The Mooney Flyer

The Official Online Magazine for the Mooney Community

www.TheMooneyFlyer.com

June 2018

Features

Editors
Phil Corman
Jim Price

Contributing Writers
Bruce Jaeger
Bob Kromer
Tom Rouch
Paul Loewen
Geoff Lee
Linda Corman

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If you love ***The Mooney Flyer*** and want to keep it healthy, just click on the "Donate" button.

Australian Mooney Pilots Association

We try to stay close to AMPA and this month, they sent us a copy of their most excellent Newsletter. Australia is a large country with a relatively small Mooney population, but their activities and events and information outsize their population. They are simply amazing and exemplify the Mooniac "cult". Their May Issue includes: 1) From The Mooney Flyer ("blushing"), 2) From AOPA, 3) Satellite-Based Augmentation System, 4) CASA Backs Down (CASA is Australian for FAA), and 5) Mooney at the Smithsonian. CLICK HERE to go to their website.

New FIS-B data from ADS-B in June

PRODUCT	UPDATE INTERNAL	TRANSMISSION INTERVAL (95%)
Lightning	5 minutes	5 minutes
Turbulence	1 minute	15 minutes
Icing	60 minutes	15 minutes
Cloud tops	30 minutes	15 minutes
Graphical airmet	As available	5 minutes
Center weather advisory	As available	10 minutes

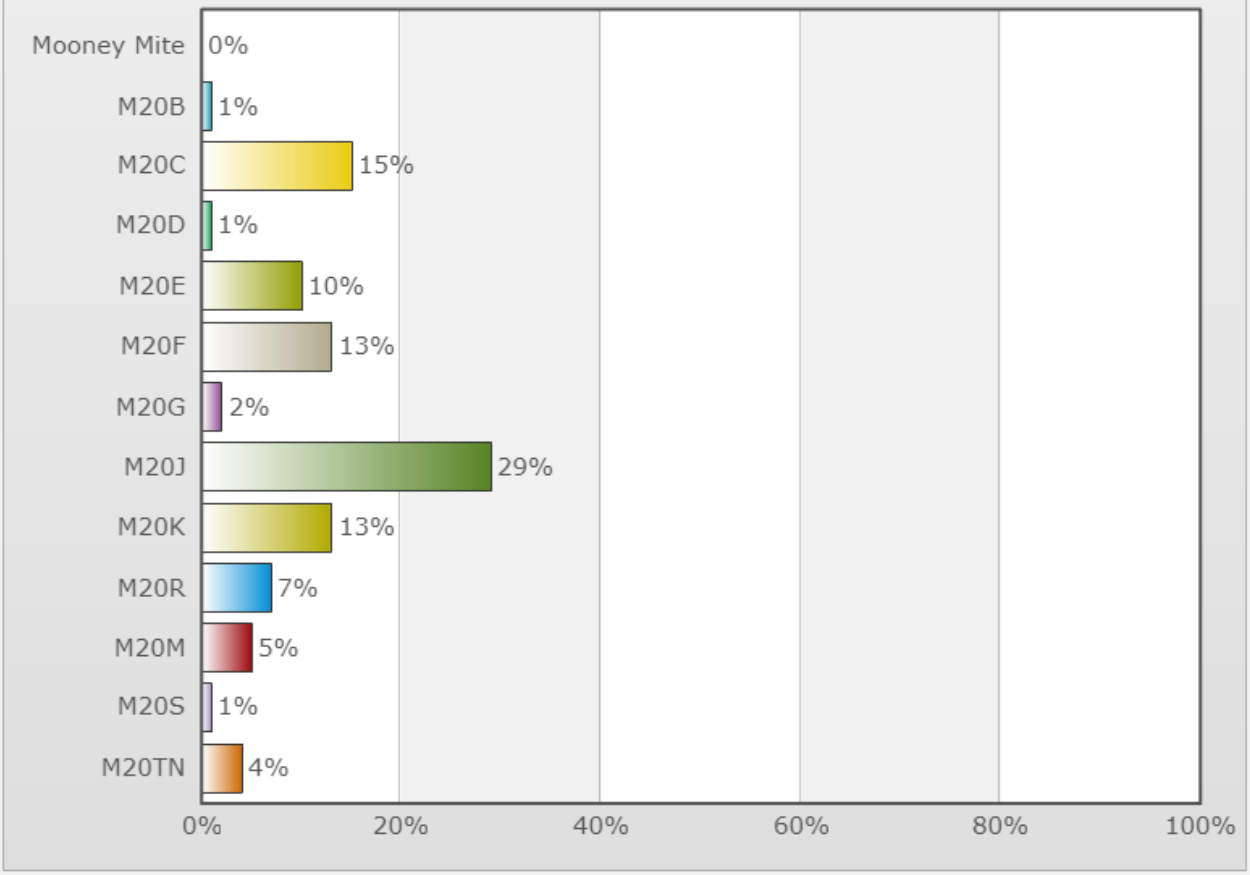
The FIS-B data keeps adding more information and we think it's very useful.

These data additions are shown in the illustration to the right. Here at The Mooney Flyer, we have been very happy with the FIS-B broadcast and welcome these valuable additions. We checked with Garmin and it appears that this new information will be displayed on the GTN 650/750 without a software upgrade. Check with Garmin for other display devices. Obviously, ForeFlight will represent this data.

I own an

Poll created by Phil Corman on 04/02/2018

Poll Results



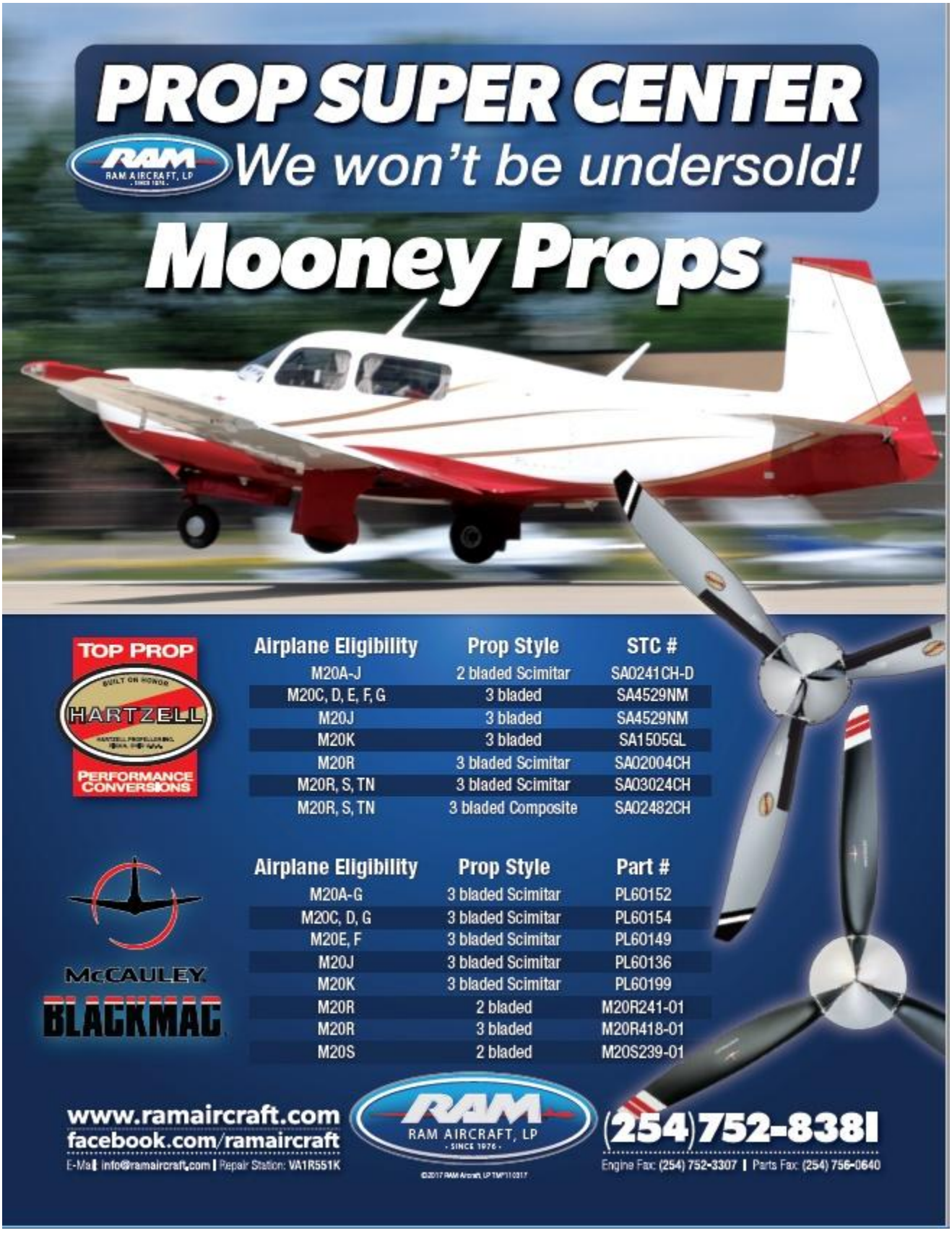
Next month's poll:"My Glass Avionics include:" **CLICK HERE** to vote.

Appraise Your Mooney's Value

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

M20C M20E M20F M20G M20J M20K M20R M20M

CLICK HERE for the most comprehensive list of Mooney Instructors in the US.


PROP SUPER CENTER
RAM AIRCRAFT, LP
We won't be undersold!
Mooney Props
TOP PROP
HARTZELL
PERFORMANCE CONVERSIONS
Airplane Eligibility | Prop Style | STC #
M20A-J | 2 bladed Scimitar | SA0241CH-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
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RE: Take Your Time by Sam Lindsay -- I totally agree, but then I totally disagree with this article. These two sentences sum it up:

The first thing we all have learned when transitioning into a Mooney is to fly the numbers. Almost universally, that number on final should be 80.

Yup, fly the numbers is good advice; but there is no one-size-fits-all magic approach speed. Come in too fast and you might find yourself floating all the way into the bushes at the far end of the airfield.

Whatever the speed on long finals, the speed as you cross the fence should be 1.3 x the stall speed in the landing configuration (not allowing for gusts, etc). The POH for the 'J' recommends the airspeed on final approach with full flaps is 71 kts. Dividing by 1.3 = 55 kts, which hey presto! is precisely the POH stall speed at MAUW! The numbers add up!

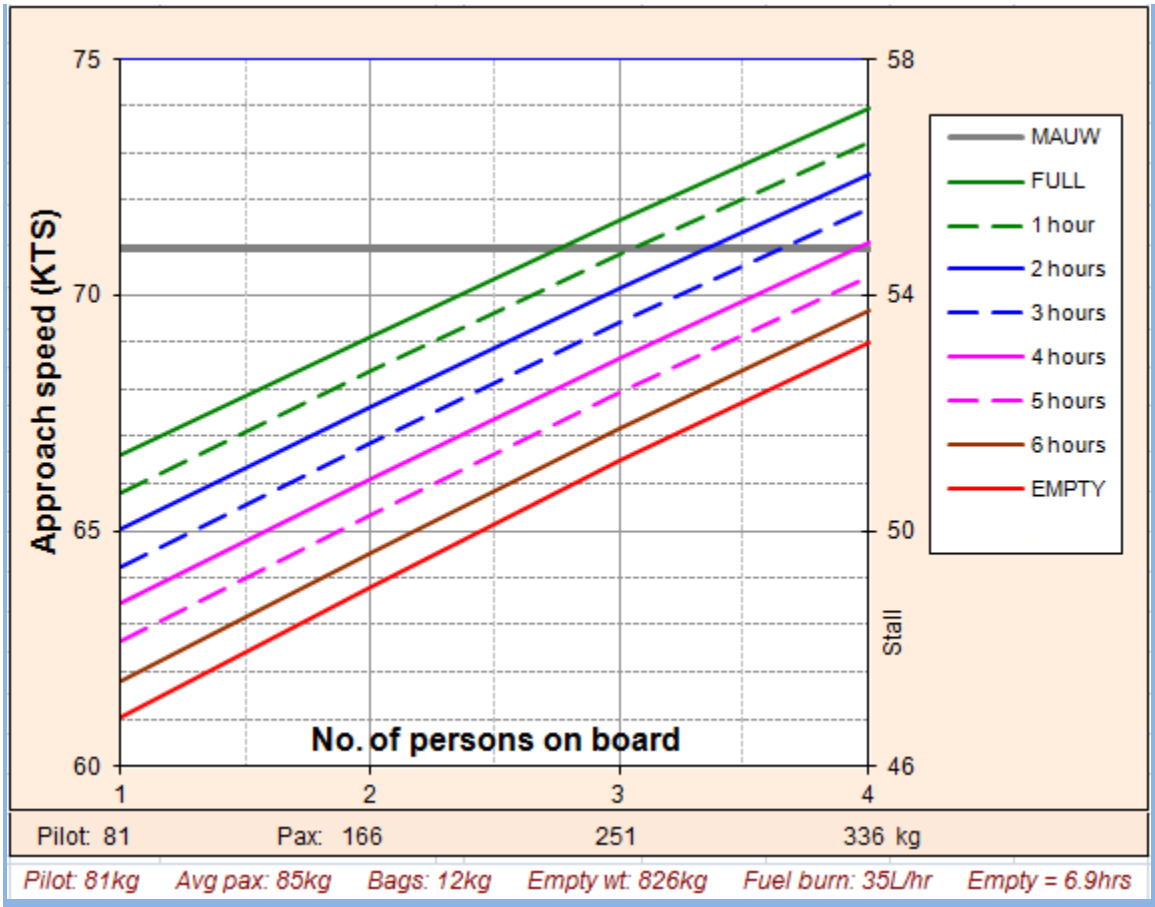
What if the aircraft weight is considerably less than MAUW, e.g. pilot only with 30 mins of fuel remaining? Flying the book approach speed will result in an extended float down the runway, not a good idea on a short bush strip.

To fix this problem, all we need to know is the relationship between stall speed and weight: Vso is proportional to the square root of the weight.

MAUW for the 'J' is 1243 kg; the empty weight around 830 kg. So if the weight with one pilot with 30 mins fuel is, say, 930 kg, then Vso will be 71 x SqRt (930/1243) = 71 * 0.865 = 61.5 kts.

By Sam's reckoning, 9.5 kts slower on rounding out adds 950 ft of runway consumed in the float. That could be the difference between a safe and marginal landing on a shorter airstrip.

Generally speaking, the aircraft weight will be somewhere between the above minimum and MAUW, resulting in an approach speed somewhere between 61.5 kts and 71 kts. I have graphed this for myself as pilot, using the weights on the W&B sheet for one specific aircraft, which looks like this:



A quick glance before joining the circuit will identify the required approach speed from #pax and fuel used.

What is also interesting is to note the area above 71kts, i.e. weight in excess of MAUW. Here, the trade-off between fuel load and useful load is immediately apparent. To carry pilot + 3 pax each weighing 85 kg, 4 hours of fuel must be sacrificed.

Editor's Note: *We agree that Sam's article was fantastic. For a K model. Max gross is 2,900 pounds. Stall speed is 59 KIAS. 1.3 x 59 is 78 knots approach speed:*

2,600 pounds = a stall speed of 56.5. 1.3 x 56.5 = 74 knots approach speed
2,300 pounds = a stall speed of 50.0. 1.3 x 50 = 65 knots approach speed

Zero fuel without a pilot or passengers would be about 2,250, so 2,300 pounds. The C model is so simple and conservative. It uses a max gross weight C model, full flaps. Stall speed is 49 MPH x 1.3 = 63 MPH. But, at 40 degrees of bank, the stall speed is 60 MPH x 1.3 = 78 MPH.

Military and airline / professional pilots calculate their landing weight and approach speed every time they land. Since most pilots don't take the time to do that, Mooney developed a safe approach speed for the heaviest situation and rounded up to 80 knots. But, why shouldn't Mooney pilots fly in a professional manner? Let's take our game to a new pro level and calculate Take Off Gross weight. Upon arrival at our destination, subtract the burn and find the appropriate approach speed.

Neal F

Greetings, I'm interested in subscribing but had trouble when I clicked on the "To Subscribe, CLICK HERE" button. Please add me to your list.

Also, enjoyed flying up to Paso Robles for the Fly-in last month. It was really great. Thanks! Was picked up at the San Luis Obispo airport by a close friend (and subscriber) in his Mooney on his way from Fox Airfield, in Lancaster, CA.

As a pilot and aviation writer (with three books, published by McGraw-Hill), I thoroughly enjoy your magazine! And terrific photos!!

Gene G

BTW, if TMF has not won awards for cover art, then someone out there is not paying attention. I downloaded the entire archive, and the covers varied from awesome to stunning... Keep up the good work!

John

REGULATIONS
For Operation of
AIRCRAFT

Commencing January 1920

1. Don't take the machine into the air unless you are satisfied it will fly.
2. Never leave the ground with the motor leaking.
3. Don't turn sharply when taxiing. Instead of turning sharp, have someone lift the tail around.
4. In taking off, look at the ground and the air.
5. Never get out of a machine with the motor running until the pilot relieving you can reach the engine controls.
6. Pilot's should carry hankies in a handy position to wipe off goggles.
7. Riding on the steps, wings, or tail of a machine is prohibited.
8. In case the engine fails on takeoff, land straight ahead regardless of obstacles.
9. No machine must taxi faster than a man can walk.
10. Never run motor so that blast will blow on other machines.
11. Learn to gauge altitude, especially on landing.
12. If you see another machine near you, get out of the way.
13. No two cadets should ever ride together in the same machine.
14. Do not trust altitude instruments.
15. Before you begin a landing glide, see that no machines are under you.
16. Hedge-hopping will not be tolerated.
17. No spins on back or tail slides will be indulged in as they unnecessarily strain the machines.
18. If flying against the wind and you wish to fly with the wind, don't make a sharp turn near the ground. You may crash.
19. Motors have been known to stop during a long glide. If pilot wishes to use motor for landing, he should open throttle.
20. Don't attempt to force machine onto ground with more than flying speed. The result is bouncing and ricocheting.
21. Pilots will not wear spurs while flying.
22. Do not use aeronautical gasoline in cars or motorcycles.
23. You must not take off or land closer than 50 feet to the hanger.
24. Never take a machine into the air until you are familiar with its controls and instruments.
25. If an emergency occurs while flying, land as soon as possible.

Check out a new service called **Daily Hangar**. You can enter an airport and see if there are any hangars for rent when you are transient to that airport and want to hangar your Mooney. It's analogous to AirBnb, but for hangars. CLICK HERE for the details and see Press Release in our Classifieds Section.

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- Garmin G-1000
- GFC700 Autopilot
- 675 hours total time
- March 2018 Mooney Service Center annual
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- Xenon landing lights
- Reiff engine pre-heat
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SUMMER FLYING Reminders

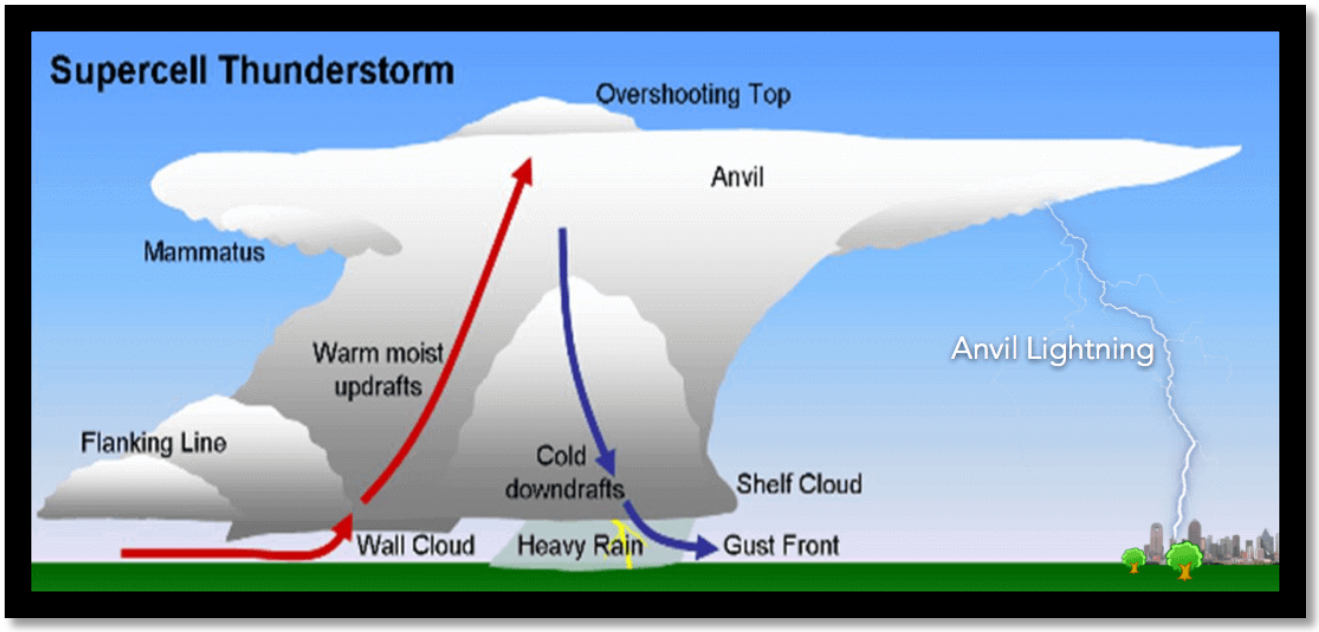
JIM PRICE ATP, CFI-I, MEI

1) Takeoff roll increases about 10% for every additional 1,000 feet of density altitude (normally aspirated aircraft)

It's still spring, but things are heating up as we head toward the first day of summer. And on hot days, you get high density altitude. For most normally-aspirated GA airplanes, you'll add about 10% of takeoff roll for every 1,000' of DA.

2) Airliners give thunderstorms a wide berth – at least 25 miles. You should, too.

Flying closer than 5 miles from a thunderstorm's overhanging area (the "anvil), puts you at risk of



flying through hail and severe turbulence.

In some cases, aircraft have encountered hail, severe windshear, and severe turbulence up to 20 miles from storms. When in doubt, keep your distance.

3) Civil Twilight – It's about 30 minutes Before Sunrise and about 30 minutes After Sunset

- **From the end of evening civil twilight to the beginning of morning civil twilight,** you can log night flight time.
- **From Sunset to sunrise,** your position lights need to be on (and anticollision lights need to be on, if you have them)
- **Want to log a night landing?** You'll need to wait an hour after sunset to log night landings.

Want to make a night landing with passengers on board? You'll need to be night current. You need to have made at least 3 takeoffs and landings to a full stop in the preceding 90 days during the period beginning 1 hour after sunset and ending 1 hour before sunrise.

From [ ] to O69

CALCULATE DISTANCE

Sunrise and sunset

Times for 11-May-2018

	Local (UTC-7)	Zulu (UTC)
Morning civil twilight	05:35	12:35
Sunrise	06:04	13:04
Sunset	20:10	03:10
Evening civil twilight	20:39	03:39

Current date and time

Zulu (UTC)	11-May-2018 15:48:08
Local (UTC-7)	11-May-2018 08:48:08

A good rule-of-thumb for calculating civil twilight is that it usually ends between 20-35 minutes after sunset. Once twilight ends, you can start logging night flight time.

or

You can go to

AIRNAV.COM
the pilot's window into a world of aviation information

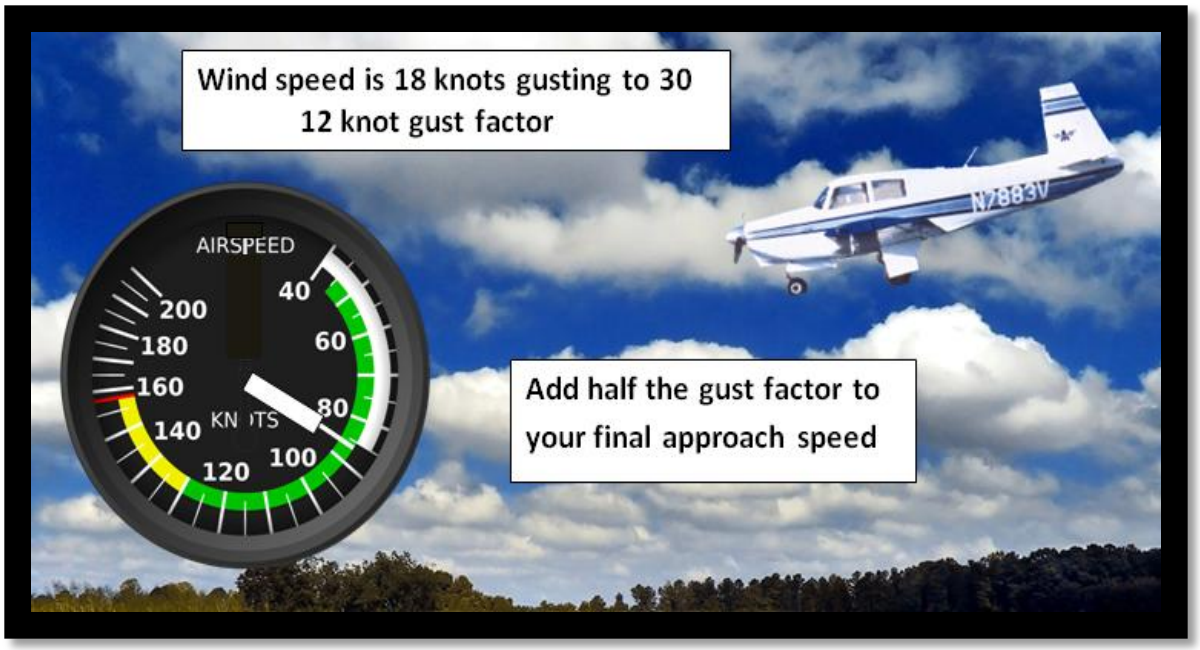
where every day, they calculate Civil Twilight and sunset/sunrise for each airport.

4) Stay out of Virga, ESPECIALLY in the Mountains

At the very least, you'll experience a bumpy ride. It has powerful down drafts and quite frankly, you might be risking your life flying in Virga in the mountains!

5) Add Half The Gust Factor when Landing on Windy Days

When you're dealing with a gusty day, add half the gust factor to your final approach speed to give yourself safe padding from a stall.



AGE IS A STATE OF MIND

by Bruce Jaeger

As we were putting together a puzzle, my 4-year-old granddaughter said, "Let me help you, Grandpa. It's kind of tricky." This eye-opening comment from a preschooler has plenty of meaning for a pilot learning to manage a glass cockpit airplane. For younger, less experienced pilots, learning to use such technology may not be intimidating. Neither is playing video games, searching the Web or text messaging. But things are often different for older, more experienced pilots. Appreciating what new technology has to offer, doesn't make it easy.

We older pilots remember the first reliable DME, a wonderful RNAV — and then we had it all with LORAN. I remember not trusting the earliest digital radio displays because they randomly failed. I am pleased that it is a different story today.

A young instructor about to familiarize me with a glass cockpit airplane simply assumed that I knew it all, given my nearly 16,000 hours as a pilot and flight instructor. After starting the engine, I asked this young man what we were going to do next. He simply pointed to the flight plan he had programmed in the Garmin GPS. I promptly shut down the engine, as both this instructor and I needed a lesson. I was not prepared for the flight, and the instructor took too much for granted about my knowledge and skills. Mixture to Idle Cutoff put both of us on the same page.

Due to necessity and desire, I was ultimately able to master a glass cockpit airplane. Now, I enjoy passing the benefits of technology on to others. In fact, I recently worked with an older pilot who had a passion for flying and a thirst for mental stimulation. Putting him into the glass cockpit of a high performance airplane seemed the perfect challenge. But he faced numerous obstacles, including lack of currency (most of 20 years), age (now in his early 70s) and questionable confidence. Hearing a polite computer-generated voice warn of traffic, prompted a smile and we were well on our way.

My experience with this particular student taught me many lessons. Here are some tips I hope you can apply in your own flight instruction with older students.

- **Be prepared.** A lesson reviewing the POH, aircraft systems and normal operations used to be about all we did before a first flight. Today, lack of glass cockpit preparation could make the first flight the last. Consider starting with simulator use of a Garmin GPS. Then help your student become familiar with the basics of the glass screens and commands. A session or two in the cockpit, simply touching buttons, while powered by auxiliary power, would be time well spent. The engine systems page is user friendly and can be mastered with repetition. Even mixture control management can be grasped within the first few flights. The altitude and airspeed moving tapes may take more time to appreciate.
- **Keep it short.** Limit lessons to a reasonable time, such as 1-1/2 hours. Review past lessons during each flight, and then add a bit more each time. Eventually, your student will have the confidence needed to stay ahead of the airplane.
- **Create opportunities for success.** Let your student do the flying and push the buttons. Set measurable goals for each lesson, and prompt your student as needed to meet them. Offer

plenty of compliments along the way. When you need to make a correction, keep it casual. Saying how nicely this airplane made a steep turn means more than, "Watch your bank."

- **Require precision.** Provide specific directions for each maneuver, and set your expectations high. Give your student time to correct an error without help — but strive for perfection. Your students will expect this of themselves, and you should accept nothing less. Practice will make a difference.
- **Use autopilot.** Consider introducing the autopilot early. Use it as a training tool to provide needed relaxation during explanation of a maneuver or completion of an instrument procedure.
- **Mimic reality.** Make flights that resemble how your student will actually fly. Throwing in an occasional missed approach procedure or simulated difficult weather condition will help your student appreciate thorough flight planning — but don't overload your student with unusual situations.
- **Make emergencies meaningful.** Ask questions such as, "What would we do right now if an alternator failed?" Follow the question with a thorough discussion. Later, simulate the same emergency without warning.
- **Eliminate panic.** It helps to post a brief reminder list on the panel. For example:

- **Slow down.** A fast airplane is great, but not when preparing for an instrument approach.
- **Complete most instrument approaches with a full-stop landing.** There's little need to do a missed approach every time. Completing most approaches to a full-stop landing is fun and helps build confidence. It also improves takeoffs and landings, as well as communication and observation skills.

- **Plan cross country flights carefully.** Make sure your cross country flights are long enough to allow time to prepare for the next approach. Multiple approaches to the same runway can help boost confidence.
- **Know when to start over.** Remind your student that when it gets too complicated, there's nothing wrong with starting over. For example, if ATC is simply too busy to handle instrument approaches on a high traffic VFR day, choose another airport or practice takeoffs and landings.
- **Be patient.** With patience and repetition, your student's confidence will soar. If your student criticizes himself or herself for not learning more easily, make sure your expectations are appropriate. It might take more patience and more practice than either of you expect, but the results will be worth the effort.
- **Encourage self-evaluation.** Ask your student what he or she feels about their performance. An example would be, “What did you think of your landing?” If it needs improvement, follow up with a question like, “What would make it more comfortable next time?” Replace your coaching with the student talking themselves through the procedure. We all know the best way to learn to fly is by teaching someone else, and your student can learn the same way.

Back to my 73-year-old student. Comfort with flight control, power settings and engine management was ultimately complemented with GPS navigation, waypoint and weather information. Student and instructor commitment resulted in an IPC endorsement.

Just like good landings, productive flight lessons require patience. This is especially true when the student is an older pilot. Years ago, frustration with a challenging student led me to wonder, "Is it possible that some people simply can't learn to fly?" My mentor responded, "It just takes some longer than others." With plenty of patience, you can teach new technology to students of any age.

Another older pilot I once instructed, taught me similar lessons. At nearly 80 years old, he was an experienced pilot – but intimidated by technology. Thanks to both his and my patience and perseverance, his thoughts changed from, “I wonder if I can do this”, to “I **can** do this”, to “I like it!” The right attitude and passion to learn made this older pilot look ahead, not back.

Instructing older pilots can be rewarding. I encourage you to embrace the challenge.

I love the online MAPA Evaluation Reports. When I bought my C and later bought my K, I realized that they had some outstanding tips and I relied on these reports to help me be a better Mooney pilot.

M20C Evaluation Report	M20E Evaluation Report	M20F Evaluation Report
M20G Evaluation Report	M20J Evaluation Report	M20K 231 Evaluation Report
	M20K 252 Evaluation Report	

Although these reports discuss many Mooney models, they all have one subject in common, and that's landing. They all recognize that the number one cause of Mooney landing accidents and incidents is excessive speed on the approach.

Why is that?

Piper Arrows and Lances, Cessna 210's and Bonanzas will all take care of a pilot who tries to land going too fast. Those airplanes quickly dissipate speed in the landing flare due to their higher overall drag and more effective flap systems. Not so with Mooneys. We fly clean airframes with fairly ineffective flaps. In other words, the Mooney is a floater. Excessive airspeed in the landing flare in a Mooney makes an already clean airframe even more difficult to get on the ground. This is where a Mooney pilot can get into trouble - excessive speed, floating down the runway with the end of the runway approaching.

Bob Kromer, a former Mooney test pilot wrote:
Mooneys have few vices, but one of them is this - never, ever try to force a Mooney onto the runway with forward pressure on the control wheel. You might get away with it a few times, but sooner or later, here's what's going to happen:
1) The airplane's nose gear will strike the runway,
2) The airplane will rebound back into the air,

3) At the top of this bounce, the pilot will again push forward on the control wheel again,
4) The airplane will strike the runway again on the nose gear,
5) The airplane will rebound back into the air a second time,
6) At the top of this second bounce, the pilot again pushes forward on the control wheel,
7) This time, the airplane strikes the runway in such a nose low condition that the prop strikes the ground, curling back the propeller tips,
8) The airplane will stay on the ground this time, but the pilot faces an expensive repair job for an engine teardown and prop replacement.

On final, you should begin slowing to 80 KIAS / MPH. When you are in the flare, you should be at a speed that is 1.2 times the stall speed. (Full flaps flare speed is about 70 KIAS / MPH).

Regardless of the type of Mooney you fly, find out what your threshold speeds should be. Your POH may list those speeds for various gross weights. If not, you could climb to a safe altitude and do some stalls with the gear down and the flaps up; again with the gear down and the flaps down. Note the indicated airspeeds where the stall break or buffet occurs. Multiply these indicated stall speeds times 1.2. Use the resulting speeds as the target speed you want to be at when you cross the numbers and begin to flare the airplane for landing.

Let's start with the stall speeds for a fully loaded M20C:

M20C, Power Off		
POH recommended Approach Speed: 80 MPH (70 KIAS)		
Configuration	**Stall Speed**	**Flare Speed (1.2 x stall speed)**
Flaps up, gear up	67 MPH (58 KIAS)	80 MPH (70 KIAS)
Flaps down, gear down	57 MPH (49 KIAS)	68 MPH (49 KIAS)

80 MPH on final, slowing to 68 MPH in the flare (12 MPH difference).

Here are some of the stall speeds for a moderately loaded M20J 201:

M20J 201, Power Off		
POH recommended Approach Speed: 71 KIAS (81 MPH)		
Configuration	**Stall Speed**	**Flare Speed (1.2 x stall speed)**
Flaps up, gear down	58 KIAS (67 MPH)	70 KIAS (80 MPH)
Flaps down, gear down	52 KIAS (60 MPH)	62 KIAS (71 MPH)

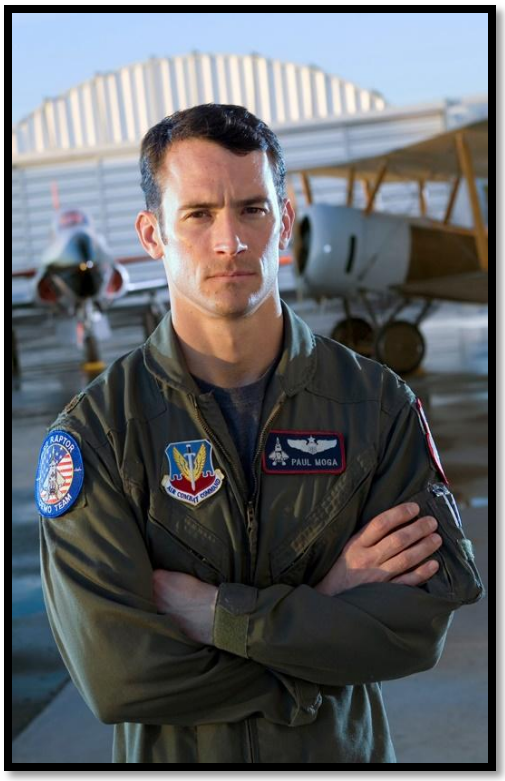
From 71 KIAS on final to 62 KIAS in the flare (10 Knot difference)

The M20K 231 has similar numbers:

M20K, Power Off		
POH recommended Approach Speed: 75 KIAS (86 MPH)		
Configuration	**Stall Speed**	**Flare Speed (1.2 x stall speed)**
Flaps up, gear down	59 KIAS	68 KIAS
Flaps down, gear down	52 KIAS	63 KIAS

75 KIAS on final, slowing to 63 Knots in the flare (12 Knot difference)

You'll be amazed at how well the airplane lands and how short the landing distances are. As an added bonus, the brake pads will last for a very long time.



Military, airline and professional pilots calculate their landing weight and the resulting approach speed every time they land.
Why shouldn't Mooney pilots fly professionally, too?
I added three common weights and the applicable approach speeds, based on my stall speeds.

M20K 252, Power Off			
POH recommended Approach Speed: 75 KIAS (86 MPH)			
Gross Weight	Flaps full Stall Speed	1.3 approach speed	1.2 flare speed
2,900 Lbs	59 KIAS	78	71
2,600 Lbs	56.5 KIAS	74	68
2,300 Lbs	50.0 KIAS	65	60

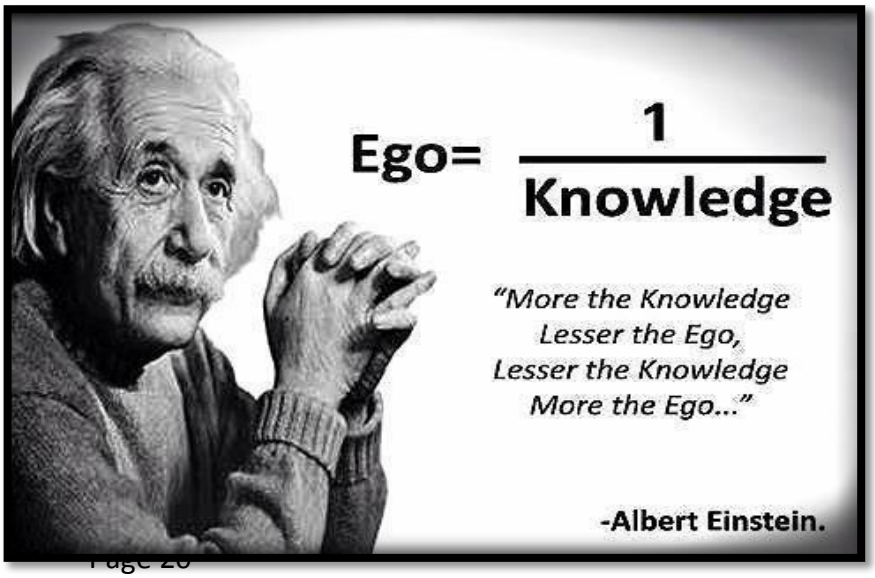
Since I like to land with full flaps, unless there's a significant cross wind, I've based the approach speeds on 1.3 x the FULL FLAP stall speed for three different gross weights.

I always know what my takeoff gross weight is. You know yours, too, right?
Upon arrival at MY destination, I subtract the burn and based on that weight, I find the appropriate approach speed.

2900 Lbs	2600 Lbs	2300 Lbs
78 knots	74 Knots	65 Knots
Short field		
73 Knots	69 Knots	65 Knots

My POH recommends 75 knots on final. That's about right for a moderately loaded K model, since full fuel tanks and just me on board brings the total weight to around 2,600 lbs.
The flare speed (1.2 x the stall speed), is approximately 7 – 5 knots / MPH less than the approach speed.

If you're not sure about landing using this method, perhaps a little time with a good Mooney CFI would help you feel more comfortable. Learn the correct procedures and you'll avoid an incident, keeping your confidence unshattered.



DECISION MAKING BY GOOD PILOTS

Decision making is something all Mooney pilots believe that they do well. And, based on Mooney pilots that we have met, they are probably correct in that assertion. In this article, however, we would like to focus on "Why good pilots sometimes make bad decisions". We have all heard the quotation that goes something like "Excellent judgement precludes the need for excellent skills". By that, it's meant that most aviation accidents can be avoided by making good decisions on the ground before departing. Let's take a closer look.

How Our Brains Seem to Work

We already know that pilots tend to have different personalities than the general population. Pilots tend to be "take charge" types. They assume responsibility, and tend to be type A personalities. Good pilots are cool under difficult situations while flying… and we could go on. But regardless, our brains are not really wired to assess a situation completely, analyzing the pros and cons, seeking other opinions or input. Generally speaking, pilots will make a decision under given circumstances, based on past experiences. So, we tend to make a relatively quick decision and move on. The trouble is, that sometimes a small difference in the current situation can end up being very significant.

The questions that should be asked, usually are not. For instance, how many times have you flown in that given situation? How recently have you put yourself in that situation? Do you have any pressures on you to go forward and fly, such as Get-Home-Itus? Are the weather conditions identical? What about density altitude? How are you feeling physically and mentally for this flight? Are you properly rested, with no illness or even allergies… Similar past situation can be significantly affected by changes in any of these conditions.

Confirmation Bias

Another trap our brains put us into is what I will refer to as Confirmation Bias. We will simply make a decision, because it delivers the results we are seeking. We want to get home, for instance, so we glom onto information that supports that decision. We may even check-in with another pilot who we like, who might have supported our decisions in the past. In other words, we are seeking input that confirms our "implicit" decision which has already been made. Objectivity and unbiased evaluation of the pros and cons is the only antidote.

Most accidents happen, not because of a single bad decision, but because of at least 2 or more bad decisions, or a chain of poor decisions. So our rule of thumb is, "We might continue if there is one tough decision/situation. But, when the second one comes along, it's time to land.

Decision Inertia

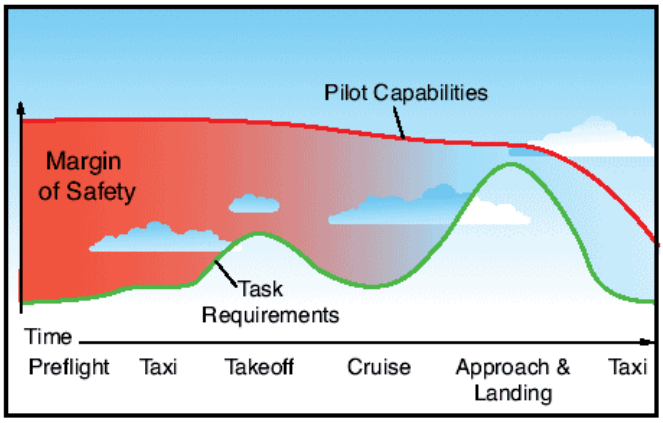
Let's say you have made a preliminary decision to depart into a challenging situation. There is another phenomenon we call Decision Inertia. This happens because we are strong minded and have made an initial judgement decision on fly/don't fly. We are strong minded, remember? So pilots can fall into the trap of looking for information or advice that supports our decision, even in the face of overwhelming evidence against it. Here, at The Mooney Flyer, we have written about several accidents where a pilot kept making the decision that supported his initial decision to continue flight.

Experience Creep

This type of decision making is insidious. This happens over months, or even years. We knew a pilot that suffered from this years ago. He kept pushing the limits of his Gross Weight. First time, he was 25-30 lbs over gross. Hmm… everything went well on the flight. Months later, bring more passengers and now it's maybe 75-100 lbs over gross. Things go ok again. Months later, maybe load 4 souls and baggage… and maybe it's 200+ lbs over gross. Months later the density altitude is a little higher, but it all works out again… This kind of Experience Creep is insidious as you can see. The PIC continues to get reinforcement that things have worked out in the past, and therefore he can push the limits again incrementally, hence the term "creep".

Invulnerability & Proud Ego

Finally, most pilots believe that they are excellent pilots – better than most, and therefore they are invulnerable. Also, we tend to not want to let our passengers down, by cancelling or delaying the flight. Again, the only answer is objectivity and a Pros/Cons analysis. Typically, your passengers are not part of this process, except to explain your PIC decision making and rationale.



Summary

Put your objective, analytical, emotionless hats on. Consult with others and trust the data/information you get. Live to Fly Another Day!

Geoff lee.
CFII

LEAKY TANKS

I have just spent a couple of weeks assisting a client through the process of sealing several fuel leaks in both wing tanks of a 1982 Mooney K model. The task is not technically difficult, but not one for the faint hearted "Do It Yourselfer".

The process is tedious and time consuming. It requires very careful observation and attention to detail. It also is **not on the list of tasks that the pilot or owner is allowed to independently accomplish without the supervision of and sign off by a licensed mechanic.**

There are FBOs that specialize in the total resealing process, but the $10,000+ expense commands the thoughtful attention of the average owner with an older Mooney.

The signs of leakage are evident on the underside of the wings and in the wheel wells, reflected by the telltale light and dark blue stains emanating from "weep holes" on the under wing surface and usually on the forward surface of the wheel well. Fuel odor in the cockpit is also one of the more commanding signals.

Two different specifications of sealant are used in this process. One is for sealing the internal seams of the tank, and the other is used to seal the access plates.

Internal sealant used is "Flamemaster 3204-B2"

Access Plate sealant used is "Flamemaster 3330-B2"

We used 2 tubes of the 3204-B2 (*one tube each wing*) and one tube of the 3330-B2 for 6 access plates.

The sealants are available with two different cure times. The longer **cure time of 72 hours** is preferred.

It is prudent to read the mixing instruction carefully. We found bulging leaks where repairs had been previously attempted. The two part formulation had not been thoroughly mixed or adequately cured.

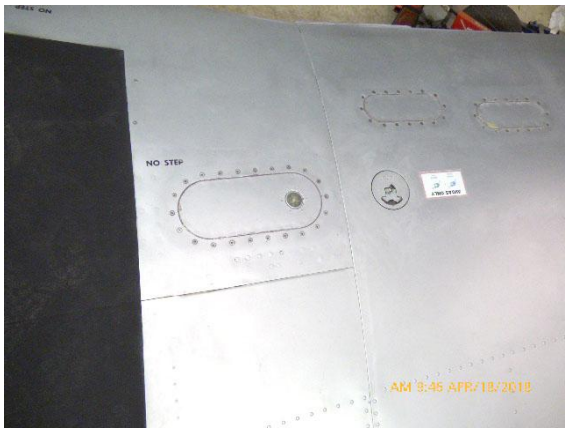
Using the Nitrile gloves is prudent and you should wear old clothes. That sealant ends up in strange locations on body parts, clothing and tools. It is tough/impossible to remove from clothing.

The process of positively identifying the location of a leak requires the following accoutrements.

1. Fabricating 2 or 3 clear/transparent acrylic cover plates of 3/16 max. thickness

2. An inexpensive ($10) air driven vacuum pump and an air compressor.

MEK (*Methyl Ethyl Ketone*) will make life much easier for **cleanup.** (N*ot easily available in CA*). A solvent that **does not leave residue** and will remove excess sealant is ok. A **good spray bottle** with soapy bubbly water is essential to the process of **finding** the leak.



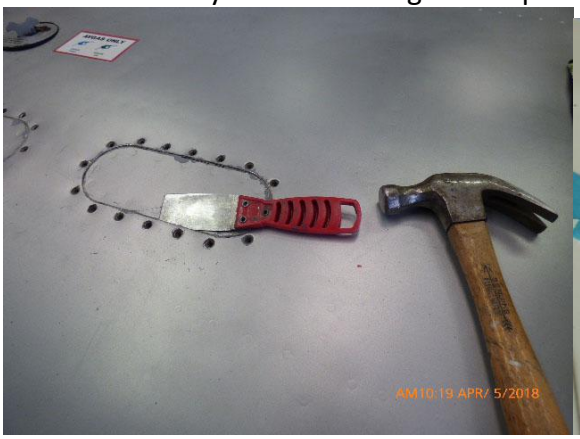
3. Old driving mirrors or suitably sized mirror fragments will be useful.

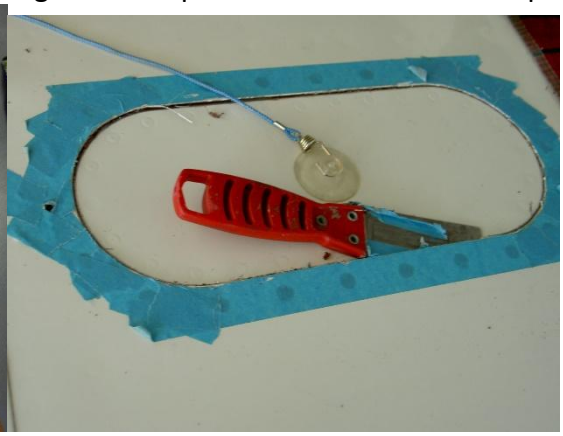
4. A **narrow/flexible** paint scraper and an angle head driver with wire brush (*battery operated). NOTE:* Grinding a sharp ”chisel” edge on the paint scraper is necessary.

There are 4 interconnected fuel bays in the Mooney wing. The inboard bay has a small diameter, one way, synthetic check valve for the interconnection to the adjacent bay. This stops fuel from flowing away from the pump when the aircraft is banked. The inboard bay access plate on the right wing is under the wing walk. There is access to each fuel bay on the underside of the wings, but it will minimize difficulty if the leak issues can be resolved from the upper wing access plates.

The task is commenced by **totally** draining the fuel tank prior to removing the screws securing the access plates. Removal of the underwing **drain valve** will ensure that the last drop of fuel is vacated. **Battery disconnected** during this whole process is a good thing. Also, before beginning the work, **allow a couple of days with the fuel caps open, so that fuel vapors are purged**.

Carefully get the sharpened paint scraper under the parting line, (where the wing and access plate come together), and aggressively tap the scraper handle, as you work it between the two surfaces. It will be necessary to circumnavigate the parting line a couple of times to release the plate.





Blue taping around the plate edge may save some inadvertent paint scratch damage.

Having removed the plate, the next task is positioning the mirrors inside the tank. These will allow you to view the upper seams.

Tape the clear Acrylic windows firmly in place over all open panels.

The vacuum connection to the aircraft is via the **fuel tank vent** under the outer wing tip area.

Upon energizing the compressor, which in turn drives the red vacuum pump, it will be evident that a vacuum exists within the tank by the slight depression of the acrylic windows. Make sure that you have **reinstalled the tank drain valve under the wing inboard.**

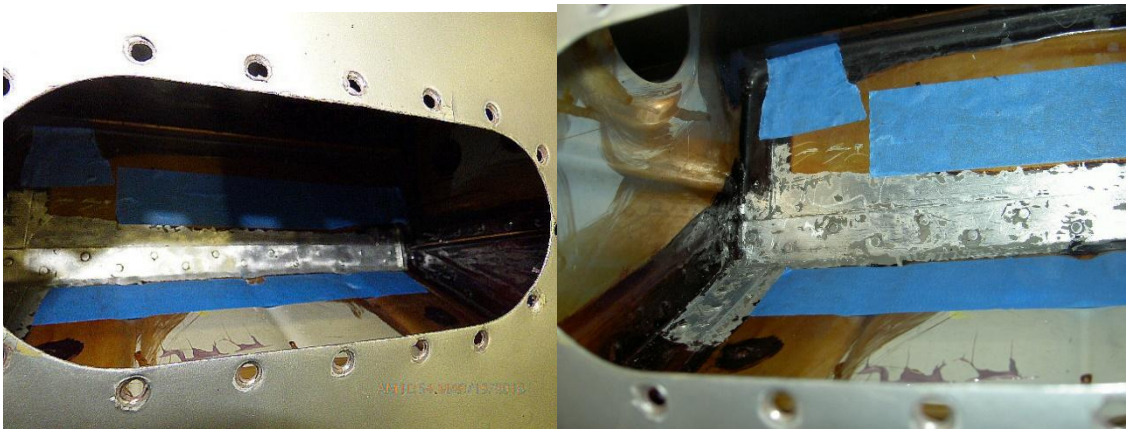
There are several access panels under the wing that reveal the outside walls of the tank; two on the leading edge and two toward the trailing edge. Removing them provides locations to spray the "bubble water" that will be drawn into the tank by the vacuum.

Be generous and thorough with the spraying activity.

A good flashlight and careful observation will reveal the location where the sprayed soap/water is drawn into the tank via any leak aperture present. Bubbles and or water will be evident at the leak site.

A repeat performance of the foregoing after removing the mirrors will provide good visibility of the lower surface/floor of the tank.

Having located and marked the leak areas (yellow marker), and removed the Acrylic "windows", it is time to commence removal of the existing sealant in and around the affected areas. The initial assault is launched with the paint scraper. The final assault is done using fir pressure with the wire brush. Do not confine sealant removal to the absolute local area of the leak.



If there is evidence of earlier attempts to seal an identified leak, it is best to remove all of the Gray sealant material used in that attempt and widen the cleanup area around it.

A small vacuum cleaner with a ”bayonet” probe end is useful in removing sealant debris from the tank, but it will be necessary to wipe down the inside of the fuel bay with a cloth dampened with the MEK to remove the very fine particles generated by the wire brush process.

Diligent removal of all loose material from the bay is an obvious must.

Taping of the cleaned areas, as indicated above, will assist in giving a fine line to the application of the sealant. After the sealant is applied, the tape is removed **immediately.**

Apply the sealant with a small bead from the gun and **take time** to spread with the gloved finger or a tongue depressor, f**orcing the sealant into the seams** of the tank. Simply spreading copious amounts of sealant over the cleaned areas is minimally effective. Air can be trapped under the sealant along the parting lines of mating surfaces, providing passageway for fluid leakage.

Cleaning residual sealant from the access plates requires the same care and attention as the internal process. Additionally, masking the screw holes is a way of not filling them with sealant prior to installation.

Leaks from the plate mounting screws are due to either having installed **too long screws,** or having **compressed sealant** within the screw hole, such that hydraulic or mechanical pressure has blown out the capped end of the sealed screw hole.

Examine the sealed ends of each <u>threaded screw hole</u> and determine that the cap or sealant is intact. Open ends may be resealed with either sealant.

Carefully apply a **thin layer** of sealant around the mating edges of the plate and subsequently remove the blue tape from the holes. It is then necessary to further spread the sealant around the hole, trying to keep small margin of clean space around the screw hole.

You will need to tape **something to hold onto in the middle of the panel.** Otherwise, it is difficult to maneuver it into place from inside the tank aperture.

Allow the inside sealant three to four days to cure before installing the access panels. Allow four days, particularly if the temperature is below 60^{o}F. Once the cure time has passed, recheck the tank for any debris and install the access panels. The access panels should be treated to the same cure time. When all is secure, to determine fuel flow, allow about five gallons of fuel to run through the system and exit via the drain valve aperture into a fuel container.

Install the Fuel Sample Check Valve.

Keep it clean

EMPOA Newsletter

EMPOA
Annual
General Meeting 2018
at Aschaffenburg/Germany
June 14 – 2018 18H30

Dear EMPOA-Mooniacs!
Our Annual General Meeting will be coming up in just around two weeks, this time once again in Germany. We therefore would like to take this opportunity to once again bring this important date into your mind and cordially invite you to participate. After the AGM, EMPOA will be very happy to invite all participants and their partners for a dinner. Therefore, we would like to ask all members who have not yet signed up with us to write a quick email to **`lothar.lucks@lucks-lucks.com`** and copy in **`deekay@gmx.net`**

Just ahead, after the Annual General Meeting, our fellow Mooniacs Tina and Gunter Haug, will show an exciting presentation of their trip to South America. We are looking forward to your strong participation and a nice evening together with all of you.

For the board - David Kromka, President

EMPOA Annual General Meeting 2018 at Aschaffenburg
June 14 – 2018 18H30
Hotel Goldener Ochse

Program:

- Opening and Welcome
- Report of the President D. Kromka
- Report of the Treasurer L. Lucks
- Report of the financial Auditor R. Bienert
- Exculpation of the Presidency
- Acquisitions L. Straubinger
- Board decision “Travel Organisation”
- Brainstorming Future Projects
- Amending our Statutes
- Latest Topics / Various issues / Outlook

www.empoa.eu

JIM PRICE ATP, CFI-I, MEI

RULES of THUMB

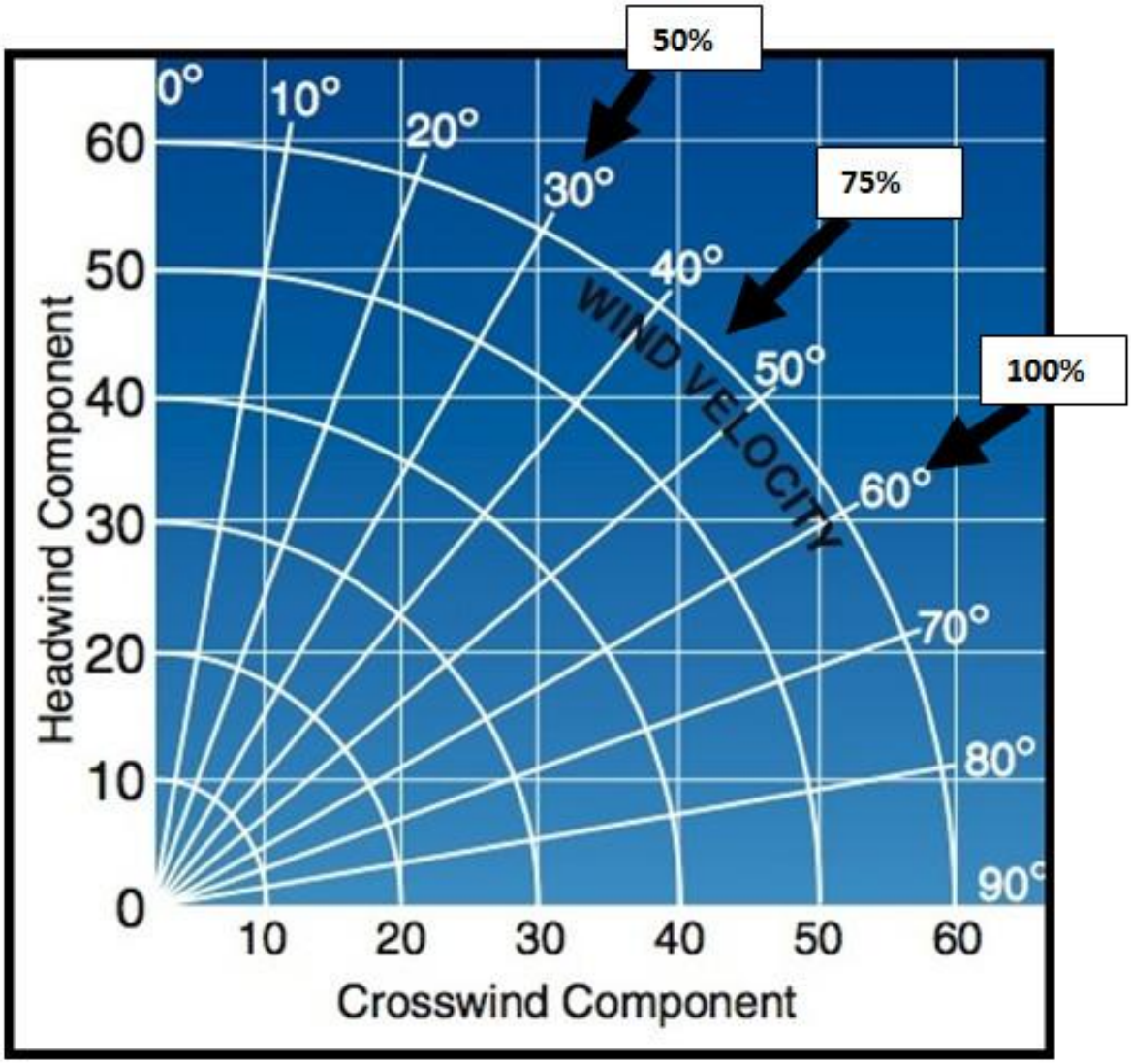
You Should Know

1) 10% Weight Increase = 20% Increase in Takeoff and Landing Distance

While this rule is far from exact, it gets you in the ball park for a normally aspirated plane. Obviously, when it comes time to calculate your actual performance, you'll want to pull out your POH.

2) Estimating a Crosswind Component

There's an easy way to calculate the crosswind component. If the wind is 30 degrees off the runway, your crosswind component is about 50% of the wind speed.
If the wind is 45 degrees off the runway, the crosswind component is about 75% of the wind speed.
And if the wind is 60 degrees or more off the runway, the crosswind component is roughly the same as the total wind speed.



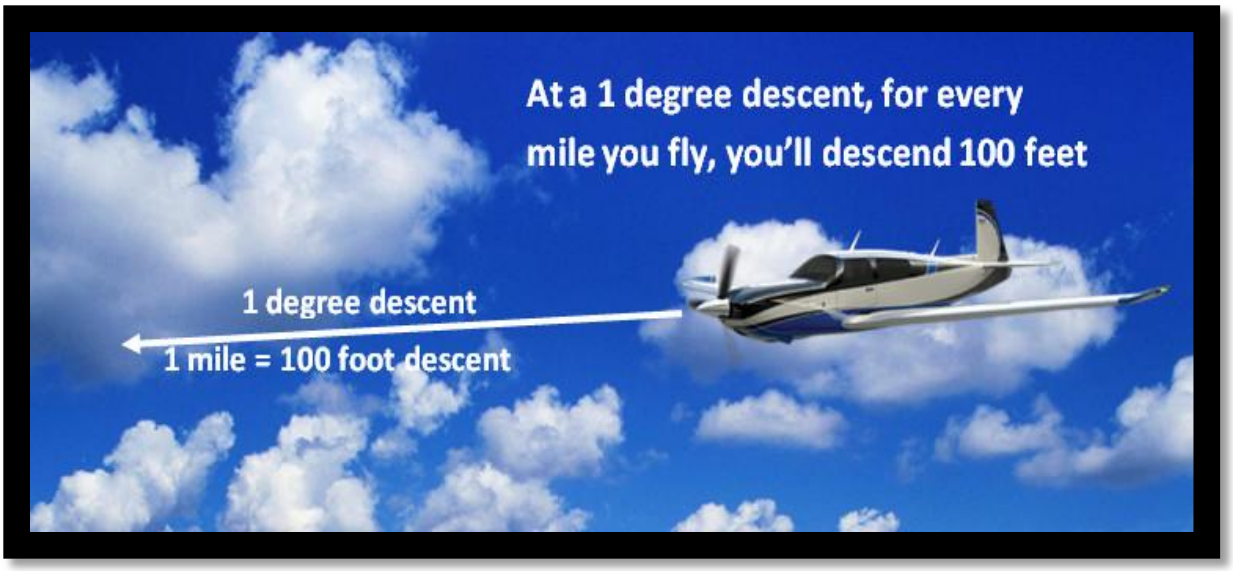
3) Takeoff roll increases about 10% for every additional 1,000 feet of density altitude

For most normally-aspirated airplanes, you can add about 10% to the takeoff roll distance for every 1,000' increase in density altitude (DA).

For example, in Denver, with an increase of 3,200' of density altitude, you'd increase your takeoff roll by about 32%.

So, if you have a 1,500' takeoff roll on a standard day in Denver (3° C or 37° F), you'll increase the takeoff roll to almost 2,000' on a 30° C (86° F) day.

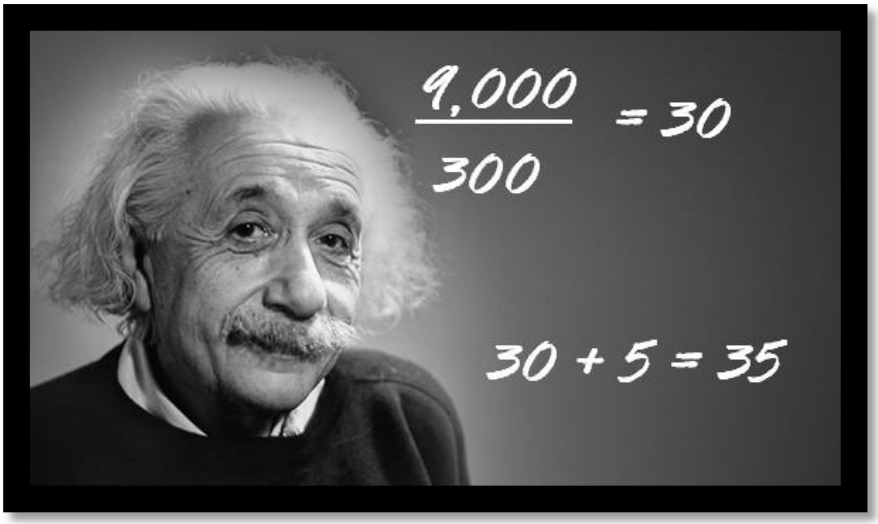
4) When Should You Start Your Descent from Cruise Altitude to Pattern Altitude?



A three degree glide angle will give you a comfortable descent rate in just about any aircraft. A three degree descent equates to a gradient of 318 feet per nautical mile. Unfortunately, 318 is not a mathematically friendly number, so we'll just use **300**.

When you're approaching an airport, you simply plan your descent point:
Divide the altitude you want to lose by 300.

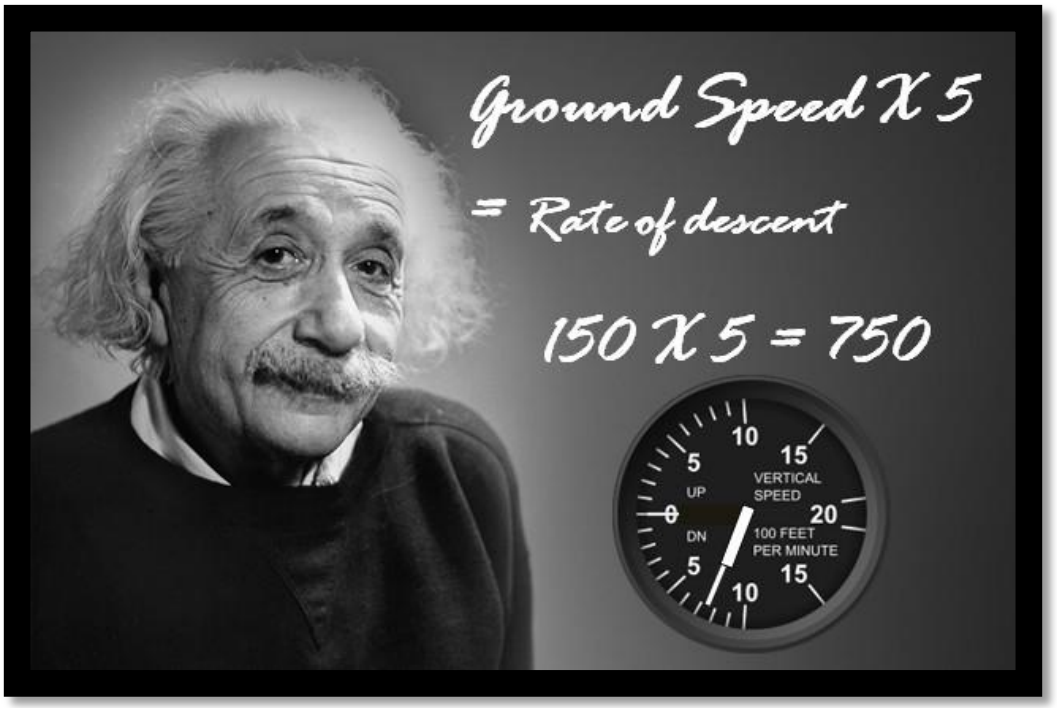
For example, if you're at 11,500 feet, and you need to get down to a pattern altitude of 2,500 feet, you need to descend 9,000 feet. **9,000/300 = 30 miles.**



If you start a 3 degree descent when you are 30 miles out, you'll hit pattern altitude as you reach the airport. You'll want to be at pattern altitude four to five miles before reaching the airport, so let's start down at **35 miles**.

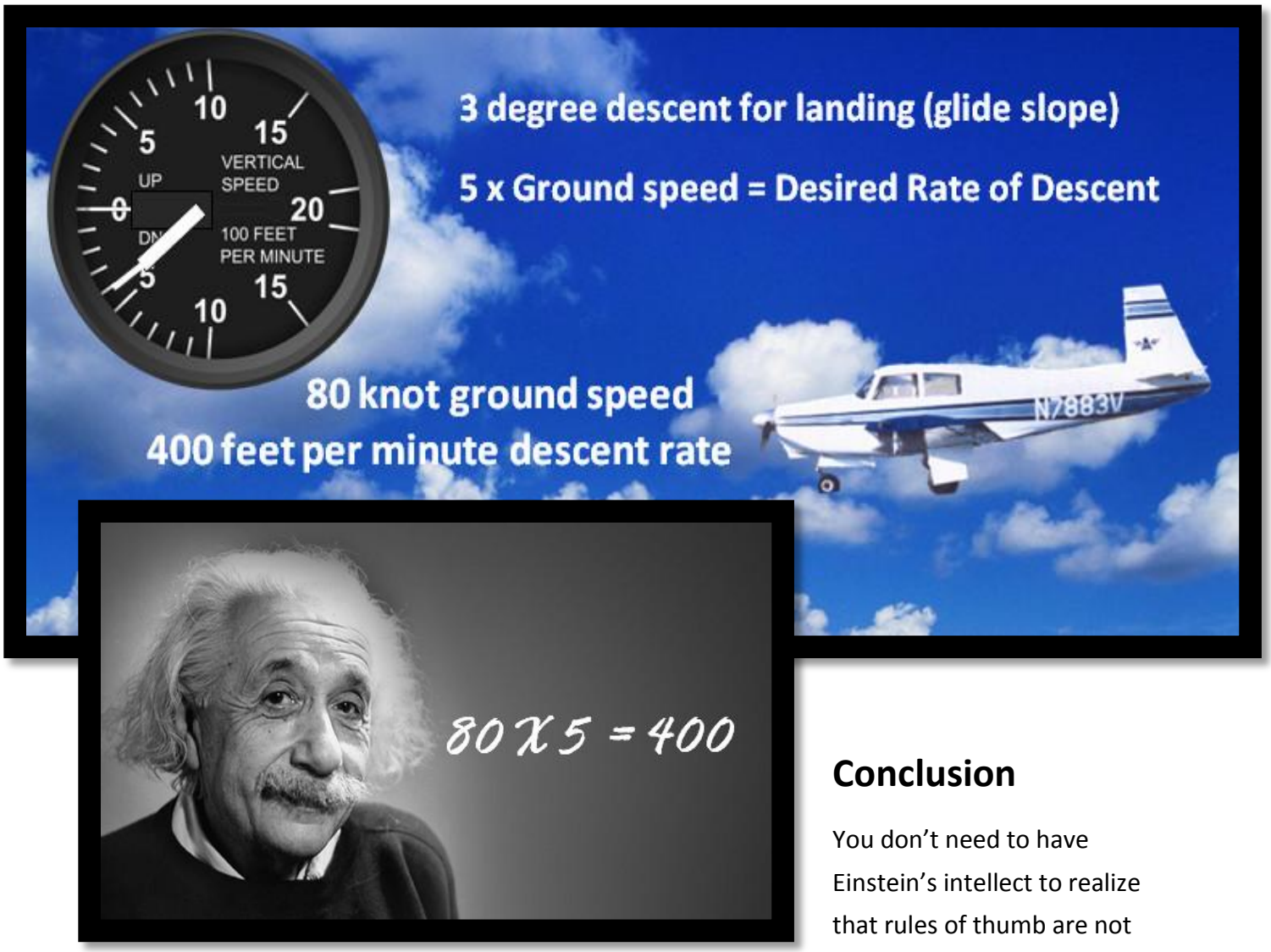
5) Descent Rate from Cruise Altitude to Pattern Altitude

You've started your descent at 30 miles (see #4). But, how do you know if you're descending towards the airport on a 3° glide path? Easy peasy! Simply multiply your ground speed by 5. For instance, if you are descending at a ground speed of 150 knots, for a 3° glide path, you should have a rate of descent of 750 FPM.



6) Approach Descent Rate

What a coincidence! It turns out that a comfortable descent angle for landing just happens to be 3 degrees. In fact, most ILS and VASI/PAPI glide slopes are set for a 3 degree glide slope.
Check your ground speed on final and multiply it by 5. This will give you a target feet per minute descent rate. For instance, if your ground speed is 80 knots, you should be descending at about 400 feet per minute.



Conclusion

You don't need to have Einstein's intellect to realize that rules of thumb are not meant to replace performance charts or good judgment. They can, however, help pilots understand the influences of different performance factors on their aircraft, and perhaps save a life or an ego. Whether helping you arrive at pattern altitude at just the right point, or preventing the continuation of a takeoff that could have gone awry, rules of thumb can be excellent additions to a pilot's mental flight bag.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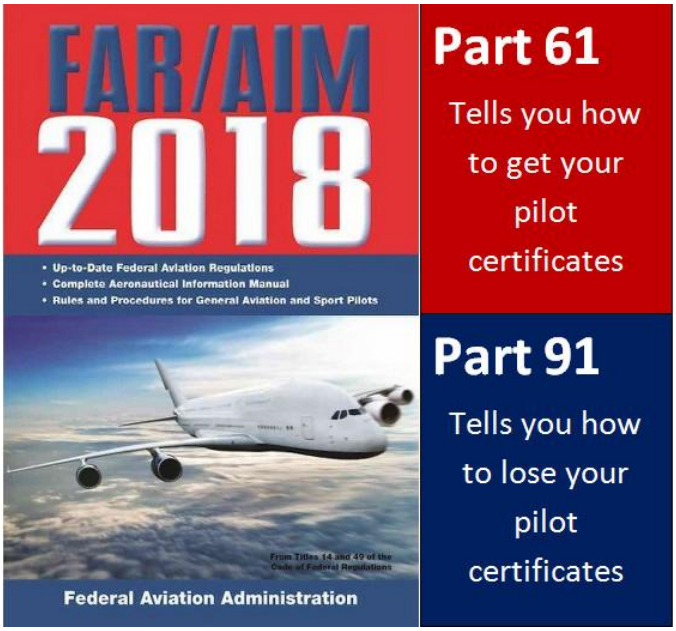


Part 61

Tells you how to get your pilot certificates

Part 91

Tells you how to lose your pilot certificates

MOONEY INTERNATIONAL CORPORATION **SERVICE BULLETIN**

Click **DL** to Download the Service Bulletin from Mooney.com Support

M22	M20	M20A	M20B	M20C	M20D
M20-314A 2012, 29 Feb DL **M20-313A** 2012, 29 Feb DL	**M20-318** 2014, June 2 DL **M20-314A** 2012, 29 Feb DL **M20-313A** 2012, 29 Feb DL	**M20-318** 2014, June 2 DL **M20-314A** 2012, 29 Feb DL **M20-313A** 2012, 29 Feb DL	**M20-318** 2014, June 2 DL **M20-314A** 2012, 29 Feb DL **M20-313A** 2012, 29 Feb DL	**M20-318** 2014, June 2 DL **M20-314A** 2012, 29 Feb DL **M20-313A** 2012, 29 Feb DL	**M20-318** 2014, June 2 DL **M20-314A** 2012, 29 Feb DL **M20-313A** 2012, 29 Feb DL

M20E	M20F	M20G	M20J	M20K	M20L
M20-318 2014, June 2 DL **M20-314A** 2012, 29 Feb DL **M20-313A** 2012, 29 Feb DL	**M20-318** 2014, June 2 DL **M20-314A** 2012, 29 Feb DL **M20-313A** 2012, 29 Feb DL	**M20-318** 2014, June 2 DL **M20-314A** 2012, 29 Feb DL **M20-313A** 2012, 29 Feb DL	**M20-325** 2016, Dec 14 DL **M20-318** 2014, June 2 DL **M20-314A** 2012, 29 Feb DL **M20-313A** 2012, 29 Feb DL	**M20-325** 2016, Dec 14 DL **M20-318** 2014, June 2 DL **M20-314A** 2012, 29 Feb DL **M20-313A** 2012, 29 Feb DL	**M20-325** 2016, Dec 14 DL **M20-318** 2014, June 2 DL **M20-314A** 2012, 29 Feb DL **M20-313A** 2012, 29 Feb DL

M20M	M20R	M20S	M20TN		
M20-324A 2017, May 26 DL **M20-325** 2016, Dec 14 DL **M20-321** 2016, Nov 1 DL	**M20-324A** 2017, May 26 DL **M20-327** 2017, Mar 22 DL **M20-326** 2017, Mar 6 DL	**M20-321** 2016, Nov 1 DL **M20-322** 2015, June 23 DL	**M20-324A** 2017, May 26 DL **M20-327** 2017, Mar 22 DL **M20-326** 2017, Mar 6 DL **M20-323** 2016, Mar 4 DL		

Send your questions for Tom to TheMooneyFlyer@gmail.com

Question: Tom, I own a 1974 M20F. I am doing my first annual and had a question about the shock discs. I was reading the July 2012 issue of The Mooney Flyer, and you mentioned:

3. When jacked, depending on the model, you are allowed a gap between the collar and top disc. Check your Service Manual for the gap allowed on your model. There is no gap allowed on the nose gear on any model.

In the Maintenance Manual, page 5-11 Paragraph 5-15 Step 1. Aircraft with full fuel load and weight on gear. Is there a Service Bulletin I am missing? Any advice would be helpful,

Answer: I can see when I answered an earlier question that my answer created another question. The F model owner is very correct that I created confusion. Let me restate how to deal with shock discs.

The service manual gives the technical definition of allowable wear limits in the form of allowable shock disc gap on the main gear of every model. This gap is measured with the aircraft fuel of fuel and on the ground. The allowable gap is different for different models. No allowable gap for the nose gear.

What the service manual doesn't do is give any information about the disc wear when the aircraft is on jacks with the gear extended. The purpose of the discs is to expand and fill the gap when the aircraft is off the ground, allowing some shock absorbing ability when landing. What I was trying to do is show that technically you are still allowed a gap when the plane is on jacks, because the service manual doesn't say otherwise.

When you jack the aircraft and the discs do not expand, you have then lost the absorbing ability of the discs. I have seen discs as hard as hockey pucks. The gear assembly then can be moved back and forth easily by hand. You can imagine the shock to the wing spar when landing. Besides measuring the gap during inspection, you must also inspect for condition of the discs, checking for cracks, deterioration, or hardness due to age.

Hope I did a better job this time.

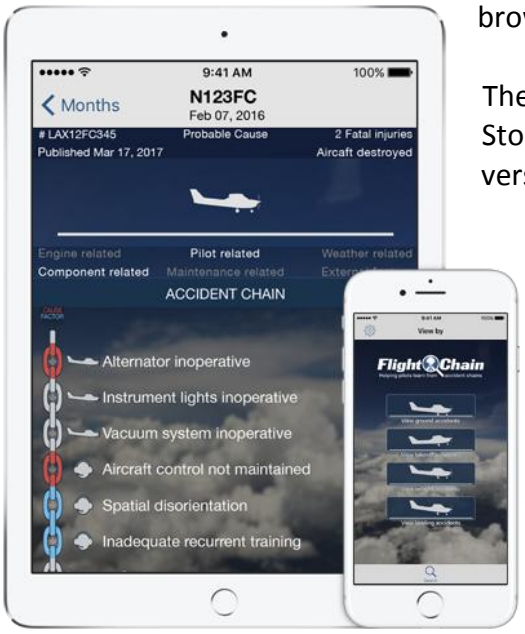
There is a big inventory of serviceable airframe parts, including wings for M20C, E, F, G, J, K & R models, empennage assemblies, fuselages, rebuilt controls, rudders, elevators, ailerons, flaps, cowls, engine mounts, landing gear and small parts.

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

New app helps pilots learn from accidents

The Flight Chain App has launched, designed to help pilots learn from the chain of circumstances in an accident.

Flight Chain App is an easier way to read NTSB aviation accident reports by letting pilots see the accident chain, developers note. In addition to viewing accident chains, pilots can search accidents, browse accident rulings, read the full reports, and more.



The app is available for the iPhone and iPad on the Apple App Store. The basic version of the app is $4.99, the Plus and Expert versions require a monthly subscription.

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MOONEY FOR '65

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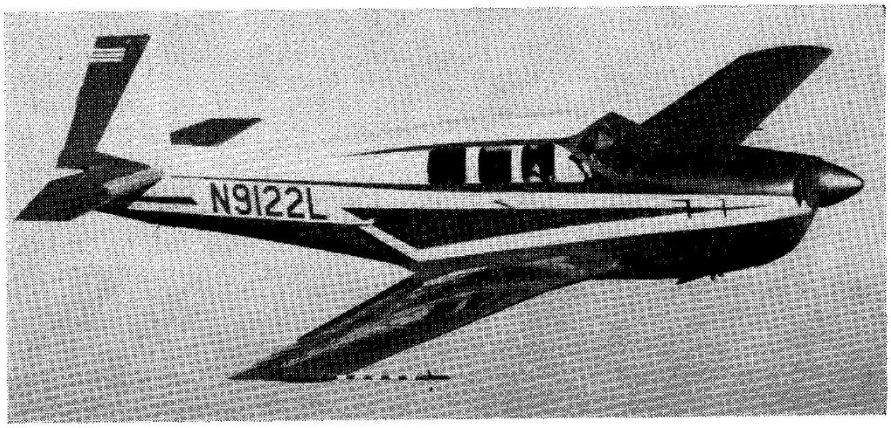

New Star in the Sky

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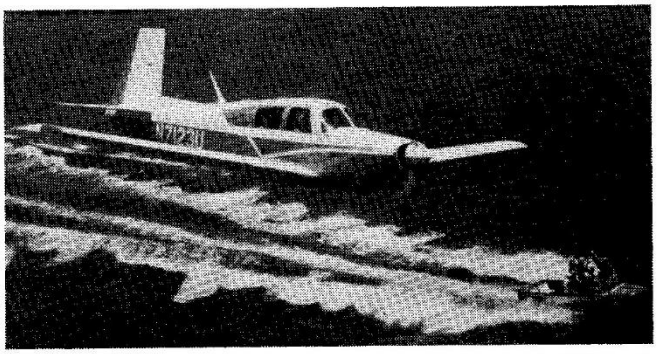

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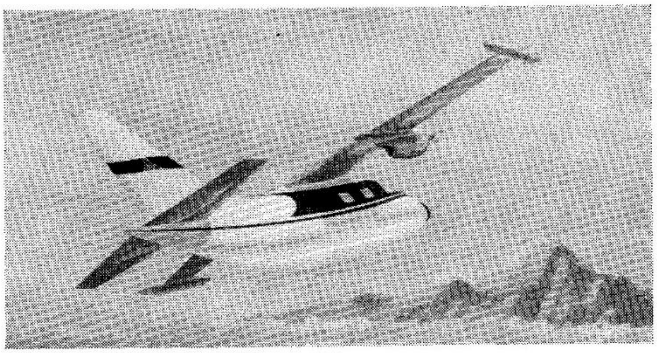

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FreeFlight Systems will provide its certified RANGR ADS-B receivers to Avidyne customers.

Avidyne will bundle an IFD system and a ADS-B Out-capable Mode S transponder with FreeFlight Systems RANGR-RX ADS-B receiver to offer a complete ADS-B solution.

The TSO-certified RANGR-RX provides pilots with ADS-B Flight Information Services Broadcast (FISB) and Traffic Information Services Broadcast (TISB) data on a number of preferred mobile EFB applications and installed multifunction displays like Avidyne's IFD550/540/440 product line.

IFD clients can purchase an AXP340 or AXP322 Mode S transponder with ADS-B Out and a RANGR--RX for ADS-B In at a bundled rate directly from Avidyne. The RANGR-RX ADS-B In product will be shipped and supported directly by FreeFlight Systems.

Missing DUATS? iFlightPlanner can Mitigate Your Loss (It's FREE)

The FAA discontinued the Direct User Access Terminal Service (DUATS) on May 16, 2018. For pilots in search of a DUATS replacement, an iFlightPlanner Free membership may fill the void.

All single-pilot iFlightPlanner memberships include web-based flight planning, digital aeronautical charts, hi-res weather imagery, certified weather briefs, and flight plan filing through Leidos Flight Service, as well as wireless sync functionality with iFlightPlanner for iPad — all at no cost, with zero obligation to upgrade.

iFlightPlanner features:

- Intuitively plan routes in the U.S.
- View hi-resolution weather graphics
- Retrieve certified weather briefs
- Calculate aircraft weight & balance
- File ICAO flight plans
- Fly with GPS moving map on your iPad
- View georeferenced airport diagrams and IAPs
- Connect to various ADS-B devices

- Close flight plans electronically
- Maintain a digital pilot logbook

iFlightPlanner Premium members enjoy enhanced features both online and in iFlightPlanner for iPad, with iFlightPlanner Premium Plus members having access to the complete set of georeferenced U.S. airport diagrams and instrument approach procedures on the iPad.

A list of all available memberships with their features can be found at **www.iFlightPlanner.com/Features**.
Pilots with questions about the iFlightPlanner Free membership or its technology transition from DUATS to Leidos Flight Service, can send a message via **www.iFlightPlanner.com/ContactUs**.

AC Air's Remote Control Tugs

Want to “One Up” your hangar neighbors? Chino, California-based AC Air Technology has devised a unique take on the tug with its line of remote-control tugs running on rubber tracks.

Watch the demonstration video here

CLICK HERE to visit AC Air’s web site

“MooneyShares” Aims to Lower the Cost of Airplane Ownership

The program seeks to match co-owners in new Mooney Ovation or Acclaim Ultra models.

Mooney International is testing the sharing-economy waters by teaming up with Partners in Aviation (PIA) to offer a program for new Mooney Acclaim and Ovation Ultras. The manufacturer says MooneyShares co-ownership brings together two pilots from the same geographic location to own and operate a Mooney, cutting acquisition and fixed costs in half. Operators with “low-to-medium utilization” (defined by Mooney as 200 hours or less flying per year) will benefit most from the model, the company says.

PIA has “meticulously crafted” the MooneyShares model to mitigate the risk, access and exit details that have plagued other shared-ownership models where buyers work out all the details between themselves.

Calling itself the match.com for business aviation, PIA starts by building a profile of the customer that defines their mission, location, budget and desired aircraft. The company then initiates a campaign to help find a co-owner.

The MooneyShares program is being structured to coordinate aircraft scheduling and maintenance and address tax, legal and insurance issues.

“Sharing an airplane has always made economic sense, but until now other risks interfered,” said Jeff Magnus, Sales Manager at Mooney. “We are definitely excited to offer customers this cost-effective option.”

For more information, visit Mooney.

Contact Dave at daveanruth@aol.com or (352) 343-3196, before coming to the restaurant, so we can have an accurate count

June 9: Sebring (KSEF)
July 14: Williston (X60)
August 11: Lake Wales (X07)

Mooney Caravan **July 21:** Mooney Arrival at AirVenture 2018
CLICK HERE for details and to register

Mooney Summit VI: **September 28-30**: Panama City, FL

MAPA HomeComing - October 10-14: Kerrville, TX

MAPA Safety Foundation
Mooney Pilot Proficiency Program

Sep 7-9: Manchester, NH KMHT
Oct 5-7: Owensboro, KY KOWB

GARMIN INREACH MINI

In this day and age, it seems foolish not to have some kind of personal locator technology in your Mooney with you for all flights. Yes, a 406 ELT will do the trick, but in the meantime, Garmin has announced a great portable alternative. It has the following key features:

- Small, rugged, lightweight satellite communicator enables two-way text messaging via 100% global Iridium® satellite network (satellite subscription required)
- Trigger an interactive SOS to the 24/7 search and rescue monitoring center (satellite subscription required)
- Access downloadable maps, U.S. NOAA charts, color aerial imagery and more by using the free Garmin Earthmate® app and compatible devices
- Optional inReach weather forecast service provides detailed updates directly to your inReach Mini or paired device. Basic and premium weather packages available
- Send and receive inReach messages through compatible Garmin devices, including connected wearables and handhelds
- Internal, rechargeable lithium battery provides up to 50 hours of battery life in 10-minute tracking mode

In an emergency GEOS handles your alert. GEOS is the world leader in emergency response solutions and monitoring. They've supported rescues in more than 140 countries.

You can pair the InReach Mini with your mobile device. For even more capability and convenience, the free Earthmate app syncs your inReach handheld via Bluetooth® wireless technology with your compatible Apple® or Android™ device so you can access unlimited maps, aerial imagery and U.S. NOAA charts. Plus, Earthmate allows you to conveniently use all of the inReach features on your paired mobile device. For easier messaging, you can also access your phone's contact list from the Earthmate app to connect with fewer keystrokes.

Lastly, The optional inReach weather forecast service provides detailed updates directly to your inReach Mini or compatible device paired with the Earthmate app, so you'll know what conditions to expect en route. Basic and premium weather packages are offered. And you can request weather forecasts for your current location or any other waypoint or destination on your itinerary.

CLICK HERE for details.


The Mooney Flyer
The Official Online Magazine
of the Mooney Community
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For the latest Mooney and Aviation News

1987 M20K FOR SALE

Specs are: 1987 M20K "252", 1445 TT Airframe and Engine; Location, Lakeport, CA; Complete Logs; Damage History, yes (in 1988, repaired by LASAR)
Avionics: KX165's Nav Coms;, KN64 DME; , KT76C Transponder; KFC150 Autopilot; KFC55A HSI; KR87 ADF; Apollo 2001 GPS; PMA 7000 audio panel; WX1000 Stormscope
Mooney Service Center maintained all its life. MAPA Best of Series Winner.
Price: $124,000/Offer
Call Paul & Shery Loewen at: 707 263-0462

Parts for Sale

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

Mooney Wing Tips for Sale

These Mooney Factory Wing Tips were originally purchased several years ago by a good friend for his Mooney. Unfortunately, his health deteriorated and he had to sell his aircraft and the wing tips were never installed. I obtained the Wing Tips prior to his death. I decided not to install them on my 1978 M20J (N201KR) and after 37 years of ownership and reaching the age of 87, I have recently sold my Mooney. They are in the original box along with the STC, parts list and installation instructions. My asking price is $1,750.00 however, I would consider a reasonable offer.
NOTE: After several years in storage the original box is not suitable for shipment.
Bernard Lee, 562-865-2547, leebern@msn.com

For Sale: 1978 M20J

Price Reduced to $120,000

1978 M20J N201TM
$120,000

Model M20J - 200HP FI Serial 24-0388
Lycoming IO-360-A3B6D

TTAF 4400
TTSMOH, SPOH, prop governor, “0” by Zephyr
New Hoses, oil cooler O/H, “0” magneto
Annual 2/18

Same owner 33 years, Mooney Service Center maintenance

AIRFRAME
No damage history. No corrosion. Always hangared.
Mooney brochure plane in 1978, panel “Those Incredible Moonies”
Electric Standby vacuum system & pump
Bladders, no leaks
Donuts, brakes, tires, good
New Plane Power Alternator
Concorde Battery
3 David Clarkes
Graphic engine monitor with fuel flow
Portable Oxygen, certified 2016
4 life vests
New seat belts and shoulder harness pilot/copilot
Electric gear & trim
Rosen visors
Grey leather interior & refurbished plastic

INSTRUMENTS
Garmin 430 WAAS
KNS 80 with second LOC/GS
Stratus ADS/B in, moving map, weather
IFR certified 3/16
KFC HSI
KFC 200 Flight director, coupled to Garmin 4300 3-axis, altitude hold
KY 197 COMM #2, flipflop
O/H electric DG 2016
BFG Stormscope
Davtron 811B clock, flight timer, stopwatch
4-Place Intercom + Music player
Electric Digital tach
JPI EGT CHT Fuel Flow

Contact: Claude “Sandy” Thomas
(770) 612-8221
mooney201@gmail.com

For Sale

Bendix/King KX-165 nav/com, 12V, with rack, $1600.
Electronics International SR8A4, 4 channel EGT/CHT, needs EGT probes, $200
Both working when removed from my M20J

Mark Leuzinger, SIAI260@gmail.com, 909-720-2702

DAILY HANGAR

Are you a pilot who is looking for a hangar to rent when you travel? Are you a hangar owner that has extra space and would like to turn that space into extra cash by renting your hangar? DailyHangar.com is a new website that connects transient pilots with hangars for their planes. The website offers an innovative way to connect transient pilots who would like a place to hangar their plane for any period of time with hangar owners who have space to rent. The website is also an excellent way for FBO's and corporate hangar owners to get the word out to more pilots about the space they have available and manage their rentals in one convenient location. DailyHangar.com encourages hangar hosts to sign up and provide options for traveling pilots. Protecting aircraft from weather is necessary for all sizes and types of planes.

"DailyHangar.com offers hangar owners the opportunity to make money renting out their under utilized hangar space, and pilots the opportunity to efficiently book a hangar space to protect their plane from the elements," said Mark Euwema, co-founder of Daily Hangar and a pilot in general aviation for the past 40 years. "DailyHangar.com offers the FBO's and corporate hangar owners a easy way to make their openings known to a broader community of pilots. It's a win-win for both parties."

Designed for the traveling pilot and the busy hangar owner, the website allows pilots, while traveling cross country, to find a hangar that has been posted on the website and book that hangar for the period of time they would need it, according to Euwema. "All you need is a destination and Daily Hangar will give you available options of hangars in your area."

Once the pilot has chosen a destination several hangar options will populate as a place to hangar your plane for your stay. Pilots need only to filter through the options for size, dates of stay and amenities at the hangar to find the price and the perfect location for their plane.

If you are a hangar owner with some space to spare, there is not a cost to list your hangar on the site. Hangar sizes, specifications and amenities are put in by the hangar owners.

There are no upfront or membership fees for the pilot or the hangar owner, there is only a service fee once the hangar is booked.

"I want to change the mindset of the traveling pilot. There are more options than the outside tie downs. I believe there is a lot of underutilized hangar space at airports across the nation and DailyHangar.com is the solution that can connect both the hangar owner and pilot," said Euwema.

Study any time at http://jdpricecfi.com/