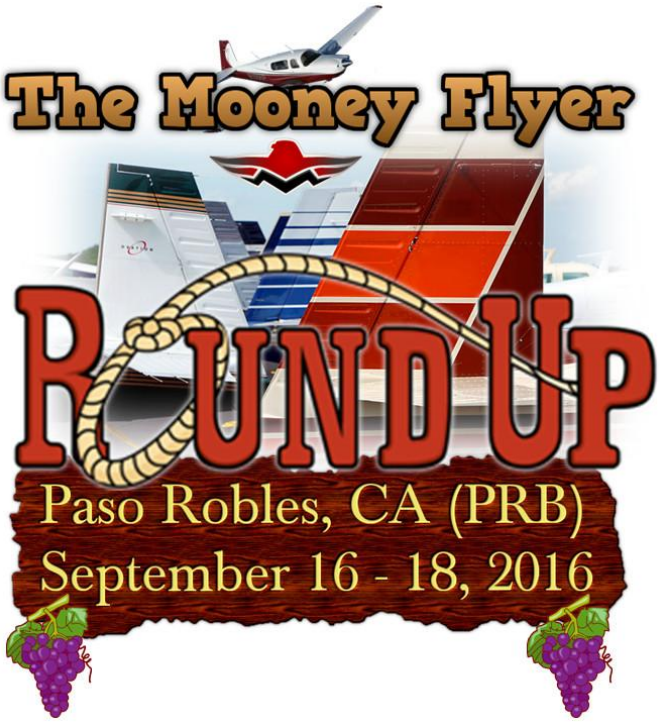
The Mooney Flyer

The Official Online Magazine for the Mooney Community

www.TheMooneyFlyer.com

April 2016



Friday, Sep 16th Includes three fun tour options and an evening wine reception at the Museum.

Saturday, Sep 17th Seminars, both technical and non-technical (for the non-flyers), followed by a great dinner and awesome speaker

Sunday, Sep 18th Brunch for those interested, before departing for home

DETAILS COMIN' SOON!

Estrella Warbirds Museum and Woodland Auto Display Paso Robles, California

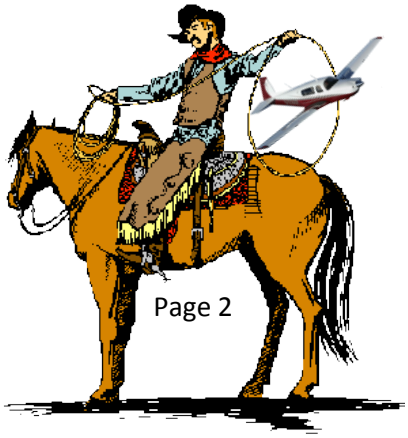
TOP GUN AVIATION, INC

JASA

Chandler Aviation Beechcraft Cessna Piper

weep no more LLC Your Fuel Tank Repair Specialist

ACIJET



Features

Editors
Phil Corman
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A Mooney Pilot's Guide to ICAO Flight Plans
Here's everything you "Yanks" need to know about filing ICAO flight plans

Houston, I've Got a Problem
Editor Phil Corman writes about asking for help from ATC, while debunking myths along the way

Avoid a Bump in the Dark
CFII Geoff Lee gives advice that will help you avoid hitting terrain while departing in low visibility

Log Book Responsibilities
Cliff Biggs highlights small Logbook errors that will become BIG problems for you

Mooney Mods
Don't miss Paul Loewen's article on all the Mooney Mods

In Every Issue

From the Editor

Appraise Your Mooney's Value

Mooney Mail – Feedback from Flyer readers

Ask the Top Gun

Upcoming Fly-Ins

Have You Heard? – Relevant GA news & links for the month

Mooney Instructors Around the Country – Mooney Instructors around the USA

Product Review – 360fly Camera

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From the Editor

Phil Corman

The Mooney Flyer RoundUp in September 16-18,2016

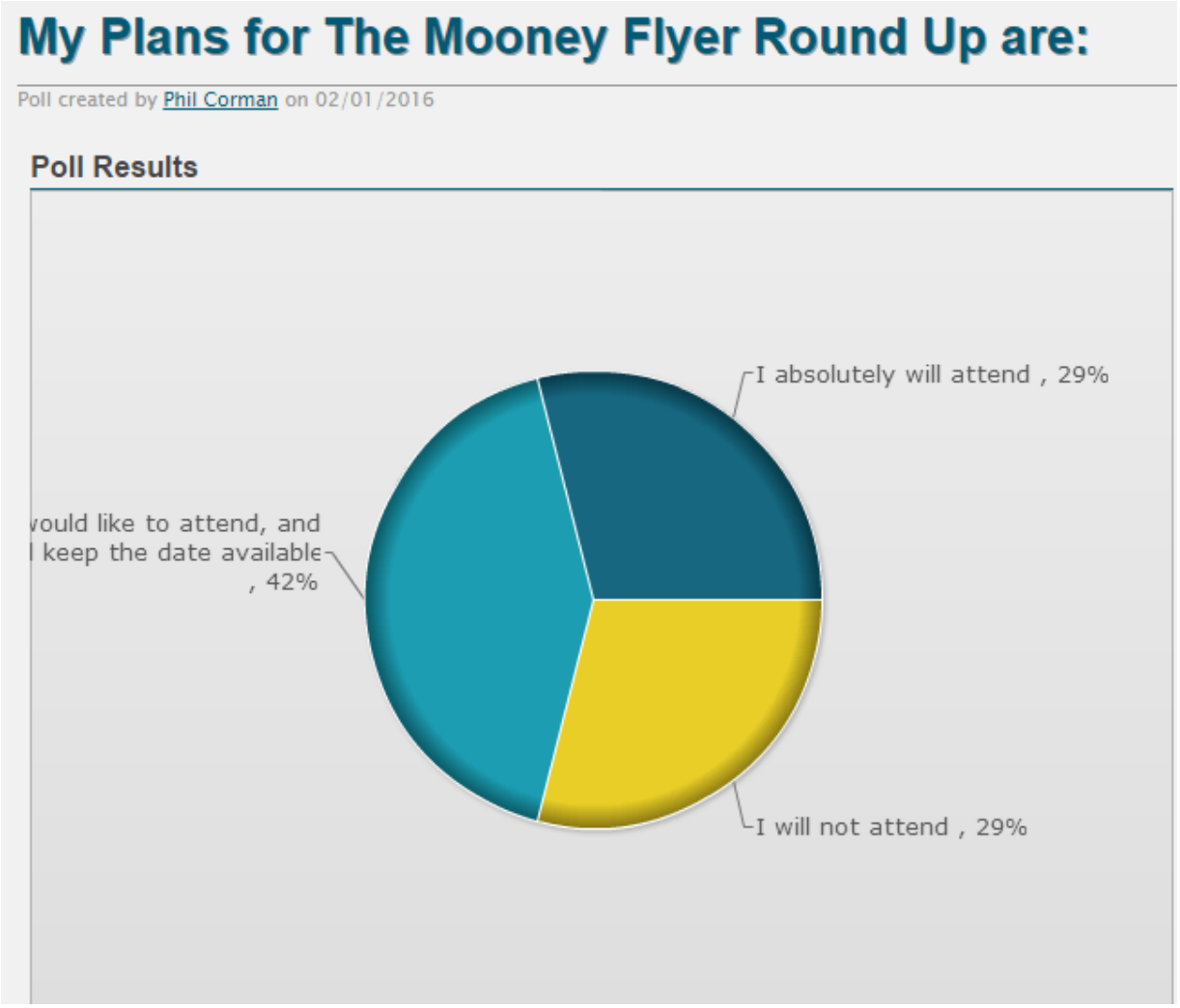
Here's another teaser encouraging you and your flying partner to join us at the Mooney Flyer Round Up.

How does a fantastic dinner in the Winery Caves of Eberle Winery in Paso Robles? Imagine yourself, pictured at a table to the left. Enjoy a tour of the winery and wine tasting before you rest your weary Mooney butts in the caves beneath the winery. Gary Eberle, the owner and pilot, will be hosting us. The dinner will take place Saturday evening after all of the seminars and workshops. We haven't selected the menu yet, but we are leaning towards Italian since it will go so well with the wine. Stay tuned.

The Mooney Flyer Donations

It's been a while since we did our first and only "Donation Request". As you may figure out, this magazine is a labor of love. We use the money for the magazine and for our annual Mooney Flyer Round Up. Please consider a donation. We'd sure appreciate it.

If you would like to donate to keep **The Mooney Flyer** healthy, please send your donation via your PayPal account to sales@TheMooneyFlyer.com



Next month's poll: "Things I would like to see/do at the Mooney Flyer Round Up?

CLICK HERE to vote.

Appraise Your Mooney's Value

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

M20C M20E M20F M20G M20J

If I had a dollar for every girl that found me unattractive, they'd eventually find me

LASAR Press Release

March 21, 2016

Lake Aero Styling & Repair, "LASAR", a Mooney Aircraft Service Center, has been located at Lampson Airport for over 40 years. We are pleased to announce that our employee,, Pascual Puertolas, has recently completed an intensified course at Baker's School of Aeronautics in Lebanon, Tennessee. He has earned his A & P license. Baker's School is designed to prepare the aviation mechanic for his FAA written, oral and practical examinations, and Pascual passed his course with "Flying colors!

Because Pascual met the FAA experience requirements, he qualified for the two week intensified course. After high school graduation, he enlisted in the Air Force in 1968 where he worked on B-52's and C-141's, and became a C-141 squadron crew chief. Later he owned and operated Puertolas Performance in San Francisco, an auto repair business, for 32 years. He has been a valued employee at Lake Aero Styling for close to 2 years. His interest in aviation began with his stint in the Air Force, and in 1990 he decided to take flying lessons at Marin Air Services at Gnoss Field in Novato. He passed his written test, but family issues prevented him from continuing flying at that time.

Pascual moved to Lake County in 1992 and commuted to his business in San Francisco several times a week for many years, until he decided "enough was enough." He got involved in Race Cars locally, and won several championships in Lake County and Ukiah. It wasn't until he began working at LASAR that he decided to get back into aviation and earn his A & P license. LASAR owners, Paul & Shery Loewen, are very proud of Pascual's determination and achievement. Pascual joins fellow mechanics Chris Stephens and James Jordan, who are A&P and IA's, as well as owner, Paul!

Pascual lives in Cobb with his wife Linda. He has two daughters, Deadra and Jamie, and one granddaughter, 14 year old Aiyana.

Submitted by Shery Loewen
Questions, call 263-0462 or cell 489-6423

I want you to know what a great service your magazine is to the Mooney community. I'm reading the archive for the second time. Invaluable to a new Mooney owner like myself. 1967
Chuck I

Just a short note of appreciation for your efforts. The Mooney Flyer adds a lot to my enjoyment of owning and flying my '65 E model, especially the maintenance tips. Thank you!
Chris S

Re-imagine my C Model Please!

I love my C model. Tried the J model 1st but experienced flaps stuck at full after landing, and a gear collapse upon landing, which led me to get rid of it. Having been an Avionics/Electrical Systems Engineer and FAA DER at America's one remaining commercial transport manufacturer, I lived in the world of E/E complexity and failure modes. I know that electrical systems add numerous headaches to your flying pleasure (and dispatch reliability). I know that high levels of integration cause lots of failure modes that pilots will then start troubleshooting. I know why Cirrus pilots pull their rip cords and why the FAA required them in the first place. I want to do my 150 or more hours per year and have an airplane that's always ready to go (what do you mean it just needs another 'simple' software update?).

Today I face the prospect of a replacement for my beloved $50K C model and what do I see? Plastics and microprocessors galore! $230K for a new fixed-gear experimental that has acceptable performance after my C model (replacing 130kts at 10gph (less than 9gph per Tach hr) and lifting 1000lbs to 18000 feet is a tough act to follow!). $100K or more for a good J model with a WAAS GPS already installed (but still 35 or more years old). What's a poor C model lover to do?

Reading about the so-called "re-imagined" Cessna 150/152s from Aviat, and now the same idea being implemented on 172s in the Wichita area, I'm wondering, is there a business case to "re-imagine" what has to be a fairly large number of C models still around? I thought I saw a price around $150K for what is an almost new 172, compared to around $400K for an actual new

one. It's still a deal at $200K, when you consider it's essentially a "zero hour" airframe and engine with a semi-modern panel, (still steam gages I think).

I will spend the money for a factory 're-man' or new engine, a replacement simple IFR steam gage panel (backed by solid state gyros) with a minimum of lighted color display area to do ADS-B and GPS nav functions, and paint, in order to retain the awesome performance and overall simplicity of my C model. The kicker is getting it down to a basic structure and dealing with the ravages of age – this is where an expert shop or manufacturer needs to be selecting the airframes and doing this work. I can't justify paying for the airplane makeover without knowing the state of the inner structure or not seen in annuals.

So, in closing, somebody please "re-imagine" the Mooney C Model! Take that Johnson bar gear forward another 30 or more years! I'll buy one, but I want my retro paint job too :)!

Regards, **William B**

Here is a tip for many owners. This TACO 5/8" marine weatherstripping works excellent and it's only $20. It's a very good seal. The roll I purchased was about 6 inches too short, (it's a 10' roll to do an entire Mooney Pre-201 door). However, if you use a piece of other weatherstripping it works fine. I suggest starting and ending at the forward hinge for minimal noise at the joining areas.

Jeff M

Last year I purchased a 1967 M20F, after obtaining my private license in a 172. I was struggling on which airplane to purchase and was leaning toward a Cessna as all my experience was in a 172. My CFI told me he always wanted a Mooney M20E and suggested I consider a Mooney. I'd heard Mooney's were hard to fly, with difficult stall recoveries, and hard to land; they were for best suited for former fighter pilots. I found one that was well kept and flew across Texas to see and fly it. Upon takeoff, my first shock was the "nose up" reaction when retracting the flaps after take-off. The second surprise was when I struggled with the Johnson Bar to retract the gear. So in the first 5 minutes, I thought, "This is way too difficult to fly and I should stick with a Cessna." Yet, after an hour of slow flight, stalls, and steep turns, we returned to the field I realized how much I enjoyed flying her. So I made an offer.

I flew her to secure my complex endorsement, and I had three learning curves: Staying ahead of the airplane, slowing her down and landing. I'm working on an instrument rating now and find the Mooney a stable platform in the windy conditions which prevail where I fly. The Mooney is a great airplane, both in performance and value.

The Mooney Flyer is a good read, I learn something from every addition and thanks for the free downloads.

Robert in Oklahoma

I find it ironic that the colors red, white, and blue stand for freedom, until they're flashing behind

Houston, I've Got a Problem

As pilots, we are fiercely independent, sometimes Type A personalities, multi-tasking, take-no-prisoners, and sure of our skills. This can easily lead to overconfidence… and sometimes, overconfidence can lead to questionable judgement. I have been flying since 1978 and I've tried to adopt an attitude of "always learning", with humility towards my judgement and flying skills. In other words, I try to keep my swagger in check. Regardless of whether any of this is true for you, this article might be worth your time.

This article is about two things. First, "Asking for Help", and second, "Declaring an Emergency". When you need to ask for assistance, this is not an act of failure, it's an admission that you have found your self in need of some help. Just as you will take advantage of everything in your cockpit, you should also consider ATC to be one of those tools to utilize when in need. It might just save your neck and/or your Mooney.

Once, while flying VFR, I relied too much on my XM Weather and found myself trapped above a solid undercast. XM showed that it was breaking up about 100 miles ahead, so I pushed on. Memphis Center was providing VFR Flight Following. After a little over 100 miles, I found that the undercast was continuing. I had made a slightly boneheaded mistake because I had relied on satellite weather. I had sufficient fuel, but decided to inform Center that I was VFR above an extensive undercast. He was very cool and helpful. He called back and indicated that there might be some broken clouds about 80 miles south of my route. There weren't. To this day, I wondered if he was giving me a "chance to descend to VFR below". I found nothing and pushed on. Within 5-10 minutes, Center called and notified me that a Malibu, about 75 miles ahead of me and about 20 miles off my course, had found a good size hole. Center vectored me to it and life was good again. To this day, I am grateful to Memphis Center for simply being there to assist me; helping correct a mistake I'd made.

Another time, while descending into my home airdrome, Reid-Hillview in San Jose, I had twisted my throttle back for my 500' descent. At about 10 miles out, I hit idle on the throttle, but the engine was still running at cruise. What the heck? So I tested it and there was no throttle control. Reid-Hillview is a relatively short runway with a big shopping mall on short final to Runway 31.

I called the tower and told them that my throttle was inoperative and at cruise setting. The tower was amazingly helpful. He immediately asked if I wanted to declare an emergency, but that seemed like overkill to me. I told him I needed a few minutes to decide my course of action. He cleared me to circle the airport at 1500' AGL. He also notified six to seven other aircraft in the Class D area. At 1500' over the runway, I told the Tower that I was going to pull the Mixture and turn right to a downwind for R/W 31. He cleared me to land and asked all the other aircraft to give way. I did a "red line airspeed" turn to downwind, not wanting to get too far from the runway. Once I slowed it down, I dropped gear and flaps. As I was turning base-to-final, I felt low, but just as the thought occurred to me, the Tower called and said I looked perfect for 31R. I extended full flaps and made a perfect landing. I coasted off the runway and didn't block other traffic. My point is, that the Tower was focused on being helpful. By asking for help, the event was easier to accomplish. The throttle linkage had lost a small cotter pin where the throttle cable and the carburetor meet, so the linkage disconnected.

On a third occasion, I had a similar run-in with a throttle, this time up in the San Juan Islands northwest of Seattle. We had set up to land at Friday Harbor and as I was throttling back over the numbers, I descended and started a flare. I tried to pull the throttle to idle, but I wasn't sure it was idling. The floating never stopped. I finally said, "Go around" and added power, but there was very little power available. What the heck? I did not have takeoff power and the hill at the end of the runway was starting to get bigger in the windscreen. The desire to pull up was immense, but instead, I raised the gear and felt the airspeed increase. We made it over the hill, and I turned downwind and decreased the throttle, but the entire throttle assembly fell onto the floor of the cockpit. Ouch! So we turned to exit the pattern and I called Whidbey Approach. Again, they were amazingly helpful. No, it was not an emergency. They asked if I waned a recommendation on where to land. They indicated that Port Angeles had a longer runway and a maintenance shop. Approach stayed with me over the water, calling distances and altitude. The help was not critical, but having them in the cockpit helped give me valuable reassurance. Again, pulling the mixture enabled me to descend into the pattern and land uneventfully. The Approach Controller was extremely helpful and offered assistance along the way. We learned that this time, the throttle cable had actually sheared.

On a flight to a Mooney Fly-In in Arizona, a Mooney friend had smoke in the cockpit. He was on VFR Flight Following and immediately declared an emergency, while trying to locate/understand the source of the smoke. ATC immediately gave him vectors to the nearest airport. The PIC subsequently smelled insulation and shut off the master switch, eliminating the amps/voltage. ATC still offered vectors and assistance all the way to the ground. The part of the story that I appreciate is, that neither ATC or the FAA made anything of this "emergency". It was all in a day's work, teaming up to have a happy ending.

Gear Failure: I had a gear failure while departing Camarillo one day. As I retracted the gear, I heard a huge bang, as if a giant had hit my Mooney with a hammer. My gear annunciator was showing "Unsafe" and I easily determined that I had a gear failure. I called the tower and asked if they could see what was wrong. They could, and told me that my left main was still down and the others were retracted. The Tower asked if it was an Emergency. I didn't think so since the Mooney was flying without issue. I put the gear back down and the nose and right main extended. I asked the tower if I could circle and make a low/slow pass to see if anything was visibly wrong. The gear looked down and "symmetric", but I didn't think the left main was locked, despite the annunciator indicating it was. The tower asked again if I wanted to declare an emergency and again, I said, "No". I told him I intended to fly back to my home airport in Paso Robles, 40 minutes away.

I asked for flight following. Approach and then Center knew of my problem and kept asking if I wanted to divert to Santa Maria or then San Luis Obispo. Helpful, but no thanks. I then asked Oakland Center if they would call the fire department at Paso Robles. My thinking was, that if the left main failed on touchdown, it could cause a fire. A gear up is less likely, since most don't scrape a wing. Center was most helpful, calling out the winds and local traffic. As I approached, there were three fire trucks; one at the threshold, one at the next taxiway, and the other at the midfield taxiway. The PRFD was on CTAF and asked my intentions. They were fully informed of my situation from Center. I landed on the right main and babied the left main down. It held. The Mooney gods were with us. I apologized to the PRFD profusely, as it was a false alarm. PRFD hung with us for an hour while we ascertained the problem. We escaped disaster.

So what determines an emergency? It's a little vague, but if the situation appears to be life threatening, I'd say it's an emergency. If there is a fire, an engine problem, someone needs urgent medical attention, oil on the windshield, etc., I suppose these are emergencies. So what do you do? Here's the FAR: *121.557 (b) In an emergency situation arising during flight that requires immediate decision and action by an aircraft dispatcher… the aircraft dispatcher shall advise the pilot in command of the emergency, shall ascertain the decision of the pilot in command, and shall have the decision recorded. If the aircraft dispatcher cannot communicate with the pilot, he shall declare an emergency and take any action that he considers necessary under the circumstances. 121.535 (a) Each certificate holder conducting flag operations is responsible for operational control.*

The first thing to remember is to take any actions that you, as PIC, determine to be necessary. You do NOT need to wait for ATC's approval. Just ensure that you have declared an emergency. "Mayday, mayday, mayday" implies a serious and life threatening emergency. "Pan, pan, pan" communicates that you have an urgent situation. My personal opinion is that if there is any doubt, "Mayday" is the right call, or simply state "I am declaring an emergency."
At all times, the only thing that matters is that you Aviate Aviate Aviate in a safe manner to the nearest airport. Then, navigate and Communicate. Other options are squawking 7700 and tuning 121.5.

It's instructive to read what the ATC Handbook says: *Air Traffic Controllers Handbook 10-1-1.* ***EMERGENCY DETERMINATIONS:*** *If the words "Mayday" or "Pan-Pan" are not used and you are in doubt that a situation constitutes an emergency or potential emergency, handle it as though it were an emergency. d. Because of the infinite variety of possible emergency situations, specific procedures cannot be prescribed. However, when you believe an emergency exists or is imminent, select and pursue a course of action which appears to be most appropriate under the circumstances and which most nearly conforms to the instructions in this manual.* The ATC handbook is clear on the responsibilities in an emergency: *10-1-3.* ***PROVIDING ASSISTANCE*** *Provide maximum assistance to aircraft in distress. Enlist the services of available radar facilities and DF facilities operated by the*

FAA, the military services, and the Federal Communications Commission, as well as their emergency services and facilities, when the pilot requests or when you deem necessary and 10-1-4. ***RESPONSIBILITY*** *a. If you are in communication with an aircraft in distress, handle the emergency and coordinate and direct the activities of assisting facilities. Transfer this responsibility to another facility only when you feel better handling of the emergency will result.*

Fiction: The controller determines the type and amount of assistance given to an aircraft in distress

Fact:

- ATC is to give the maximum amount of assistance judged to be necessary
- Flight crew can demand to perform certain actions or decline to do others in the interest of safety
- Flight crew must communicate the direness of the situation if they feel inappropriate assistance is given
- It is acceptable to terminate an emergency declaration

As the PIC, you have the final say in an emergency situation.

91.3 (c) Each pilot in command who deviates from a rule under paragraph (b) of this section shall, upon the request of the Administrator, send a written report of that deviation to the Administrator.

121.557 (c) Whenever a pilot in command or dispatcher exercises emergency authority...The person declaring the emergency shall send a written report of any deviation through the certificate holder's operations manager, to the Administrator.

91.3 (b) In an in-flight emergency requiring immediate action, the pilot in command may deviate from any rule of this part to the extent required to meet that emergency.

121.557 (a) In an emergency situation that requires immediate decision and action, the pilot in command may take any action that he considers necessary under the circumstances. In such a case he may deviate from prescribed operations procedures and methods, weather minimums, and this chapter, to the extent required in the interests of safety.

Finally,

Fiction: The legal consequences of declaring an emergency include extensive paperwork and a probable violation

Fact:

- A pilot may have to file a written report of deviation during an emergency situation only if one occurs
- The regulations provide immunity from any deviation committed during an emergency in the interest of safety
- The FAA supports the pilot's ability and judgment to act in this manner
- A controller will provide the maximum amount of assistance they deem necessary. However, a pilot may request more or less assistance in the interest of safety.
- Legally, a pilot MAY have to file a written report of an emergency in the event of a deviation from a published regulation, and they will not face an FAA violation if their actions are in the interest of safety

Today a man knocked on my door and asked for a small donation towards the local swimming pool. So, I gave him a glass of water

A Pilot's Guide to ICAO Flight Plans Using ForeFlight

by Jim Price

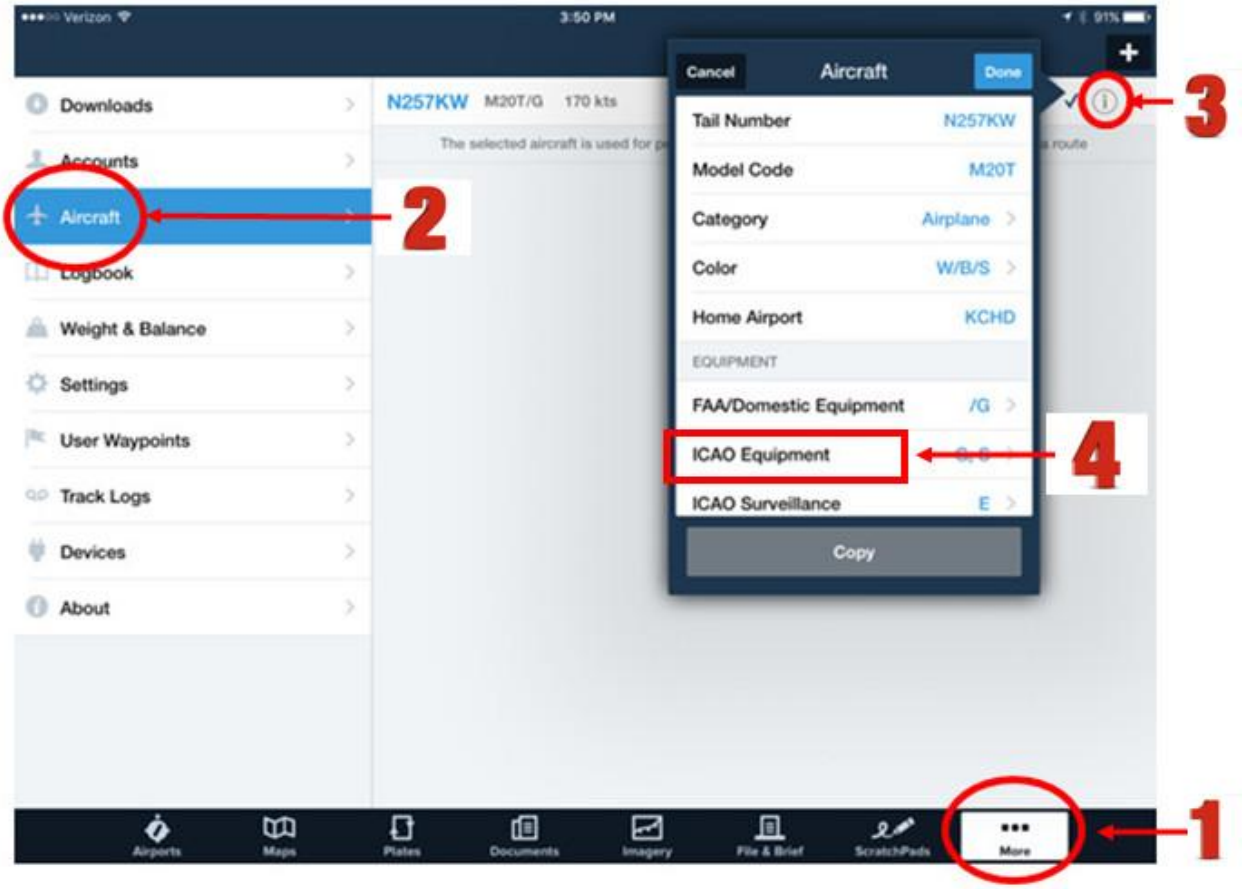
On October 1, 2016, flight plans, both IFR and VFR, will need to be in the ICAO format. Yes, in a few months, the FAA form 7233-1 will fade away into aviation history.

What's ICAO? Its logo speaks for itself.

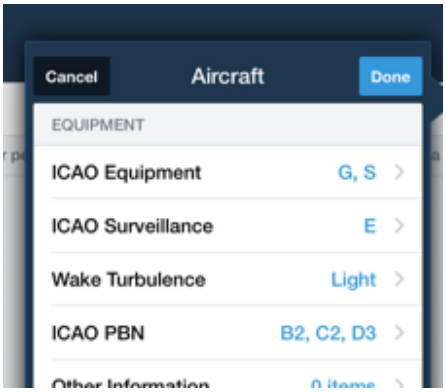
INTERNATIONAL CIVIL AVIATION ORGANIZATION
A United Nations Specialized Agency

Currently, every nation in the world, except the USA, uses the ICAO format for Flight Plans. If you currently use ForeFlight to file domestic flight plans, there are just a few simple steps in order to get ready for the ICAO flight plan deadline.

To set up the ICAO specific codes for your aircraft in ForeFlight, navigate to your aircraft's profile by touching **"More"** > **"Aircraft"** and tap/touch the blue **"I"**. Then tap/touch "ICAO Equipment" (See the graphic below)



THE BASICS



You'll set up three mandatory areas and, if you like, one optional area:

1. **ICAO Equipment** – mandatory
2. **ICAO Surveillance** – mandatory
3. **Wake Turbulence** - mandatory
4. ICAO PBN (Performance Based Navigation)- **optional for IFR pilots**

ICAO EQUIPMENT

Since most **small aircraft** have one or two VORs, localizer capability (an ILS), and at least one VHF COM, I'll bet that you'll probably want to choose **"S – (VOR, VHF RTF, ILS)".** Pretty easy, right?

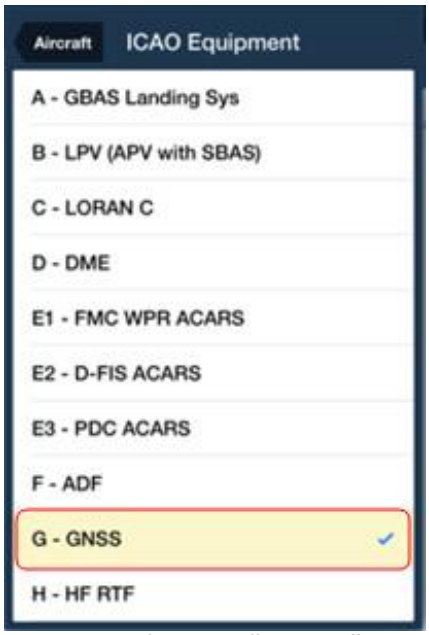
ICAO EQUIPMENT, continued

Serious IFR qualified pilots that plan to utilize **RNAV** SIDs and STARs, should select **"R – PBN Approved".**

PBN stands for **P**erformance **B**ased **N**avigation. PBN capable avionics include the typical panel mounted Garmin GNS 430/530 or GTN 650/750. It doesn't matter if they are WAAS or non-WAAS. Don't confuse PBN with an RNP approach, like the RNAV (RNP) Z RWY 24L at LAX.

THE MOST COMMON FAA/DOMESTIC EQUIPMENT CODES USED WITH THE FAA FORM 7233-1 ARE:

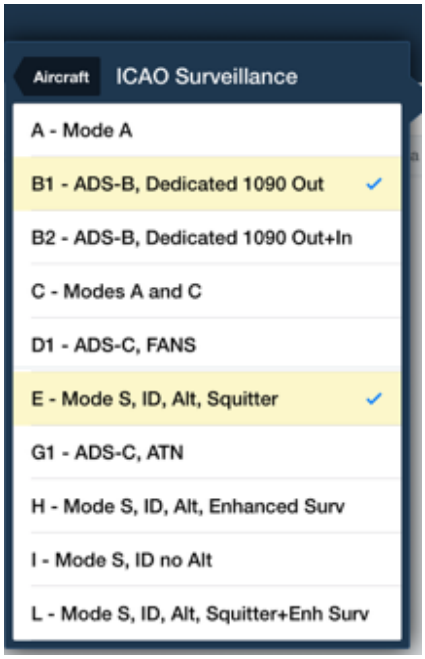
- **/G** (This means you have a GPS + a mode C transponder)
- **/A** (You don't have a GPS, but you have DME and a Mode C transponder)
- **/U** (You don't have a GPS or DME, but you manage to navigate the old fashioned way, plus you have a Mode C transponder)



If you have a panel mounted GPS, your current FAA flight plans are filed with **"/G"**. in addition to selecting **"S – (VOR, VHF RTF, ILS)",** in addition to "S", you should specify **"G - GNSS"**.
If your current FAA Flights plans use **"/U"** (Mode C but no DME), then choosing **"S – (VOR, VHF RTF, ILS)"** will suffice.

OPTIONAL EQUIPMENT ENTRIES:

Select **"B – LPV"** if you have a panel mounted WAAS GPS that's capable of LPV approaches (Localizer Performance with Vertical guidance).
If you have a DME, you could select **"D – DME"**.
If you have an ADF, you could select **"F – ADF"**.
NOTE: ATC doesn't care if you choose these options (B, D & F). Not selecting them will not stop your ICAO flight plan from being accepted. In addition, ATC's level of service won't diminish if you omit these equipment codes. For instance, if you have a panel mounted WAAS GPS, but didn't select **"B – LPV",** you could still request an LPV approach, and ATC would clear you for it.
Once you have entered the ICAO equipment codes that reflect your avionics capabilities, touch/tap the "Aircraft" back arrow at the upper left of the "ICAO Equipment" box. This will return you to the main Aircraft Profile view.



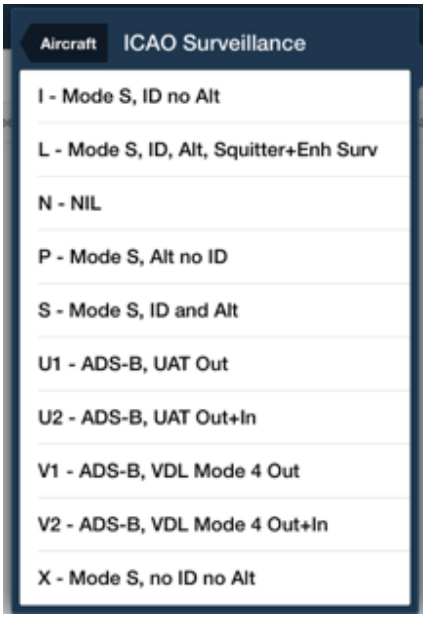
ICAO SURVEILLANCE, (TRANSPONDERS)

Tap **"ICAO Surveillance"** to select your transponder type. Specify **"C – Modes A and C"** if you have a Mode C transponder. If you have a mode S transponder, select **"E – Mode S, ID, Alt, Squitter"**.

ICAO SURVEILANCE (ADS-B EQUIPMENT)

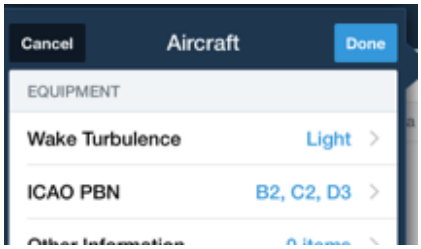
If you are ADS-B quipped, select the appropriate type of equipment:

- **"B1 – ADS-B, Dedicated 1090 Out",** (Similar to the Garmin GNX330ES Extended Squitter transponder)
- **"B2 – ADS-B, Dedicated 1090 Out+In",** (Similar to a L3 Lynx 1090 transponder)
- **"U1 – ADS-B, UAT Out",** (Some UATs are "Out" only)
- **"U2 – ADS-B, UAT Out+In"**, (Similar to the Garmin GDL88)



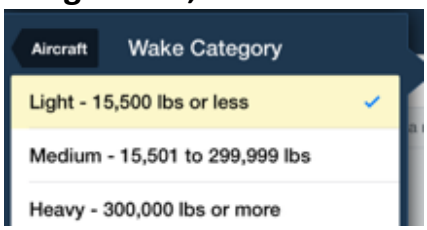
NOTE: Having ADS-B "In" (weather and traffic) on an ***iPad*** does not mean you have ADS Equipment.

Touch/tap the "Aircraft" back arrow at the upper left of the "ICAO Surveilance" box. This will return you to the main Aircraft Profile view. Now, select **"Wake Category".**



Then, select:

"Light – 15,500 lbs or less"



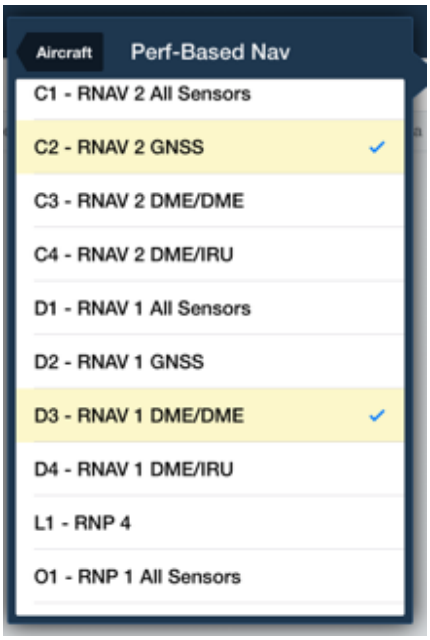
Touch/tap the "Aircraft" back arrow at the upper left of the "ICAO Surveilance" box. This will return you to the main Aircraft Profile view.

CAN I SKIP "ICAO PBN"?

When you were setting up "ICAO EQUIPMENT", if you did not select **"R – PBN Approved",** you can jump to "FILING" on the next page.

ICAO PBN

If you have a Garmin GNS430, GNS530, GTN650, or GTN750, or similar panel mounted GPS, and you want to maintain the option of flying **RNAV** SIDs and STARs, you should have selected **"R-PBN Approved"** as part of your **ICAO EQUIPMENT** . If you did, we'll now add some more information. Touch **"ICAO PBN".** This will take you to the **"Perf-Based Nav"** menu.



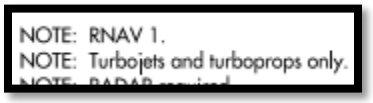
This can be a confusing selection process because of all the weird and undefined codes. Most GA Piston and Turboprop aircraft with a panel mounted GPS (WASS or non-WAAS), capable of **RNAV** SIDs and STARs, will simply select: **B2, C2** and **D2**.

What does B2, C2, and D2 mean? They are based on a your GPS sensor and its accuracy.

B2 This stands for **RNAV 5**, meaning you can fly a route within an accuracy of 5 nm. This code is only used in **Europe**, where it is called BRNAV (Basic RNAV) and there, it's mandated for IFR flight. Countries in our hemisphere don't use it. So, does it hurt to specify B2? No. Does it help? No. So, it's your choice.

C2 means **RNAV 2.** This means that you can fly a GPS route with an accuracy within 2nm. This capability applies to **T routes and Q routes,** but the FAA has chosen not to require the C2 code in order to fly these routes. If you specify "**G**" in your ICAO equipment codes, you will be able to file for T and or Q routes, and ATC may assign them to you, with or without a C2 code in your ICAO flight plan. I have it selected in my ICAO set up.

D2 stands for **RNAV 1,** meaning route capability with an accuracy within 1nm. **RNAV 1** is required for SID and STAR procedures with "RNAV" in the title. All non-RNAV SIDs and STARs may be flown without this PBN code. **Since June 29, 2009, pilots wishing to file an RNAV SID or STAR, have been required to file an ICAO flight plan** with "D2 – RNAV 1 GNSS" selected**.** Most RNAV SIDs and STARs are targeted towards Turbojet and Turboprop operators and will specify that in the procedure notes.


NOTE: RNAV 1.
NOTE: Turbojets and turboprops only.

However, there are many **RNAV** SIDs and STARs, like Tucson's BURRO THREE DEPARTURE (RNAV), that welcome piston pilots. For this reason, you should add "**D2**" to your PBN equipment capabilities.

Most IFR pilots with a GPS simply select: **B2, C2** and **D2** .

Filing
INTERNATIONAL CIVIL AVIATION ORGANIZATION
A United Nations Specialized Agency

IT'S ALL AUTOMATIC AND WORRY FREE

All ICAO identifiers consist of 4 alphabetic characters.

In the US, identifiers start with the letter K. Alaska starts with PA and Hawaii starts with PH. Canada starts with CY or CZ. Bahamian airports start with MY; Mexico, MM.

What happens if you want to file from or to an airport that doesn't start with a "K", like Spanish Fork, UT (U77). In this case, the ICAO flight plan requires that "ZZZZ" be placed in the departure and/or destination airport field and that U77 be specified in Field 18, preceded by "DEP/" or "DEST/". I know, my head is

spinning, too. Thanks to ForeFlight's magic, if you file to or from airports like Spanish Fork, ForeFlight will automatically take care of all this nonsense.

YOU CAN DESIGNATE TWO ALTERNATES

ICAO flight plans provide you with the ability to enter primary and secondary alternate airports. No, the FARs alternate rules have not changed. In the US, if you need an alternate, you still need to declare one. But, in the US, if you feel that you need to designate a secondary alternate, designate away.

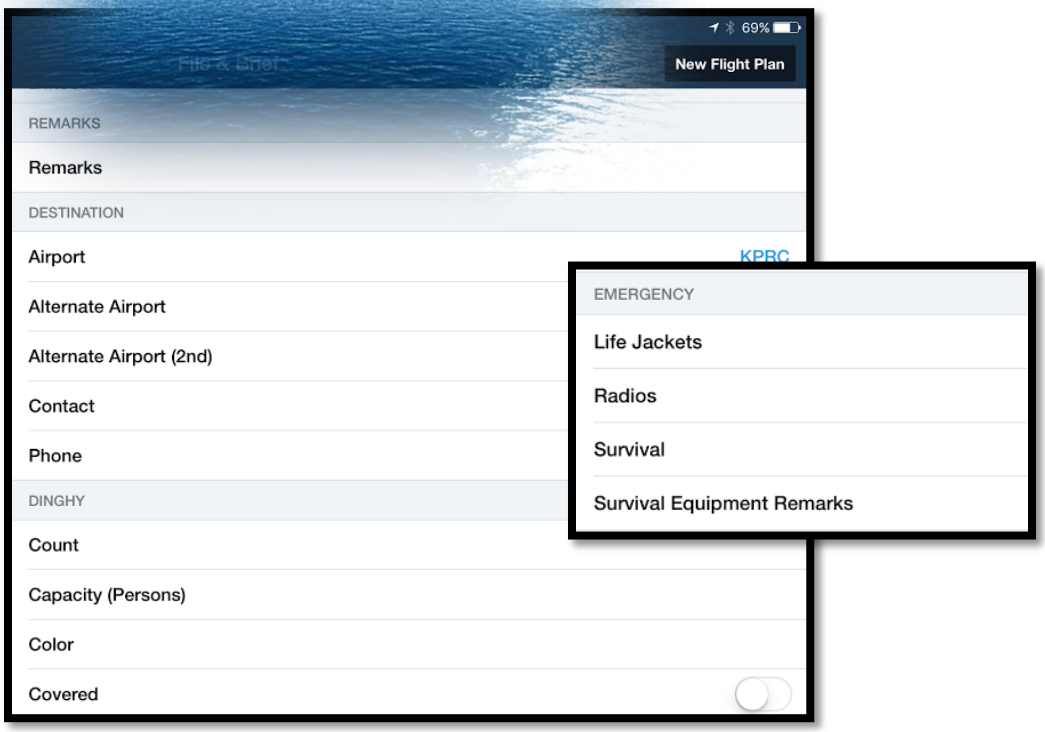
REMARKS SECTION AND FORBIDEN ICAO TEXT - /, -, and ( )

If in the past, you have used the remarks field in an FAA form 7233-1 flight plan, ForeFlight will automatically move your remarks to ICAO's field 18. You need to know that you can't use the following characters in REMARKS: Forward slash "/", a dash "-", and the left and right parentheses "(" and ")".

FLYING OVER WATER?

EMERGENCY EQUIPMENT

The ICAO format allows you to add specifications for emergency equipment such as dinghies, along with their capacity, color, and if they are covered. Life jackets, portable radios, types of survival equipment, and any remarks about the survival equipment that you would want search and rescue to be aware of, can also be specified. **Again, the remarks can't include the special characters /, –, and ( ).**



SPECIAL HANDLING

Finally, if your flight qualifies for special handling, you can optionally specify it when you use ForeFlight to "File & Brief" an ICAO Flight Plan. Simply touch "STS Special Handling" and a box will pop up. You can choose from a myriad of choices, including:

- **FFR (firefighting)**
- **HOSP (medical flights)**
- **HUM (humanitarian flights)**
- **SAR (search and rescue)**

Any special handling codes will automatically be included in ICAO's Field 18 and formatted as required.

Is this a great app or what?!!

ForeFlight
Intelligent Apps for Pilots™

October 2016						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

START FILING ICAO FLIGHT PLANS BEFORE OCTOBER 1ST

Wouldn't it be nice to know if you have set up ForeFlight's ICAO information correctly? The next time you fly, file your flight plan in the ICAO format. If it's accepted, you did great and October 1st will be a non-event!

To ensure that all subsequent flight plans are in ICAO, touch "More" on the bottom of the ForeFlight menu.

Touch "Settings" and scroll down to the 'FILE & BREIF" area. In the "New Plan Format" area, there are three choices: "Same as Last Filed", "ICAO" and "FAA/Domestic". Select **"ICAO"** and you're all set for life in the ICAO world.

Artificial intelligence is no match for natural stupidity

Cliff Biggs

ATP, 767,757,737,727, A320, LRJet, CE500, MU-2, Wright Bros Award, A&P 46 Yrs, B707, B727, B720, B747, DC-10, DC9, DC-8, CE500

When the logbook entries are missing or incorrectly done, who is responsible? Let's take a look at some actual cases.

EXAMPLE #1.

A Mooney M20C flies into the shop for an annual. Today's date is 02/15/2016 and the tach reads 1011.7.

The mechanic notices that the logbook indicates that the last annual was accomplished on 03/08/2015 at 903.4 Tach.

He also notices that there is only one maintenance logbook entry between the annual and today; an oil and filter change at Tach 951.6.

What's wrong? Who's responsible?

EXAMPLE #2.

"8/12/15 856.2 Removed nose tire and left main tire w/ Goodyear Flight Custom III 5.00-5 6 ply and 6.00-6 6 ply". What is wrong with this write-up?

EXAMPLE #3.

"8/19 863.7 Replaced #2 battery (RG24 -11M) with same model". Other than the date missing the year, what is missing from this write-up?

EXAMPLE #4.

The logbook indicates that an annual was accomplished ten months ago. That annual included an oil and filter change. The aircraft has flown 148 hours since then with no engine logbook entries. The owner verbally says that he changed the oil and filter twice since the annual. What's wrong with this?

Let's take a flight through "logbooks light". We won't get into the minutia and extreme detail that we could with A&Ps, but we will give you, the pilot/owner, enough to be aware of what needs to be done in your logbooks to keep you safe and legal. You'll also be in a good position when it comes time to sell your pride and joy.

Let's first focus on examples 2, 3 and 4. There is one glaring problem AND it rolls into many violations of the FARs in each example.

In examples 2, 3 and 4, the maintenance release back to flight status was omited. What constitutes a release back to flight status? Every time a prominent Mooney Service Center makes a logbook entry, their logbook sticker has this statement just before the A&P's signature, license (authorization) number and the date:

"The aircraft and or component identified above was repaired and inspected in accordance with current federal air regulations and was found airworthy for return to service on the date stated above."

It's not the entry that indicated what was done, BUT it's the signature and license number of the "authorized" person doing the work at the end of the required logbook entry.

Note that an owner with a Private Pilot Certificate can do "Preventive Maintenance" items as spelled out in Part 43 Appendix A, and make logbook entries, signing and citing his Private Pilot Certificate number. The signature and license number becomes the required "maintenance release" for flight.

In each case, every flight after the improperly signed off maintenance, constitutes a violation for the pilot flying. The aircraft IS NOT AIRWORTHY until the logbooks are signed off properly (FAR 91.407). This is an issue for the pilot, because according to FAR 91.3 (a) *"The pilot in command of an aircraft is directly responsible for, and is the final authority as to, the operation of that aircraft."* However, it doesn't stop there. We'll go deeper in a minute.

Let's go back to the top of the article and take each example in its turn.

In Example #1, we see that the airplane had its last annual within the prescribed 12 month period, but what about the 108.3 hours of flight time since the annual? What could be wrong? Let's just look at the first obvious issue. Since it's a C Model, it's subject to AD 73-21-01, which applies to Mooney Models M20, M20A, M20B, M20C, M20D, M20E, M20F and M20G. This AD requires that at every annual inspection OR at 100 hours time in service since the last check **which ever comes first –** the Landing Gear and Flight Control be lubricated and that the Landing Gear Rigging be checked. This M20C has flown 108.3 hours since the last check. Is there any allowance to over fly the 100 hours in the AD? NO! But we see this quite often when the owner doesn't keep track of his flying time or thinks it's OK to go over the 100 hour limit by a few hours because the annual inspection is just around the corner.

Again, who's responsible? Well, the pilot of course. He or she is supposed to tack the flying time and Airworthiness Directive (AD) compliance. There's also more responsibility, but we'll get to that in a minute.

Example #2

"8/12/15 856.2 Removed nose tire and left main tire w/ Goodyear Flight Custom III 5.00-5 6 ply and 6.00-6 6 ply"

Did we remove a nose tire and main tire that were Goodyear Flight Custom IIIs, or did we remove old worn out tires and replace them with Goodyear Flight Custom IIIs? This write up doesn't clarify the issue. Also, there is no sign off and maintenance release as to who did the work. Once again, all flights after this work are in violation of the applicable FARs.

And again, it doesn't stop there. Here's more from the same logbook:

Example #3

"8/19 863.7 Replaced #2 battery (RG24 -11M) with same model"

While the write up may meet the minimum requirements for the description of the work performed, it would be better to include what portion of the Maintenance Manual was followed. Also, it still lacks the required maintenance release and sign off by whomever did the work. Still more violations for the pilot and someone else! But who?

Example #4. It seems by the owner's own admission, that two maintenance events were performed by him or her (oil changes), but he or she failed to make the required logbook entries to document the oil changes. In addition, the violations would keep piling on should an investigation be initiated after an accident. Once again, the pilot is in violation, but more than that.

THE OWNER OF THE AIRPLANE IS ALSO HELD RESPONSIBLE!

How can that be? I didn't do the work? My A&P has all my logbooks. The maintenance of my airplane is done by my mechanic.

Let's have a look at FAR 91.405:

"Each owner or operator of an aircraft ... (b) shall ensure that maintenance personnel make appropriate entries in the aircraft maintenance records indicating that the aircraft has been approved for return to service."

So even though FAR 91.407 lays blame on the pilot, *"(a) No person may operate any aircraft that has undergone maintenance ... unless ... (2) the maintenance record entry required by 43.9 or 43.11, as applicable, of this chapter has been made.".* The owner is also held responsible for not maintaining his aircraft (and its logbooks) in an airworthy manner while flying it.

In all four of the examples, the owner could be held to task for not doing his/her duty as far as the airworthiness of the airplane is involved. It's NOT just the A&Ps responsibility. It's yours also! As an owner, you need to educate yourself on your responsibilities, not just as the pilot but also the owner.

A very good article to start with was written by Mike Bush some time ago. You can find it here-

http://www.avweb.com/news/savvyaviator/190596-1.html

As always, ya'll be careful out there!

I'm great at multi-tasking--I can waste time, be unproductive, and procrastinate, all at once

Geoff lee.

CFI

Avoid a Bump in the Dark

Departing from an unfamiliar uncontrolled airport in low ceiling/ visibility or night time, under IFR or part 91 VFR, without first checking for any **published departure procedures** (DP) and **Takeoff minimums** relating to **obstacle clearance** is imprudent at best; it is negligent at worst, particularly if the pilot has little knowledge regarding the nature and proximity of the topography surrounding the departure airport. If you have the naïve attitude that having an IFR clearance will ensure that the initial/climb out departure path will be clear of obstacles or that the controller will keep you in the clear during initial climb to the first fix or enroute, you are wrong.

The primary duty of the controller is to provide traffic separation**. It is the duty of the pilot to ascertain that a clearance can be safely followed.** Knowing the normal climb rate/gradient of your machine at a "comfortable" airspeed relative to **altitude gained in feet per mile** *(not feet per minute)* is extremely useful, since published departure procedures usually state the required minimum rate in feet per mile in order to allow obstacle clearance and safe departure **over a prescribed route**. Here is where that GPS comes in handy. That's because its calculation is more accurately based on the **ground speed of the aircraft** during climb, and **not by the indicated airspeed.** There is a convenient "feet per mile" table that can be found in the front of any NOS approach chart booklet. It is compiled with a selection of values from which one can select a suitable range for the aircraft in use.

A heads up that there is a **non standard or Obstacle Departure Procedure (ODP)** associated with a particular runway, will be an **inverted Black triangle** with a T symbol enclosed. This appears in the Notes section on the NOS approach plate and signifies that the airport has a nonstandard IFR departure procedure for the runway in use. A standard instrument departure climb gradient is 200 ft per nm. This translates into a pretty shallow 2 degree climb angle or 370fpm @105kt ground speed. "Non Standard" is steeper and simply means that you should pay careful attention to your departure climb capability due to obstacles that protrude into an imaginary surface above runway level as defined by the federal agency. Positive course guidance is provided in any instrument DP within 10nm for straight out departures and within 5nm for departures requiring a turn. This assumes no turn prior to 400 ft agl.

At uncontrolled airports having an instrument approach but no instrument departure procedures, there may be "**takeoff minimums**", which relate to ceiling and visibility requirements associated with single or multi-engine departures, specific **obstacle clearance** climb gradients, departure routes, and altitudes. Prior to a VFR night departure, a pilot should look for the specific procedure in the electronic application or the **Airport Facilities Directory**. It would seem that "takeoff minimums" should serve as minimal reference visibility and obstacle departure procedures for the cautious Part 91 VFR pilot.

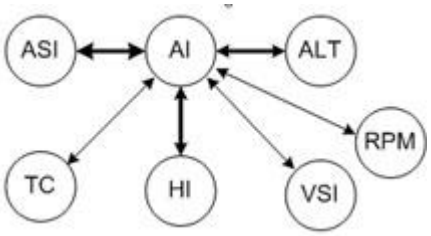
For aircraft operating under part 91, there are no minimum departure requirements mandated, but the **obstacles do not know this** and will remain fixed in place. So, you should use good judgment and be informed.

The instrument and night departure must always be a carefully considered act. Practicing one's technique under the hood in daytime is highly recommended. Do this, of course, *with a safety pilot*.

Consider setting the compass to runway heading and holding the brakes until passing through a minimum of 1700 RPM prior to brake release. This will provide faster acceleration and shorten the period to lift off,

thus minimizing chasing the rudder pedal and turbo surging as power is applied. Know **exactly what airspeed** at which you will rotate and the **exact pitch attitude** you must attain for lift off and positive climb.

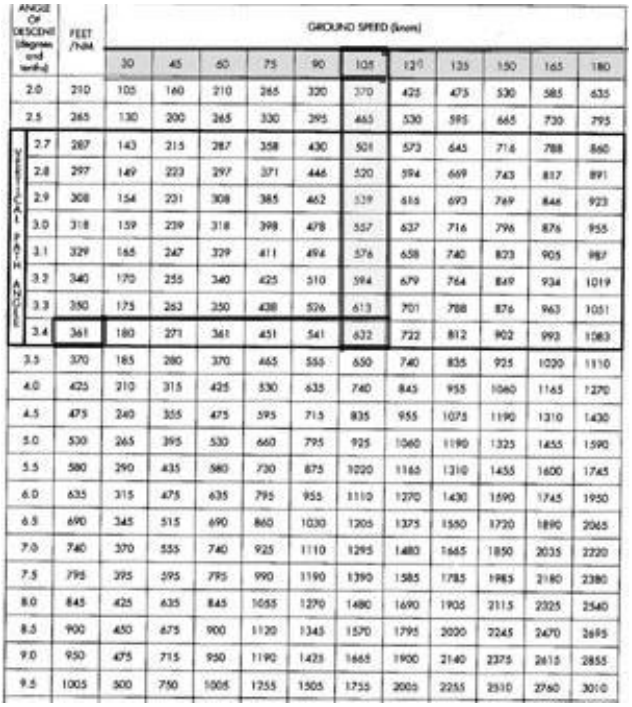
Totally commit your eyes and mind to the instrument scan during the initial climb; having power and positive climb rate assured.



Have a mental picture of the heading/route to the initial on-course fix and altitude**. This is not the time to be mesmerized by the GPS screen or be trying to see through the windshield**. **<u>Scan, scan, scan; airspeed, attitude/VSI, altitude, heading, and power.</u>**

Ref: the two illustrations below: On the left is a WingX E6B calculation. On the right is the standard NOS Climb /Descent chart. Both reflect a **105kt ground speed at 631 fpm** climb rate. This yields a **rate of 360 feet per nautical mile**. The iPad apps make it all simple. Just enter the desired feet per mile rate **as** prescribed in the departure procedure and an educated guess at your probable ground speed when climbing up to the "climb and maintain" altitude given in the clearance.

Be aware that any significant increase in your ground speed, due to help from a strong tail wind, will diminish the benefit value of the required feet per mile rate. The same caution would apply to having a climb rate that is noticeably less than indicated in the calculation.



ANGLE Of DESCENT (degrees and tenths)	FEET /NM	GROUND SPEED (knots)										
		30	45	60	75	90	105	120	135	150	165	180
2.0	210	105	160	210	265	320	370	425	475	530	585	635
2.5	265	130	200	265	330	395	465	530	595	665	730	795
2.7	287	143	215	287	358	430	501	573	645	716	788	860
2.8	297	149	223	297	371	446	520	594	669	743	817	891
2.9	308	154	231	308	385	462	539	616	693	769	846	923
3.0	318	159	239	318	398	478	557	637	716	796	876	955
3.1	329	165	247	329	411	494	576	658	740	823	905	987
3.2	340	170	255	340	425	510	594	679	764	849	934	1019
3.3	350	175	263	350	438	526	613	701	788	876	963	1051
3.4	361	180	271	361	451	541	632	722	812	902	993	1083
3.5	370	185	280	370	465	555	650	740	835	925	1020	1110
4.0	425	210	315	425	530	635	740	845	955	1060	1165	1270
4.5	475	240	355	475	595	715	835	955	1075	1190	1310	1430
5.0	530	265	395	530	660	795	925	1060	1190	1325	1455	1590
5.5	580	290	435	580	730	875	1020	1165	1310	1455	1600	1745
6.0	635	315	475	635	795	955	1110	1270	1430	1590	1745	1950
6.5	690	345	515	690	860	1030	1205	1375	1550	1720	1890	2065
7.0	740	370	555	740	925	1110	1295	1480	1665	1850	2035	2220
7.5	795	395	595	795	990	1190	1390	1585	1785	1985	2180	2380
8.0	845	425	635	845	1055	1270	1480	1690	1905	2115	2325	2540
8.5	900	450	675	900	1120	1345	1570	1795	2020	2245	2470	2695
9.0	950	475	715	950	1190	1425	1665	1900	2140	2375	2615	2855
9.5	1005	500	750	1005	1255	1505	1755	2005	2255	2510	2760	3010

You should know that **the "pitch angle" indicated on your gyro horizon <u>may not be the actual "climb angle"</u>** as **indicated in the calculation, particularly in non-turbo or lower HP aircraft.** (For example, *take a look at your VSI in comparison to the power setting and pitch angle reflected by the gyro horizon when you*

are fighting a strong downdraft while climbing in mountainous terrain. Then consider doing it with no outside visual reference in similar circumstances .

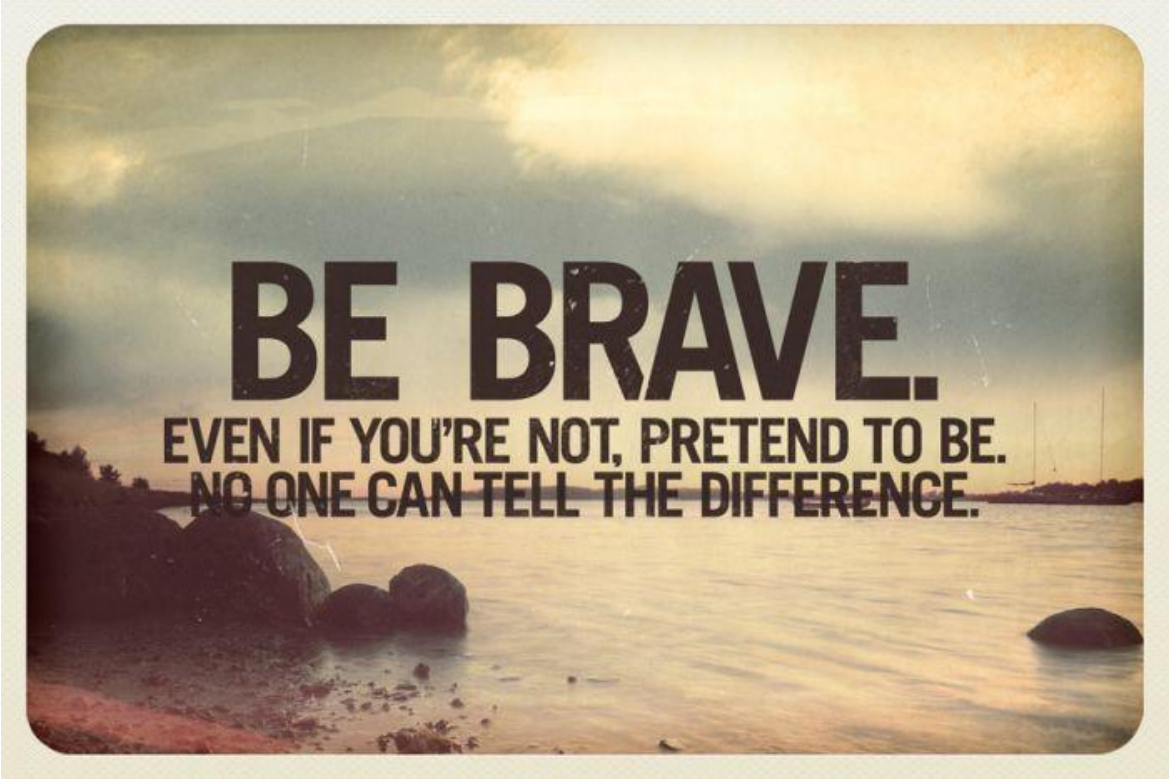
Finding departure procedures for any given airport should be a relatively easy task using an iPad application or sophisticated panel mounted GPS unit. You need to be able to access approach and departure information from your iPad very quickly, so I would suggest that you practice search routines at home and find the path to information via routines that minimize typing and finger pokes.

On the WingX iPad app, DPs are accessed from the "menu" icon. You must type the airport ID and tap "Departure Procedure". This will reveal the selection of departure procedures available. Simply choose the one that sends you in the desired direction, noting the required minimum climb gradient. (*If it is the standard 200ft/nm, it will not be shown!*).

Under IFR, the pilot needs to know the routes/procedures to **get in and get out** of an airport. These items are covered by SIDs, STARS and approach plates. A document found, relative to a specific airport, in the Airport Facilities Directory is termed "Departure Minimums", and should be reviewed by pilots, at the very least, when departing VFR at night.

It seems to me, that all these how to "get in and get out" documents, (SIDS ,STARS, Approach charts and obstacle takeoff minimums), should be positioned within the popular iPad applications, so that they can be retrieved as a group after a couple of taps on the ***airport or on the map***.

As stated, it is important to know what to expect from your aircraft in terms of its climb rate and speed under various conditions of power and pitch, plus loading and density altitude. Above all, before venturing into the demanding realms of instrument and night flight, pilots should choose a performance rate that is readily achievable by both the plane and the pilot.



If you can smile when things go wrong, then you have someone in mind to blame

Mooney Modifications

by Paul Loewen, Lake Aero Styling And Repair

Beginning back in the 1970's, modifications for the Mooney became a new option. Perhaps these modifications were inspired by the Mooney factory's upgrade from existing earlier models, to the sleek design of the "201".

Many modifiers appeared and began to offer these FAA approved upgrades for speed, comfort and appearance. Modifiers saw that owners might want to upgrade their older models with "speed mods", such as fairing and gap seals, to achieve more speed, as well as to give these older models a newer appearance. Since then, the aviation industry has continued to offer aftermarket upgrades to various components of the older airplanes, including engines and avionics.

Following is a recap of many Mooney Mods that became available and continue to be popular today:

Offered for various Mooney models: Engine and Cowling Mods

- 201 Style Engine Cowling Kit-Includes new engine baffle system, oil cooler relocation, new oversize spinner system (M20E & M20F)

- 201 Engine Cowling Kit-Includes new engine baffle system, oil cooler relocation
- Oversize spinner system & new air induction system. (M20C & M20G)
- Lower Cowl Closure (M20A,B,C,D,E,F,G)
- Oil Cooler Relocation (M20E & M20F 1967 & later)
- Second Landing Light (M20E,F, 1967 & later)
- Landing Light Lens Kit (All Models)
- Standby Vacuum System (All Models)
- Sky-Tec Light Weight 12v Starter (All Models)
- Alternator Retrofit Kit

Fuselage Mods

- Replacement Windshield, sloping and one-piece
- Replacement Side Glass (All Models)
- Picture side window (M20 F & G Models)
- Smooth Belly

Landing Gear Mods

- Brake Wheel Cylinder Rotation (All Models)
- Wheel Well Liners (M20C,D,E,F,G,J,K)
- Nose Gear Truss Oversized Pivot Bushing (M20A,B,C,D,E,F,G,J,K)
- Nose Gear Truss – New Style with Steering Limit Stops(M20A,B,C,D,E,F,G,J,K)
- Steering Horn Assembly for Nose Wheel-Overhauled (Pre-1969 model M20's)
- New style Nose Gear Steering Horn Assembly (1969 & Later M20's)

Wing Mods

- Bigger capacity fuel tanks and Bladders
- 201-Style Flush Mount Wing Tips
- Wing Tip Fairings With Nav Antennas
- Flap Gap Seals (M20B,C,D,E,F,G)
- Aileron Gap Seals (All Models)
- Flap Hinge Covers (M20B,C,D,E,F,G,J,K)
- Inboard Flap Fillet Fairings (M20C,D,E,F,G)
- Wing Root Leading Edge Fairings (All Models)
- Strobes & LEDs-2 or 3 position (All Models)
- Precise Flight Speed Brakes/Electric

Tail Mods

- Dorsal Fin w/Vertical Seal (M20B,C,D,E,F,G,J)
- Tail Root Fairing/Horizontal (M20B,C,D,E,F,G,J,)
- Rudder & Elevator Hinge Covers (All Models)

Interior Mods

- Instrument Panel Retrofit 8 hole & 9-hole,(pilot side only)
- “Glass” displays and Engine analyzers
- Instruments and Autopilots
- Panel lighting
- Head Rest- (All Models)
- Arm Rest, folding, attached to Seat-
- Lap Belt w/ Shoulder Harness (All Models)
- Lap Belts Only (All Models) Color Choice
- Fresh Air Vent (M20C,D,E,F,G)
- 1.5" & 3” Rudder Pedal Extensions
- Cabin Interior Replacement Panels

Never tell your problems to anyone, because 20 percent don't care and the other 80 percent are glad you have them

Send your questions for Tom to TheMooneyFlyer@gmail.com

Question 1: I bought an M20C and the left wing is heavy at cruise. What are the most likely causes and fixes?

It doesn't matter the model or year. All Mooney aircraft function the same. They are one of the few aircraft that are exceptionally stable, since they use solid control rods and not cables to move the flight controls. The question indicates the plane is flying straight, but with the left wing down. Usually a heavy wing will result in a turn in the heavy direction, (in this case, left). If the left wing is down, are the yokes cocked to the left? Is the ball centered? Are both the ailerons slightly tilted up? I really need more information to give a better answer, but I will list the procedures we follow when we check the rigging on any Mooney.

1. Use travel-boards to check that the basic rigging of the flight controls is in accordance with the Service Manual specifications.
2. Fly the aircraft and make sure the ball is centered. If not centered, then the rudder needs adjustment; maybe as little as just trimming the trailing edge of the rudder. A properly rigged Mooney should fly straight and level with feet and hands off the controls.
3. With the ball centered, if the airplane is rolling in either direction, then by trimming the trailing edge of the opposite aileron down (**only down**), you can level the plane. This is the way to get the plane straight and level with little work, other than the flying required. This is usually all that is needed most of the time.

There are exceptions. Sometimes we have to level the plane to make sure the yokes are level with the wings. Sometimes it's the flap(s) causing the problem. Sometimes there may be something in the physical system, causing a problem. For instance, there are many rod ends in the system that could be worn or sticky. On occasion, we have found an aircraft that has been damaged and not properly repaired, but that can be a another story.

Question 2: How often should you flush the brake fluid?

There is no prescribed time, but the easiest way to make the decision is if the fluid is dis-colored. Brake fluid is normally very red in color. Over time, dirt will get into the system and not only cause dis-coloring, but the fluid gets thick and sticky. This can cause sluggish brake action. A good time to check this is at Annual. Change the fluid and put new o-rings on the pistons in the calipers. If you happen to have a dual brake airplane, be prepared for extra time to bleed the brakes. It can be a "bear". I do feel that changing the fluid can help extend the life of the rings in the master cylinders. These can be expensive to repair/replace.

PC offers lateral stability!

Positive Control — exclusive on Mooney

PC has been acclaimed in general aviation circles as . . . "one of the smartest pieces of standard equipment any manufacturer has added in recent years" . . . "a significant step toward greater flight ease and safety" . . . "the greatest advance in airplane design since the introduction of the tricycle landing gear."

If you're in the market for a 4 place aircraft you owe it to yourself to fly Mooney for '65. Fly PC — it's just one more reason why Mooney is the fastest selling retractable on the market.

Here is what PC can do for you. **FIRST,** it means lateral stability, a boon to flying ease and safety. You enjoy a lot more freedom with PC. It's like having an extra pair of hands. **SECOND,** PC goes a long way toward helping you keep your plane straight and level if you're unexpectedly caught in weather. **THIRD,** PC is exclusive on Mooney. No other aircraft offers as standard equipment this significant advancement in modern flying.

Try it! Go Modern — Go Mooney! You just might want to own the plane that incorporates more of aviations advanced engineering than any plane you can buy.

MOONEY

where the able disabled find employment — Mooney Aircraft, Inc., Kerrville, Texas

Advisory Circular

Subject: Maintenance Regulations **Date:** 08/08/08 **AC No:** 11-21
Initiated by: AFS-100 **Change:** 1

Section I - No mechanic, or lead mechanic or group of mechanics, or person acting in the direction or suggestion or supervision of a mechanic or lead mechanic may try, or attempt to try or make, or make an attempt to try to comprehend or understand any or all, in whole or in part of the herein mentioned aviation regulation except as authorized by the Administrator or agent duly appointed by or inspected by the Administrator.

Section II - If a mechanic or lead mechanic or group of mechanics becomes aware of, or realizes, or detects, or discovers, or finds that he or she, or they, are or have been beginning to understand the Aviation regulations they must immediately, with in three (3) calendar days notify, in writing, the Administrator.

Section III – Upon receipt of the above-mentioned notice of impending comprehension, or understand, the Administrator shall immediately rewrite the Aviation regulations in such a manner as to eliminate any further comprehension of applicable regulations in the foreseeable future.

Section IV – The administrator may, at his or her discretion, require the offending mechanic, lead mechanic or group of mechanics to attend remedial instruction in Aviation regulations until such time the mechanic is too confused to be capable of understanding anything.

Doesn't expecting the unexpected mean that the unexpected is actually expected?

The Mooney Flyer Fly-Ins

May 14: Tour the largest Binocular Telescope. This would be a joint fly in with the Arizona Breakfast Club. The airport is located in southeast Arizona (KSAD). This is a first class event. The town will arrange transportation and room accommodations with a cowboy breakfast @ the University of Arizona base camp @ 8 am. The University has buses reserved with lunch provided all for $45.00 per person. The Breakfast Club has hosted this event several times and knows the logistics of early & late arrivals.

May 14: Winter Haven (KGIF)
June 11: Williston (X60)
July 9: Sebring, (SEF)

Henry Hochberg's "Wild Wings to Walla Walla" Fly-In

June 24-26: This fly-in takes place whenever Henry gets the urge to host it. It's located in SE Washington state at KALW. Walla Walla is located in a beautiful wine area and Henry usually suggests wineries to visit and schedules 1 or 2 lunch and/or dinner get-togethers. Stay tuned for more details as Henry figures them out. Room reservations can be made at the **Whitman** Hotel via 866-826-9422. If you are really in need of additional information you can ping Henry at : aeroncadoc@comcast.net

April 15-17: Bullhead City, AZ
June 10-12: Denver, CO
September 9-11: Manchester, NH
October 7-9: Mansfield, OH

Mooney Summit IV

An educational event and social gathering, will once again be held at Panama City Beach FL on September 29th thru October 2nd , 2016. CLICK HERE for the details.

Avidyne Announces Wireless Connectivity with ForeFlight

Avidyne's IFD540 & IFD440 FMS/GPS/NAV/COMs offer built-in WiFi and Bluetooth® for wireless connectivity to popular aviation Apps such as ForeFlight® and FltPlan Go®. Now ForeFlight and FltPlan Go can receive and display GPS position and flight plan information from the IFD540 & 440. More functions will be unlocked over time. Initial connectivity will allow iPads with the newly-announced ForeFlight version 7.6 to wirelessly receive and display GPS position and flight plan information from Avidyne's IFD540/440 units running the current v10.1 software. Additional capabilities will be added in an upcoming IFD v10.2 software release.

L-3 Receives TSO, AML STC for its ESI-500 Standby System

L-3's ESI-500 features a high-resolution, 24-bit color display for the presentation of altitude, attitude, airspeed, aircraft track, vertical speed, airspeed awareness cues and slip/skid information.
An internal lithium-ion battery powers the unit in the event of a power failure in the panel.
The scalable ESI-500 has numerous display options, including SynVis, navigation, terrain alerting, obstacles, metric altitude, vertical speed and heading. The unit can be configured per aircraft performance specifications to include an airspeed awareness band highlighting VNE and VMO cues, according to company officials.
READ MORE

NavWorx inks agreement with Garmin for affordable ADS-B solutions

NavWorx, Inc. has announced the company has entered a licensing agreement with Garmin enabling connectivity to the company's GNS and GTN line of navigators. Under the agreement, NavWorx' ADS600-B will interface with existing certified position sources providing the required wide area augmentation system (WAAS) GPS to meet the Federal Aviation Administration's (FAA's) mandate for ADS-B equipage.
For aircraft operators with Garmin GNS and GTN navigators, the installation of NavWorx' ADS600-B requires only a wiring connection to the aircraft. The ADS600-B is a remote mounted universal access transceiver (UAT), providing 2020 compliant ADS-B out (transmit) and ADS-B in (receive) for installation in certified aircraft.

The ADS600-B utilizes the navigator's existing WAAS GPS and antenna offering significant cost savings. Less equipment to purchase and lower installation costs all contribute to the savings. The ADS600-B is priced from **$1,999.**

Take my advice — I'm not using it

TMF PRODUCT REVIEW

360fly Camera

Just when you thought you had all the toys you might need (that's Pilot-Speak for "want"), here's a camera with a somewhat unique personality. It captures 360° video. That means the video that you capture will show a fully immersed experience. Capture your bouncing landing with a 360° view! CLICK HERE to watch a YouTube promotional video.

It retails for $399… a deal at .4 AMUs (Aviation Monetary Units)

Tech Specs

Recording	
Video format	H.264
Video mode (resolution)	1504 x 1504 @ 30fps
Video recording rate	Up to 20 Mbps VBR
Audio format	Mono, 48 kHz, 64 Kbps AAC
Optic/Lens	
Lens type	8-element glass ultra-fisheye lens
Aperture	F2.5
Field of view	240°
Focal length	0.88mm
Minimum focus distance	30cm
Features	
Keys	One operation key (power ON/OFF, recording START/STOP)
LEDs	3-color LED (RGB)
Vibration motor	For device feedback when out of view
Microphone	Built-in microphone
Accelerometer sensor	For camera orientation
Storage	Internal 32GB
Wi-Fi	IEEE 802.11 b/g/n (2.4GHz band)
Bluetooth	Bluetooth™ Smart Device (BT LE)
USB	USB 2.0
Remote control	Viewfinder, control, edit and sharing via smartphone app
Supported mobile O/S	iOS 9+, Android 4.4+
PC software	10.8 or later/Windows 7
Supported PC O/S	Mac OS X, Windows

Environmental	
Water-resistant	5 ATM
Dust-resistant	IP6X (without Mic Plug)
Shock-resistant	Up to 1.5 M
Operating temperature	-20° to 40° C / -4° to 104° F
Storage temperature	-20° to 60° C / -4° to 140° F
Power	
Power source	Built-in Li-Polymer battery (1600mA)
Charging method	Through cradle using bundled USB cable
Full charging time	Approximately 2.5 hours with 1A charger
Battery life	2+ hours
Size and Weight	
Dimensions	360fly Camera (61mm sphere), Power Cradle (46mm x 12mm [H]), Tilt Mount (50mm x 26mm [H])
Weight	360fly Camera 138g, Tilt Mount 30.6g, Power Cradle 15g

In the Tube

- Quick Start guide
- Warranty card
- USB cable
- Power Cradle
- Tilt Mount with curved and flat baseplates
- Pouch
- Mic plug + lanyard
- Neoprene protective pouch

Mooney Instructors Around the Country

Arizona

Jim Price (CFII, MEI, ATP). Chandler, AZ (KCHD). 480-772-1527. JasPriceAZ@gmail.com Proficiency training and IPCs. Website: www.JDPriceCFI.com.

Boris Vasilev (CFI, CFII, MEI, AGI), Phoenix Area. 602-791-9637, boris@atjeuhosting.com.Time in M20C through M20R models. Private commercial and instrument training, BFR's, IPC's, and FAA Wings.

California

Geoff Lee, San Martin, CA. 69050@comcast.net. CFII, 11,000+, Mooney Rocket owner. Teaching since 1969.

Don Kaye (Master CFI) Santa Clara, CA. (408) 249-7626, Website: www.DonKaye.com. Master CFI. PPP Instructor, MAPA, 8 years; Owner: M20M. Total: 10,265; Mooney: 8454; Instruction: 5641

Chuck McGill (Master CFI) San Diego. CA 858-451-2742, Master CFI, MAPA PPP Instructor, M20M, M20R, M20TN, Website: Click Here. Mooney: 6000; Total: 13,000
Instruction: 9800

Rodrigo Von Contra, Oakland. CA. (510) 541-7283, Rodrigo@vonconta.com. Sets record in a Mooney. 7,000 hrs. CFII & Gold Seal; Garmin (including G1000) training; Ferry flights (experience in Central & South Amer) transition training & Aircraft Mgmt; Owner: M20J/Turbo Bullet

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

Paul Kortopates, San Diego Area. (619) 560-8980, Kortopates@hotmail.com. PPP Instructor, MAPA; Owner: M20K/252. Total: 2500; Mooney: 2000

Mike Jesch, Fullerton, CA. (714) 588-9346 (e-mail is best), mcjesch@pacbell.net. Total: 20,000
Instruction: 1500, FAASTeam Lead Representative, Specialites: Airspace, Garmin 430/530, Proficiency flying; Wings Program, VP Pilot's Asso. Master CFI for ASME, IA.

Colorado

Ben Kaufman, Fort Collins. (KFNL). (CFI/CFII) – (801)-319-3218 - bkaufman.mba@gmail.com.

Connecticut

Robert McGuire, Durham. Cell: 203-645-2222, rmcguire007@hotmail.com. MAPA Safety Foundation Instructor; founding partner, Aero Advocates Aviation Consultant. Total: 6500; Mooney: 5000

Winslow Bud Johnson, smgemail@aol.com, 203-348-2356. Bud specializes in teaching in the M20K and has logged more than 1,500 hours in that aircraft.

Florida

Mike Elliott Tarpon Springs. (CFII) Master CFI. 317-371-4161, mike@aviating.com. Quality instrument & commercial instruction, transition training, ownership assistance, plane ferrying. Mooney: 1600; Instruction: 600

Ronald Jarmon, *Panama City. (850) 251-4181. IAELLC@gmail.com. Total: over 7000. WILL TRAVEL! Will accompany customer out of Country, ferry flights, mountain flying, avionics training, Garmin Products. Total: over 7000. Web Site: IslandAirExpress.com.*

Robert McGuire, Hawthorne. (203) 645-2222, (Dec – Feb), rmcguire007@hotmail.com. MAPA Safety Foundation Instructor; founding partner, Aero Advocates Aviation Consultant. Total: 6500; Mooney: 5000

Ted Corsones, Naples. tedc@corsones.com, 239-263-1738. Total: 7500, Mooney: 4500, Instruction: 2000+. ATP & MCFI for MEL, MES, SEL, SES, Instrument Airplane & Glider. **Master Instructor Emeritus. He serves with the MAPA Safety Foundation as an instructor, treasurer, and chief financial officer.**

Georgia

Jim Stevens, Atlanta. USAF, Col, (ret), CFII. 404-277-4123. Instrument, commercial, IPC, BFR, transition training, ferry flights. 20 year owner of 1968 M20F. Total: over 6000; Instruction:1500

Kansas

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

Maryland

George "Brain" Perry, Maryland area (Frederick). Commander, USN, Retired.
Interim Executive Director, AOPA Foundation, Senior Vice President, AOPA Air Safety Institute. 5000+ hours TT in lots of different aircraft including F-14 and F-18's. 1000 Hours in Mooneys of all flavors. 1000 hours of dual given. CFII / MEI / ATP / 525S. I currently own a 99 Eagle M20S and fly about 200 hours a year. Cell (240) 344-1777. George.perry@aopa.org

Massachusetts

Ralph Semb, ralph@bowling4fun.com, 413-221-7535.

New Jersey

Parvez Dara, daraparvez@gmail.com, 732-240-4004. ATP, MCFI SEL/MEL with an advanced ground Instructor rating. Parvez has owned a Mooney M20J and a Mooney M20M (Bravo).

New York

Jack Napoli, Long Island. TT 6,000 hrs & Mooney time 3,000, jacknapoli12@gmail.com , 631-806-4436. He has been flying since 1965 (before he owned a car) and has over 6,000 hours of total flying time including 3,000+ hours in Mooneys. He currently owns a M20K-231.

North and South Dakota

Doug Bodine, Commercial Pilot/Flight Instructor, Cell 605 393-7112, 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 tail wheel 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. (See also, Texas). Total: 9800; Mooney, 1300; IP: 5600/21 years

Ohio

Mike Stretanski, Delaware Municipal Airport (KDLZ), Delaware, Ohio, AGI, CFI, Mooney Owner/Flyer, Flight Physicals, Senior AME, Test prep/Written review prep, Transition Training, G1000, HP/complex endorsements. 614-975-1003.MFSTRETANSKI@gmail.com

Tennessee

Shawn Cuff, Hohenwald, TN (0M3) ATP/CFI-II-MEI. Flying an M20K with Garmin 530W for local company. Relaxed and pleasant flight instruction, flight reviews and instrument competency checks. Contact: **Shawn.M.Cuff@icloud.com** or 931-230-5400. Thank you for reading and safe flying! :-)

Texas

Austin T. Walden, Lubbock & Abilene. 432-788-0216, AustinWalden@gmail.com. PhD, Specializing in Models C thru J, www.WaldenAviation.com.

Doug Bodine, Commercial Pilot/Flight Instructor, Cell 605 393-7112, mei.cfii@gmail.com 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 tail wheel 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. (See also, North and South Dakota). Total: 9800; Mooney, 1300; IP: 5600/21 years

***Bob Cabe**, San Antonio. Cell: (210) 289-5375, Home: (210) 493-7223, bob_cabe@hotmail.com. Total: 5000; Instruction: 2000+. Pilot since 1965. Served as an instructor providing transition training for people purchasing new Ovations & Acclaims. Total: 5000; Instruction: 2000+*

Brian Lloyd, Kestrel Airpark (1T7). 210-802-8FLY, Brian@Lloyd.aero. WILL TRAVEL! Owner: M20K/231; Non-Mooney :-) specialist in spin training, upset recovery training, basic aerobatics formation training, tail wheel transition. Total: 8500; Mooney: 500

Mark Johnson, Houston area. mjohnsonf16@hotmail.com. 832-773-4409. CFII, SEL. Citation 501 and a King Air 350, F-16s and F-117s; currently a T-38 Flight Instructor at Sheppard AFB as a Reservist in the USAFR. Owns an '81 M20J 201. 5800 total hours, 2200 military and 1500 hours of it in Mooney aircraft.

Jerry Johnson, Southwest Texas. mooney9281V@hotmail.com. 817-454-2426. Member MAPA Safety Founda- tion. Owned Mooneys for over 30 years. Total: 11,000 +; Mooney: 6000.

Vermont

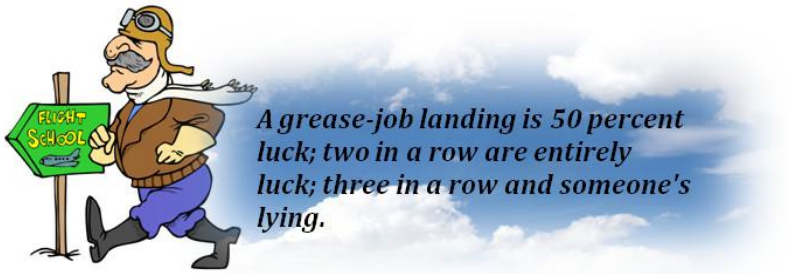
Ted Corsones, Rutland. 813-435-8464, tedc@corsones.com. Total: 7500, Mooney: 4500, Instruction: 2000+. ATP & MCFI for MEL, MES, SEL, SES, Instrument Airplane & Glider. **Master Instructor Emeritus. He serves with the MAPA Safety Foundation as an instructor, treasurer, and chief financial officer.**

Virginia

William Wobbe, Leesburg. william.wobbe@gmail.com , (713) 249-7351. ATP, SES, SEL, MEL, MES, CFI, CFII, MEI, AGI, IGI, ADX. Time in M20B through M20TN models and very familiar with Garmin G-1000, GTN750/650, and G530/430 avionics. 1600+ dual given in Private through ATP training. MAPA PPP instructor and lots of experience in cross country all weather flying including TKS Known Icing Systems. Flight Service Station Specialist and familiar with iPad weather planning apps such as ForeFlight. I can answer questions on the Washington, DC SFRA and ICAO Flight Plans.

Joseph Bailey, *Winchester. (540) 539-7394. b747aviator@yahoo.com. ATP MEL, Commercial, SEL, SES, Glider. CFI, CFII, MEI, CFIG. EXP in Mooneys A-J. Providing initial & transition training. Total: 7800; Mooney: 500; Instruction: 3000*

Lee Fox, Fredericksburg. 540-226-4312, LCFox767@gmail.com. Mooney Staff CFI, Mooney Safety Foundation. Retired American Airlines Check Airman. Owns a M20J 201. Total time: Over 20,000.



GARMIN

AVIATION SERVICE DOCUMENT NOTIFICATION

TO: Owners of Record for the GNS 400W/500W Series
DATE: March 10, 2016

SUBJECT: AML STC SA01933LA-D update for GNS 400W/500W Series Software Version 5.30 and Flight Stream 210 Software Version 2.30

CERTIFICATION APPROVAL: STC SA01933LA-D

COMPLIANCE
Optional

PURPOSE
GNS 400W/500W Series main software version 5.30 includes the following changes:

- Added support for using the GDL 88 heading input as a source of system heading.
- Corrected an issue, when configured with a GDL 88 with TCAS and no heading source, with ADS OFF and TCAS ON, the traffic page would incorrectly annunciate traffic as TRK (track up) rather than HDG (heading up).
- Corrected an issue where the TOTAL TRIP TIMER would set to zero upon takeoff if the DEPARTURE TIMER criteria is set for IN AIR.
- Corrected the 'GDL 88 Traffic Alerting has failed' system message to 'GDL 88 Traffic Alerting Not Available.'
- Expanded the display bounding box for Non-CONUS METARs sent from the GDL 69/69A to include western Alaska and Hawaii.
- Corrected an issue where the GNS did not show the GDL 88 traffic test pattern on the NAV TRAFFIC page.

PRODUCTS AFFECTED
GNS 400W/500W Series units and Flight Stream 210 units installed using the Approved Model List (AML) Supplemental Type Certificate SA01933LA-D are affected.

Please contact your local Garmin Avionics Dealer (http://www.garmin.com/dealers/) for additional information or for questions regarding this notification. This service notification and associated bulletin/advisory product changes can only be implemented through Garmin's authorized dealer and service center network. This document is not a substitute for and cannot be used in lieu of the document(s) referenced above for airworthiness approval.

For Sale -- Mooney M20J, IO-360-A3B6D, Exhaust System. Removed recently to install a Power Flow Exhaust System. In good, serviceable, condition, according to the Mooney mechanic who inspected it at pre-buy (7 months ago) and the mechanic who removed it (2 months ago). Asking $450 plus shipping. Shipping calculated upon sale. Located in Perry, Oklahoma (F22). Call 405-338-8992.

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

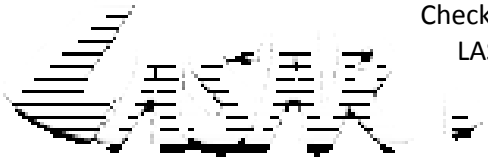
Parts for Sale

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

Mooney Cover

This cover will fit a newer, longer body Mooney. Asking $600 (When new, these covers cost $1,149), Contact Jason Herritz at Chandler Aviation, Inc. 480-732-9118 parts@chandleraviation.com

LASAR'S Free Site



Check out Lake Aero Styling & Repair's " LASAR" Web Site: www.lasar.com New, under "Mooneys for Sale", you can List your Mooney for FREE!

Also check out Parts, Mods, and Services. LASAR, est. 1975 **(707) 263-0412** e-mail: parts-mods@lasar.com and service@lasar.com