

# ***The Mooney Flyer***

The Official Online Magazine for the Mooney Community

[www.TheMooneyFlyer.com](http://www.TheMooneyFlyer.com)

June 2015



# The Mooney Flyer

## Last Call for The Mooney Flyer Summit

The Official Online Magazine for the Mooney Community

### June 12-14, 2015 at Paso Robles, CA

What could be better than Paso Robles in mid June! The weather is clear and cool and there are no crowds. It's a great time to attend the Mooney Flyer Summit, June 12 through 14, sponsored by [The Mooney Flyer](#).



Mooney International will be participating with people, products, and the keynote speaker

Plan to arrive on Friday for a [Mooney Flyer Wine Tour](#) on Friday afternoon. Your host will take you on a special wine tasting at 2-3 wineries. Even if you are not interested in wine tasting, you'll find the wineries and the scenery to be breathtaking. This will be a lovely afternoon. Friday evening, there will be a [Reception at the Estrella Warbird Museum](#), with finger food and drinks as well as a chance to mingle with our keynote speaker, seminar speakers, and sponsors from Mooney, LASAR, Top Gun and Mountain West Aviation.

Mooney will kick off Saturday morning with a Keynote Address. This will be followed by two [Seminar Tracks](#). **The Mooney Owners and Pilots track** will

include topics such as maintenance, modifications, flying/takeoff/landing/stalling Mooney techniques, as well as a personalized session at your airplane. **The Non-Pilot track** will include topics such as Quick Companion Flying and Mooney Destinations.

**There will be a huge lunch with a lunchtime presentation from the Commander of the USN Pacific Strike Force.** After lunch, we plan to have 2 choices for attendees: Seminars for Owners & Pilots, and a trip to downtown Paso Robles. **Saturday night will be capped off with a dinner at a local winery!** Sunday will have 2 ways to have fun. There will be a [Brunch at Hunter Ranch](#) and the [Birds of a Feather Sessions](#). These roundtable sessions will be led by the attendees and driven by the attendees' interests.

Register Online before June 8

\$100 for Pilot  
\$50 per Passenger

#### Fun Fun Fun!

Wine Tour  
Reception Food  
Mooney Bonfire  
Hearst Castle  
Warbird Museum  
Brunch  
"Birds of a Feather"

The Mooney Summit will conclude Sunday, June 14th at 11:00 am.

[CLICK HERE](#) to Register for The Mooney Flyer Summit

You can pay by [CLICKING HERE](#)



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Jim Price

#### Contributing Writers

Bruce Jaeger  
Bob Kromer  
Tom Rouch  
Paul Loewen  
Geoff Lee  
Linda Corman  
Cliff Biggs  
Mike Elliott

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#### [Crosswind Landings via Mooney](#)

Editor Phil Corman talks specifics in crosswind landings by Mooney

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## The Mooney Flyer Summit UPDATE



### **LAST CALL - There is Still Time to Register and Attend our first Mooney Flyer Summit**

We received more good news this month. [Mooney International](#) will be sponsoring our Saturday lunch at the Estrella Warbird Museum. So, the \$100 hamburger just became FREE. A HUGE THANK YOU to Mooney International for their generosity. Additionally, please don't forget that the [Estrella Warbird Museum](#) will also give all Mooney Flyer Summit attendees FREE access to the Museum.

**Pre-Registration at the \$100/pilot and \$50/passenger rate ends on June 8<sup>th</sup>.** Based on the seminars and wine tours, museum, and reception party, wine dinner, plus more that you can imagine, this is a great value.

**Speakers** include Jerry Chen & Tom Bowen of Mooney International. Mooney Master CFII Don Kaye, Mooney Guru Kelly McMullen, "Flying for Business" by Kevin Smith, Captain Dave Koss of the US Navy Pacific Strike Wing, and MSC Legends Paul Loewen, Tom Rouch, Mark Rouch, and Don Maxwell. Mooney Engineer Damon Trimble, plus Jan Maxwell and Paul Beck. And of course your Mooney Flyers Jim Price and Phil Corman will be there too.

**Seminars** on ADS-B, Flying Your Mooney Roundtable, Maintenance Issues for Vintage Mooneys, MSC Panel on Mods & Maintenance, Demythifying AoA & Mooney Stalls, Flying Companion Seminar, Mooney Destinations, Single Pilot IFR in Mooneys, and more... [CLICK HERE](#) for details

**The best hotel deals** can be found on [www.Booking.com](http://www.Booking.com). Hotels downtown are only 10 minutes away.

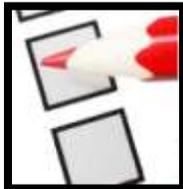
**Don't want to rent a car?** Then sign up at Uber (an internet-based taxi service). Then, download the app to your iPhone or Android phone. No sign up fee.. No monthly fee... and Uber will give you a \$30 CREDIT to start. So your transportation for The Summit might be close to nothing.

Please [CLICK HERE](#) to register for The Mooney Flyer Summit



Last month's poll asked, "Tell us About Your Certificates, Ratings, and Endorsements?"

One of five Mooney pilots have an Instrument Rating. We thought that seemed low given that the vast majority of our Mooneys are complex and/or high performance, a likely IFR platform. 7% have an Airline Certificate. Good stuff.



**Next month's poll:** What is your idea of a proper Mooney Pre-Buy?"

[CLICK HERE](#) to vote.



### Appraise Your Mooney's Value

Don't forget about our cool new **Appraise your Mooney's Value** using Jimmy Garrison's valuation. Jimmy is from All American Aircraft,

the country's largest Mooney reseller. We have implemented the models for M20C, M20E, M20G, M20F & M20J. Click on your model to simply complete the valuation. You no longer need paper and pencil. Just another benefit to our subscribers.

[M20C](#) [M20E](#) [M20G](#) [M20F](#) [M20J](#)

Pilots are people who drive airplanes for other people who can't fly. Passengers are people who say they fly, but really just ride.



SAVE THE DATE

**Lake Aero Styling & Repair (LASAR)**



Celebrating 40 Years  
1975-2015

**Sunday, August 23 ..... noon to 3 p.m.**

Join us for a BBQ lunch & celebration



40 years at Lampson Field, Lakeport (102)  
900 F Sky Park Rd., Lakeport

707 263-0412                      [www.lasar.com](http://www.lasar.com)

RSVP by August 7: [accounts@lasar.com](mailto:accounts@lasar.com) or call us!

\*\*\*\*\*

Future Lake County events: Clear Lake Splash In, Sept. 25-27  
"Oldest and Largest" Sea Plane Fly In West of the Mississippi  
[www.clearlakesplashin.com](http://www.clearlakesplashin.com)

Flying is a hard way to earn an easy living.

## Mooney M20J 201

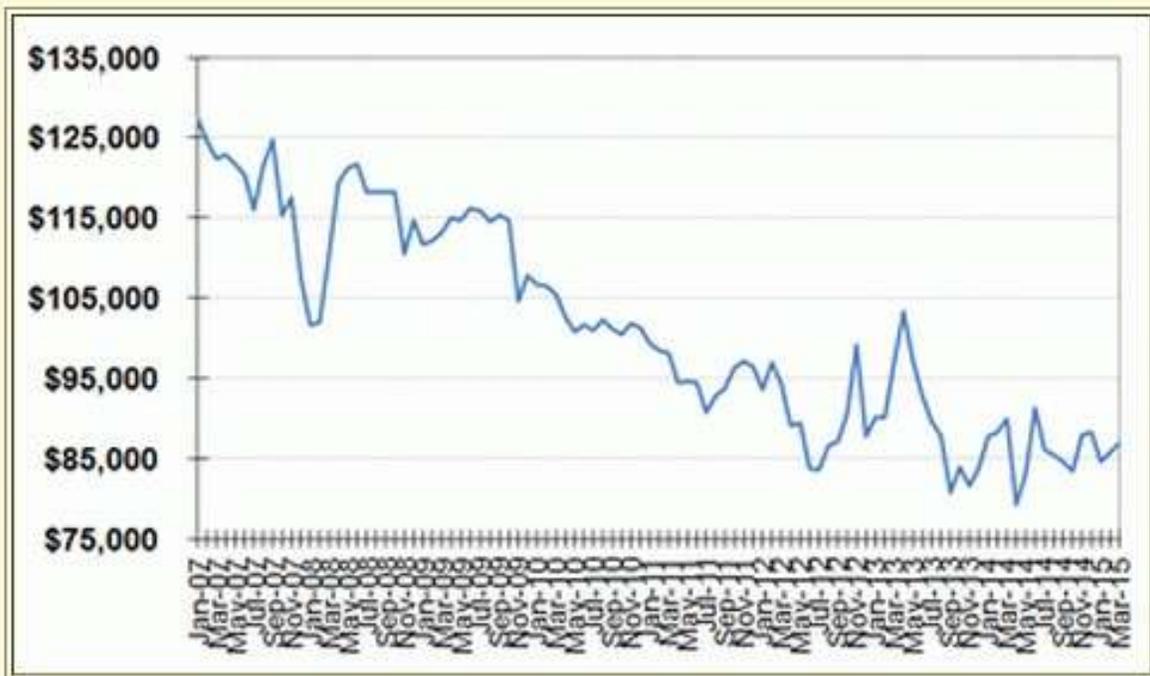
Single Engine



Years Manufactured: 1977 to 1989

Number of Pre-Owned Aircraft For Sale: 9 ([Click to View](#))  
High Asking Price: \$102,500 (1988 / 3,420 hrs)  
Low Asking Price: \$74,000 (1977 / 3,725 hrs)  
Average Asking Price: \$87,000

### 5-Year Average Asking Price Trend



You have to make up your mind about growing up and becoming a pilot. You can't do both.



Mark Farbaugh sent this picture to us. We are arguing whether his Mooney or the background is prettier! Your call... we cannot decide. Editor Note: Mark is bringing his son CJ to The Mooney Flyer Event, who is getting an Aerospace degree from Cal Poly. He is bringing his professor as well. CJ will also be an intern at Mooney International in Chino this summer! Life is good!

I simply do not understand how you two guys (Jim & Phil) can publish this amazing monthly magazine, and now are putting on what appears to be an “amazing” Mooney exposition next month. Thank you for all you guys are doing for us Mooney people.  
**Mary J**  
**Editors Note:** <<blushing>>



RE: **Did You Ever Wonder Why?** – I read Cliff Bigg’s article with great interest. I thought his points on “no horizon” departures were dead on. Intellectually, I think all of us Mooney pilots are aware of this situation, but his article reminded me to mentally prepare to encounter this situation on departure when I might lose the horizon.  
**Tom G**

RE: **The Genius of the Mooney Gear System** – I love Paul Loewen’s articles. I am not very mechanically inclined, but his articles are very understandable and give me a much greater understanding of my Mooney; in this case the Landing Gear. I can’t believe how well they have been engineered. Are there any other GA landing gear designed as well?  
**Bob W**



## Crosswind Landings in Mooneys

Everything in a Mooney requires more pilot skill than your garden variety Cessna or Piper, or at least it seems so. Landing in stiff crosswinds in Mooneys really



requires the very same skills, just with a little more precision. The main reason that this is true is due to the long wing span and laminar engineering. What exactly does the “Demonstrated Crosswind Component” mean in your vintage owner’s manual or more modern POH? Just how much of a crosswind can your Mooney handle? Flaps? Partial Flaps? No Flaps?

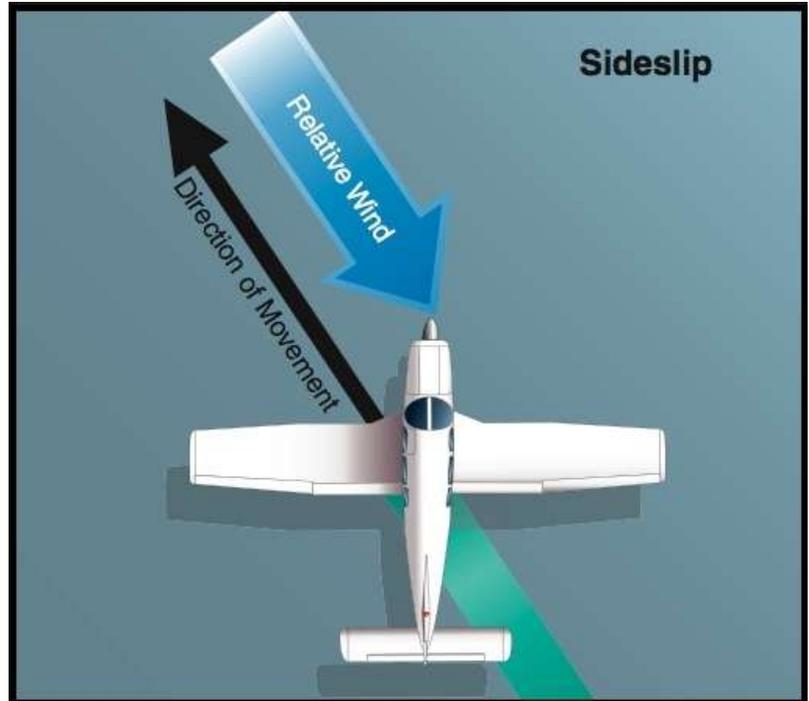
First, let’s clear the decks on crosswinds. Not all crosswinds are created equal. The demonstrated crosswind component is just that. The Mooney test pilot confirmed that your Mooney could, in fact, land at that crosswind component. If a crosswind is steady, not gusting, this will generally be the easiest to handle. If the crosswind has a gust component, then your landing has 2 factors to deal with, crosswind & gust. If the crosswind is variable direction, this complicates things a little. Our point is that not all crosswinds can be handled with one magic wand.

Remember, it’s crosswind component and not crosswind. A good rule of thumb, when listening to AWOS or ATIS to determine the crosswind component is: If the crosswind is  $30^\circ$  off the runway, then your crosswind component is  $1/2$ . If the wind is  $45^\circ$  off the runway, then your crosswind component is 70%, and if it is  $60^\circ$ , then your crosswind component is 86%.

### Crosswind Methods

There are 2 ways to approach a crosswind landing in your Mooney. The first is a “Cross-controlled side slip” and the other is “Crab & Kick”. There is actually a third method which is a combination of the previous two techniques. We’ll cover all three. Before we get into the art of each one, it is really important to not fight the Mooney in either technique. Remember that you are in slow flight near minimal controlled airspeed. Have a nice light grip on the yoke and the throttle. This is not the phase of flight to make gross control adjustments.

The **Cross-Controlled Side Slip** demands that you lower the upwind wing with aileron and apply as much rudder as necessary to remain on the extended runway centerline on final. Sometimes, in a lighter crosswind, you don't actually get cross-controlled. Just remember to add only enough rudder to remain on the extended centerline. You are low and slow, as well as cross-controlled, so don't overdo it and stall a wing. The advantage of this technique is clear. If you can maintain the extended centerline during final and into the flare, then your Mooney has enough control to handle the crosswind. This could prove to be untrue if you are near the limit of your Mooney and get a gust which instantaneously pushes you past the limit.



The **Crab & Kick method** is simply this. Once established on final, simply turn your Mooney into a coordinated turn into the crosswind so that you remain on the extended centerline. As you flare, you switch over to a side slip by kicking the rudder and dropping the crosswind wing. No matter how good you are, you'll probably drift a little while kicking.

A blending of the above two methods goes like this. You enter a crab on final, but well before you flare, you gradually shift to a side slip. This way you avoid the last second kicking action and reduce the chance of putting a side load on that Mooney gear. The best method is the one that works for you and in which you are most proficient and comfortable. How do you get there?

Practice... Practice... Practice! Let's face it. Unless you only fly on calm days at your departure airport and your destination airport, you are going to face crosswinds. How do you get comfortable and proficient? Go out and practice. Grab a Mooney instructor. You can't screw up and you'll quickly learn not to over control your Mooney. Think small, timely and surgical use of your yoke and rudder. When have you practiced enough? Well, ultimately that is up to you, but when you are light on the controls, not sweating, and actually enjoying the skills you've developed, then you have reached proficiency.

The use of flaps when landing is very controversial in the Mooney community. The prevailing logic is to use no flaps. This, of course, will warrant a higher approach speed since your  $V_s$  will be higher. You'll need more runway. With no flaps and higher airspeed, you'll have more control in the flare. Remember this fact, the initial/partial setting of your flaps increases lift. As you deploy more flaps, the increased drag becomes more dominant.

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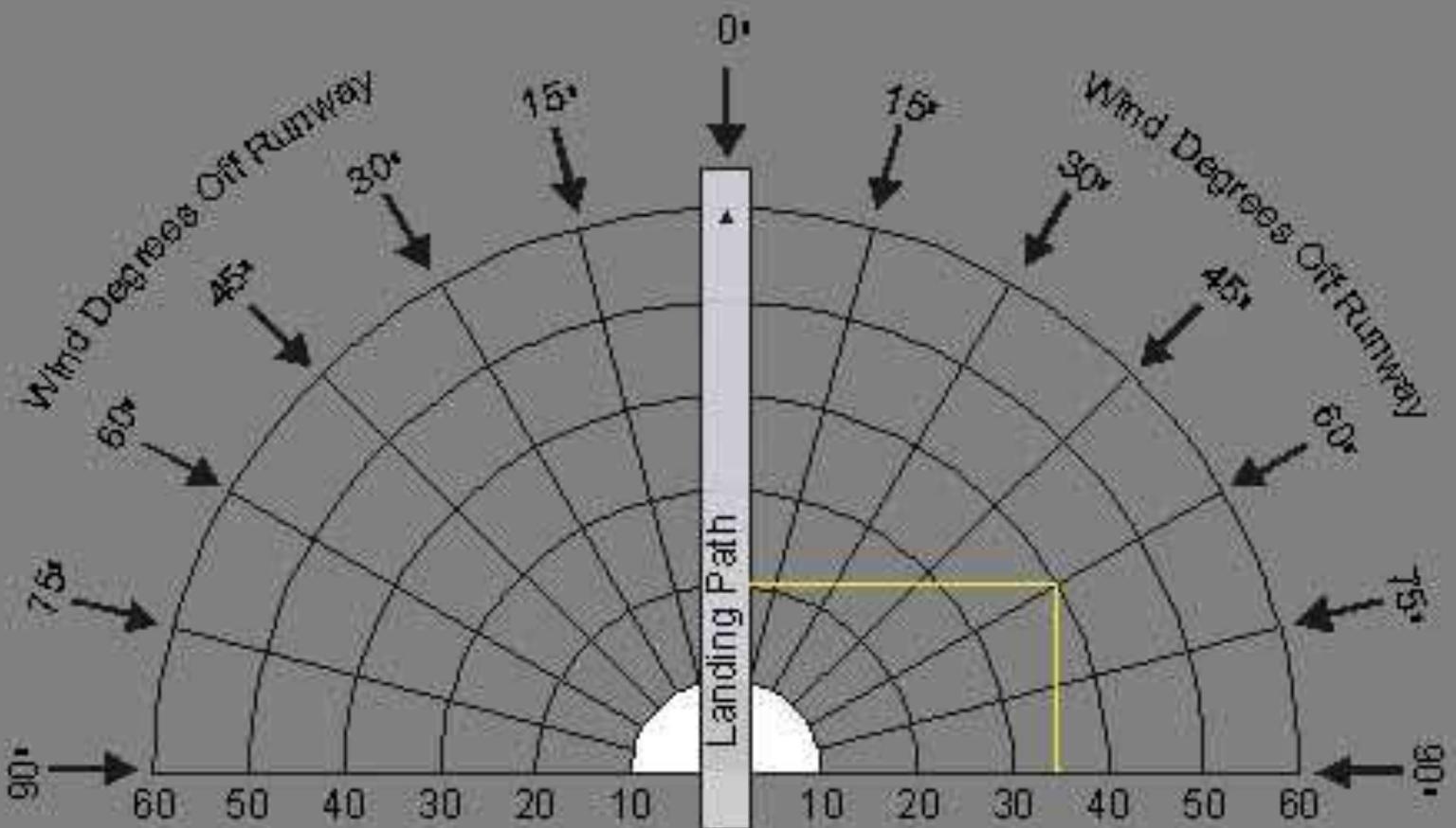


Our position is slightly different. Just as no two crosswinds are the same, we don't think "no flaps" is always the answer. Partial flaps may make sense. How do you know? Go out and practice in one session with the crosswinds as consistent as possible and try no flaps, and then partial flaps. How much control do you have with each? Which worked better? Then remember that a different crosswind scenario will probably require a different flap approach. Few things in aviation are black and white. This skill requires you to adapt to the specific situation.

Some Mooney pilots immediately retract the flaps as they touch down in a crosswind to reduce the lift component and remain firmly on the runway. Some Mooney owners deploy their Speed Brakes in an attempt to remain planted on the runway. Our concern with this is simple. If you do either of these, just make sure, in the heat of the moment, that you do NOT hit the Gear Switch. This has happened before and can happen again.

**Airspeed**

Crosswinds and Gusts require you to consider adding airspeed to your final approach speed. We all know the rule of thumb for landing in gust winds. Simply add 1/2 of the gust factor, not the gust speed, to your approach speed. If the winds are 15G25, then add 1/2 of 10knots to your approach speed or 5 knots. Also remember that your approach speed is reduced based on your Mooney's total weight on the approach. Unless you went on an amazing diet after takeoff, the only weight that should change is the fuel you've burned during the flight. Refer to your POH for this, but a simple rule of thumb is 5 knots per each 300 lbs under gross weight. The same goes for a crosswind landing, you should carry a little extra airspeed into the flare to give you more longitudinal control.

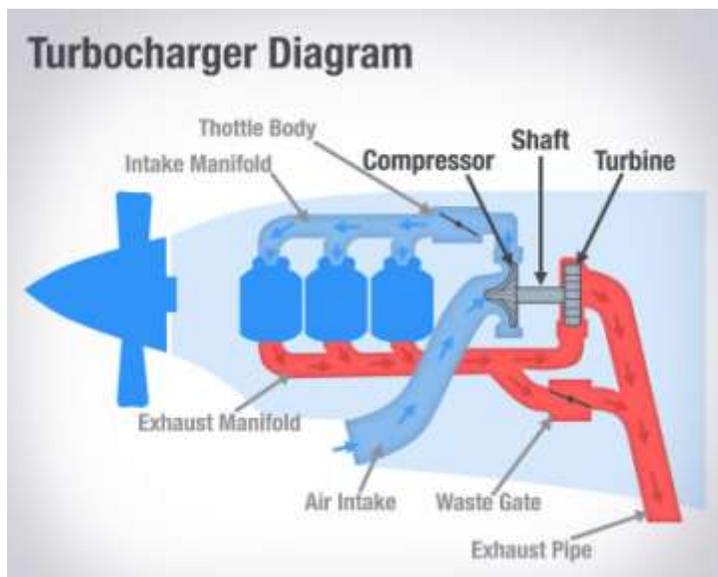




## Turbo Transition

Geoff. CFI

An aircraft classified as “high performance” is equipped with an engine rated above 200 HP. According to FAR 61.31(f), pilots desiring to operate a high performance aircraft, are required to have an authorized and qualified CFI endorse his/her log book. This endorsement should state that the pilot has received ground and flight training in the aircraft and can proficiently operate it. Mooneys have flaps, retractable landing gear and a controllable pitch propeller, all of which places them in the “complex” category, requiring a logbook endorsement. If you add 5% more horsepower to the 200 HP plane, the pilot must take a little more training. Additionally, most insurance companies require that a pilot that is new to the Mooney, be accompanied by a qualified CFI for a minimum of 10 flight hours. It can take 7-10 hours for an average pilot to complete a ‘high performance’ checkout and familiarize himself with the idiosyncrasies of the craft and the concerns relative to high altitude flight. Of course, the amount of time depends upon the experience and or skill of the pilot.



To me, it seems ‘out of character’ that the FAA has yet to comment, relative to ‘high performance’, when an aftermarket STC’d turbocharger is added to a 200 HP Mooney. This addition can readily project that aircraft well into the oxygen required levels of flight. (*I am not lobbying for their commentary*). A turbo charged engine will pull the airframe somewhat faster than the identical engine without the turbo, under the same conditions. The turbo charged aircraft benefits primarily in climb capability and faster cruise speeds. It’s faster because it’s cruising at higher altitudes, in thinner air, with *less drag*.

Compared to a non- turbo charged aircraft, aftermarket turbochargers generally provide a ‘turbo normalized’ output from the engine. This means that they allow the engine to achieve its sea level Manifold Pressure (MP), or horsepower (HP), up to higher altitudes. There is a ‘critical altitude’ at which the turbo boosted manifold pressure (power) will commence to decrease. One should understand that just because the MP remains at the ground level value, as altitude is gained, the engine is not necessarily developing full rated HP. The engine manufacturer’s manual contains charts depicting the actual decrease per 1,000 feet of gained altitude.

A ‘ground boosted’ turbocharger system, usually incorporated in the engine by the manufacturer, directly increases the overall power output of the engine. I shall not enter the discussion of Static and Dynamic compression ratios except to say that **boosting MP lowers the static compression ratio** of the engine. The dynamic compression ratio of the engine is fixed and does not change. These engines place the “T” prefix on the engine designation. For example, TSIO-360 or TIO- 360. Continental uses a “TS” while Lycoming adds a “T”. I believe that the “S” prefix in the Continental designation aspires to

“supercharging”. This has traditionally been a blower that’s driven by the crankshaft, rather than normally wasted exhaust gases. It is a less efficient method of boosting manifold pressure, since it uses some of the engine’s horsepower. A ground boosted system usually delivers 40 – 45 inches, which is considerably higher than the 30 inches provided by normalized turbo systems.



A turbocharger is simply a rotary air compressor driven by exhaust gasses. It delivers compressed air to the induction system. Also, manifold pressure developed by one is higher than the other. The new Mooney Acclaim is factory turbo normalized.

The ‘high performance’ endorsement, required in order for a pilot to operate an aircraft with 200 HP or more, presents the CFI with some instructional challenges. That’s because he or she is providing instruction to pilots who are not accustomed to airspeeds and altitudes that can be well above 150 KTS and 12,000 feet. Hence, the instructor should have experience with “high

altitude” flying. A pilot who previously operated an aircraft flying at 2 NM per minute, must now consider the **time factor** involved while planning journeys at 3 – 3.5 NM per minute and at altitudes at and above 18,000’ MSL. Usually, the new High Performance endorsement pilots are “behind the aircraft” and are unfamiliar with managing the high performance engine. The pilot’s capacity to “multitask”, that is to *physically and mentally deal with more than two things simultaneously*, becomes a factor that the CFI must consider.

Distance is ever important in the ground planning stage, but once airborne, **time** takes on a much larger role. That’s because the pilot has to consider items such as:

- How much time will I need to descend at a reasonable rate from 15,000’ MSL to an airport at 300’ MSL?
- What is the best rate of descent?
- What do I need to consider regarding engine management items, such as the engine cooling rate?

Many of the GPS mapping programs that are currently available, provide some form of **descent to destination profile**, relative to the aircraft’s ground speed at any given time. It is useful to acquaint oneself with that feature on an iPad application or an “in panel” GPS. For instance, *WingX* constantly displays the vertical speed required to descend from the present altitude to the planned destination. It automatically readjusts the descent rate relative to any speed changes.

On a high altitude route, plan the probable geographic location from which the descent to destination could be initiated at a reasonable descent rate, or wait until you reach a point where the descent rate displayed on a GPS screen will give you something less than a terminal velocity dive to the runway. Again, **time is an issue** here, **not distance**. Relying on the en route controller to call your descent does not always work out. When I fly with pilots who have beautiful MFDs or a modern GPS installed in the panel, I am surprised that they always seem to have distance displayed, but not the **time to fix or destination**.



The high flying pilot must thoroughly understand the use of the aircraft oxygen system and their personal symptoms to oxygen deprivation. For *me*, I get a headache. [Cannulas are only approved for use up to cabin altitudes of 18,000 feet](#). The reason for this

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restriction is that above 18,000 feet, there's too great a risk that blood oxygen saturation will drop to dangerous levels if the pilot breathes through his mouth — or talks too much.

Oxygen deprivation affects each person differently. Also, personal needs vary. For instance, instead of using a cannula, my wife wears an oxygen mask when at and above 9,000 feet MSL.

An inexpensive pulse oximeter is a valuable tool to measure the level of oxygen in the blood stream. However, the user must also know the safe levels of oxygen/blood saturation relative to their own physiology.



The non-instrument rated pilot needs to understand and plan around weather very carefully. At the higher altitudes he or she can be caught in an opaque world between cloud layers, where the horizon is indistinct or not visible. Sloping cloud layers can propagate dis-orientation or vertigo. Having the windows completely ice over on the inside due to frozen moisture from one's breathing can be a disconcerting event. At altitudes above 20,000' MSL, the environment becomes hostile. The Effective Performance Time, or EPT is the time from which you lost significant oxygen to the time when you are no longer able to perform tasks in a safe and efficient manner. For instance, from 15,000 to 18,000, the EPT is 30 minutes. At 22,000 feet, it's 5 – 10 minutes and at 23,000 feet, the EPT is a mere 3 – 5 minutes.

The lightly loaded wing of a single engine aircraft generates a handling feel that is quite different at high altitudes. The controls have a much lighter feel than they do in the denser air of the lower altitudes. At the higher altitudes, one gets the impression that they are balancing carefully on the edge of a knife. Colder climates require checking the freezing levels carefully. This is a must. Cabin temperatures can be a threatening issue if the heater is marginal.

*I was ferrying a Mooney above some ugly weather while crossing the Wasatch range, when the door opened in vigorous turbulence at 20,000 feet MSL. After a somewhat harrowing rapid descent, when I landed at Ogden, it took a while to once again feel my hands, feet and nose. This event sucked my Jepps from the right seat and out the door, so I was navigating with just LORAN and VOR.*

A good autopilot can be a lifesaver, but having the skills necessary to hand fly the aircraft while referencing only the panel instruments, is very important. Of course operating above 18,000 feet MSL, pilots are required to be instrument rated. The knowledge of how to configure the aircraft for the most expeditious descent in the event of an emergency is important. The capability to climb above a cloud layer is great, but if you're above the freezing level, getting back down through a wet, bumpy cloud can excessively stimulate your heart.

The foregoing is a very light touch, regarding considerations when buying a turbo charged aircraft, acquiring the high performance endorsement, and operating in the realm of high flight. Any flight has a modicum of risk, but when **we fly faster and higher, the list of possible risks increases. Work as hard as possible to minimize those risks.**

After 7 to 10 hours of flight and 2-3 hours of ground work, it is possible to familiarize a pilot with the operation of a complex, high performance aircraft. It is minimally possible to re-order a pilots' mindset toward **risk taking** in that time frame, particularly if they have been flying for several years. This is always a concern for the CFI.

There are many cleverly thought out acronyms in aviation these days. IMSAFE, the personal condition checklist is useful. *My own issue with acronyms is that first, I must remember the appropriate acronym, and then recall what each letter therein represents.*

Both optimists and pessimists contribute to society.  
The optimist invents the airplane.  
The pessimist, the parachute.

Minimally, **before becoming airborne, consider your mental and physical condition.** A fatigued or mentally distracted pilot is a **major risk factor.** **Check your aircraft, the route and the weather.** Carefully consider any **abnormal risks** and then make the decision to fly or not to fly. A poor outcome often begins with a poor or no planning decision. If there are too many concerns, a *'no go'* decision is the ultimate risk remover.



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# *I Smell a Lawsuit*



## ***The Accident Flight***

On March 28, 2013, a 1960 Mooney M20A, N6018X, departed Sedona, Arizona (KSEZ), on a flight to their home airport, Shafter, California (KMIT), near Bakersfield.

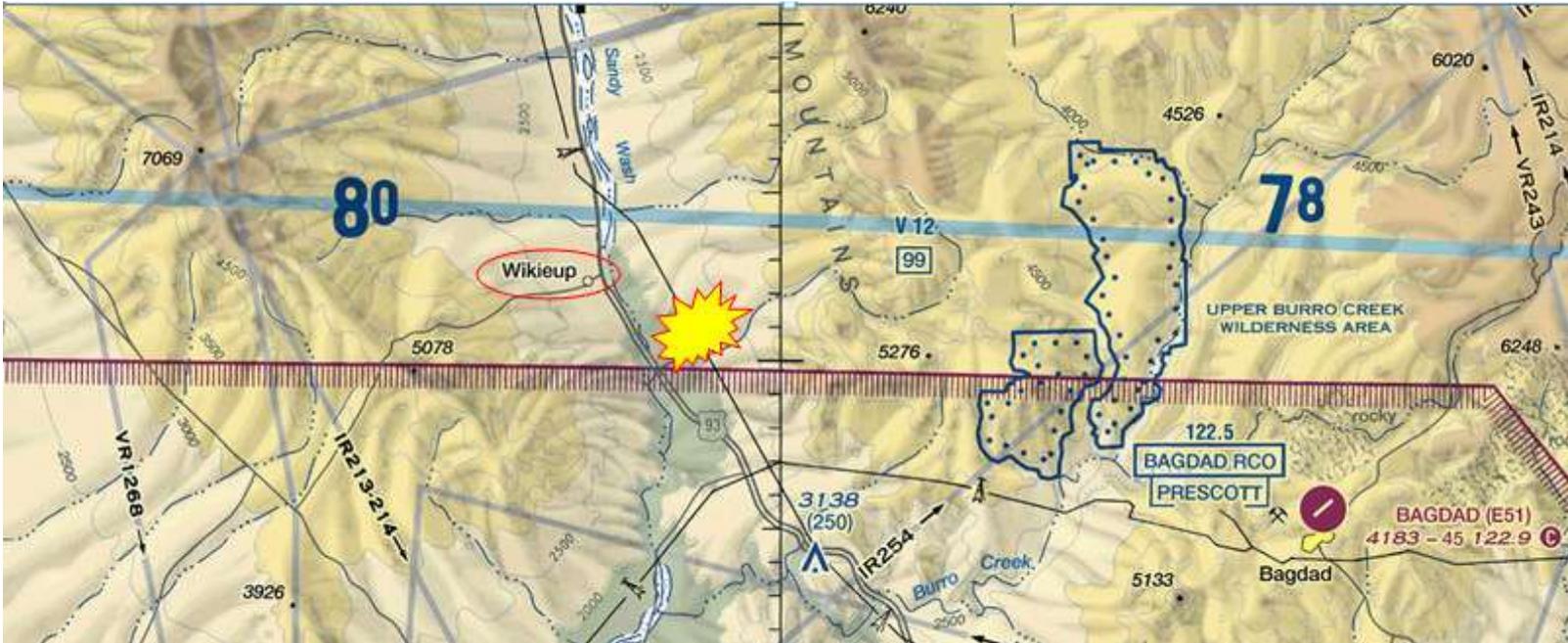
At 1028:07, about 15 miles west of Sedona at 8,600 feet MSL, the pilot requested flight following from Albuquerque Center.

At 1106:01, the pilot informed the controller that the engine had lost oil pressure, and he needed vectors to the closest airport – Bagdad (E51) – 20 miles away.

At 1109:30, the pilot advised that the airplane was losing altitude. The controller contacted another airplane in the area at 1111:16, and asked that pilot if he could help.

At 1115:56, the M20A pilot stated that the engine was running rough. Less than a minute later, he reported that there was smoke in the cockpit, and he was shutting the engine off. The controller advised the pilot to look for an open field, clean the airplane up, and shut the fuel off. The pilot said that he could see an open area.

At about 1119 mountain standard time, the pilot made an off airport forced landing in rough terrain 3miles South East of Wikieup (Wick-ee-up), Arizona.



The pilot and his wife were pinned in the front seat. In the back seat, their 16 year old son, although injured, was able to egress from the airplane and find help. The wife’s injuries were fatal. The pilot had about 160 hours and had a current medical and flight review. According to FlightAware, the pilot first registered the aircraft in March, 2011. The annual inspection was performed six months prior to the accident. The oil was changed on February 1<sup>st</sup>, 2013 - 10 hours prior to the accident. The airplane was not equipped with shoulder harnesses, but according to FAR 91.107, if the aircraft was manufactured prior to July, 1978, shoulder straps need not be installed and worn. The pilot chose to land with the gear extended.



## Findings

The propeller was removed and a non-Lycoming manufactured shim was located between the face of the propeller hub and the crankshaft propeller flange that varied in thickness. From a review of the airplane's logbooks, it could not be determined who manufactured and installed the shim, or when it was installed.



**Typical Crankshaft, flange, and prop hub**

No oil registered on the dipstick, and a burning smell emanated from the filler tube. The oil filter was removed and cut open; the filter element displayed magnetic and bronze material impregnated in the element. The oil sump was removed, and approximately 1/2 quart of a black fluid was observed in the bottom; the liquid had a burnt smell. There were numerous pieces of debris in the oil pan

including parts of the number two connecting rod end cap, beam, and pieces of rod bolts and nuts along with plasticized rod bearing material. The oil suction screen was removed, and it was obscured with magnetic material.

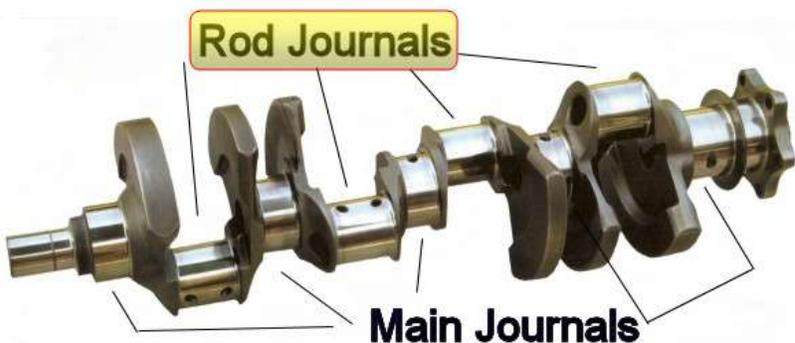
## Maintenance Logbook Information

A logbook entry on November 21, 2006, indicated that the original Lycoming engine was sent to a repair facility for a propeller strike inspection and that on March 26, 2007, the airplane had been repaired after a gear-up landing.

## Mechanically Speaking, What Happened?

The post accident investigation revealed some very interesting items related to this poorly overhauled engine.

The initial investigation found that several of the crankshaft rod journals and the number 2 connecting rod had overheated from lack of lubrication and the number 2 connecting rod then came apart, causing the engine failure.



Upon further investigation, three more items were found:

- 1) The crankshaft was bent. (The crankshaft is always checked during a proper overhaul and tear down after a prop strike. It is never allowed to be re-installed if it's out of limits).

- 2) The number one (front) crankcase bearing was out of alignment with the other crankcase bearings.
- 3) "Someone" (no notation found in the log book as to who), machined and installed a non-approved "spacer" trying to make up for the crankshaft propeller flange misalignment!

All of these items contributed to the poor lubrication, extreme wear and eventual failure of this engine. The continued use of a bent crankshaft led to the secondary failure of the No. 2 connecting rod.

We can see that there were lots of improper maintenance practices which led to the engine failure.

## What Can We Learn?

### GEAR UP OR EXTENDED

The pilot chose to land gear down, but the controller advised him to land with the gear up. What difference does it make?

In this case, the aircraft did not flip over and the extended landing gear absorbed much of the shock. He made a choice and disregarded the controller's counsel. The pilot was there, on the scene, whereas the well meaning controller was safe and sound in Albuquerque Center.

Generally, the accepted off airport landing protocol is to always land with the gear retracted when ditching and when landing in a soft field. Otherwise, land with your gear extended to help absorb the landing shock

Let's look at some great off airport landing advice from two prominent aviators:

*"If you're faced with a forced landing, fly the thing as far into the crash as possible."* Bob Hoover



*"You absolutely have to be sure that you don't stall the airplane. I've been to many aircraft accident scenes, I've evaluated hundreds and hundreds of accidents and pilots are not killed when they fly their airplane to the ground under control. They are killed when they stall an airplane into the ground. So maintaining airspeed safely above stall speed right on down to the ground is so very, very important."* – Bob Martens, nationally known speaker, consultant and aviation safety expert; Pilot Workshops contributor.



### WARNING SIGNS

The pilot/owner bought his M20A with little problems lurking inside the engine. Trying to find those problems is like an Easter Egg Hunt. They don't just shout,

"Hey, over here!" If, during his ownership, from 2011

onward, the pilot had noticed any unusually excessive engine vibration, it wasn't mentioned in the accident investigation.

### FIVE THINGS YOU CAN DO GOING FORWARD:

- 1) You can make sure that you have a good mechanic, and if possible, maintain your airplane at a Mooney Service Center. Their trained eyes can find problems that might be hiding.
- 2) At each oil change, always have the oil analyzed and make sure that your shop cuts the filter open to check for metal.
- 3) Monitor your oil consumption. What's normal? If consumption goes up or down, get your engine checked.
- 4) If you feel that something is strange, such as unusual engine vibration, get it checked out.
- 5) Don't accept anything less than perfection from your Mooney! Spare no expense when it comes to flight safety.



## Injury Mitigation

Some circumstances are beyond any pilot's control. Since pilots and mechanics are human, accidents will happen. The only way for a pilot to be absolutely sure that he will be 100% safe, is to stop flying. But, that would take the fun out of our lives. We could, however, try our best to mitigate any injuries during an accident.

If all the occupants had worn shoulder harnesses, would that have saved the pilot's wife? No one can say for sure. However, the FAA thinks your odds are better with a shoulder harness. They wrote, **"Using shoulder belts in small aircraft would reduce major injuries by 88% and fatalities by 20%."** Should you have an accident, wearing a shoulder harness could let you walk away from an accident, as opposed to being denied the privilege of walking for the rest of your life.

# Alpha

aviation, inc.

If you don't have shoulder harnesses installed in your older Mooney, I encourage you to consider a "Safety Upgrade". Alpha Aviation makes an inexpensive 3 Point Diagonal Shoulder

Harness and Lap Belt. [CLICK HERE](#) for their brochure and contact information.

## The Whole Truth

Some day, investigators may be able to discover the truth, and lay blame squarely on the shoulders of those responsible. A needless accident could have been avoided if a higher creed of ethics had been followed during the aircraft's maintenance and repairs.



Before each flight, make sure that your bladder is empty and your fuel tanks are full.



## Mooney Maintenance with LASAR Precision

By Paul Loewen, Owner of Lake Aero Styling & Repair (LASAR)

### Landing Gear Down PreLoads

The landing gear down preloads are torque settings that are prescribed in Mooney Service Bulletins and FAA Airworthiness Directives. These are to be checked annually to prevent Landing Gear collapse and failure due to improper rigging.

Over the years, there have been changes that affect these torque settings. In this article, I have attached two Mooney Bulletins and a 1973 Airworthiness Directive (AD) addressing this issue and changes, (repetitive Lubrication & Preload testing).

The old Service Bulletin M20-35A dated 1958, affected the early Mooneys and called for frequent checking of these settings with higher limits than today, as specified in Service Bulletin M20-155, with new designed overcenter links that allow more overcenter travel and allow less effort for the pilot to lock the gear down on manual gear models.

Often, Mooney owners of manual gear Mooneys tell me it is difficult to move the Johnson Bar lever the last few inches into the down latch socket. Most likely, the down torque setting on the nose gear overcenter is too high, like the old settings of 150 to 200 inch pounds, instead of current settings as low as 100 inch lbs.

The manual gear, nose gear linkage is a solid connection between the Johnson Bar and the Nose gear retract truss. There are no spring bungees in the linkage as in the electric retraction system. Therefore, when the nose gear overcenter link and truss reach their limit, the gear is down and locked already, and if the Johnson Bar is not yet in the latch socket, then things are stressing or bending unnecessarily to engage it. Sometimes this will cause the Johnson Bar to fail and break off at the floor level. The action of lowering the gear and engaging into the latch socket should be as easy as closing a door in your home, ( click).

The best source of data and instructions are contained in the Mooney Service Manuals for your particular model, as long as you have a current revision. Reviewing your Pilots Operating Handbook (POH) will give helpful reminders make sure + you operate your Mooney the right way.

**MOONEY SERVICE BULLETIN NUMBER M20-35A**      **Date: 7-10-58**

**Landing Gear Rigging instructions -- (SUPERCEDED)**

#### I. INTRODUCTION:

Gear failure on M-20 and M-20A aircraft have occurred due to improper gear rigging. This service letter is issued with the suggestion that all aircraft owners and those responsible for the maintenance of these aircraft acquaint themselves with the proper rigging of the landing gear retraction system.

The retraction handle and connecting rods are not designed to carry ground loads imposed on the landing gear, but are designed to hold the overcenter locking mechanism in its overcenter position.

***It is emphasized that due to improper preload in P/N 5087, this rod and the retraction handle will not carry the imposed load.***

**Nose Gear down Torque should be between 150 and 200 inch pounds.**

**Main Landing gear down torque should be between 275 and 375 inch-pounds.** The torque should register approximately the same at both main gears.

The amount of freedom of the gears retraction system, as determined from the check made, will affect the torque readings. Retraction systems with free joints will be adequately rigged when the torque is on the low end of the range, while systems that are stiffer may require torque values on the high end of the range for adequate preload.

**Repetitive AD 73-21-01 MOONEY:** Amdt. 39-1729. Applies to Mooney Models M20, M20A, M20B, M20C, M20D, M20E, M20F and M20G airplanes.

**Compliance required as indicated.**

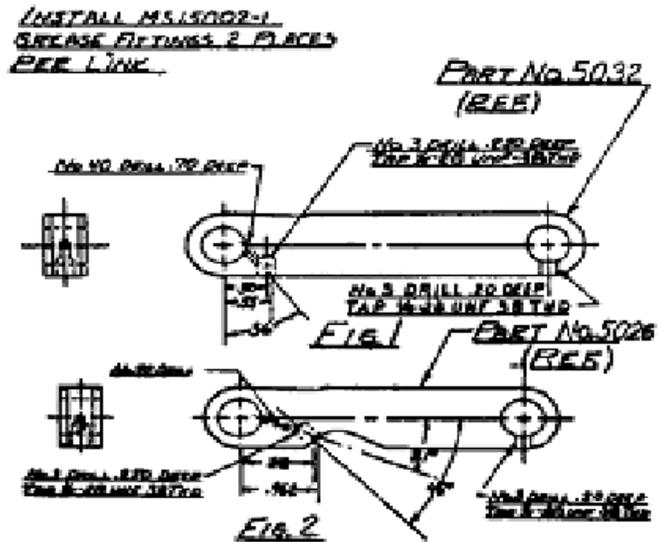
To prevent corrosion and/or mis-rigging in the flight control and landing gear systems which may result in binding or seizure of the joints and loss of flight control or collapse of the landing gear, accomplish the following:

(a) Within 25 hours time in service after July 10, 1972, unless already accomplished within the last 25 hours time in service, and thereafter at intervals not to exceed 12 calendar months from the last inspection or 100 hours time in service from the last inspection, whichever comes first, **lubricate all flight control systems and landing gear system rod end bearings** with a silicone spray lubricant or with an FAA approved equivalent lubricant.

*Retracting links, P/N 530003-13 are identified by the grease fittings*

(b) Within the next 50 hours time in service after July 10, 1972, unless already accomplished, **install retracting links, P/N 530003-13 (1 ea.) and 510011-13 (2 ea.)** on all M20B, C, E, F, and G aircraft and on M20D models converted to a retractable gear, or equivalent parts approved by the Chief, Engineering and Manufacturing Branch, Flight Standards Division, Southwest Region, FAA, Fort Worth, Texas.

The new links incorporate grease fittings and improved overcenter travel resulting in lower preload rigging. New links are not required if the existing installations use -13 links which have grease fittings. (Reference *Mooney Service Bulletin M20-155 dated 6-15-67, or later FAA approved Revision.*)



**MOONEY SERVICE BULLETIN NUMBER: M20-155**                      **DATE: 6-15-67**  
**RETROFIT OF NEW RETRACTING LINKS AND RESULTING LANDING GEAR RIGGING CHANGE**

**MODELS AFFECTED:**

M20B - all aircraft; M20C - S/N 1852, 1940 thru 670124; M20D - all aircraft that have been converted to retractable gear.; M20E - S/N 101 thru 670020; M20F - S/N 660001 thru 670362

**INTRODUCTION**

A reduction in the force required to place the manual gear retraction lever in the gear down and locked position can be realized by replacing the main gear and nose gear retracting links with new links that allow more overcenter travel of the retracting link and truss assemblies. As a result of the increased overcenter travel, the preload on the retracting link and truss assemblies can be reduced and therefore the pilot effort required to lock the gear down will be reduced.

**SPARE PARTS REPLACEMENT:**

Effective on the date of this Service Bulletin, all main gear and nose gear retracting links sent out from Spare Parts to be used on the aircrafts listed above, will be of the new design. A placard that indicates the new gear rigging data associated with the new links will be attached to each link. It will be the responsibility of the owner to insure that the proper gear rigging values, as called out on the placards, are obtained when installing the new links. Caution must be taken to insure that the lower gear rigging value be used only on aircraft that have the new links installed and that these links have the required placard with the lower rigging data specified. The new links must be installed in both main gears at the same time. The new links will also be used for spare parts replacement on all existing and future electric gear aircraft covered by this Service Bulletin. **On electric gear aircraft, the main gear rigging values are the same as the new values used for manual gear aircraft, while the rigging of the nose gear is the same as in the past. (.060 inch deflection of the nose gear retraction bungees).**

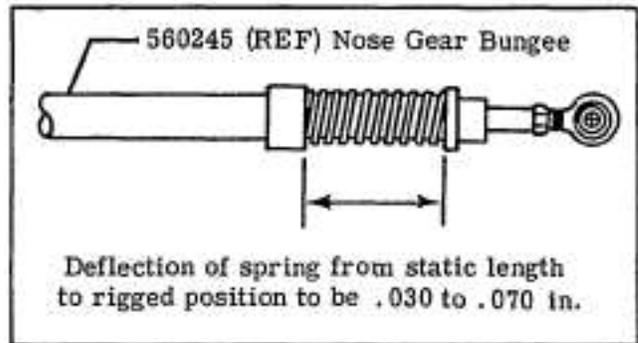
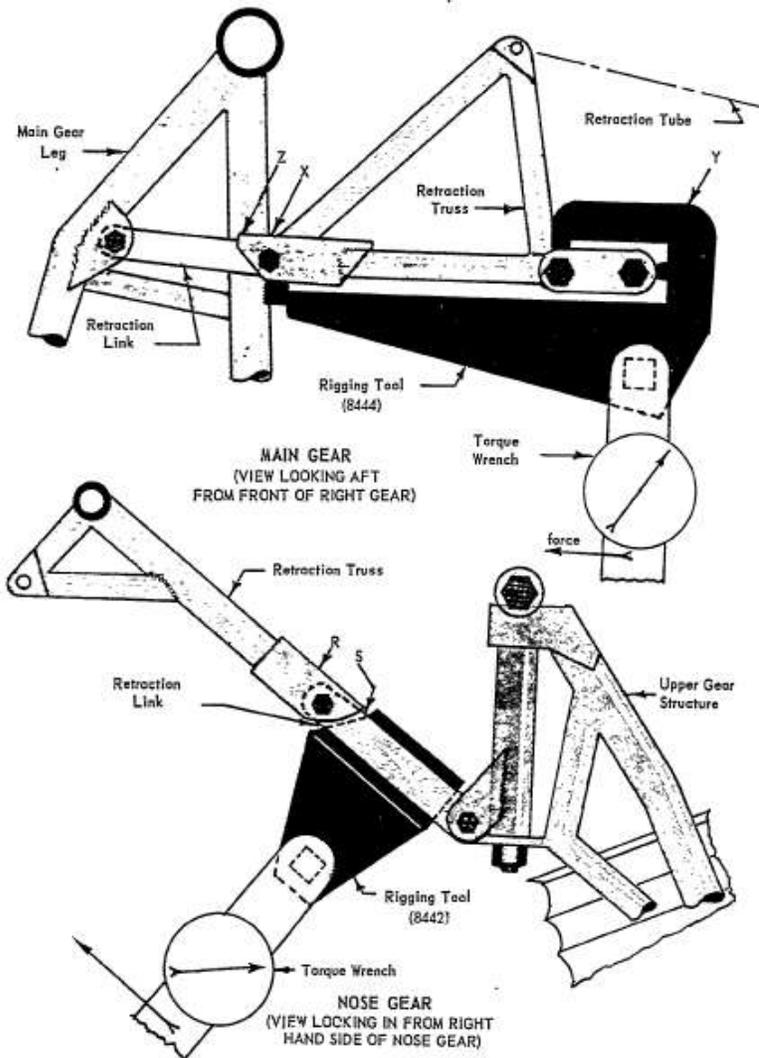
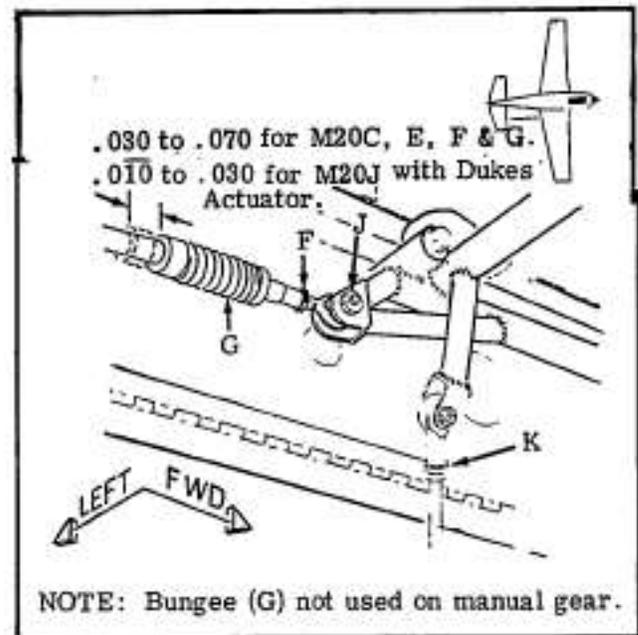


Figure 5-7. NOSE GEAR BUNGEE SPRING



Check rigging of preload on retracting link and truss assemblies for both main gears and nose gear. Readings to be taken on 10 inch nominal length torque wrench using rigging tools 010008 (8444) for the main gear and 010011 (8442) for the nose gear. Refer to Service & Maintenance Manual for proper use of rigging tools. Preload, as indicated on torque wrench, must be within following range: Main Gear, both manual and electric - 250 to 280 in. -lb. Manual Nose Gear, 100 to 130 in. -lb., and for Elec Nose gear, .030 to .070 inch deflection of the nose gear retraction bungees.

He who demands everything that his aircraft can give him is a pilot; he who demands one iota more is a fool.

## Fun with Fuses

by Norm Elliott

Phil Corman encouraged me to write an article on my recent experience with the dual alternator load meter on a 1987 M20K (252) so here it is. About four months ago, I got in my 252 to take a short flight to Oklahoma City. During the run-up, I noticed that both sides of the load meter had the needles pegged showing 100% load on each alternator. I took off anyway thinking the battery must be nearly drained and that the indications would settle to normal levels once the battery began to charge. That did not happen, so I turned around and landed at my home airport.

Now, to put the rest of the story into context, you need to know that I have never taken a course in electronics, and nearly flunked my undergraduate Physics, because of the Electricity and Magnetism course. Electricity just does not make sense to me. My first thought, and a reasonable one I think, was that the voltage regulator was bad. So I removed that and sent it to Don Maxwell Aviation for repair. About two weeks later I heard from Don that there was nothing wrong with the voltage regulator. So, I got that back and reinstalled it. Now I was thinking that there must be a short in the electrical system. I pulled all the circuit breakers except the battery breaker. As soon as I turned on the master switch, both needles on the load meter pegged to 100% load. I got a multi-meter out and connected it to the cigarette lighter and a ground and turned on the master switch. The multi-meter showed a steady 24 volt reading. According to Don Maxwell, with the heavy draw on the system, if there was a dead short in the system, the voltage should have quickly dropped from 24 volts. But that did not happen. So, the next thought was that the load meter was bad. So I called LASAR to track down a serviceable load meter and they sold me one. When it arrived, I swapped out the old load meter. When I turned the master switch on, both needles pegged to 100% load. I was demoralized and beaten. That was my last decent idea, and it did not work. In the process of trying to figure out my problem, I apparently knew enough now to maybe get an answer to my problem by *Googling* it on the internet. Upon doing that, I came to a thread on MooneySpace that Read:

*Posted 26 March 2013 - 07:56 PM*

*I thought I'd leave an update to this thread, because I had a very similar issue this past weekend. My load meter went to 100% on both alternators and the third scale, total load and voltage went to 0. Yet my JPI indicated normal buss voltage of 28+. With engine off, both alts loads dropped down to zero, but the voltage needle - still nothing. With only the master on, the needles pegged again. I thought for sure I was going to need a new load meter ,(2 to 3 amu!) But upon further investigating, I had a couple blown fuses and that's all it was. I was lucky once again. Ten years ago, I had a dead gauge that also turned out to be blown fuses. Unfortunately the fuses are hard to get at, but probably worth checking early on if you have a load meter issue.*



That sounded exactly like my problem, so I bought two new 5 Amp fuses. They are not easy to find, but between Don Maxwell and MooneySpace, I located a couple of Bussmann GMW-5 fuses for about \$8.00 each from CALCO. I replaced the fuses, and turned on the master switch. The two needles on the load meter (one for each alternator) moved a little and then settled at 0%. Thinking it was just the fuses, I took out the new load meter and put back the old one with the pleasant thought that I would be able to return that new load meter and get most of my \$1,000 back. When I turned on the master switch with the old load meter back in place, both needles pegged to 100% load. So my problem was that the load meter was bad, but now I had blown at least one of my new fuses. I pulled the fuses and checked them with an ohm meter and only one of them was blown. I checked the old fuses I had removed and only one of them was blown. So I took the two good fuses and put them in, put the new load meter in place, and turned on the master switch. Everything worked right, and I haven't had a problem with it since. So my experience proves that even the electronically challenged can solve a simple problem if they are willing to ask enough questions and make most every mistake possible in the process.



There are certain aircraft sounds that can only be heard at night and over the ocean. Most of them are scary.

**The  
Mooney  
Flyer  
Quiz**



**#1. Here’s an interesting NOTAM:  
!FDC 3/5098 ZKC AIRSPACE ADS-B SERVICES  
TIS-B AND FIS-B AVBL JUNE 28, 2015.**

**You can almost decode it as, “ZKC AIRSPACE”  
(Kansas City Center) and “ADS-B” meaning  
Automatic Dependent Surveillance-Broadcast.  
But, what in the heck does “TIS-B AND FIS-B  
AVBL” mean?**

- a. Traffic Information Surveillance, Flight Information Surveillance, Available.
- b. Traffic Information Service, Flight Information Service, Available.
- c. Terminal Information Service, Flight Information Service, Available.
- d. Traffic Information Service, Flight Information Service, Avoidable.

Answer: Yes, it’s answer “b”. It means “Traffic Information Service, Flight Information Service, Available”. ADS-B is the surveillance technology that utilizes aircraft avionics and ground facilities. ADS-B “IN” includes FIS-B , which offers a variety of weather and aeronautical information, and TIS-B, which offers an ATC view of traffic information. Reference [AIM, Chap. 4](#)

**#2. You would like to buy another Mooney, and you see an ad for an M20E that claims to have "no damage history" (NDH) and a "zero-time" engine. The definition of a “zero-time” engine is (\_\_\_\_\_):**

- a. It has a new engine logbook without previous operating history.
- b. It has been overhauled to factory new limits.
- c. It was overhauled by the original manufacturer.
- d. All of the above.



Answer: That’s right, it’s “d”, all of the above. The term “zero-time” is abused quite regularly in the airplane ads. If your mechanic overhauls your engine, it can't be labeled as zero-time. Here's the FAA's opinion from [Plane Sense FAA-H-8083-19A](#): "A 'zero-time' engine is one that has been overhauled to factory new limits by the original manufacturer and is issued a new logbook without previous operating history." Other aircraft ad terms and their meaning include:

- NDH (No Damage History), could mean that either the aircraft wasn’t ever damaged or a record of the damage was never made.
- “Mechanic owned”. This means you'd better hire another mechanic to see what the mechanic owner/seller might've been neglecting over the years.
- "Sweet" means it's a stinker.
- “Speed Mods” means that you might be able to get the POH advertised speed when you’re light and about to land at your destination.

**#3. You're fixn' to depart the Mobile Regional Airport in Mobile, Alabama. The tower controller wants you to taxi on a runway opposite to the traffic flow. How would the controller phrase this request?**

- a. Taxi back.
- b. Back taxi.
- c. Taxi to the other end of the runway.
- d. Y'all be careful now, 'ya heah.



Answer: Of course, it's "b" for "back taxi". For instance, "Mooney 7132 Victor, back taxi runway 27." That means you'll taxi on Runway 27, but you'll be heading 090 (roughly) until you reach the runway's end or other assigned point. ATC might tell you to back taxi and then clear you for takeoff. Or perhaps you might be instructed to back taxi on the runway and then exit at an assigned intersection. As with all ATC instructions, if you're unsure, ask for clarification. Ref: ([FAR 91.123](#) and [Pilot/Controller Glossary](#))

**#4. You had a lapse in your situational awareness and unintentionally, you flew right into Class B airspace without a clearance. You made a quick 180 and hoped that your faux pas was not noticed. When you land, the Ground Controller instructs, "Mooney 123MZ, call 555-1212, possible violation."**

How embarrassing! After a nice talk with the controller, you remember that there's a "Get Out Of Jail Free" rule, giving pilots -- and air traffic controllers as well as other aviation professionals -- a chance to "fess up to an unintentional offense. In order to utilize the Aviation Safety Reporting System (ASRS), the contrite offender must file the report with (\_\_\_\_) days.

- a. 5.
- b. 7.
- c. 10.
- d. 30.



Answer: Yes, it's "c". No matter how kind the controller was on the telephone, or if you have even an inkling that the FAA might get wind of your transgression, you should file an ASRS report ASAP, but no later than 10 days. NASA administers ASRS and [FAR 91.25](#) prohibits the FAA from using ASRS information for enforcement actions ... mostly. Here's an excerpt from FAR 91.25:

"The Administrator of the FAA will not use reports submitted to the National Aeronautics and Space Administration under the Aviation Safety Reporting Program (or information derived therefrom) in any enforcement action except information concerning accidents or criminal offenses which are wholly excluded from the Program."



NASA ASRS reports can be filed online at <http://asrs.arc.nasa.gov>.

**#5. If you had no idea that you had done anything wrong, that is, there were no calls from an upset controller, a violation might be on the way. Sure enough, 30 days after your flight, you receive a letter from the FAA outlining your alleged violation. Can you still file an ASRS report?**

- a. Yes.
- b. No.



Answer: Yes you can, so "a" is the winner. As long as you file the NASA ASRS report within 10 days of the date when you became aware of the violation, or within 10 days of when you should have been aware of the violation. Of course, this only works if:

- The violation was inadvertent and not deliberate.
- The violation did not involve a criminal offense or accident.
- You have not been involved in a violation in the past 5 years.
- Reference: <http://asrs.arc.nasa.gov/overview/immunity.html>

### How did you do?



Perfect Score!  
Wow, Captain Sulley would be proud!



Missed 1? Outstanding mind, Captain Eddie!



Missed 2? Very impressive, Captain Over.



Missed 3 or more? Better luck next time, Captain Jack!

"If the Wright brothers were alive today, Wilbur would have to fire Orville to reduce costs." Herb Kelleher, founder of Southwest Airlines.



## It's Still What's Inside That Counts

by Bruce Jaeger

What goes through your mind when you're asked to call your mechanic about a problem with your Mooney? Maybe this situation is not a lot different than if you are asked to return a call to the doctor's office. "What do you mean I have rusted tubes or a corroded spar?" That feeling of denial can be overwhelming. Then reality sets in and you ask, "How can that be?"

Many of our Mooneys live in harsh environments. The oldest Mooneys have been around for more than 50 years, perhaps without being hangared. Your Mooney may have its original fuel tanks, shock discs and links, windows, interior, insulation, certainly spars, control and gear rods, and a multitude of other 50-year old production parts. Even if your aging Mooney has been hangared in a dry climate, it's no longer "like new". Mooneys that have been serviced by experienced technicians are not exempt from hidden problems.

There are many vintage Mooneys that are shiny clean, both inside and out. If you're fortunate enough to have one, take care of it and you will be happy for a long time to come. Remember that even if you've been a diligent Mooney owner, some of your airplane's history may have been beyond your control.

As the former owner of a Mooney Service Center, I can personally attest that new windows, interior, paint, fuel tanks, GPS or other expensive upgrades do not trump corrosion or a tubular structure problem. There was a reason for the tubular structure Service Bulletin M20-208. Corrosion treatments are not only for coastal airplanes. If you are not absolutely sure of what is inside your Mooney, both you and your airplane deserve to know.

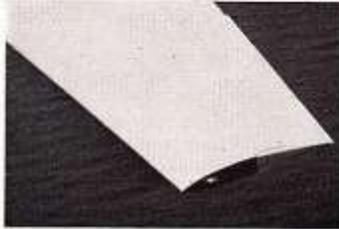


How about your wheel wells? Maybe it is time for you and your mechanic to take a really close look.



What's hiding inside your airplane? Take the time to find out. Owning and operating an aircraft is full of responsibility. Don't fall short when it comes to caring for your aging Mooney.

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



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



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



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



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

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

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

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

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

Design Feature	MOONEY Mark-21	Skyplane 182	Cherokee 235	Comanche 260	Debonair C-33	Lockheed Jet Star
Laminar Flow Wing	✓		✓	✓	✓	✓
Sealed Control Surfaces	✓					✓
Wet Wing Fuel System	✓					✓
Positive Control	✓					
Retractable Gear	✓			✓	✓	✓
Tubular Control Rods	✓					
Full Trim Tail	✓		✓	✓		✓
Low Wing	✓		✓	✓	✓	✓

## ... in range — speed — price

Range No Reserve	950	695	935	780	675	2250
Speed Max-cruise	180	162	156	185	185	550
Price (Std)	16,450.00	17,995.00	15,900.00	22,600.00	23,950.00	1,492,200.00

FLY A MODERN AIRPLANE



**MOONEY**

Mooney Aircraft, Inc., Kerrville, Texas

Where the able disabled find employment

# Upcoming Fly-Ins



**The Mooney Flyer**  
 June 12 – 14, 2015 **Summit** Paso Robles, CA



**August 23 (Noon to 3pm)**– LASAR 40<sup>th</sup> Anniversary BBQ ([102](#))  
Join Paul & Shery for the 40<sup>th</sup> year of LASAR!



**June 13**, Williston (X60)  
**July 11**, Sebring (SEF)  
**August 8**, St. Augustine (SGJ)  
**September 12**, Lakeland (LAL)



Chattanooga, TN **June 5-7, 2015**  
Atlantic City, NJ **September 11-13, 2015**  
Fort Worth, TX **October 23-25, 2015**

## Top Gun Aviation



Specializing in Mooney and Cirrus  
(209) 983-8082  
For Service and Maintenance, ask for Mark or Tom  
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or visit our website at [www.topgunaviation.net](http://www.topgunaviation.net)



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



## ***UV-A Flashlight Identifies Aviation Leaks***

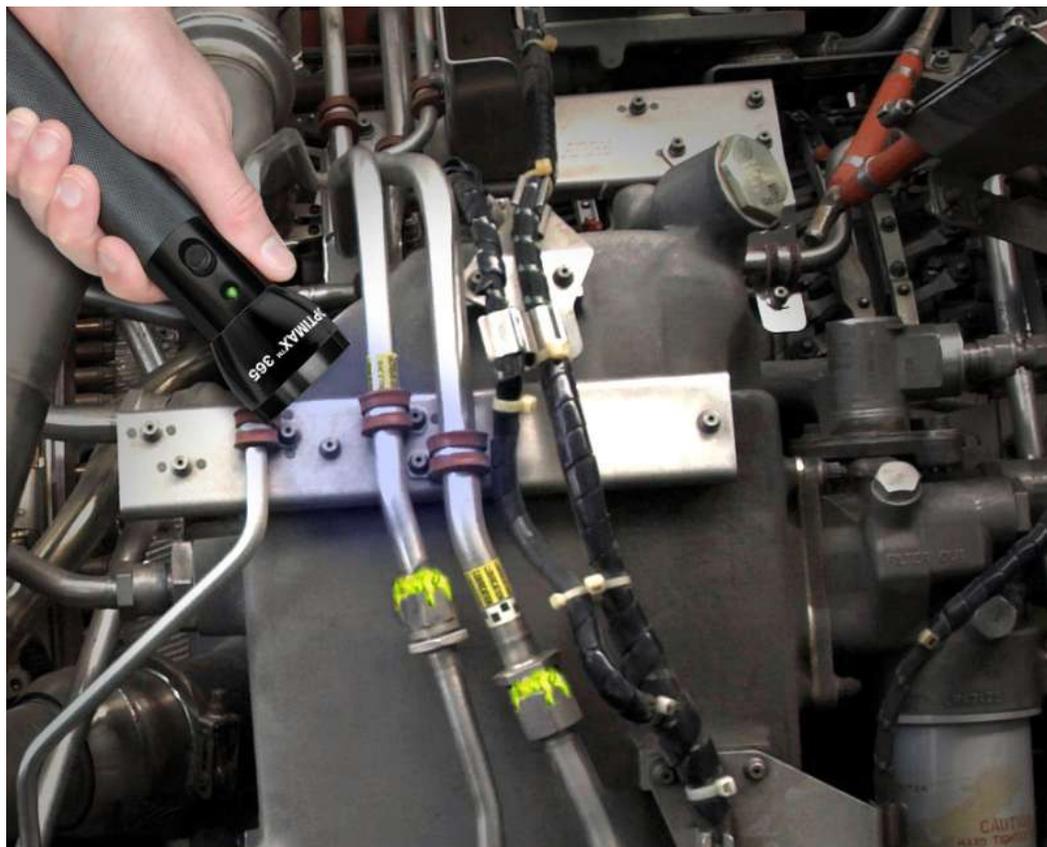
The OPTIMAX 365 from [Spectronics Corporation](#) is a cordless, rechargeable, UV-A LED flashlight that can identify leaks in fuel, lubrication and hydraulic aviation systems.

The OPTIMAX 365 features an ultra-high intensity UV-A LED, which makes all leak detection dyes glow brightly

Four times brighter than other high-intensity leak detection lamps, it has an inspection range of up to 20 feet. Powered by a rechargeable NiMH battery, the flashlight provides 90 minutes of continuous inspection time. An Electronic Intensity Stabilizer maintains high UV output between charges. The LED lifetime is 30,000 hours.

The flashlight, which weighs 11.8 ounces, has a corrosion-resistant, anodized aluminum lamp body.

The OPTIMAX 365 comes with UV-absorbing spectacles, a belt holster and AC and DC battery chargers, packed in a padded carrying case. The AC charger is available in 120V, 230V, 240V or 100V versions.



## FAA Awards DUATS Flight Service Contracts

In mid May, the FAA awarded contracts for its DUATS II program to [CSC DUATS](#) and Lockheed Martin.



**DUATS**  
"Serving Pilots Since 1989."

- Free FAA Weather
- Free Flight Planning
- Free Flight Plan Filing



The FAA dropped longtime provider [DTC DUAT](#) from the online pilot briefing/flight planning service. Both CSC and DTC had



provided the service for the last 26 years. CSC won a 5-year contract along with [Lockheed Martin](#), which runs the Flight Services program for the FAA. The DUATS program has provided fee-free online access to pilots and, evolving with technology over the years, now is mostly used on cell phones and tablets via mobile apps as well as commercially available flight planning and EFB apps. [READ MORE](#)

## FAA to Pilots: Keep Transponders On While Taxiing

Safety Alert for Operators 15006 was published by the FAA last week to ensure that pilots realize the need to keep their aircraft transponders turned on to the altitude-reporting mode even when operating on the ground in airport movement areas. The FAA uses runway safety systems, such as [airport surface detection equipment model X \(ASDE-X\)](#) and [advanced surface movement guidance and control system \(A-SMGCS\)](#) at many airports in the U.S. to determine aircraft and vehicle locations when operating on an airport surface.

Both of these systems use data from transponders to obtain accurate aircraft and vehicle locations to increase airport surface safety and efficiency. Nationwide, the agency said that airports with ASDE-X report an average of **20 non-compliance transponder events per day**, even with explicit airport diagrams or ATIS notification, or both, directing pilots to operate with transponders on. To address these problems, aircraft operating on all airport movement areas at **all airports**—not just those that are ASDE-X equipped—must taxi with their transponders on in the altitude-reporting mode.



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## SHOULDER HARNESS KITS



M20, M20A, B, C, D, E, F, G, J

- Factory Style, 3 Point Diagonal Design
- Factory Quality, TSO-C114 AMSAFE Belt Systems
- Choice of Stock Colors or Special Order, Same Price

Fixed Strap – \$299.00 Per Seat Inertial Reel - \$399.00 Per Seat

- M20C – G “Minor Change” Installation Kit \$35.00 2 Seats

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# TME PRODUCT REVIEW

## Electronics International MVP-50P Engine Analyzer

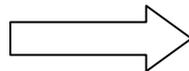
I have the old venerable JPI-800 Engine Analyzer on my M20S. I love the product, but it is a small circular monochrome display.



Comparing the MVP-50P to older analyzers, is like comparing a Garmin GNS 430 with a Garmin GTN 750. Technology and display technology just keeps marching forward.

Along the right side of the Main Screen are six analog/digital gauges, followed by three Digital-only gauges. These gauges display Fuel Flow, Fuel Pressure, Oil Pressure, Oil Temperature, Volts and Amps. Optional gauges are Fuel Level, Vacuum, TIT, Hydraulic Pressure, G-Meter, Carbon Monoxide, Cabin Pressure, Cabin Altitude, Airspeed, etc.

In the left lower portion of the Main Screen is a sophisticated EGT/CHT engine analyzer. The bars in blue show the EGTs and the bars in green show the CHTs. The pilot-programmable maximum and minimum ranges for both EGTs and CHTs are displayed and can be set to match any engine's operation. You can learn more about the Bar Graph in the section shown here.



The blue section between the instrument groups provides eight support functions. This section can be configured to display Horsepower, OAT, Up Timer, Down Timer, Local Time, Zulu Time, and lots more.



One of the most valuable features is the ability to alert the pilot the moment an engine or aircraft system function reaches a caution or warning area of operation. The color of the digital display represents the area of operation. If all the engine and aircraft parameters are operating within acceptable ranges, all the digits in the digital displays will be

shown in green. If a function drops into a warning or caution operating range, the digital display will be shown in red or yellow, as appropriate. In addition, the digits will blink and an external caution or warning light will also blink. Some MVP systems can be equipped with a voice warning system.



The MVP-50P was designed to reduce the need to constantly scan and interpret engine instruments. The moment a problem occurs the pilot is notified. This allows the pilot to deal with a problem long before engine damage occurs, giving the pilot options he otherwise may not have.

There are the usual modes for ROP and LOP adjustments to the mixture as well as Normalized mode and Peak Markers. You can add Checklists for your Mooney as well as Weight & Balance which makes this device the Swiss Army knife of analyzers.



## Mooney Instructors Around The Country

### Arizona

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

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

### Connecticut

**Robert McGuire** , Durham, 203-645-2222 cell, [rmcguire007@hotmail.com](mailto:rmcguire007@hotmail.com)

**Winslow Bud Johnson**, [smgemail@aol.com](mailto:smgemail@aol.com), 203-348-2356

### California

**Geoff Lee**, San Martin, CA, [69050@comcast.net](mailto:69050@comcast.net)

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

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

**Rodrigo Von Contra**, Oakland, (510) 541-7283, [Rodrigo@vonconta.com](mailto:Rodrigo@vonconta.com)

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

### Colorado

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

### Florida

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

**Robert McGuire** , Hawthorne, (203) 645-2222, (Dec – Feb), [rmcguire007@hotmail.com](mailto:rmcguire007@hotmail.com)

### Georgia

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

### Kansas

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

### Massachusetts

**Ralph Semb**, [ralph@bowling4fun.com](mailto:ralph@bowling4fun.com), 413-221-7535

### New Jersey

**Parvez Dara**, [daraparvez@gmail.com](mailto:daraparvez@gmail.com), 732 240 4004

**New York**

**Jack Napoli**, Long Island, TT 6,000 hrs & Mooney time 3,000,  
[ki4kqvh1@yahoo.com](mailto:ki4kqvh1@yahoo.com), 631-806-4436

**South Dakota**

**Doug Bodine**, Commercial Pilot/Flight Instructor  
Cell 605 393-7112, [mei.cfii@gmail.com](mailto:mei.cfii@gmail.com)

I am a retired USAF pilot, now working as a commercial contract pilot, so various model experience from WWII warbirds through heavies. I have been flying mooneys for 12 yrs and have a 201. I have been instructing since 1994 and am at about 10,000hrs. I actively instruct in tailwheel and turbine as well. I have flown all the common mooney modifications – missile, rocket, screaming eagle, trophy etc. Even have time in the M22 Mustang.

**Texas**

**Austin T. Walden**, Lubbock & Abilene, Texas 432-788-0216, Email [AustinWalden@gmail.com](mailto:AustinWalden@gmail.com)  
PhD, Specializing in Models C thru J, [www.WaldenAviation.com](http://www.WaldenAviation.com)

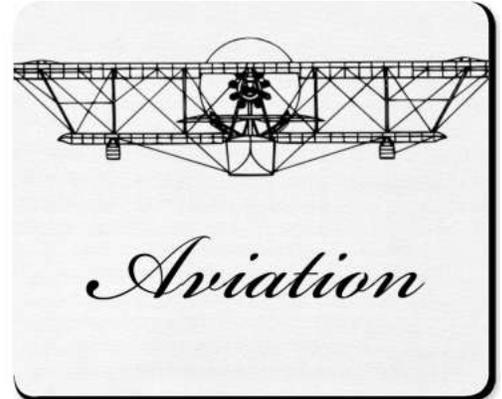
**Brian Lloyd**, Kestrel Airpark (1T7), 210-802-8FLY, [Brian@Lloyd.aero](mailto:Brian@Lloyd.aero)

**Mark Johnson**, [mjohnsonf16@hotmail.com](mailto:mjohnsonf16@hotmail.com), 832-773-4409

**Jerry Johnson**, [mooney9281V@hotmail.com](mailto:mooney9281V@hotmail.com), 817-454-2426

**Vermont**

**Ted Corsones**, [tedc@corsones.com](mailto:tedc@corsones.com), 813 435 8464





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

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

TTSM 961/TTSN 3189

Engine time 961 SMOH by Triad

Propeller HC-C3YR-1RF 3-Blade 961 TTSN

Annual due 3/31/2016

Useful Load 1024

Avionics: GNS 430 w/ GI-106SCDI (cable wired for WAAS)

KX-155 Nav/Com w/KI-208

KMA-28 Audio Panel

KR-85ADF w/KR-225 Indicator

KT-76A Transponder Mode C

JPI-700 Engine Monitor w/Fuel Flow (monitored to GPS)

Century 11B Autopilot w/ Heading Bug

Other: Yoke Mounted Electric Trim and Map Light

Vertical Card Compass

Davtron Digital Timer

Sigtronics 4-Place Intercom

Electric Gear, Trim and Flaps

True Airspeed Indicator

Overhauled Magneto w/New harness

New Landing Gear Donuts, New Muffler, New Engine Lord Mounts

New Concord Sealed Battery

New Engine Vacuum Pump

LASAR Mod Enclosed Strobe Wing Tips

Wing Root Fairings

Clam Shell Nose Gear Door, Panel Overlay

New Leather Interior Seats



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

### ***1959 M20A for Sale, as is***

My brother was a Mooney enthusiast, who died nearly 12 years ago. My parents inherited his Mooney M20A (SN 1276). It's been sitting in a hangar at Hicks Airfield near Fort Worth since that time. It was flying until maybe November, 1989, when the prop was tagged.

Total time, 2608 and Tach time 187.

This is a definite fixer-upper. My brother loved his plane and maintained it very well. We have all the documentation and log books back to its original purchase in 1959.

Please make an offer. The buyer would have to transport it.

Contact information: Deborah Evans

Home: [972-985-8471](tel:972-985-8471); Cell: [214-213-0865](tel:214-213-0865); email: [Deborah.parker@verizon.net](mailto:Deborah.parker@verizon.net)



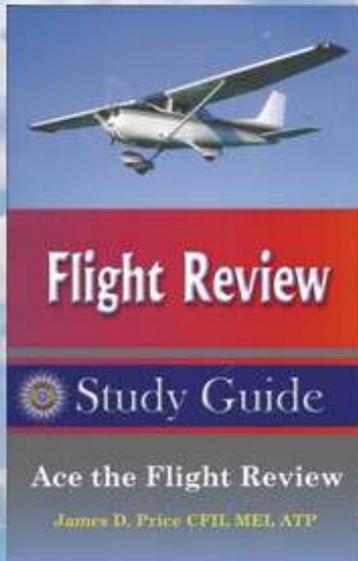
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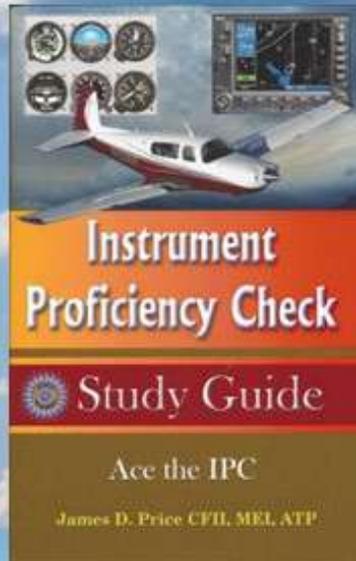
### **LASAR'S Free Site**

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

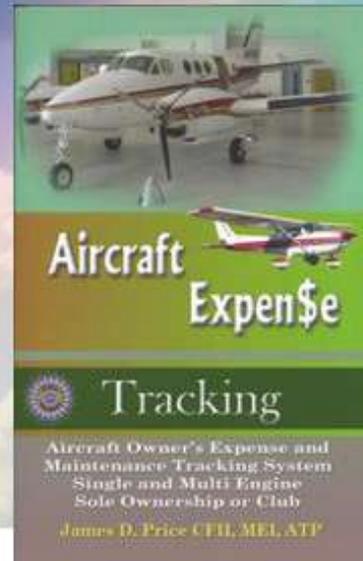
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