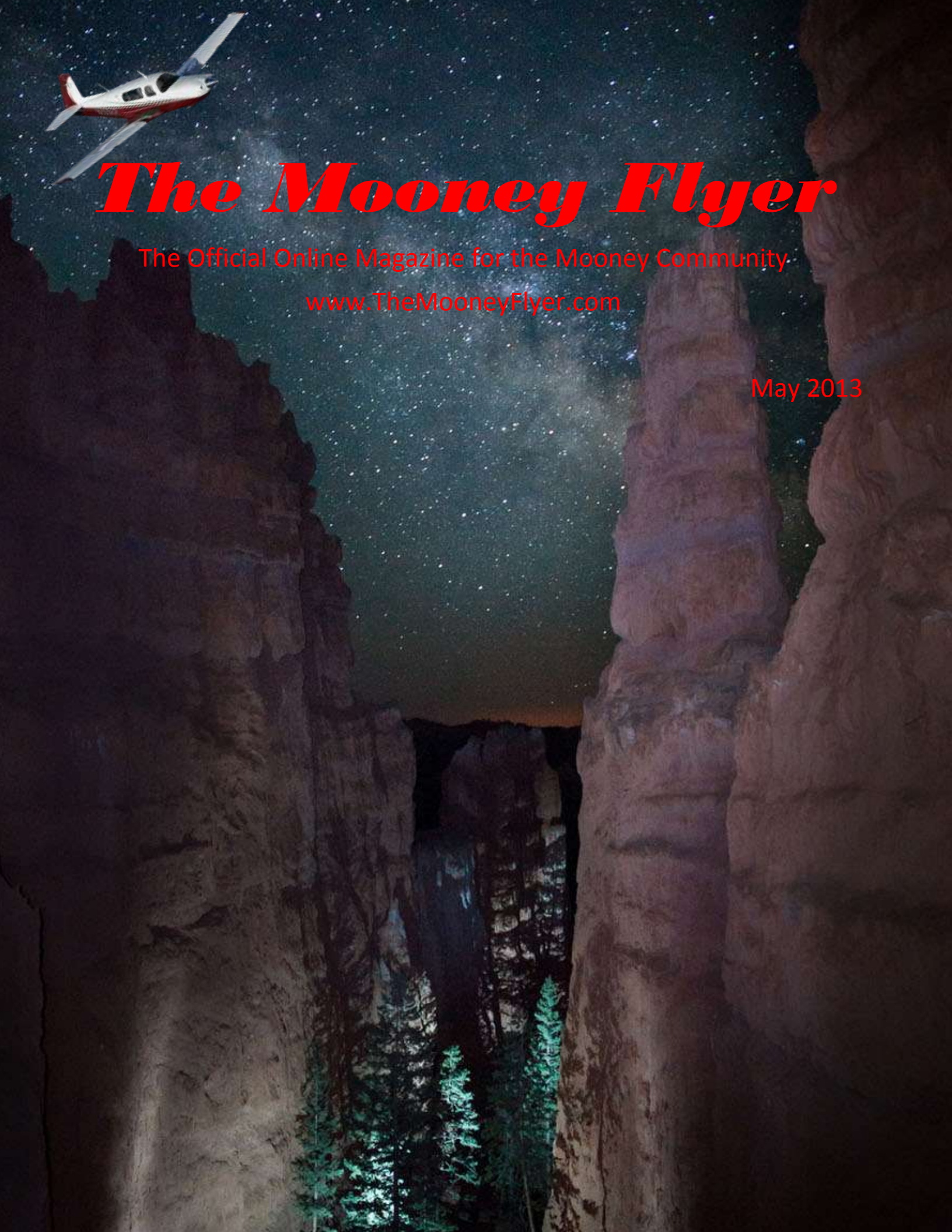

The Mooney Flyer

The Official Online Magazine for the Mooney Community

www.TheMooneyFlyer.com

May 2013

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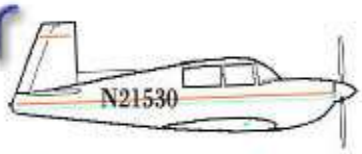
From the Editor

Phil Corman



Welcome to the first issue of our Second year of publication. We are now officially the largest online magazine for Mooniacs. Of course, we are the only one, so that is a low bar to jump, but we are having fun and getting a lot of articles contributed to The Mooney Flyer which makes the magazine even more valuable.

Change in FAA Medical Special Issuance

After an annual, my FAA physical remains a very stressful event. I feel like the FAA has the power to take away an amazing joy in my life, which I guess they do. But here's a little bit of good news, ie, a move in the right direction regarding several conditions that warrant a Special Issuance.

The FAA on April 9 posted changes to the "Guide for Aviation Medical Examiners" that will streamline the medical certification process for pilots with certain medical conditions that previously required special issuance authorizations.

A new program, known as Conditions the AME Can Issue (CACI), resulted in medical certification changes for pilots with arthritis, asthma, glaucoma, hepatitis C, hypertension, hypothyroidism, migraine and chronic headaches, pre-diabetes (metabolic syndrome, impaired fasting glucose, insulin resistance, glucose elevation/intolerance), and renal cancer. These conditions previously required an initial FAA special issuance authorization before your AME could issue a medical certificate. Under the new policy, the AME is now authorized to issue a normal duration medical certificate at the time of examination if the applicant provides adequate documentation showing good control of the condition. A specification worksheet for each of the conditions will include the medical documentation required to satisfy the AME and the FAA that the condition is stable.

Stratus II for ForeFlight Mobile

We received several questions asking us about the new Stratus II ADS-B device for ForeFlight. They have added 1090 Mhz in addition to 978 Mhz for traffic. What does this mean to most Mooney pilots? Not much. To avoid frequency overload, there are two frequencies that these ADS-B traffic messages are transmitted on:

1. 1090ES is basically a modified Mode S transponder (using the transponder's 1090MHz frequency) with Extended Squitter (ES). This is required above 18,000 feet, and is used by many airline and cargo jets. A Garmin GTX 330 transponder can be upgraded to a 1090ES ADS-B Out box, for example.

2. 978 UAT is newer, and is used below 18,000 feet in the US. It transmits on 978MHz, and is technically called a Universal Access Transceiver (UAT).

There is a built-in AHRS in the new Stratus II which can provide backup information if your vacuum gauges fail.

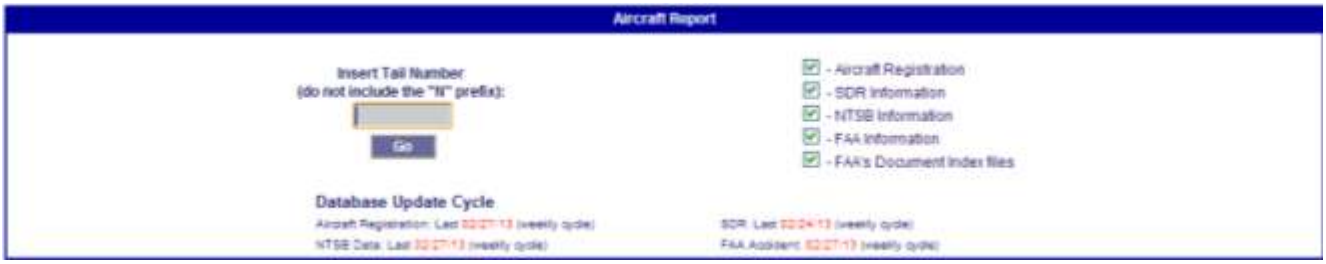
Appraise Your Mooney's Value

Don't forget about our cool new **Appraise your Mooney's Value** using Jimmy Garrision's valuation. Jimmy is from All American Aircraft, the country's largest Mooney reseller. We have implemented the models for M20C, M20E, M20G, M20F & M20J. Click on your model to simply complete the valuation. You no longer need paper and pencil. Just another benefit to our subscribers. These forms are currently Beta test quality. Please send errors to us.

M20C M20E M20G M20F M20J updated September 2012

Aircraft Reports

This is a useful place to go to get an immediate set of reports on any N tail number. The site reports on the Aircraft Registration, SDR (Service Difficulty Reports), NTSB Information, FAA Information, and FAA Document Index Files.



There is always something here I'm glad to have read, and this issue is no exception. Good work!
Amelia

Thank you so much for continuing to put this together. It is really super!!!
aviatoreb

In perusing the Website of the Month, I came across the attached picture of an M-18 Mite with tip tanks! This picture was taken around 1955 at Langmack field near Sweet Home, Oregon. Fun stuff. Thanks!
Vincent "Top" Dunn

I particularly loved the article by Tony Rees on Flying Mooneys Down Under. Here in the US, many of us Mooney pilots think twice about landing on gravel, but in Australia, it's just a fact of life. There was some very useful information here. Makes me want to fly a Mooney down under. Just curious, does oil swirl clockwise or counterclockwise when draining?
Doug MacDonald

Good Landings Using "Thru the Window" Flight Test Techniques

Smiles on the Ground are Determined at 200 Feet

By Bob Kromer

Mooney Factory Engineering Test Pilot 1983-1986
Mooney Executive VP and GM 1986-1991

We're Judged by the Quality of Our Landings

Nothing like a nice, smooth landing flare and touchdown in a Mooney to stroke our ego, impress our passengers and keep the wear and tear on our beloved airplanes to a minimum. Seems an entire flight is remembered not by what happened during takeoff, climb or cruise, but during that last 200 feet of the approach and landing. As goes that landing, so goes the flight. And so goes the smiles of your passengers.

The Mooney Challenge

Up front, let me state an opinion - Mooneys are a little more challenging to land properly and smoothly than several other popular brands. This is first demonstrated during factory flight tests conducted for the original development and certification for the specific Mooney model being tested and evaluated. Such Mooney-specific design characteristics as 1) comparatively close distance between the wing and the ground, 2) high aspect ratio wing, 3) relatively low drag profile, 4) nose down pitch change with flap deflection - all tend to add to pilot workload and attention during approach and landing. All can be handled, but they do keep us on our toes. And that's a good thing. When mastered, landing a Mooney properly makes us stand a little taller and prouder among pilots of other brands.

The Concept of "Thru the Window"

Is there a trick or secret to consistently good Mooney landings? Not really, but there is one particular check during approach to landing a Mooney that can really help with smoothing touchdowns and impressing passengers. From historical flight test information I have, along with my own experiences as the factory's engineering test pilot, it seems all Mooneys can benefit from a final approach procedure engineering test pilot's term "thru the window".

Exactly What is "Thru The Window"?

It's a quick check all Mooney pilots can make during the final phases of the approach to help judge if the upcoming landing is going to be a good one, a bad one or an aborted one. Think of "the window" as a fixed, imaginary square floating in the air about ½ mile from the runway. This square has a width of the runway and a height that begins 200 feet above the runway up to about 250 feet above the runway. Test pilots envision flying "thru this window" while conducting multiple landing tests. Test pilots use this "window" as a place to fly thru "on condition". If the parameters to be tested are all met when passing "thru the window", the approach and landing are completed. If not, the approach landing is aborted and another try is made.

"Thru the Window Callouts" Used During Test Flights

Here is the typical "thru the window" callout the test pilot makes during a flight when evaluating landings: "Thru the window, ON SPEED, gear down, flaps as required for the test, power as required for the approach, prop full forward, mixture full rich or as required for smooth operation." It's this call that determines if the airplane is continued for the upcoming flare event and touchdown or if the test point

is aborted and another attempt is made. "Thru the window" determines the success of what will happen next for the flare and landing.

Everyone Can Use "Thru the Window" Callouts

No reason all pilots can't use this same technique used during flight tests to improve the quality and consistency of their landings. Here is a mental callout everyone can make on short final:

"Thru the window on ½ mile final, speed at POH recommended value, gear is confirmed down, flaps as desired, prop is full forward, mixture as required for smooth operation, runway clear, tower has cleared me to land". If this call is consistently made on ½ mile final and conditions are at proper values and as desired, the upcoming landing should be a good one.

Importance of Airspeed Control During Approach

I have emphasized this in the past, but Mooney's need to be flown precisely on the correct airspeed for consistently good landings. The tendency in the Mooney community for quite some time has been excessive airspeed in the landing flare and attempted touchdown. Don't know why, but throughout the years Mooneys have suffered from excessive approach airspeed. At the factory, we saw and heard the results - porpoised landings, broken nose gear assemblies, propeller strikes on the runway, worn tires, worn brakes. All resulting in high warranty expenses and insurance rates.

If there is one thing Mooney flight test evaluations demonstrate, it's to be on speed "thru the window" when landing your Mooney. You'll find the correct airspeed in your Flight Manual or Pilot Operating Handbook. It's generally very close to 1.3 times the stall speed in the landing configuration (Vref). Use what is published. Make proper approach airspeed "thru the window" your goal on every landing.

Impressed Passengers

"Thru the Window" is a flight test technique you can use in your Mooney flying. It's a quick check you can make that will help determine a successful landing outcome. Be on airspeed when passing "thru the window". Your landings will greatly improve and your passengers will be duly impressed.

Mooney's Small, Dedicated Staff

By Jim Price

There are currently eight full time and two part time employees at Mooney that help keep the pipeline of Mooney parts flowing to the world.

At the helm is ***Barry Hodkin***, the **Chief Operating Officer**, who coordinates day to day functions in Kerrville. Barry is from England, and speaks the "Queen's English". The other nine who support Mooney speak "Tex-un".

Chad Nelson is the **VP of Production**, and currently works an abbreviated schedule making sure the factory is always ready to start production of new aircraft when that time comes.

Bill Eldred is **Director of Engineering**, and his prime responsibility is to:

- Maintain the FAA Type Certificate
- Make changes to Type Design when required
- Find new sources of parts when certain things become obsolete
- Provide Technical Support for the Electrical systems, and build the wire harnesses for kits sold in the field. BEldred@mooney.com

Robert Collier is **Director of Quality Assurance**. Robert manages:

- Mooney's FAA Production Certificate
- Anything that must be FAA Approved
- The AS-9100 Approved Quality System (A standardized quality management system for the aerospace industry)
- Plant Safety and Environmental issues

Larry Hunter is the **Information Technology Manager**, and keeps Mooney's computer hardware and software up and running. This includes their website and Service Parts web portal for the Mooney Service Centers. Larry also serves as the **Human Resources Manager**, ensuring that the staff gets their paychecks, as well as sourcing their personal health & wellness benefits.

Tina Brown handles all things financial, including customer accounts and day to day cash flow requirements.

Two Guys that are the Heart and Soul of Mooney Operation - Frank Crawford and Stacey Ellis

Frank is a multi-talented individual that Mooney literally could not do without. His primary job is **Manager of Technical Documents**, but like most Mooney employees, he has multiple duties.

- All manuals, Service Literature; the AFM/POH's – they all come from Frank.
- He **Manages all Service Parts Orders** ServiceParts@mooney.com or FCrawford@mooney.com
    - When a parts order comes in, Frank provides Price & Availability status

  - Coordinates those orders with outside vendors as well as in-house production
  - Ensures that all necessary documentation makes it out the door with the part.
- He's also a Machinist, so he also works in the back shops, making the parts that our customers order.

Stacey is the **Product Support Manager as well as THE sole A&P/IA presence**. If you have a technical question that involves anything Mooney, then Stacey is the man. Like Frank, Stacey's primary function is only one part of his daily load.

When he's not on the phone with a customer, you will find him:

- In the back shop making Airframe parts
- Telephoning vendors and outside shops that Mooney uses to build parts and assemblies that are no longer made in house
- Finding new sources of hard to find parts
- Maintaining the Experimental test-bed aircraft that Mooney uses to approve parts and systems
- Assisting in the package and shipping of parts to the world. SEllis@mooney.com or TechnicalSupport@mooney.com

Mike Miles has been Mooney's Chief Flight Test Pilot for decades. If you own a Mooney, chances are that Mike was the first person to ever fly it. He handles **Technical Support** Pilot related questions.Mike is a Designated Engineering Rep (DER), Designated Air Worthiness Rep (DAR), Designated Manufacturing Inspection Rep (DMIR), and has the final say as to the quality and Airworthiness of the parts you receive. In addition to incoming and outgoing Quality Functions, Mike also handles all the logistics to get that part to you. Like Frank & Stacey, Mike produces parts in the back shops.

Phyllis Hollis and ***Jorge Medrano*** were added last year as part time employees. They have a long history with Mooney with decades of experience between them. They have been critical to the production of many of the airframe components that the fleet is now receiving.

When the Part is NOT in Stock

When a customer orders a part that is not on the shelf, Frank contacts the part vendor for pricing and lead time. *For instance*, if you need a cowl flap motor for an '89 M20K, Frank contacts Globe Motors and asks for a price and lead time for one motor. If they happen to have it on the shelf, great. If not, Globe must tool up to produce one motor. That takes whatever time it takes, and lets face it, no vendor will give much priority to an order of one part. In the case of the cowl flap motor, Globe Motor's lead time is four to six weeks.

Why not just order ten, or 100 motors for best pricing and availability? Mooney's transaction history for the flap motor shows that they sell, on average, two per year. If they order 100, it will take 50 years to sell them. So, the motor is ordered when needed – with a long lead time.

High usage items such as shock biscuits, etc. are bought in quantities that are sufficiently stocked to keep lead times to a minimum because they sell fast and often.

Why Not Keep the Shelves Stocked with "One of Everything"?

Currently, Mooney can afford to be in business because their outgoing parts outlay is only unfunded until the part comes in and they ship it to the customer.

When the factory was humming, Mooney would have "net 30" or "net 60" credit accounts with their vendors. However, that's not possible today. There is no soothsayer or software algorithm that can predict when a customer will need a part. So, Mooney must buy in small quantities to meet current parts demands. This also means that they are required to pay cash up front, just like you do when you order something off the internet.

Let's say Mooney's cost for a "widget" is $250. No big deal to keep one or two on the shelf. Now multiply that by 21 Mooney Models, spanning 60 years, and the number of widget parts explodes, with no foreseeable return. This puts Mooney's survival at risk.

The Older the Mooney . . .

There are 60 year old airplanes that are still flying, and many parts are now obsolete. Mooney must spec- in replacement parts that will perform the same function. Many of these parts were first defined on a Mooney Specification Control drawing, and the only customer for that part is Mooney. When a vendor drops that product, as many do because of lack of sales, Mooney must find another source for it, or change the design to use something that is already available. Considering that there are about 7,000 piece parts on an average Mooney, that becomes an enormous job.

Adding to the sluggishness of the parts pipeline is the fact that Mooney no longer has a purchasing department staffed with buyers that would hound the vendor incessantly to rush a part.

They Understand and Sympathize

The guys and gals at Mooney understand how frustrating it can be when there is an aircraft on the ground (AOG). Remember that Mooney cannot post a completed sale as revenue until it is delivered to the customer, so long lead times hurt them, too. You can be assured that the Mooney staff will get that part to you as soon as possible because their livelihood depends on it.

The Biggest Complaint – Tech Support

Yes, they know that they stink at that. However, it's not going to get any better in the near future. But there is a way to improve it, and that's to Email your question with all of the information you can provide, including the aircraft model and serial number. **Everyone** sees the email and someone *will* respond. They have so many jobs that they are seldom at their desks, so a phone call is not a good option. However, if you are elbow deep in an engine overhaul, or need to talk to Mike about some facet of flying a Mooney, then call and leave a voice message, explain your problem, including all of the information that you can provide. The staff can then make sure that the right person calls you back, armed with the information you need to know.

A Message from Mooney: "Stick with Us"

"There are some exciting possibilities concerning our future in the works, and we cannot wait to start producing new Mooneys and new parts on a grand scale. Stick with us, because we've certainly made the commitment to stick with you!"

Ed Note:Thanks to Bill Eldred, Director of Engineering, for his help in writing this column.

Thinking Fast vs Slow

You Need Both to Stay Alive

By Phil Corman

Flying a Mooney safely requires many skills, not found in every person. The most often quoted skills include "multi-tasking" and "hand and eye coordination". There are many others.

Another, less often said truism, is that a pilot does not know how good they are until they are put into a situation where their training and skills are demanded to terminate the flight without incident. How a pilot in command executes the responsibilities of flying while under a ton of duress will reveal those skills.

Most accidents are not caused by the airframe, or engine, or weather. They are caused by the pilot. Airframes don't tend to fail. Engines fail, but account for a small fraction of accidents. Weather can clearly be identified as the "final" cause of an accident, but the vast majority of weather-related accidents are caused by the pilot in command putting themselves into avoidable situations or not exercising judgement or skill to mitigate them.

In this article, I want to focus on Fast vs Slow Thinking while executing our privileges of piloting our Mooneys. I am basing much of this analysis on a book entitled "Thinking Fast and Slow" by Daneil Kahneman. But my value-add, if you will, is to adapt his concepts to the craft of flying Mooneys. Mooneys, more than most other single engine aircraft, require the pilot to be *on top of it*. Mooneys fly fast and react fast.

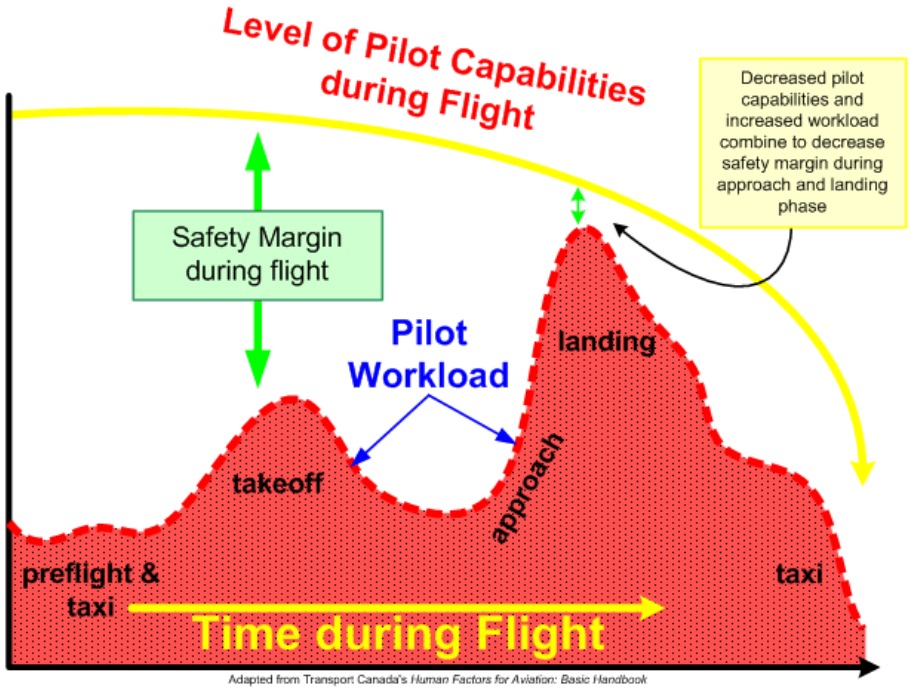
So what is FAST thinking and what is SLOW thinking. And more importantly, when is one more necessary to be utilized. Fast thinking is more instinctive and more intuitive. If you are asked, what is 1+1? You will quickly say the answer. If you were asked the square root of 923, a more thoughtful and energetic and time consuming process is employed.

I'll start with FAST thinking for pilots. In our day to day lives, most of our fast thinking, as we've said, is instinctive. But in flying, some of our "instincts" may cause us to make, or delay, the proper response. Good examples of this are "losing an engine on departure". If you lose an engine in a nose up attitude at V_x or V_y, FAST thinking is all that will save you. An aggressive push down to achieve a flyable angle of attack is of overriding priority. This is followed by achieving a best glide, configuring the airplane for landing, and selecting a landing zone within a field of view left 30^o and to the right 30^o. This requires fast thinking (and execution). I'll call this sequence a Conditioned Response. Another example of a Conditioned Response is to "resist raising the nose to extend a glide in an engine out situation". Another example to non-instrument pilots is to rely on the instruments in IMC and not your inner ear. A final example of FAST thinking requiring a Conditioned Response occurs if you find yourself in a spin. Your instincts scream at you to apply reverse ailerons, which we all know is wrong. What about adding power if your Mooney is not responding? Or pushing the nose further down? These are counter

intuitive and are learned Conditioned Responses. There is not enough time for SLOW "thoughtful" thinking.

SLOW thinking involves more analysis and thought exercise. Examples include planning a flight, evaluating the weather, or determining the airworthiness of your Mooney before flight. The answers are not always apparent, and luckily, you don't have to make a split second FAST think. You may ask, "Why does this matter?" But it does. Get home-itus, pushing on with diminishing fuel in cross country headwinds, ignoring warning signs from the weather or things your Mooney is saying to you that need your attention before going wheels up… are all examples requiring SLOW thinking. How many times have you heard that such and such an accident started before the pilot even got into the airplane? What was he thinking? The answer is he wasn't exercising SLOW thinking. In flight, a good example of SLOW thinking in an engine out situation is to simply FLY FLY FLY, do your engine out checklist, pick a landing zone, and then contact ATC. SLOW thinking is demanded here to troubleshoot the cause and maybe remedy it, after you've got the landing process identified.

SLOW thinking doesn't need much more written about it. It's all about combining your experience with a thorough analysis, creating a plan, and having alternatives. FAST thinking coupled with Conditioned Responses need to be ingrained into your pilot psyche on the ground, well in advance of having to execute them. Going back to the "engine out on departure" scenario, develop your Conditioned Response before you get back into your Mooney. About 50% of your departures are from your homedrome. Why not pull up Google Earth and figure out your landing zones for each runway? Now you have a plan for half your operations. By making it a Conditioned Response, you are increasing your chances of survivability. By eliminating the impossible turn from your Conditioned Response, you increase your survivability immensely. It's also valuable to write these down and review them regularly. Develop your own personal list of minimums, for instance. And anticipate situations that may envelop you, and then have your FAST thinking Conditioned Response for those scenarios.



Here's a short list to start you thinking:

- Engine Out on Departure
- Flight into weather beyond your skills (ie, entering IMC if non-instrumented)
- Flight into truly severe turbulence or SIGMET-quality convection
- Oil obscuring your line of sight while landing
- A bird strike at low altitude maneuvering flight

A final note. It's important for each pilot to recognize when FAST vs SLOW thinking is required. I've encountered a few scenarios in my Mooneys. One was a broken throttle cable on a go-around and the other was no confirmation my gear was locked down after a big "clang". At first blush, while flying, I thought these required fast thinking. On the gear issue, that is clearly not the case. I could fly around and come up with troubleshooting until I ran out of fuel. On the throttle breakage, it was a combination of FAST and SLOW thinking. The FAST thinking was to resist pulling up the nose to avoid the trees in a partial power go-around. The SLOW thinking was different. It consisted of analyses such as 1) Should I land at this short field without throttle control (dead stick), or fly to a longer runway with services, 2) Can I vary the engine power with mixture on descent and landing? 3) Who should I communicate with for assistance? And the like. Again, I had as much time as fuel permitted to make the right decisions.

So do some SLOW thinking and develop your own Conditioned Responses for those situations that will require FAST thinking to end up with a desirable outcome.

The IO-360-A1A "Tale" that was left hanging!

by Geoff Lee

I had decided to take my secretary to lunch in Salinas. She had asked me if I would take her 12 year old son for an aero plane ride a couple of weeks prior to that day. (*we did refer to "administrative assistants" as secretaries back in the 70s)*. The '68 Executive was based at San Jose International at that time, so it would be a reasonably short, but interesting excursion for the young man. I did not know just how interesting it would turn out to be for us all.

We departed runway 30 at San Jose making a left downwind departure and climbed to 5,500ft in smooth air. The route would take us down the Santa Clara valley close to the Santa Cruz range and over the reservoirs nestled at the base of its hills, providing a great view of the valley and a glimpse of the Pacific Ocean. The landing at Salinas was uneventful, the lunch was forgettable but the ride was exciting for the boy whom I let ride in the right seat perched on a cushion.

Mission half accomplished we departed runway 31 at Salinas for the trip home. My plan was to track the coast past Watsonville and turn inland to San Jose when abeam Santa Cruz following Highway 17 through the mountains to the airport. I intended to fly at 2000ft along the coast, thus providing an interesting view for my passengers. I requested and received a "straight out" departure from Salinas tower and commenced the climb to 2000ft. It was a warm day but I was attired in an obligatory business uniform of suit, white shirt and tie. I had shed the suit jacket.

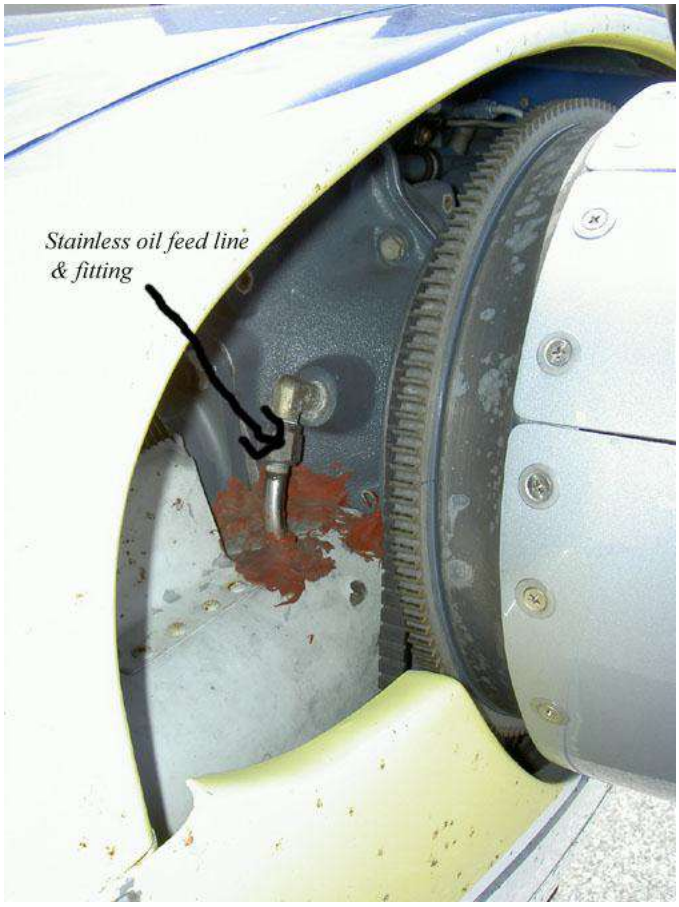
Leveling off at 2000ft, I reduced throttle and then RPM, the aircraft was immediately enveloped in what I can only describe as a "brown bag. There was no visibility even through the rear windows. We had just reached the coastline adjacent to the PG&E power station about 12 nm from the airport. My hand flew to the small wind window at my left, and upon opening it I was immediately showered with oil. So much for that white shirt and the tie! The window was promptly closed. Focusing on the instruments I turned back toward the Salinas VOR, alerting the tower of my predicament and requesting a VOR 13 approach. I knew that I was positioned quite close to that approach path having trained many pilots on that approach in the past. The oil pressure was steady. With a hand on my oily shoulder and a calm voice in my ear, the lady in the back was asking if things were ok? .

"Sure" I replied ". We will be on the ground very shortly", thinking "I hope at the airport". There is no attempt here to convey that I was cool. My heart was racing, my actions were primarily reflexive, my advantage in this situation, thank heaven, was that I was very familiar with the terrain, the aircraft, that particular approach and my geographic location (*no GPS then*),and I had an accurate situational picture in my head.

I dialed Salinas VOR into the OBS and selected the 122 degree approach radial. The approach is almost a "straight in" to runway 13 but that needle needed to be absolutely dead centered all the way to the approach end. I later reflected that it was fortunate that the VOR was geographically located adjacent to that runway. The engine continued to run smoothly and I reduced power to just enough to maintain altitude and not encourage the exit rate of oil from the engine. My DME was giving me distance from the airport and the 229 degree NDB bearing fix from the Monterey beacon would also depict when I was at "SAMES", a 5 mile fix from the airport. Normally one would arrive SAMES at 1600ft. I intended to cross that fix at 2000ft and commence a 500-600fpm descent at 120mph. Five nautical miles should put me within 200ft over the runway 3 minutes after SAMES. Salinas airport elevation is 85ft. I have used

that rough formula many times, as it is useful when approaching a pilot-controlled airport from a good distance out by giving one a 5 mile point at which to start a known descent rate to the runway or pattern (*1700-2000ft AGL @5 miles, 120mph, 400-500fpm).* The speed and descent rate can be adjusted easily when good visual clues present themselves. Wind can be a factor but luckily for me it was light and variable this time. Since I was to have no visual clues, I asked the tower controller to give me an altimeter setting and inform me when I was over the runway threshold. At 1 mile DME I lowered the gear and slowed to flap speed then 80 mph. Descent rate was 500fpm. The tower said that he had me in sight with his binoculars. The tower continued to give me height assessments all the way to and over the threshold of 13, and that was immensely helpful. The altimeter told me that I was less than 100ft over the runway so I reduced power to idle and held the plane level, closely monitoring the compass, VSI and altimeter. When the VSI indicated less than 400fpm and altimeter showed about 50ft I held the level attitude until feeling that last sinking "payoff' that we are all familiar with, at that point I applied steady back pressure and hoped. A slight bump and we were down in a very nose high attitude. We came to rest about halfway down the runway and within a foot of the gear striking a runway light on the left side. Upon opening the door to allow my young passenger out, he was showered with oil dripping from the upper fuselage. I did appreciate congratulations from the tower guys whom I thanked for their help and attention. New clothing would be purchased for my oil stained passengers who did ride with me again at a later time.

The plane was towed off the runway to an FBO. It was totally covered in oil all the way back aft of the windows. I had declared an emergency so I met with a Federal safety person two days later in Salinas to discuss the issue. Since no one was injured and there was no obvious damage done, we parted with a handshake.



At that time, the IO-360-A1A had an Aluminum oil feed line located at the forward crankcase area. The line supplies oil at high pressure from the pump and then governor to the variable pitch propeller mechanism. The "flare" on the end of that soft Aluminum line had cracked under the overtightened nut that secured it to the tapered Aluminum elbow connection on the crankcase. High pressure oil was squirted forward into propeller airflow and thus very effectively distributed about the fuselage. There were just over 2 quarts of oil left in the sump when I landed. The engine survived the 6 minute saga.

The line was replaced and the aircraft cleaned by a local FBO at Salinas. It was not the end of the tale !

Two months later I had to make a trip to Sacramento. The weather was overcast and rainy so I invited one of my instrument

students to accompany me allowing him to ride left seat. This was not a usual habit as I do not teach in my personal aircraft, but the guy owned a C model and was reasonably competent. We were going to have dinner at the airport restaurant so the departure from SAC would be after dark. It was an uneventful flight up to Sacramento Executive in afternoon, with overcast daylight and light rain, minimal wind, we flew the runway 2 ILS.

Business and dinner completed we filed IFR back to San Jose. It was dark, overcast with light rain. Departure runway would be 20 with a light cross wind from our left, SW side. My student was flying,and I was observing and trying not to comment on the climb out. As I sat looking at the black/rainy windshield I could see small red lights, it occurred to me that we were roughly pointed toward mount Diablo and I could not figure out why there would be so many lights on that mountain. It finally dawned on me that the lights were the reflections of the panel instrument lighting. I had never seen this reflective phenomenon on my plane before. Closer inspection revealed that the lights were being very effectively reflected by the oil that was running up the windshield Plexiglas. I knew what was happening. Taking control of the plane I alerted the departure controller and requested the ILS runway 2 back to SAC, déjà vu. My student dialed the frequency while I completed the turn to intercept the localizer; we got the glide slope almost immediately. I cannot recall how far out we were but I was feeling good about the fact that this time I had an electronic aid for the descent as well as lateral guidance from the localizer. Side and forward visibility was zero. I set power at 18" MP, prop full RPM, lowered the gear and set half flap. Speed was 110mph with a descent rate at abut 550fpm.We would be landing with a slight tail wind component. The controller handed us off to the tower and I made the same request to him as I had at SNS: "Let me know when I reach the threshold".

I requested that the runway lights be brought to "strength 5" just in case they might be visible through the oil film. At 700 feet I went to full flap, powered back to less than 15", and slowed to 80mph, still glued to the VSI, the GS and localizer. Crossing the threshold at about 100ft and 75mph, I had to bring the MP up to about 12" due to the sink rate being about 600fpm. I left it there and pitched to 5 degrees holding it and runway heading using right rudder. The touchdown was not beautiful but not catastrophic. We had one wheel on the wrong side of a runway light when we came to rest. I wiped out another shirt upon exiting the plane.

The same FAA guy met me at the plane next day and asked me how I managed to get this one down? I replied with a smile, "Pure skill and practice". An AD was later issued to remove and replace that Aluminum line with a stainless steel line and attendant steel fittings. The engine survived fine and I have since wondered just how long the IO-360-A1A would run when totally devoid of oil. An interesting note is that I subsequently learned that the oil pressure will remain constant until the pump commences to "cavitate". Cavitation can occur when the oil level drops below 1 quart.

Keep your nose low..*and your oil level up*!

Send your questions for Tom to TheMooneyFlyer@gmail.com

Question: Do I recommend additives for either Lycomings or Continentals?

The short answer is: NO

I have read a lot about additives and they all sound like magic, but in all my years I have never seen anything different on engines that use them or those that don't. I have one exception, for years we used LW16702 which by AD is required on certain C-172 H2AD engines and we used it in other Lycs.

After Aeroshell added it to the AS100Wplus, we stopped using the additive.

We have some owners that use different additives. The most popular is AVBLEND , and I have no reason to disagree, since I also don't believe they do any harm. I believe that frequent oil changes are the most important factor for long engine life. I don't consider the cost of oil or additives, since it is really minor when you consider a TIO-540 reman can be up to $60,000+. By the way, I don't sell engines.

There will be many who will really disagree with me, but this is just my opinion.

Question: What about climb settings for the O-360 and the IO-550?

The correct answer is to follow the POH (if there is one). But for the 360, I like 2600 RPM and 26 inches or whatever you can hold as you gain altitude. However, if you can get a good rate of climb and while climbing at somewhere between 110 and 120 MPH/ Knots (cruise climb) – that's very good. The same really applies to the 550. I recommend best rate only when you need it. The engine works the hardest and gets the hottest at a steep climb attitude. Cruise climb is always better for the engine.

Example: We had an E model owner who had put on a three bladed prop (I think everyone knows I am against a three blade on a four cylinder unless it is composite). The problem he had was really hot temps on climb out. We went through a lot trying to figure out the problem when I finally sat down with the owner to go over his flight ops. That's when I discovered he always used best rate and when he switched to a cruise climb his problem was solved. **Note:** A three blade does slightly reduce air flow to the engine. Thats why he didn't have a problem before the change. I am not an instructor pilot and only look at what I have learned is good for the engine.

Florida Mooney Lunch Group

May 11: Winter Haven (GIF) Pappy's Grill
June 8: Punta Gorda, (PGD) Skyview Cafe
July 13: Williston (X60) Pyper Kub Cafe
August 10: St. Augustine (SGJ) Fly By Cafe
September 14: Lakeland (LAL) Air Harts Cafe
October 12: Flagler (XFL) High Jackers
November 9: Winter Haven (GIF) Pappy's Grill
December 14: Punta Gorda (PGD) Skyview Cafe
E-mail DaveanRuth@aol.com by Thursday night of the week of the event so we have a headcount for the restaurant on Friday.

VINTAGE MOONEY GROUP USA

May 18: Morgan Military Aviation Museum at Curtis Field (KBBD) – Click Here for details
June 7-9: Wings to Walla Walla (KALW)– Click Here for details
June 21-23: Gathering of Mooneys at Lake Tahoe (KTVL)
October 5-6: California Capitol Airshow & Mooney Fly-In (KMHR)

Another Impossible Turn

By Jim Price

The morning of July 17th, 2011, Brian Hayes, 35, and his girlfriend Nicole Anderson, 32 landed at Lindbergh Regional Airport in Winslow, AZ. According to FlightAware, this was the first leg of their cross country flight from Colorado Springs.

The Mooney M20F was based in Chino, CA and owned collectively by Brian and his partners.

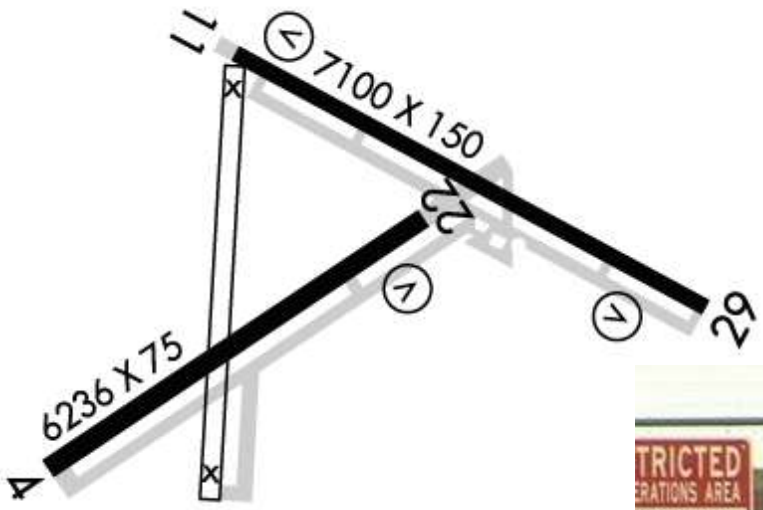
Brian and Nicole were police officers in Southern California and were on their way home in N3534X.

Loss of Engine Power - No Big Deal

Brian's partners reported that he had issues with what he believed to be water in the fuel tanks. He had reported that previously he had a loss of engine power during takeoff but was able to restart the engine. Brian thought that if the problems continued, he would install new fuel cell bladders.

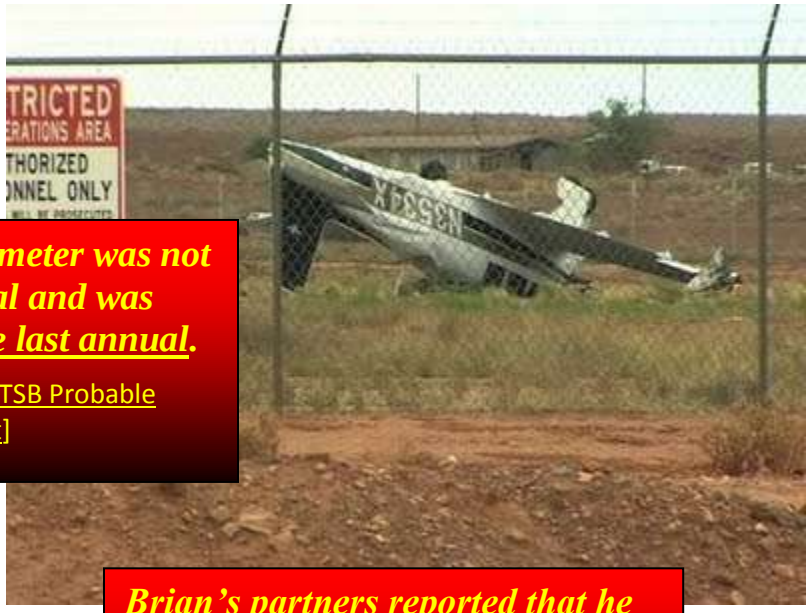
After adding 41 gallons of 100LL and stretching their legs, Brian and Nicole departed on runway 11 at about 10:20 AM, MST.

A witness said that a short time after taking off, Hayes transmitted that he was returning to the Winslow airport due to a rough running engine.



According to the NTSB report, witnesses on the ground saw the plane in a steep turn and then saw it descend in an uncontrolled spiral. No one saw the plane actually crash.

Inverted, the airplane impacted along the right side of the approach end of runway 29, killing Brian and Nicole.



Brain had previously experienced a loss of engine power during takeoff in N3534X, but was able to restart the engine. He reasoned that if the problems continued, he would install new fuel cell bladders.

The tachometer was not operational and was inop at the last annual.

[Reference NTSB Probable Cause Report]

Brian's partners reported that he had issues with what he believed to be water in the fuel tanks.

In the past eleven months, Brian and his partners had logged only 18.7 hours in their M20F. (That's an average of less than two hours per month).

[Reference NTSB Probable Cause Report]

The Effects of Water in the Tanks

The fuel injection servo was opened for examination. Investigators observed debris and corrosion within the servo fuel inlet filter screen, internal diaphragm cavities and mixture control mechanism bore, which appeared to be consistent with previous water contamination. The fuel injector servo was disassembled and examined. This confirmed the servo had rust and corrosion present throughout the unit.

How Can We Keep the Water Out? Perhaps We Can Comply With the Appropriate Service Bulletin

In 1986, Mooney published Service Bulletin M20-229A, "Fuel Filler Caps, Inspection and Adjustment. [See http://www.mooney.com/images/pdfs/sb-pdf/sbm20-229a.pdf]

Exposure to fuel fumes, fuel and weather has a deteriorating effect on the fuel cap O rings. In addition to replacing the cap O rings annually, the mechanism and the O ring need to be lubricated occasionally with Tri-Flow oil. You can find this at a bicycle shop. This will keep the mechanism lubricated and prevent O ring cracking. M20-229A also has instructions for your mechanic to test the cap adjustment to ensure that moisture stays out of your tanks.

Did this Mooney have M20-229A accomplished at the last annual? I'm not privy to the logbooks, but if there was water in the fuel, there's a good chance that the owners and or the mechanic were unaware of the Service Bulletin.

The Big Push and Straight Ahead!

We don't know the altitude at which the engine roughness and subsequent failure occurred, but it was "a short time after takeoff" from the Winslow airport. Winslow's field elevation is 4,941 feet MSL and even a t 10:00 am, the temperature was a hot 91°F (33°C), driving the density altitude to 8,180 feet. These conditions probably reduced their aircraft and engine performance during climbout.

What if it Happens to You? Forcing the Big Push

Logical thought would be screaming at you to pull back on the yoke to stop the descent. But you need to do the opposite! You need to immediately push the nose over! This forceful push forward on the controls reveals a frightening nose-low attitude in order to keep the airplane flying. However, if you don't immediately do "THE BIG PUSH", your nose up climb attitude will put you in an almost immediate stall/spin.

You've done "THE BIG PUSH". Now what? The nose is very low but the airplane is still flying with at least a small margin above stall speed. If you were really low when the engine failed (at or below 300 feet), there is no question about what comes next. The airplane is descending rapidly and the ground is coming up equally fast, so the only option available is a slight turn if necessary to avoid any serious objects directly ahead of you, followed by a flare just before hitting the ground or at least try to cushion the force of the impact. While the landing gear may be damaged or even collapse, odds are that you and your passengers will have few if any injuries.

What if You are Higher than 300 Feet AGL?

Assuming you manage to avoid an immediate stall by getting the nose down quickly, you would typically start hearing little voices telling you to get it back on the runway. It seems so close!

Don't Do It! It's a Trick!

Trying to turn back to the runway is so dangerous that there have been many fatalities involving pilots who have tried it from 500 feet. Instructors and their

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students, with perfectly good engines, practicing the turn back to the runway, have had accidents.

Different Day – Same Stuff

The day after the Winslow accident, on July 18, 2011 in Augusta, GA, (KAGS), a pilot in a 1979 Mooney M20K, (N777CV), tried to turn back to the runway after experiencing a prop loss after takeoff. The flight was captured by a school's webcam and I've included a link to the tragic video.

Watch it on Vimeo: http://vimeo.com/26640491

You'll see the Mooney appear just above the trees six seconds into the video. Eight seconds after that, the prop falls off and he initiates a left turn. **Three seconds later**, the pilot is in a steep left turn and has not lowered his attitude.

Two seconds later, the Mooney stalls and it only takes **three more seconds** to hit the ground. Eight seconds from prop loss to the crash site – still in the airport boundary. Fatal.

What if You Have a Few Thousand Feet to "Play With" and You Just Can't Resist Going Back to the Airport?

As you make your turn to the departure airport, to keep the airplane from stalling, the nose has to be kept even lower, so what we are talking about is a steep turn just above the ground in a rapid descent of more than 1,000 fpm. This would be a difficult maneuver even for a pilot who has experience flying near the ground. For most pilots, seeing nothing but the earth rotating only a few hundred feet in front of the windshield while the stall warning is blaring would be terrifying. Few would have the willpower to avoid pulling back on the yoke, but to do so leads to an immediate accelerated stall.

Decide Now!

Before every takeoff, prepare yourself for a possible engine failure with a short briefing stating out loud what you will do if the engine fails on the runway, below your minimum turnaround altitude and above that altitude. Then make a quick callout as you climb through your minimum turnaround altitude. That way, if the engine fails on takeoff, your decision is easy. If you haven't made the minimum altitude call, you don't even consider turning around. **Your conditioned response, without thinking, must be**:

- Get the nose down (The Big Push),
- Keep the airplane flying, and
- Look ahead within about a 60-degree arc for the best place to set the airplane down.

Someone will most certainly need to call the insurance company. However, the good news is that it probably won't be your next of kin. That's because you will have flown the aircraft all the way to the crash site and survived to make the call!

Now, raise your hand and repeat after me:

"I swear on my Mooney's Operating Manual, that:

- "I'll listen to my aircraft and get it fixed immediately"
- "I'll fly enough to stay proficient"
- "When the engine quits, the airplane belongs to the insurance company."
- "I'll always put my life and the lives of my passengers first because the plane is always a distant second."

Paso Robles, California

By Linda Corman

This month I thought I would take you to one of my favorite getaway places, **Paso Robles, California**. This destination has something for everyone. For those not familiar with the location it is on the central coast of California half way between San Francisco and Los Angeles. The airport is easy to get in and out of and they have rental cars if you call ahead. Most people know the area because of its great wineries and, of course, Hearst Castle. But there is a lot more to this region. The downtown area of Paso around the cute little central park has great shopping with world class restaurants. Some of my favorite restaurants include Robert's on Pine Street along with their sister restaurant Estrella's across the street from the park. If you like ethic food there is a new place called Jaffa Café which has Mediterranean style meals. Of course, to start the day off right you need to visit Joe's Place, where they have the best breakfast in town. Joe's is located on the south end of Spring Street.

Take a Wine Tour

Beautiful Wine Country, with warm hospitality and down home feel

Some of the best wine in California is being produced on the Central Coast of California especially in Paso Robles. To enjoy a fun day of wine tasting one of best and safest ways is with a Limo. Leave the driving to the expert and don't worry about having a little too much to drink. Of course, for the pilots, a stay overnight at one of the really nice hotels is a must after a day of drinking. The La Quinta is just down the street from the airport off highway 46E, it is clean and very nice with a pool and breakfast. To enjoy a little high end lodging try the downtown boutique hotel called La Cheval. There are plenty of places to stay in Paso so a hotel is usually not a problem, except during one of the wine festival weekends. These are the third weekends of March, May, and October. Click Here for a map of the wineries.

There are three beautiful lakes in the Paso Robles area including San Antonio, Nacimiento and Santa Margarita. San Antonio and Nacimiento have boats to rent for a day in the sun. Lake Nacimiento and Santa Marguerita have camping spots. Fishing on all three lakes is wonderful. For a larger water spot, the Pacific Ocean is only 30 minutes away with three coastal towns to visit. **Cambria** is a little village with wonderful shops and restaurants. If you go here, please be advised that there is an east and a west village to Cambria. They are separated by about a mile. You should visit both. There is a boardwalk along the coast above the beach on Moonstone Drive, a beautiful place for a morning stroll. If you are hungry, the Moonstone Bar & Grill is along the boardwalk with outside café seating to take in the fresh ocean air and view. Fifteen minutes south, along the Pacific Coast Highway, is **Cayucos**, a town that somehow got caught in the 1960s, a surfer's paradise with nice places to eat and wide open beaches to walk. My favorite restaurant is Schooner's Wharf. Sit upstairs on the patio next to the bar to experience it best. A little further south is **Morro Bay** with its famous rock. They have a nice walking area on the Embarcadero with shops and restaurants. My favorite place to eat in Morro is The Galley. You can sit in the shadow of Morro Rock, next to a window and enjoy the fishing boats coming and going along with watching the seals and sea lions playing in the harbor.

Tour the Best Wineries

Tour Route 46 East

Start with EOS Winery, J Lohr, Eberle, and Tobin James. Tobin James is a must stop on this tour.

Tour Route 46 West

Start with Castoro Cellars, Red Soles, Jada, Opolo.

Want to get off the beaten track, take **Union Road** (on the east side). Try Clautierre, Pear Valley, Sculptera, and Bianchi.

Or go into the hills on the **West Side** with Tablas Creek, Justin, Halter Ranch and Adelaida. Two beautiful wineries on the west side are Daou and Calcareous.

If you have never seen Hearst Castle this is the major tourist attraction in the area. It is located north from Cambria in San Simeon. There are huge parking lots where you leave your car and take buses up to the castle. This is an interesting place to visit and see how the other half once lived the high life. The European artifacts are priceless and the building is unique. While you are there, drive another 5 miles up the coast to see the Elephant Seals hatchery. I hope you enjoy your stay as much as we did.

Places to Stay

In Paso Robles

- La Quinta (closest to airport)
- Marriott Courtyard
- Hotel Le Cheval
- La BellaSera

In Cambria

- The Fogcatcher Inn
- Cambria Pines Lodge

Places to Eat

In Paso Robles

- Roberts
- Estrella
- Artisan
- McPhee's Grill (Templeton)

In Cambria

- Indigo Moon
- Moonstone Grille
- Sea Chest

The Airport (KPRB)

Sunny 340 days per year.

Great FBO: Paso Robles Jet Center

- Courtesy Car

Restaurant: LaGuardia's Homemade Deli

C Home of The Mooney Flyer. Contact us for more details or assistance with your visit.

May, 2013

Avidyne Corp. closes in on long list of new product certifications,

covering nearly all of the key points on the panel. The IFD 540 and IFD 440 navigators, announced in 2012, are on final approach to the first deliveries, beginning with the IFD 540 ($16,995) later this year and the IFD 440 ($14,995) to follow about six months later. READ MORE

ADS-B Equip – Tick Tock, but Multiple Choices

While 2020 may seem a long way off, the clock is ticking on the coming NextGen mandate to equip aircraft with Automatic Dependent Surveillance-Broadcast (ADS-B) Out for flight within airspace where Mode C transponders are required today. Avionics industry leaders warn there's no time like the present, because with about 225,000 aircraft in need of upgrades, and limited capacity in the shops, there may not be enough time to get all aircraft equipped by the deadline. READ MORE

Aspen Unveils ADS-B Solutions

At AEA Aspen Avionics unveiled a lineup of ADS-B solutions designed to work with the company's popular compact and low-profile Evolution Flight Displays. READ MORE

ADS-B Un-Coverage, as of Mar 3, 2013

450 Radio Stations. READ MORE (Requires FLASH)

ForeFlight's big update and new Stratus announced

Stratus, which formerly offered subscription-free weather via ForeFlight, now offers additional capabilities in a new unit unveiled at the Sun 'n Fun International Fly-In & Expo at Lakeland, Fla. The new Stratus has a retail price of $899 and deliveries will begin this month. The price for the original Stratus has been reduced to $699, and it now shows single-band ADS-B traffic. READ MORE

myWingMan adds ADS-B weather READ MORE

MAC users are finally able to update their Garmin and Avidyne Jeppesen cards. Visit www.jeppesen.com/JDM/download for more information.

Questions about your Lycoming Engine? Here's a great Q & A with Michael Kraft, Lycoming's senior vice president and general manager.

Cheap new coating could enhance aerodynamics

Rick Stenberg, the CEO of Coval Molecular Coatings, said this week at the CAFE Electric Aircraft Symposium that his product could potentially provide a super-thin, lightweight, smooth and durable coating for aircraft, minimizing parasite drag and preventing dirt and ice from sticking to the surface. The nano-coating won't peel or flake, he said, and has been used in a variety of applications from boat hulls to hangar floors to graffiti-prevention programs on bridges. It's also inexpensive, at less than 30 cents per square foot. MORE

Product Review – VoiceFlight (VFS101) – Pilot Speech Recognition

Most owners of Garmin's GNS430 and GNS530 with and without WAAS really love these panel mounted devices.

But entering complicated flightplans, especially in flight or certainly in turbulence is a pilot-challenge. Enter the VoiceFlight VFS101 with voice recognition. The VFS101 is the first speech-recognition system to receive certification from the Federal Aviation Administration (FAA). The Supplemental Type Certificate supports installation on almost all aircraft that have a maximum takeoff weight (MTOW) under 6,000 lbs and are equipped with single or dual Garmin GNS 530W and GNS 430W GPS navigation units.

VoiceFlight removes the necessity of using the infamous Big Knob/Little Knob to enter each waypoint or Direct-To identifier. If it takes you 2 minutes to enter a complex flight plan on the 430 or 530using the knobs, it takes seconds by dictating your flight plan through your headset. The voice recognition is powerful since it relies heavily on the international phonetic alphabet. This not only saves time, but is immune to turbulence (ie, big finger, little knobs) and also enables you to keep your eyes looking outside the cockpit in VFR or on the instruments in IMC.

There's even an iPad App entitled Connected Talker. This is amazing. To transfer waypoints from your iPad to your GPS by way of the VFS101:

1. Assemble your flight-plan in your preferred flight planning application (such as ForeFlight).
2. Connect the VoiceFlight audio cable to the pilot's microphone jack and the audio jack on your iPad.
3. Select a text representation of your flight plan in the flight-planning application and copy the selected text to the clipboard. (This is done by pressing and holding your finger over the text, and choosing "Select All", then "Copy" from the resulting menus. **Note:** Newer versions of ForeFlight have added a curved arrow icon, to the far right and immediately above the map view, that quickly copies the flight plan to the clipboard.)
4. Press the home button to return to the main iPad screen, then open the VoiceFlight App. The flight-plan should appear in the text box. Text in red is not compatible with VoiceFlight syntax, and will not be sent.
5. Press the Play button on the App. A message instructing you to depress and hold the VAS will appear. Depress and hold the VAS.
6. Continue to hold the VAS until the message instructing you to hold the VAS disappears. The flight-plan from the iPad should now be loaded into the active flight-plan on your primary GPS. You can disconnect the iPad cable.

To see some video demonstrations of this product, Click Here. For a list of dealers, Click HERE.

Manufacturers Suggested List Price is $1995 which is a mere 2 AMUs, plus installation (about 3+ hrs).

Spinner cracked? Here is a one time good deal: A Hartzell 835-33 spinner complete with the mounting ring for a Mooney with a Hartzell HC-C2Y(R or K)-1BF propeller. Excellent condition.

$200 plus about $60 shipping within USA. 310-641-0440

The Fable Of The Happy Pilot

Once upon a time, a pilot asked a beautiful princess, "Will you marry me?"
The princess said, "No!"
And the pilot lived happily ever after and flew fighters all over the world and drove hot cars and chased skinny long-legged big-breasted flight attendants and hunted and fished and went to topless bars and dated women half his age and drank Weihenstephaner German beer and Captain Morgan and never heard bitching and never paid child support or alimony and kept his house and guns and ate cold leftovers, potato chips and beans and blew enormous farts and never got cheated on while he was at work and all his friends and family thought he was friggin' cool.

And he had tons of money in the bank and left the toilet seat up.

The End