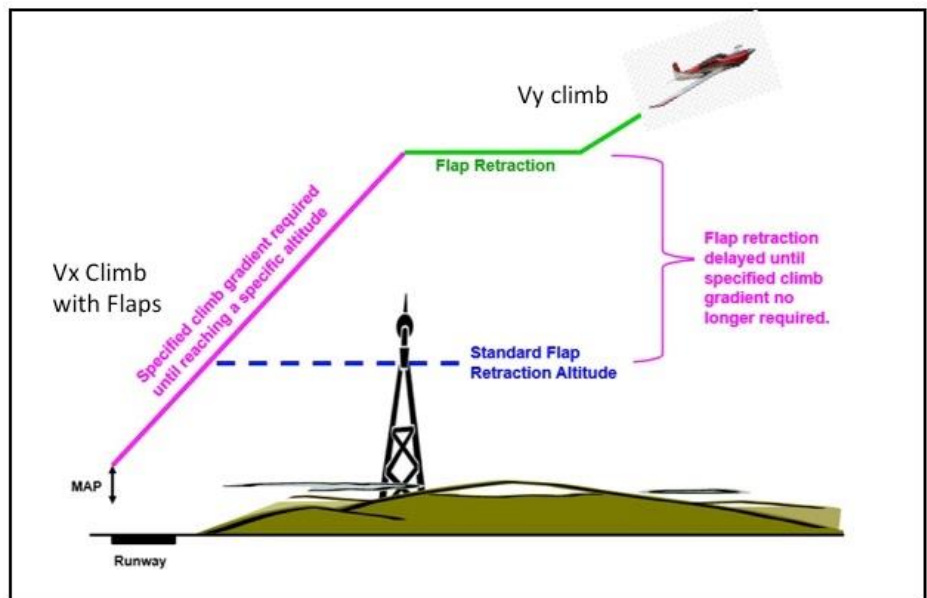
² Cutler, Colin, “How Flaps Work”, Bold Method, February 2, 2015.

<https://www.boldmethod.com/learn-to-fly/aircraft-systems/how-flaps-work/>

Furthermore, they do not have adjustments for a ground roll penalty associated with a reduced flap setting or no flaps. Furthermore, whatever that penalty is, can be doubled in the event of an aborted takeoff at rotation speed.

The lack of no flap performance data means that failure to deploy flaps in accordance with the POH invalidates all performance planning. This may not seem like an issue to a pilot whose home field is significantly longer than the takeoff distance required. Still, when you consider other factors such as an unplanned tailwind or a delayed takeoff, resulting in warmer Outside Air Temperatures, you soon find yourself behind the power curve immediately upon leaving ground effect. Finally, failure to employ flaps in accordance with the checklist develops a bad habit pattern that could lead to disastrous consequences when performance is critical.

An example of a critical performance scenario is an Obstacle Departure Procedure (ODP) that requires a V_x climb to meet a mandatory altitude. In order to meet the performance assumptions of a V_x climb, the flaps must be left in the takeoff position until the altitude requirement has been met.³



This concept can just as easily be applied to a VFR pilot who is using a V_x climb to “see and avoid obstacles.”

³ Lengel, Richie, “Everything About V Speeds Explained,” Flying Magazine, August 14, 2017. <https://www.flyingmag.com/everything-about-v-speeds-explained>.

⁴ Civil Aviation Standards, “Advisory Circular No. 700-049”, Transport Canada, July 18, 2018. <http://www.tc.gc.ca/en/services/aviation/reference-centre/advisory-circulars/ac-700-049.html?wbdisable=true>

No Flap Pattern

When flying a no flap pattern, it is critical that the pilot increases the width of the pattern to account for a shallower bank angle and higher airspeed in the base turn. I won't go into the particulars of each Mooney's pattern speeds and downwind spacing. In my C model, 1.5x the pattern width of a flapped approach works well when practicing no flaps with negligible pattern altitude winds. Attaining the increased displacement for your no flap pattern is critical to avoid one of the most dangerous set-ups in aviation ... a no flap overshoot of the landing runway.

For example, referencing the Mooney M20J stall speed vs bank angle chart, a 2,300 lb Mooney at 30° angle of bank and no flaps, will stall 7.5 kts (8.6 MPH) above the stall speed of a Mooney with full flaps.⁵ It is an accepted practice in the Mooney community to add 10 knots to each pattern speed (Downwind, Base, Final) for a no flap configuration. This should be a suitable buffer for an aircraft stabilized in a turn at 1G. However, as I alluded to earlier, the no flap downwind patterns run an increased risk for an overshoot. With it comes a tendency for the pilot to induce an increased load factor. For instance, the stall speed of a Mooney M20J is 60 KIAS without flaps in a 30° bank. Since 80 knots is a common base turn speed for the M20J, a pilot who has added the 10 knots will be flying the turn at 90 knots, no flap. If the pilot rolls to 45° of bank to prevent an overshoot and pulls to 1.5Gs, as required to prevent further altitude loss, the new stall speed will be 99.75 KIAS (66.5 KIASx1.5G load factor). Recovery from the ensuing stall will also take significantly longer without the additional lift provided by the flaps. If a fully developed stall takes place over halfway through the no flap base turn, it will be unrecoverable.

I highly recommend that the next time you practice maneuvers in your Mooney, you attempt both straight ahead and turning stalls while no flap. Note how long it takes to get your VVI reversed, compared to flapped stalls. On a side note, if you ever experience the onset of a stall while practicing a no flap turn to final, rolling out of the bank while adding max power will immediately break the stall. There is no need to relax your pull, as this will only increase altitude loss.

No Flap Landing

Landing no flap will significantly lengthen your landing ground roll due to the increased approach speed and reduced drag. The actual increase will vary based on pilot technique, but a good wag is that the additional 10 knots you added to your no flap final speed will add 35% to your landing distance.⁶

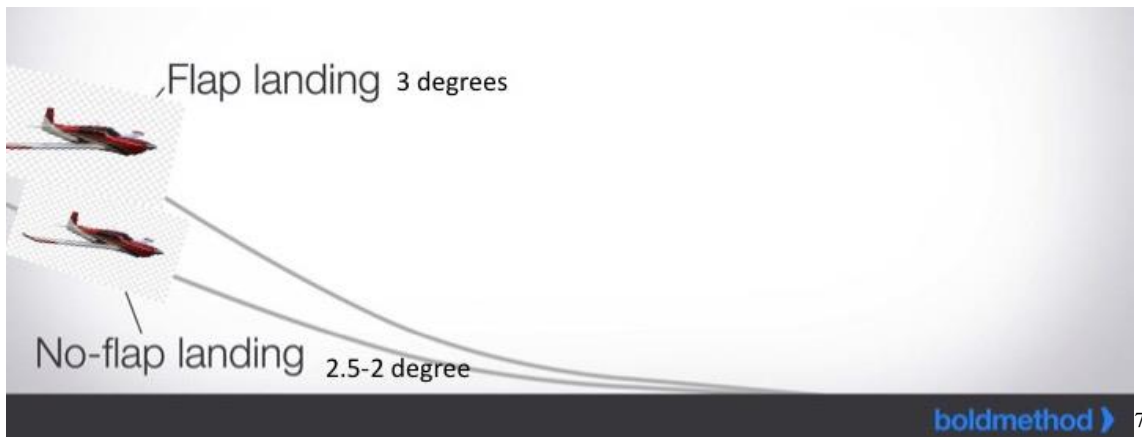
Your no flap final approach should be flown shallower than the standard 3° glideslope to use greater induced drag as a substitute for the lack of flaps and prevent excessive float and ground roll. 2 to 2.5 degrees works well for this purpose. Therefore, at 1 mile final you should be 200-250

⁵ Mooney Aircraft Corporation, "Mooney M20J Flight Manual" June 2, 1986.
<https://www.deltaaviation.com/Nav%20Page/POH/M20J%20POH1233A.pdf>

⁶ Wally Miller, "Flaps: What the Book Doesn't Tell You", AOPA, September 5, 2006.

<https://www.aopa.org/news-and-media/all-news/2006/september/flight-training-magazine/flaps>

AGL instead of 300 AGL. This can get dicey on fields with lots of trees or other obstacles on short final and here's another reason why no flaps are great to practice at your home field or familiar transition fields.



Final Thoughts on No Flap Landings

Whether instructing military or civilian pilots, I would never teach my student to operate an aircraft on a real-world mission, or with friends and family aboard, in a manner not prescribed by the checklist. We practice no flap landings because proficiency in them is important. In the military, we even have tech order checklists for no flap operations. However, we put stricter limits on variables such as runway length, acceptable winds, and aircraft weight in order to mitigate the increased risk. I recommend that when you practice no flap approaches and landings in your Mooney, you make similar allowances.

On the rest of your landings, focus on fully flaring off your flapped Mooney. I continue to trim throughout the round out and flare and normally touchdown just shy of full nose up trim. If you remember to continue to trim nose up throughout the "end game" of your landing, you will avoid the dreaded prop strike. I recognize that there are wind conditions where a reduced flap setting (takeoff flaps) is desirable. If I have a sustained crosswind (not a gust factor) over 12 knots, I will set takeoff flaps for landing to provide extra rudder authority. If you aren't sure of the accuracy of the current winds, a good indicator that you'll need a reduced flap setting is if you need greater than 2/3 rudder deflection to zero out your crab at 1 mile final. In this case, continue the approach with takeoff flaps selected. You don't need to worry about inducing a sink with the configuration change, as you will increase your lift.

⁷ Colin Cutler, "How Flaps Work", Bold Method, February 2, 2015.

<https://www.boldmethod.com/learn-to-fly/aircraft-systems/how-flaps-work/>

Final Thoughts on No Flap Takeoffs

Don't takeoff without flaps unless necessary for ferry to a maintenance facility. There is no tangible benefit and it builds dangerous habit patterns. With 50% of general aviation traffic pattern stalls happening on departure, why put yourself 10 knots closer to becoming a statistic?⁸



The advertisement features a dark blue header with the text "ADS-B EQUIP NOW!" in white. Below this is a photograph of a Mooney aircraft in a hangar. To the left of the aircraft, the text "DON'T GET LEFT IN THE HANGAR" is written in large, bold, blue letters. To the right of the aircraft, there is a calendar for January 2020 with an American flag icon. The calendar shows the days of the week (Su, Mo, Tu, We, Th, Fr, Sa) and the dates (1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31). The date 1 is highlighted in red, and the date 4 is highlighted in blue. Below the calendar, the text "LEARN MORE AT faa.gov/go/equipadsb" is written in white.

⁸ “ John Collins and Andy Sable, ed., “Stall and Spin Accidents: Keep the Wings Flying,” AOPA Air Safety Institute, 2017. https://www.aopa.org/-/media/files/aopa/home/pilot-resources/safety-and-proficiency/accident-analysis/special-reports/stall_spin.pdf



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Always remember that you fly an airplane with your head, not your hands. Never let an airplane take you somewhere your brain didn't get to five minutes earlier.



Ask the Top Gun

Tom Rouch

Founder of Top Gun Aviation, Stockton, CA

Send your questions for Tom to TheMooneyFlyer@gmail.com

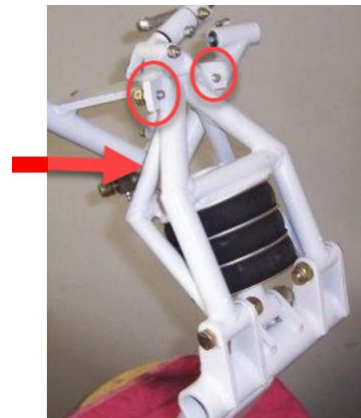
Question: Before flight, what items should a Mooney owner check that may not be in the POH or the pre-flight checklist?

Answer: I looked at a 252 POH to see what is covered on the checklist. The checklists vary for different models, but the 252 preflight checklist is very comprehensive.

I only came up with a half dozen items, but I hope that by discussing this subject, it will generate a lot of new ideas and input.

1. When opening the cabin door, be aware of any fuel smell. This would indicate a fuel leak, probably at the wing roots or selector valve.
2. Lower the flaps before the outside inspection. When outside, grasp **the inside lower corner of the flaps** and check for looseness. Each flap is attached to the flap bellcrank with three small bolts and these can come loose. I have been able to move the inboard end of the flaps a couple of inches because of loose bolts. It's rare to find this condition.
3. Move the flight controls by hand to feel for any jamming. The elevators should free fall when held up. If they don't, clean both yoke shafts. Using a cloth with silicone spray will do wonders.
4. Check the tail position to see if it agrees with the trim indicator. We once pulled a 231 out of mud when it wouldn't fly because the tail was full nose down and the pilot didn't catch it on pre-flight.
5. In the spring, inspect inside the lower tail cone for bird nests. This is very common. We pulled a Mooney in the hanger right after it arrived and could hear birds chirping. We have found many very large nests in the tail and those nests usually include safety wire.
6. Check the nose truss for dents, especially if you're on a cross country and the FBO has moved your airplane. Alert the FBO right away and there's very good chance the FBO or your insurance will pay for it. It costs almost a thousand dollars to fix. The allowable dent is 1/32".

I am sure that there will be many items added to this list, but I think it is a good start.



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Students can apply for a GlobalAir.com scholarship – Deadline is Aug 14, 2019

The [GlobalAir.com Calvin L. Carrithers Aviation Scholarship](#) is now open for applications.

Four \$1,000 scholarship will be awarded to students enrolled in accredited university/college aviation programs during the 2019-2020 school year.

Applications should include a short essay, detailing the applicant's interest in aviation, their career path, and how they intend to complete their aviation program, as well as a letter of recommendation.



Scholarship recipients will be required to blog on a weekly basis about their experiences with flight training, school, and their interest in aviation.

In 2018, Calvin L. Carrithers Aviation Scholarships were awarded to students from Mississippi State (Jared Martin), University of Oklahoma (Cameron Morgan), Western Michigan University (Shawn White) and Parkland College (Emily McCrone). Tori Patterson, our past curator of the scholarship program, was a recipient in 2015.

Deadline to apply is August 14, 2019. Apply at [Globalair.com/Scholarships](#).


Have questions? Direct them to former scholarship recipient and now curator Addison Hemphill at Addi.Hemphill@globalair.com.

Garmin Autopilot ready for M20 J, K, M, R, and S



Garmin has announced that it has received FAA Supplemental Type Certification for its GFC 500 autopilot for Mooney M20 J, K, M, R and S models. **The GFC 500 integrates with the G5 electronic flight instrument or a combination of both the G5 and G500 TXi flight display.**

Along with altitude hold, vertical speed and heading modes, the GFC 500 features include under and overspeed protection, altitude pre-select and indicated airspeed hold mode, built-in GPS roll steering capability and the ability to select and couple instrument approaches.

Retail price for the GFC 500 2-axis autopilot is \$6,995 if the aircraft already has a G5 installed. The Garmin **G5 ADI and HSI** cost \$2,500 and \$3,000, respectively + install. 

 The **G500 TXi** flight display costs \$12,000 + install.

Certification programs are slated to begin in the next twelve months for earlier M20 models.





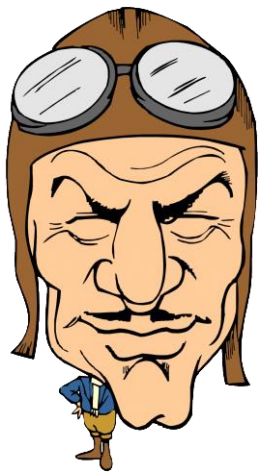
If you've been waiting to place your reservation for the FAA's \$500 rebate to install ADS-B Out avionics, well ... you've waited too long. The FAA announced on Monday, May 13, 2019, that it had taken the last of the 20,000 reservations. The Rebate program began in September 2016.

All is not lost, however. **According to the FAA**, "Some rebates are returned or expire. Each week from now until October 2019, we will make these returned and expired

rebates available. Check [back here each Wednesday](#) at 1 p.m. Eastern Time, to see if any rebates have become available. These additional rebates are in short supply and we expect they will go quickly each week."

For more information about ADS-B Out, go to:

<https://www.faa.gov/nextgen/equipadsb/>



**There are three simple rules for making a smooth landing:
Unfortunately, no one knows what they are.**

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Jaeger Aviation

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Future Mooney Events

	<p>Contact Dave at daveanruth@aol.com or (352) 343-3196, before coming to the restaurant, so we can have an accurate count. Events begin at 11:30</p> <p>June 8: Vero Beach (VRB) July 13: New Smyrna Beach (EVB) August 10: Williston (X60)</p>
	<p>June 14 – 16: Hickory, NC (KHKY) July (TBD): Chino, CA (KCNO) July 20, 2019: AirVenture Caravan (KMSN)</p>
	<p>June 7-9: Oklahoma City, OK September 6-8: Atlantic City, NJ October 4-6: Ogden, UT</p>
 <p>Mooney Summit</p>	<p>September 27-29, 2019: Mooney Summit VII, Panama City www.mooneysummit.com</p>
<p>Australian Mooney Pilots Association</p>	<p>September 6-9: Spring Fly-In to Mt. Hotham Go to https://www.mooney.org.au/ for details</p>
 <p>European Mooney Pilots & Owners Association</p>	
<p>Other Mooney Fly-Ins</p>	<p>June 7-9: Walla Walla, WA (ALW) – Wine, Parties, Hangin’ Out Contact: Henry Hochberg, aeroncadoc@comcast.net</p>



ROBUST MOUNTS

These mounting systems are an alternative to the venerable Ram Mounts, seemingly as robust, but less expensive.

There are both “suction” and “yoke” mounts for both smartphones and tablets. You won’t need to buy a new mount if you upgrade your phone or tablet. It’ll handle your new devices. You can buy these on Sporty’s.



This mount includes 4 pieces:

Robust Mount Shaft 3.75"

This Mount Shaft is part of the Robust Mount Series and can be used with 25mm (1 inch)-compatible mount bases and heads to create your own custom mount solution. The mount shaft measures 3.75” tall.

Robust Mount Universal iPad Holder

Robust Mount Universal iPad Holder with 4-Hole AMPS Mounting Pattern is ideal for holding any size of the tablet. The holder is compatible with most Robust Mount and third-party 4-Hole AMPS mounting pedestals or adapters.



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<p>Robust Mount 4 Hole AMPS to 25mm Ball Adapter This adapter has the standard 4-hole AMPS pattern on a plate attached to a 25mm ball on the other side. Constructed with a durable, yet lightweight composite material, this adapter fits the Robust Mount Universal iPad Holder and will work with a Robust Mount shaft or other 1" socket mounting solutions.</p> <p>Robust Mount Yoke Clamp The intuitive nesting design of this clamp will work on any tube from 1/2" to 2" diameter. The inside of the clamp has a rubber pad to increase friction and gripping power. Perfect for mounting to a yoke or exposed tube.</p> <p>Fits all large tablets with 7"-18.4" screen size</p>	<p>Robust Mount 4 Hole AMPS to 25mm Ball Adapter This adapter has the standard 4-hole AMPS pattern on a plate attached to a 25mm ball on the other side. Constructed with a durable, yet lightweight composite material, this adapter fits the Robust Mount Universal iPad Holder and will work with a Robust Mount shaft or other 1" socket mounting solutions.</p> <p>Robust Mount Yoke Clamp The intuitive nesting design of this clamp will work on any tube from 1/2" to 2" diameter. The inside of the clamp has a rubber pad to increase friction and gripping power. Perfect for mounting to a yoke or exposed tube.</p> <p>Fits all large tablets with 7"-18.4" screen size</p>
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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 (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 (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 (562-865-2547)



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

Make offer

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

Parts for Sale

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

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Time on your Mooney. Hangar available. I only need 20-30 hours yearly. I have an empty hangar in Cartersville, GA for your Mooney or Cirrus @KVPC. 3500 hours, 3000 Mooney INST CML no accidents. Please email to: mooney201@gmail.com



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