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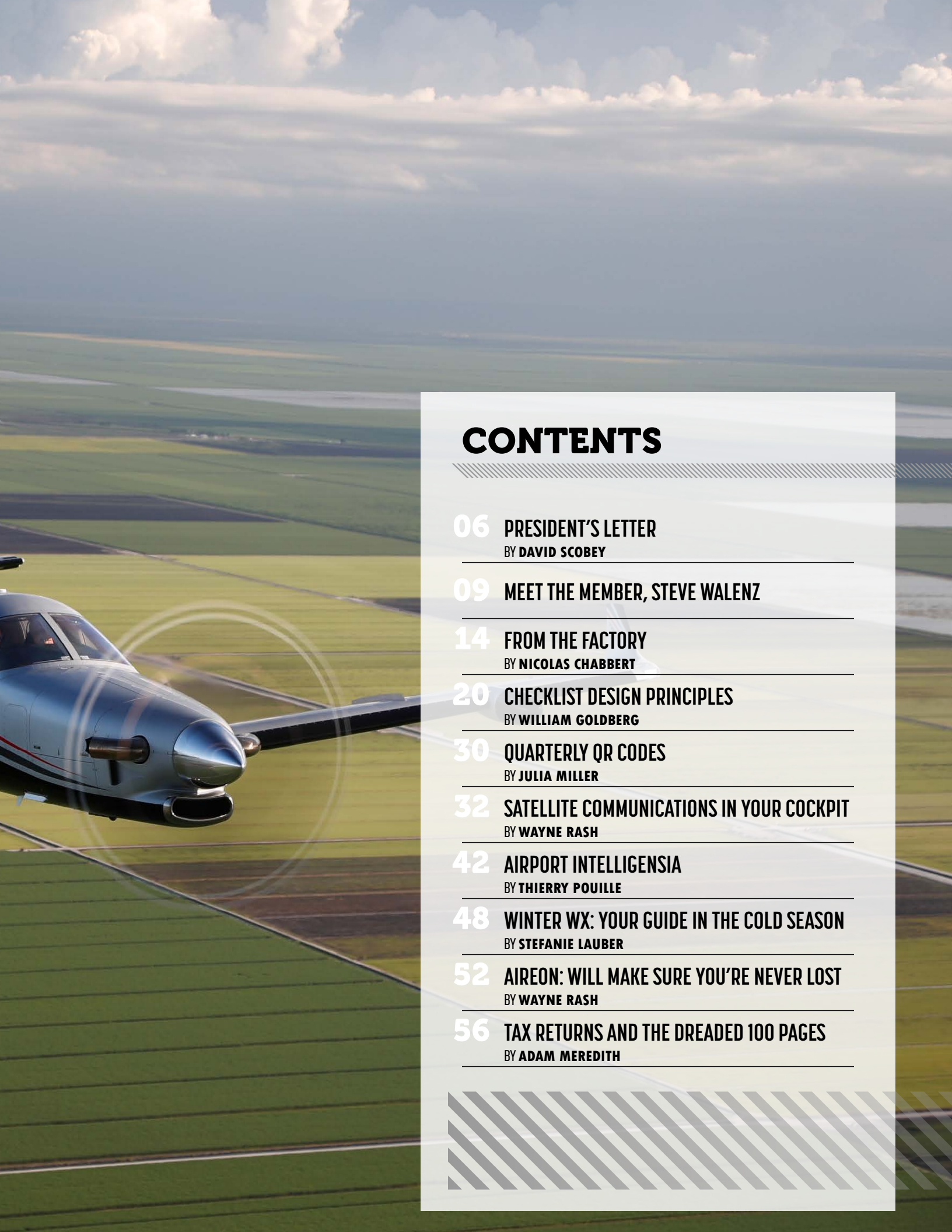

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# Quarterly Update

## FROM THE TBMOPA PRESIDENT

International travel in your personal plane opens new worlds and offers exciting new adventures. I remember my first self-flown international trip. The day after my daughter's wedding my wife and I loaded up our plane for a trip to the Bahamas. After all the work of planning a daughter's wedding, relaxing on a warm beach sounded like the perfect getaway. I told Debbie not to worry about anything – I would do all the planning and all she had to do was pack her bag. The weather was perfect and a peaceful feeling came over us as the island of Grand Bahama came into view.

We landed in Freeport and were greeted by a happy line attendant. He directed us to the building where we would clear immigration and customs. I filled out the paperwork, pulled our passports out of my flight bag and handed them to the agent dressed in a military uniform. He opened the first passport, looked at me, and initialed the first immigration form. He opened the second passport, paused, and turned it around to me on the picture page. The picture was my son's not my wife's. The blood drained from my head – I had pulled the wrong passport from the file folder where I keep them for the whole family.

I wondered what would happen now. Are they going to put me in jail? Are they going to send me back to the US? Have I ruined our relaxing vacation? As all these scenarios are rolling around in my head I began to hear some laughing. As my eyes came back into focus the agent was handing me back all the paperwork and with a laugh and said "no problem man – welcome to the Bahamas." The sense of relief was overwhelming, and the vacation was saved. We had a wonderful vacation. I did assume my reentry to the US would not be met with a laugh and welcome, so I had my dad overnight the correct passport to me in the Bahamas. I always, always check passports at least three times now – lesson learned.

Our convention this year will be September 8-12 in Montreal, Canada where you will have an opportunity to visit the hospital where all our PT6's are born. The Pratt and Whitney factory, I mean. If you've never crossed an international border in your plane, it is easy. However, we know the idea can be daunting, so we are going to do everything possible to make it simple and painless for you.

TBMOPA will provide each convention attendee, through Air Journey, free filing of US eAPIS (electronic Advance Passenger Information System) the passenger manifest you must provide US Customs on departure and arrival back into the US. We will also provide detailed instructions for handling the Canadian side of immigration & customs. Finally, we will have an onsite concierge at the FBO in Canada that is fluent in both English and French to support you through the process and manage any translation needed.

TBMOPA is also working with vendors like Jeppesen, Garmin and Foreflight to manage any gaps in coverage you may have on your avionics subscriptions. And finally we will provide for a fee an escorted arrival and departure option where you can meet with a group of planes at a US gateway city and travel in and out of Canada as a group of planes with a trained journey director if you need further assistance.

Our convention this year will provide all the normal opportunities to meet like minded TBM owners and learn more about the TBM, but it is also an excellent opportunity to try travelling outside the US with little to no stress.

Just make sure you bring the right passports!
See you there.

David Scobey

David Scobey
Chairman TBMOPA

TBM OWNERS AND PILOTS MAGAZINE

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**COVER IMAGE: DAHER AVIATION**
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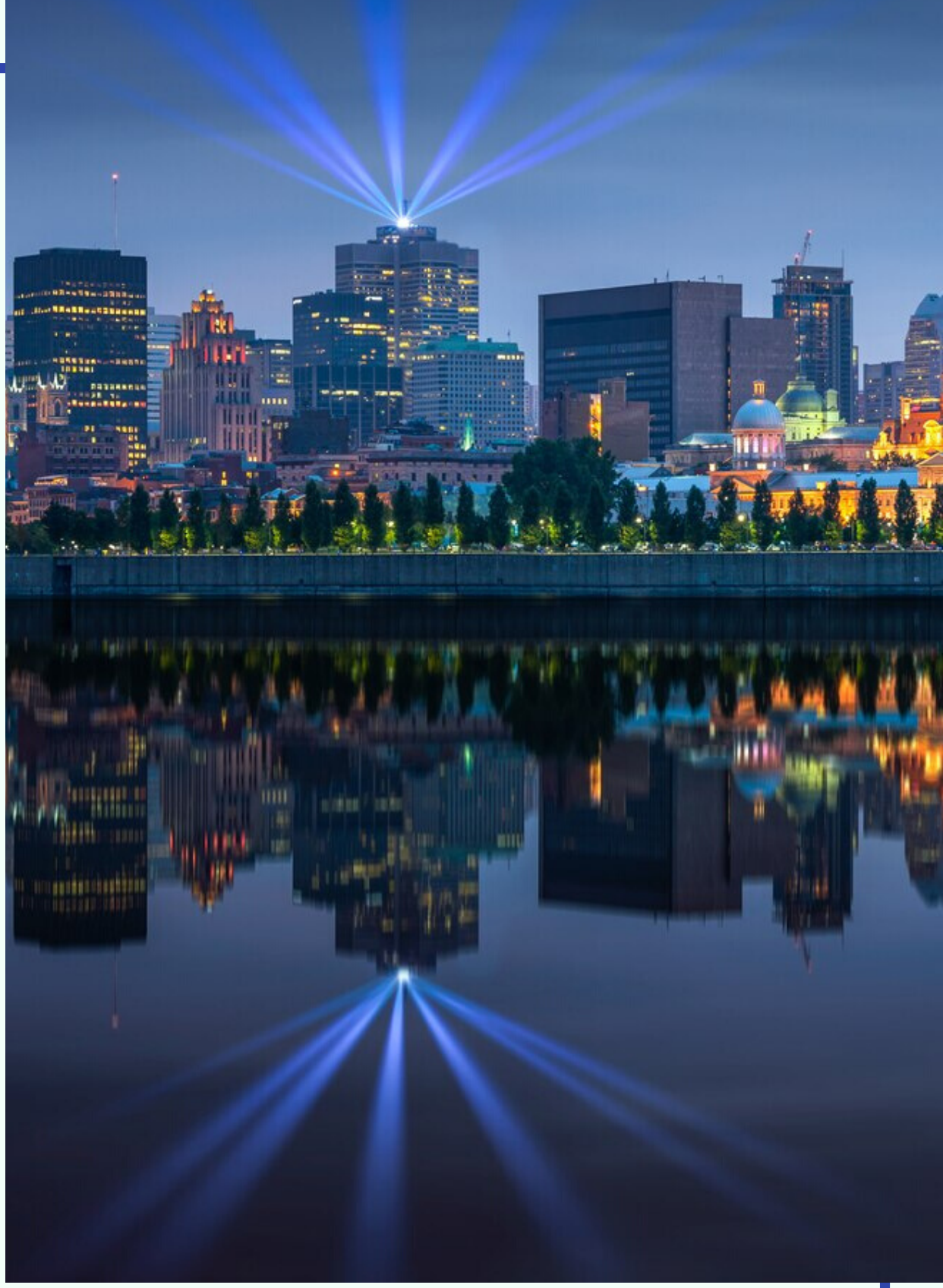


## 2020 TBMOPA ANNUAL CONVENTION

*September 9-13, 2020*

*Montreal, Quebec*


# MEET THE MEMBER
# STEVE WALENZ

### What airplane(s) do you currently fly and how many hours do you have in it?

Currently I fly a TBM 850 glass and have about 3500 hours in it. I also have a North American T-28C Trojan that I bought 3 years ago and have about 250 hours in it. I have had numerous planes throughout history – a Cessna 150, a Cessna 182, a few Cessna 310s, a Beech Bonanza turbocharged – then I bought my first TBM 850 Legacy around 2007.

### What are your favorite vacation spots?

Anything with a beach, ocean, or sand! Tambor Costa Rica, Madeira Portugal, and the Caribbean.

### What are your favorite things about flying there?

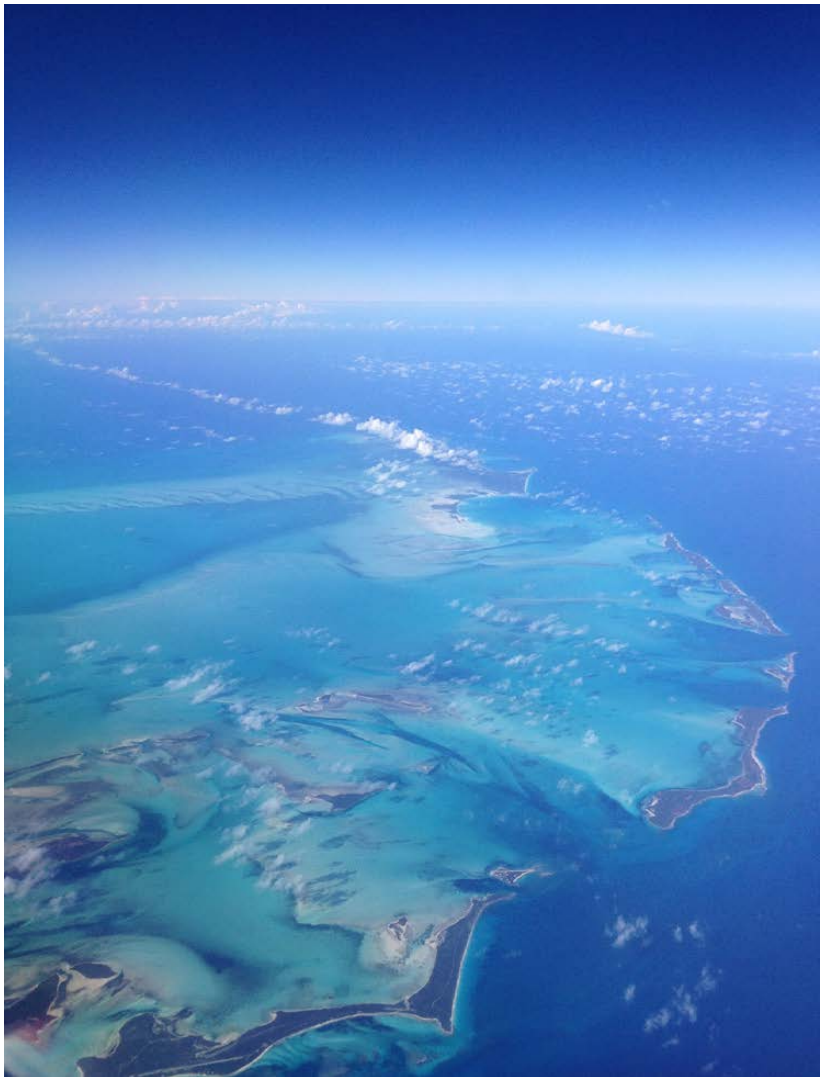
Usually when we fly there, we fly with other friends – other TBMs. The camaraderie with other people and their planes heading down to these destinations is the best.

### What are your procedures for getting around foreign countries?

Do your homework with what they require for getting in/out of the country and follow the rules. Don't be in a hurry, and smile a lot.

### What is your favorite flying experience?

Some include unusual airports – I am certified to fly into St. Barths and certified to fly into Courchevel, France. In Courchevel, you need a checkride with a French examiner to get in there. I have been to Cusco, Peru and Tegucigalpa, Honduras –these are very unusual airports. I have been to 9 of the world's most dangerous airports except for the one in Nepal – Kathmandu. I have also been into all of the high-altitude airports in the world.

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### What drew you to flying?

I used to live close to the airport in Omaha, NE, and in high school it was one of my goals to be a pilot. I saw the flight attendants and captains coming off the DC-3s and everyone was dressed up, and I thought this is what I wanted to do. I got my pilot's license when I was a senior in high school and found out since I am only 5'2", I could not fly for the airlines. You had to be between 5'6"-6'2" back then. I looked into the military, but the height restrictions were the same. So, I did my flying the hard way. I would buy a plane, do the training, then sell it. I did this for each rating. Finally, I started a business and found out I could afford a plane, and then I did the same thing as the business grew: upgraded planes.

### What is your career background?

I have a degree in chemical engineering from University of Nebraska, Lincoln. I started an asphalt paving business out of college, and that was my primary business until I sold it in 2007. I had this business for 50 years; it was time to retire and travel.

### How many hours do you currently have?

**5000 hours.**

### What is the first plane you ever owned?

The first plane I ever flew and owned was a Cessna 150.

### Do you have any recommendations for pilots out there?

Keep training and keep learning. Once you get a pilot's license, you don't stop learning. Get all the ratings you can. Just keep advancing.


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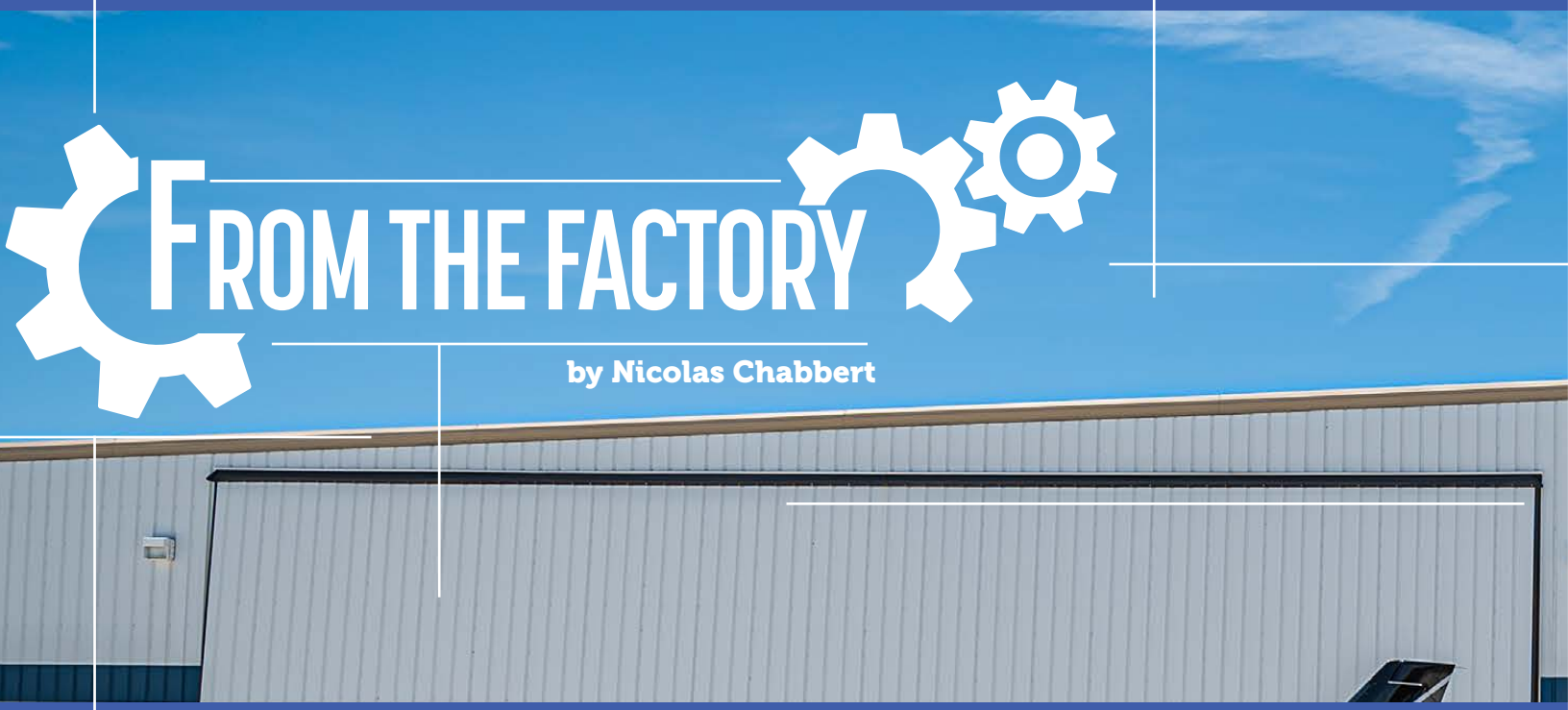
# FROM THE FACTORY

by Nicolas Chabbert



**With Kodiak Aircraft now fully integrated into the Daher group, this spring will see Kodiak and TBM on display together at many events as a family of turboprop-powered aircraft.**

The complementary characteristics between the rugged Kodiak and the very fast TBM is obvious. From the inside out, both were designed to offer the highest levels of safety through the construction of their airframes and the systems they use.

Daher's commitment to safety is reflected in both aircraft. We were early adopters of flight envelope protection, combined with an autothrottle to make loss of control virtually impossible. Adding to the TBM's well-earned reputation as the most reliable turboprop in its class are






built-in engine safeguards and the automatic transmission of critical engine data back to the manufacturer after each flight.

And this spring, we are introducing HomeSafe™, the emergency autoland system that automatically guides the aircraft to a runway if the pilot becomes incapacitated.

HomeSafe™ is a pioneering system that will enhance passengers' confidence in general aviation as a transportation tool.

Boosting safety also has an impact on the cost of flying. Demonstrating the high safety level of our aircraft is our mission as the manufacturer. It also is our duty to encourage Kodiak and TBM pilots to constantly maintain – and improve – their flying skills. This has been Daher's task in recent years, joining our efforts with the TBM Owners and pilots Association (TBMOPA), and we expect to develop a similar pattern with the Kodiak's community of aviators.

Through the systems we're developing on the TBM – including HomeSafe™ as Daher's latest initiative – along with our partnerships with flight training organizations such as SimCom in the U.S. and SimAero in Europe, we can ensure the word "safety" is well associated with general aviation.

## Daher's final touch on the 300th TBM 900-series

Daher outlined at the end of February the primary new features for the model year 2020 versions of the TBM 910 and TBM 940 that further enhance the experience for passengers and pilots aboard the company's very fast turboprop aircraft.

As announced by Nicolas Chabbert, the 2020 TBM 940 will be equipped with HomeSafe™, an emergency autoland system that can guide the aircraft to a landing in the event of pilot incapacitation. Based on Garmin's Autoland system and available as a part of the G3000 integrated flight deck, HomeSafe™ integrates weather, traffic and terrain information to select the optimum airport for landing, considering such conditions as fuel range, flight distance and runway length.

HomeSafe™ currently is under validation by Daher's avionics team and flight test department for application on the TBM 940 and will be available when certified by the airworthiness authorities.

Among the visible changes in the cabin are new high-quality leather and material finishes, along with elements for improved comfort.

Included are a choice of six color choices for seat coverings and side panels, more wood fittings along with three new floor carpet colors. The Enhanced Operational Package offers eight pre-selected harmonies identified by some of the favorite travel destinations for TBM owners, such as Atacama or Goose Bay. As an option, an extended palette is available with 40 more colors.

Among the comfort-related enhancements introduced in the cabins of 2020 TBM aircraft are headset stowage hooks incorporated on clothes hangers behind the rear seats, as well as additional rear seat cup holders.

2020 TBMs also can be outfitted with an optional quick-change storage unit: an extended large storage cabinet. When installed, it replaces the left-side intermediate seat to offer more space for carry-on items and is available with two USB slots and a 115 volt universal power plug.

For operability, both the TBM 910 and TBM 940 in 2020 benefit from the automated icing protection introduced last year as part of Daher's TBM e-Copilot® enhancements.

The TBM 940 retains the most advanced level of automation with its G3000 integrated flight deck and autothrottle system. The level of cockpit information is enhanced by the introduction of the GWX 75 all-digital weather radar. This new Doppler-capable radar features high-definition 16-color palette for a detailed perception of the storms on the displays, combined with full antenna stabilization with horizontal scan angles up to 120 degrees. Doppler-enabled turbulence detection and ground clutter suppression are offered as an option and enable an even more precise weather interpretation.

## Daher's final touch on the 300th TBM 900-series

Recently the final touch was applied on the 300th TBM 900-series, a TBM 940 that incorporates a personalized paint scheme for its owners Dr. Ian Blair Fries and his wife Susan Fries. This airplane was the fourth TBM-


family aircraft they have acquired over the past 20 years.

The special gold and white exterior design, created by Scheme Designers, received an extra personal touch at the Daher Aircraft, Inc. subsidiary in Florida, USA: a red carnation in honor of the flower worn daily for 50 years by Dr. Fries in honor of his patients.

"We are grateful to Dr. and Mrs. Fries for their more than 20-year-old loyalty to the TBM. So, it was very appropriate they received the symbolic 300th TBM 900-series aircraft as their latest acquisition," commented Nicolas Chabbert, the CEO of Daher Aircraft Inc. and Senior Vice President of Daher's Aircraft Division. "Their enthusiasm for the TBM 940 reaffirms that Daher is on the right path as we continue to evolve the TBM family through a combination of efficiency and safety, providing the ultimate flying experience for owners and operators."

Daher's TBM 900 series is the company's in-production TBM product line, having been launched in 2014 and available today in the TBM 910 and TBM 940 configurations. Prior to receiving their new TBM 940, Dr. Fries and Susan previously owned a TBM 700B, TBM 850, and TBM 900.

"Based on the TBM's proven design, the upgrades that Daher brings to each new model amply justified our purchases of the four aircraft," he explained. "The TBM fits our transportation profile: I can plan for a 1,000-nautical mile flight under almost any conditions. And it is a pleasure to work with many of the same people for years, which is a credit to Daher. Additionally, I consider the five-year warranty of significant value alone in justifying a new acquisition."

Dr. Fries is a Federal Aviation Administration-certified Senior Aviation Medical Examiner specialized in Human Intervention Motivation Study (HIMS) – trained in evaluating pilots for substance- or alcohol-related conditions or other mental conditions. An HIMS Aviation Medical Examiner can provide sponsorship and monitoring for such conditions when required by the FAA for medical certification purposes.

As an active pilot, Dr. Fries has logged more than 6,000 flight hours and holds an ATP license with a Certified Flight Instructor Instrument rating. He is a member of the Aircraft Owners and Pilots Association's (AOPA) Board of Advisors, and serves as aeromedical consultant for the AOPA and the Teamsters Airline Division.

I wish you blue skies, good tail winds, and safe flying.

Nicolas Chabbert,
Senior Vice President
Daher's Aircraft Division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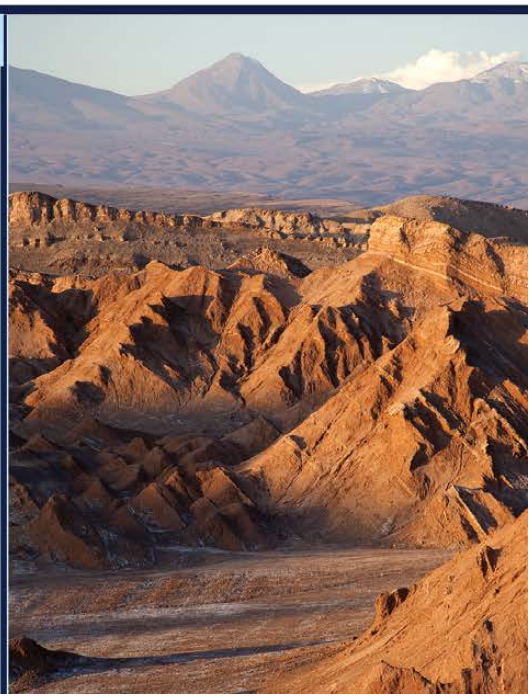

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# FUNDAMENTALS DONE WELL

by **William Goldberg, Goldberg Aviation**


When I was a boy, my father would take me with him to run errands on Saturday mornings. We would visit the bank, hardware store, grocery store, car wash, dry cleaners and various other retailers. At each establishment, my father verbalized the things that he needed to accomplish before he went in. At the bank, it was, "Get cash, make mortgage payment and order more checks." At the dry cleaners, "Pick up hanging clothes and boxed shirts." I thought that this was strange and asked him why he did this. He said that he wasn't entirely sure why, but that it helped him make sure that he was in the moment and didn't forget anything important. Jokingly, he said that that verbalization was in order for me to be aware of what he needed and to make sure that he got it. At the end of the day, he wanted to get his errands done promptly and accurately so that he could get out to the lake fishing as soon as possible.

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Flash forward four decades and with the benefit of psychological research, we know that verbalization helps verify accuracy and completeness of procedures. It creates a narrative pattern to our procedures that, like a flow check followed by a checklist (see our last article on the topic), assures that nothing is left to chance and we are paying close attention to the task at hand. Callouts are particularly important in differentiating our in-cockpit communication from ATC chatter as well as keeping us focused as workload increases and flight phases become more critical. On the other hand, a flight indication that is contrary to the call out allows the pilot to identify a malfunction in equipment, poor navigational execution or loss of situational awareness. Most TBM pilots fly single pilot, but call outs are especially important in two pilot operations and that is beyond the scope of this article.

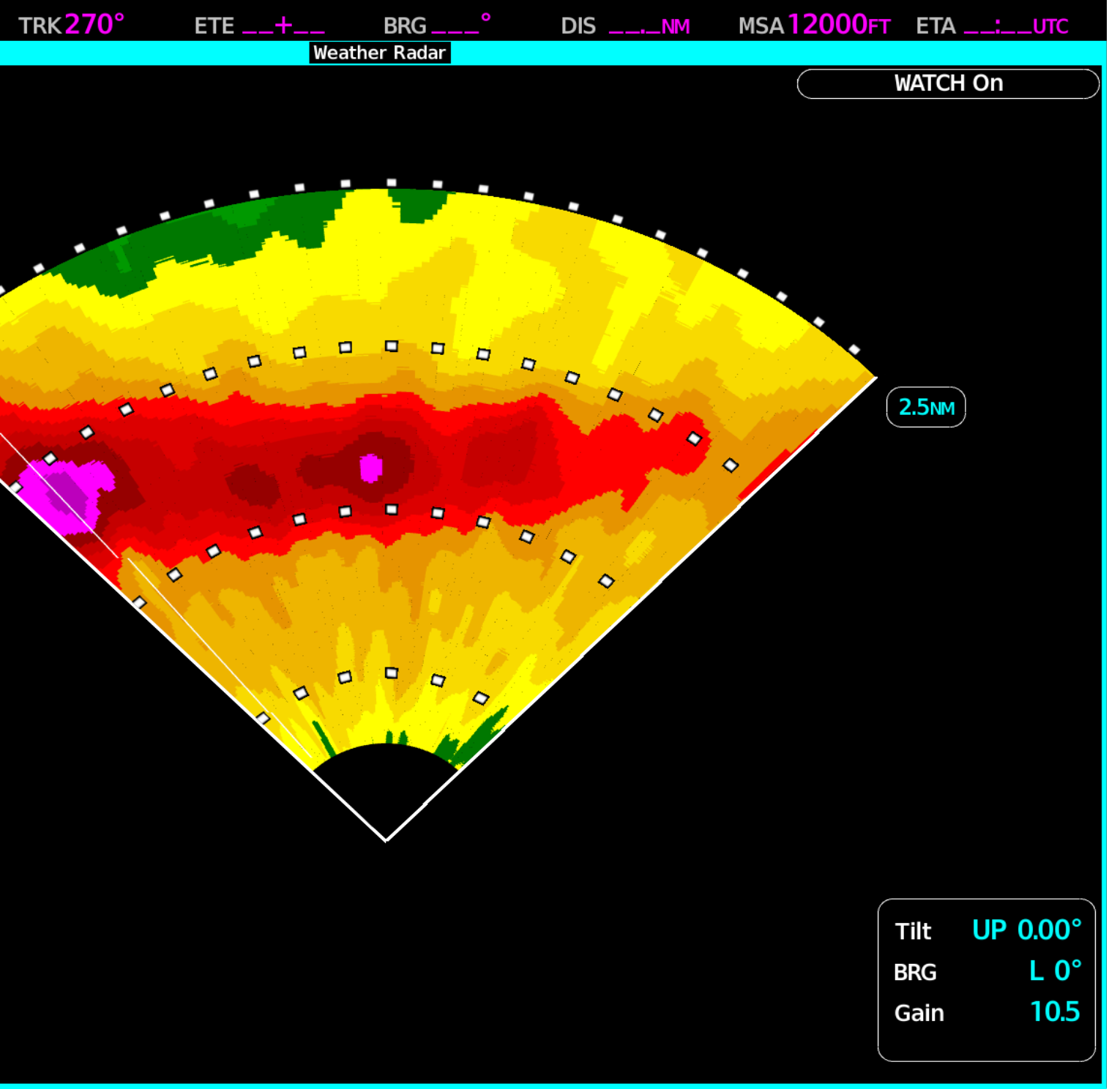

The purpose of this article is to share the call outs that I have found most useful in my teaching in TBMs. There are a large number of generic aviation callouts that reflect best practices such as, "Clear prop, before takeoff checklist complete, approach path clear, entering runway 32, you have the flight controls, gas, undercarriage, mixture, prop, 100 feet above MDA, runway 18 confirmed, landing, etc." I'd love to hear your thoughts on my TBM specific callouts and callouts that you use in addition to these. Please email me at goldbergaviation@gmail.com and let's keep the conversation and learning going.

After I conduct a thorough preflight inspection, I close the door and say, "Five green bars." During the engine start sequence, I start a timer, engage the starter and point at the Ng gauge. "Looking for 30% in 30 seconds. 40% Ng, secondary fuel manifold operative. Maximum ITT is 800 degrees. ITT for a hot start and Ng for a hung start."

Before entering the runway, we at Goldberg Aviation recommend using a version of the acronym L.A.F.T.I.C. that works best for your aircraft. "Lights, Air, Flaps, Trim, Ice and CAS." Recall our previous article on checklists in which we recommend that pilots not use switch positions (rumor) for confirmation of an item being addressed, but use the indicator light for that item as confirmation (fact).

When I am in position for takeoff, "40% torque, engine instruments green, takeoff power set, airspeed indicator alive, 60 knots and cross check, Vr, rotate." As the aircraft begins its climb, "Positive rate, brakes, gear up." I must confess that the following callout is one of the simplest, but most effective and gives a hat tip to the human factors designers in aviation and aerospace, "Lights out." Recall that in most cases, the CAS, gear lights, ice lights, and other lights are normally out and we would expect to see no other yellow or red lights illuminated (except for the inertial separator) if everything is operating normally.

As the aircraft accelerates, "Flaps up, 130 knots." Upon passing 10,000 feet, "Cabin pressure set, landing lights off." Upon passing 18,000 feet, "29.92, set left, set right." I maintain a sterile cockpit below 10,000 feet and within 1,000 feet of an assigned altitude. Approaching an assigned altitude, "1,000 feet to go," and upon level off, "Altitude capture, cabin pressure set."




The approach phase of the flight is where the callouts tremendously aid standardization and error detection. Descending through 18,000 feet, "Local Altimeter, set left, set right." When the LOC indicator moves, "Course alive," and when the GS indicator moves, "Glide slope alive." The glide slope indicator moving is a good time to think about the landing gear, "Diamond down, speed checks, gear down," and when the gear indicator lights illuminate, "Gear selected down, three green, no red." Extending the flaps, "Speed checks, flaps to take off, (and subsequently) speed checks, flaps to landing." The acronym G.I.F.Y. covers all of the major items, "Gear, inertial separator, flaps and yaw damper." After the stabilized approach criteria discussed below, we think that the G.I.F.Y. mnemonic and callout is the most important callout and prudent pilots would be well served by repeating it three times prior to landing. If you do the check and an item does not yet need to be activated, make a verbal/mental note by saying, "Gear, inertial separator, and flaps. Yaw damper to go."

I mentioned situational awareness earlier and the approach sequence is where the pilot can use the callouts to be deliberate in making course

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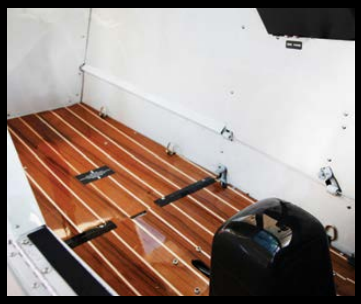

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corrections. This is the best time for you to verbalize your thinking and achieve the highest level of situational awareness. If the LOC indicator is not centered, you could say, "Full dot to the left, correcting." If the GS indicator is not centered, "Half dot low, correcting."

We at Goldberg Aviation are positively fanatical about the importance of stabilized approaches as the best way to save lives and money. We never want miss an opportunity to remind our community of keeping the airspeed -5/+10 KIAS, VSI less than 1,000 FPM, aircraft configured for landing (flaps and gear down), on the glidepath and on the centerline as the aircraft is passing through 1,000 feet AGL.

As you are passing through 1,000 feet AGL, "Stabilized approach, speeds appropriate, aircraft configured, on centerline, on glide path." Approaching 50 feet AGL, "Vref speed (or angle of attack)." When reaching DH or MAP without the runway in sight (or if the approach is not stabilized), "TOGA, power, pitch to command bars, flaps take off, positive rate, gear up, flaps up."

After landing and clearing the runway, we recommend stopping, running the L.A.F.T.I.C. sequence again to make ready for taxiing and doing nothing other than taxiing until getting to parking. In other words, no taxiing and running checklists either to or from the runway.

Callout are very powerful tools for assuring that precautions are taken and proper procedures followed and nothing is forgotten in absence of a flow check or a checklist. All of the best operators use callout standardization that is specific to their aircraft and it would be a fundamental practice that we should all strive to do well.

As I think about my father, I am reminded of my favorite Mark Twain quote, "When I was a boy of fourteen, my father was so ignorant I could hardly stand to have the old man around. But when I got to be twenty-one, I was astonished at how much he had learned in seven years." When it comes to callouts, the old man was absolutely right.

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**William Goldberg** has been flying full time for over 35 years in 74 countries and has been a full time TBM instructor since 2014. He has trained an estimated 1500 pilots in his career and estimated 300 pilots trained in TBM aircraft.

**Jason Clark** is an accomplished CFI and passionate about mentoring fellow aviators. His areas of expertise include avionics and turbine engines. He spends most days flying Citations for a large Medivac operation.

**Kip Wintenburg** has over 1,700 hours instructing recurrent and initial pilots in all models of TBM aircraft He is based in Long Beach, CA and has long experience flying over six continents.

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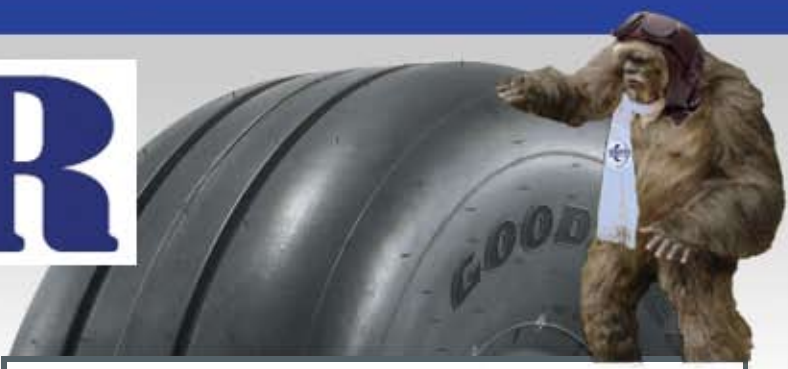


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by **Julia Miller**

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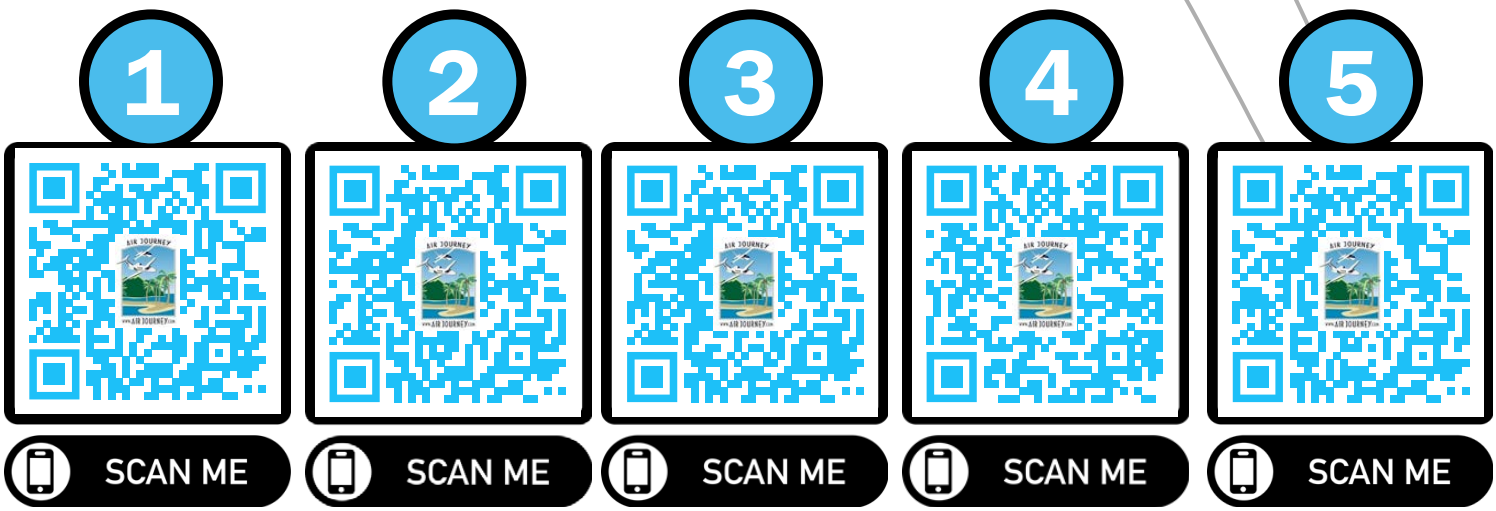


**Welcome to another edition of QR Codes!!**

We have some exciting videos for you this season, along with some great learning opportunities and even a laugh. Watch as two pilots fly their way through solid IFR conditions and a family flies their way through thunderstorms and major headwinds. Learn all the specs of the new TBM 940 and some pilot tips for the TBM 850. Finish up with some entertainment from the Swiss showing off their version of Top Gun.

1 **10 Things You Need to Know – TBM 850 :** IIf you're an owner/operator interested in continuous learning, scan here to learn some quirks and tips about flying a TBM 850. Two pilots will talk you through what they've learned while flying while flying to Boundary Bay in Canada demonstrating minimums.

2 **TBM Trip to South Carolina :** Fly along with this family taking their TBM from Austin, Texas, to Anderson, South Carolina, at FL230 with max differential pressure mode to keep cabin altitude as low as possible. Watch their teamwork as they fly through thunderstorms and a major headwind to make it back home safely.

3 **TBM 900 Solid IFR :** Check out this flight in a TBM 910 heading to Sugarland in solid IFR conditions. With two Foreflight buffs at the controls you get to see an ideal approach through the clouds following an effective team briefing from both pilots.

4 **The New TBM 940 :** Get the Specs from Steve Davis with Elliott Jets showing off the new TBM 940. With fast speeds of 330 knots, long range, great take-off and landing capabilities, advanced avionics, and comfort all in one, this is a great airplane to fly! The fastest single engine turbo prop in the world can take you from Los Angeles to Chicago nonstop using airports with 2500-foot runways thanks to reversible prop flow. 2500-foot runways thanks to reversible prop flow.

5 **Swiss Top Gun in a TBM 910 :** Check out this short film to see a Swiss version of Top Gun. You're in for a good laugh and a great show!


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# WHY YOU SHOULD CONSIDER SATELLITE COMMUNICATIONS IN YOUR COCKPIT

by **WAYNE RASH**

No matter the type of flying we do, we've all been somewhere where we can't use our cell phones. Frequently it's in flight, but there are also plenty of remote airstrips without reliable cell service. Worse, if you have to make an emergency landing, you may not be able to call ATC or for others services on the ground, whether through radio or with your cellphone. Even though you may have landed safely with your aircraft undamaged, you're still out of touch.

So, what are you going to do? Depending on where you landed, perhaps you can go to the local FBO and use the phone to call whoever you need. Or if it was an emergency off-field landing, maybe you can find a house within a few miles. But if your landing, emergency or not, wasn't in a reasonably populated place, you may also be out of luck.

The solution to this is either a satellite phone or some other kind of satellite communication. Despite what you've seen on television, satellite phones are no longer the big and bulky things with huge antennas. Now they cost about the same as a high-end smartphone, and while they still have an antenna that sticks up, it's not as massive as it once was. It's also important to know that there are now several ways to establish satellite communications, of which a phone is only one.


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The most basic form of satellite communications is a text-only device that can be used to send text messages anywhere in the world. They also come with an SOS button that connects to the GEOS Emergency Response Coordination Center, which can send assistance based on the GPS location provided by your device.

An example of this type of device is the Garmin InReach series of handheld communicators. The InReach communicators can pair with a smartphone using Bluetooth to provide maps, NOAA charts, weather information, and aerial imagery. Some of these devices sell for less than $300 on Amazon. These devices use the Iridium satellite service. Note that the InReach communicators do not provide any voice service.


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For devices that do offer voice service, you'll find phones for two different satellite operators, Iridium and Inmarsat. The 36 Iridium satellites are in polar orbits, so there's always one available anywhere on the earth. They travel in low earth orbit, which means that the delays during a phone call are insignificant.

Inmarsat operates 13 satellites in a geosynchronous orbit, about 22,300 miles above the earth. They appear stationary in the sky, but there is a noticeable delay in voice communications that can make conversations difficult. Inmarsat cannot be used in high northern or southern latitudes.

Iridium provides a number of ways to use their services while traveling. In addition to the option of standing outside to use the phone, which is inconvenient while flying, you can also get antennas for Iridium phones that can be installed on the roof of your aircraft. There's also an antenna for use while driving in a car. The automotive antenna is magnetic and can be attached as needed. The aviation antenna must be permanently installed.

You can use an Iridium phone in the cockpit by connecting a cable from the antenna to the phone. Beyond that, using the phone is no different whether you're using it with its standard antenna or with the rooftop antenna.

## Using a Satellite Phone

Today's satellite phones look a lot like portable cell phones looked 15 years ago. You have a small screen to display phone numbers, menu choices, and text message content. There's a numeric keypad that also includes letters, a couple of function buttons, and a red SOS button. That button can connect to GEOS or to a number you define.

You dial the phone by first entering the country code before entering the rest of the number. Satellite phones from both Iridium and Inmarsat have their own country codes, and someone wishing to call into your phone will have to treat it as an international call. Iridium will assign you a US phone number to ease the path for people who want to call you, but when you call out, you're still using your satellite country code and phone number.

It's important to know that a satellite phone must be used where it has a clear view of the sky, which means outdoors, unless you have a special antenna like what's mentioned above. Unlike characters you may see on TV, you can't use one inside a house or in the engine room of a Navy ship. You may also need to stand clear of tall structures.

Beyond the need to stand outside, using a satellite phone, such as the Iridium Extreme, which was borrowed from Iridium for this article, isn't much different from using an older style cell phone, except that the voice quality is better.

## Hot Spot

Another approach to satellite communications is a device such as the Iridium Go, which acts as a WiFi hot spot that connects to the Iridium satellite service. It's less expensive than the satellite phones, because you use your own smartphone to make calls via the Iridium Go device.

# What's Your Story?

**Can you explain a maintenance process ?**
**Have you traveled somewhere in your TBM worth recommending ?**
**Did you learn a valuable lesson while flying your TBM ?**

We are looking for articles for this magazine! Do you have a story about flying your TBM? How about new tips and techniques for fellow TBM owners? Maybe you can explain a maintenance process you find valuable. We want articles for TBM owners, by TBM owners and service experts!

If you have an interesting story, we are asking for you to share it with us. Articles should be 300-500 words. Accompanying photos must be 300 dpi.


*Email all submissions to Rachel Friedman, rachel@ajpublications.com for approval.*

"We use Iridium Go," said Thierry Pouille, CEO of Air Journey. "You put it on the dashboard. You don't have any wires. It has a rechargeable battery, and it doesn't have to be recharged on every flight."

Pouille said that when you're flying to airports that don't have ATIS, such as those in the Caribbean, being able to use your smartphone means that you can get the information you need before you fly.

## Integrating Satellite Communications

Pouille said that in some countries where he flies, satellite phones aren't allowed on the ground, but he said that many aircraft are now outfitted with Iridium communications that are part of their glass cockpit flight management and navigation systems.

For example, the Garmin GSR 56 satellite link will integrate with other Garmin flight deck hardware. It communicates with Iridium and GPS, and pairs with the Garmin GTN 750/650 series and the Flight Stream 510 and 210. With this system, you can receive weather information including high resolution maps and METARs. The device will connect with your smartphone or tablet, and will display a variety of maps, charts and radar imagery. Paired smartphones can make phone calls and send text messages via satellite.

The Garmin satellite receiver is integrated with the rest of the avionics, and it will provide support for the smartphones of you and your passengers using the company's wireless gateways such as the Flight Streams. With this equipment, Garmin offers a vast selection of navigation and weather products.

"The new airplanes have the Iridium connection already in the plane," Pouille said. "It makes life so much easier."

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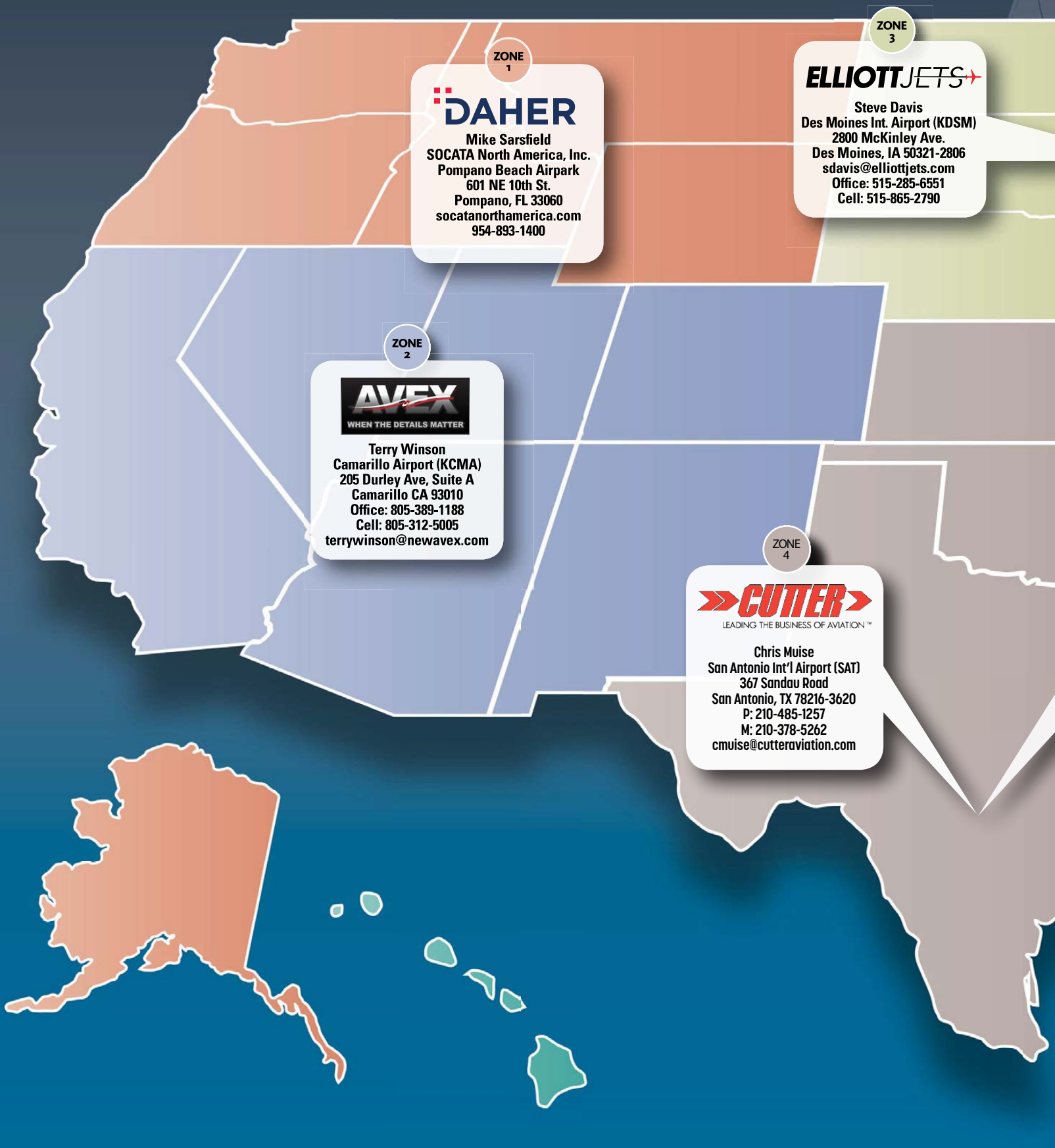

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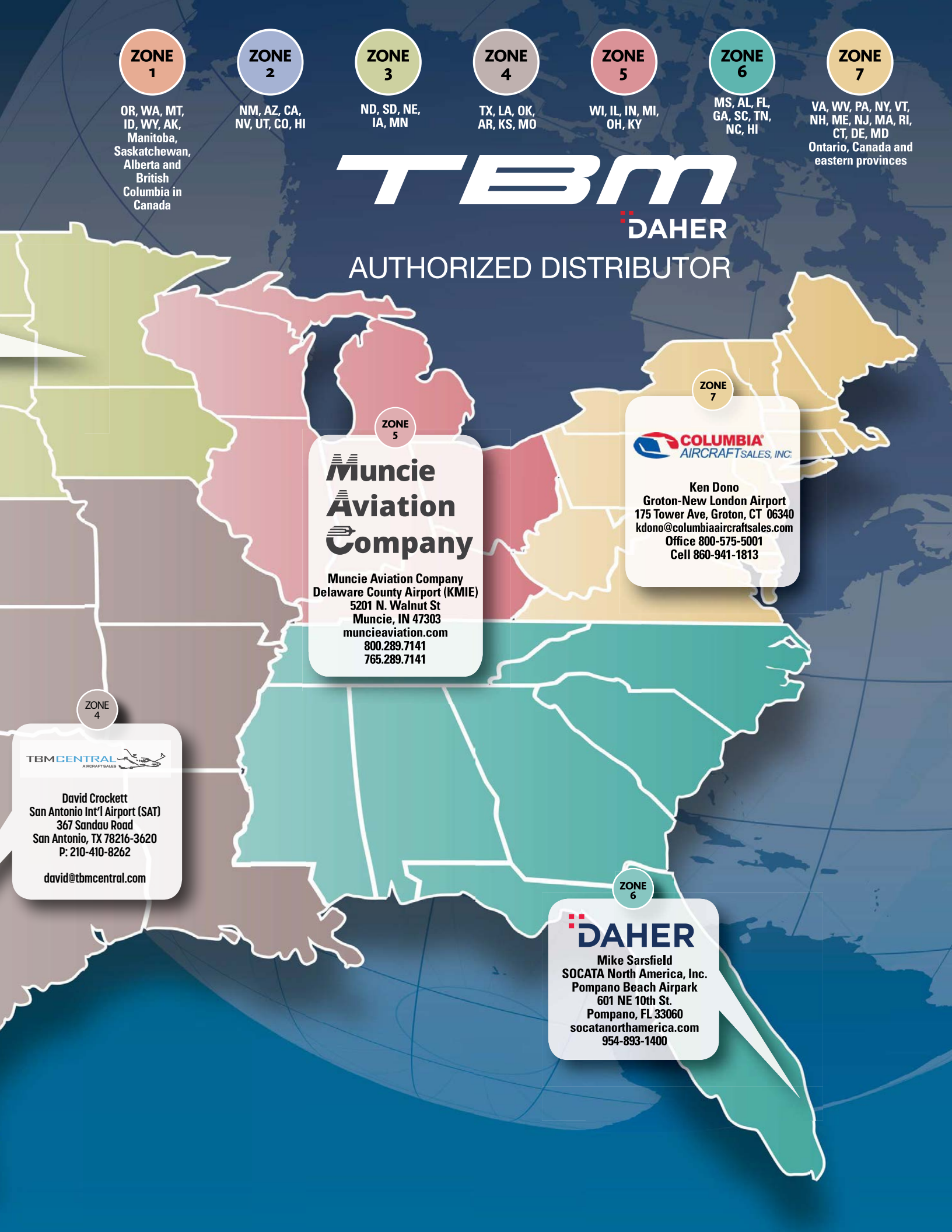
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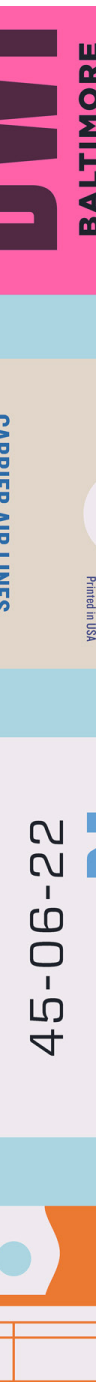
# AIRPORT CODE INTELLIGENSIA

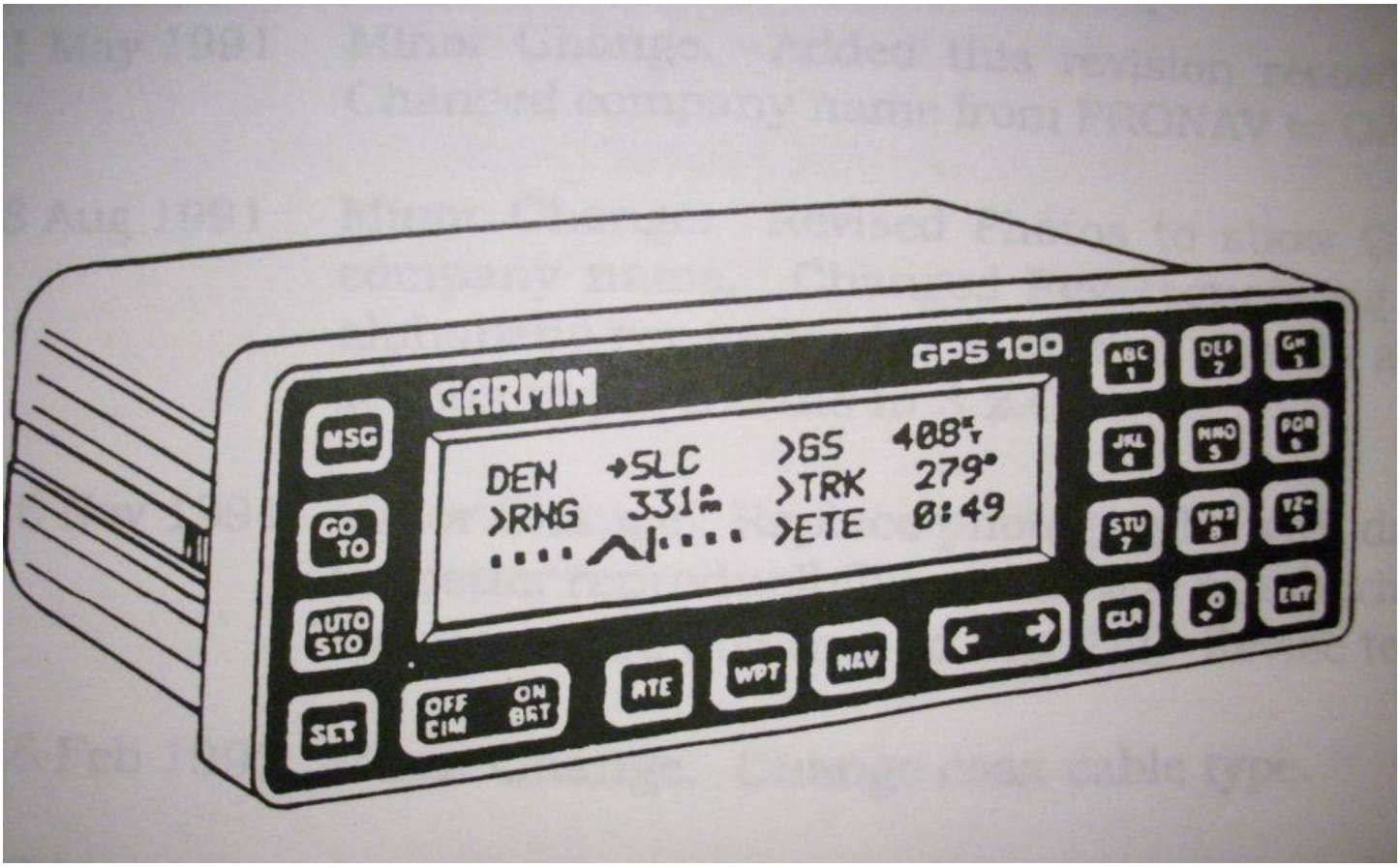
by Thierry Pouille





When I started flying to the Bahamas in the early 1980s, most of my flying was done VFR. I installed one of the first panel-mounted GPSes in the form of a Garmin 100; an ancient piece of equipment by today's standards, but at the time, it was top of the line.

One day I was flying VFR towards the Abacos, Bahamas, to Treasure Cay (airport code MYAT). Some boomers were showing up on the horizon, so I decided to change the destination to Marsh Harbor (MYAM). I did not enter the data properly into my GPS and I replaced the "M" with a "W." The screen was showing "MYAW". Since the unit was connected to the autopilot, when I pressed NAV the plane took a 90-degree left turn towards the north. Scratching my head, what's going on? After some brief troubleshooting, I realized my mistake and corrected it.




This opened the question, who creates and assigns these airport codes for the different airports? Since the Bahamas were the background of my flying, I decided to investigate, and I discovered some interesting information.

In the Bahamas Caribbean Pilot Guide, which is now owned by AOPA (Aircraft Owners and Pilots Association), every airport in the Bahamas begins with the two-letters "MY," while in the US most of the large airports begin with the letter "K." When you look closer at the Bahamas airport codes, you realize that the third letter following the "MY" is typically the first letter of the island chain name within the Bahamas. A for Andros island (MYAF), C for Cat Island (MYCB) or Crooked Island (MYCI), E for Eleuthera (MYEH) or Exuma (MYEF), G for Grand Bahama (MYGF), L for Long Island (MYLD), and N for Nassau (MYNN).

That also helped explain the meaning of the fourth letter in the ICAO airport codes: T in the Abacos Island chain for Treasure Cay (MYAT), M for Marsh Harbour (MYAM). S in the Exuma Island chain for Staniel Cay (MYES), A on Cat Island for Arthur's Town (MYCA), K in Andros Island for Congo Town (MYAK).

It made sense.

In the 1980s, not all of the airports were listed in the pilot guide. When we decided to go to airports not showing, such as Hawks Nest on Cat Island, it was very easy to call the airport "MY" (Bahamas), "C" because of Cat, and "H" for Hawks Nest. As time went on, we had to create new airport codes.

This piqued my interest because when you go back to the United States and you fly commercial, the luggage tag codes show only three

letters. Where is the difference coming from? Well, the airport code with three letters was IATA which stands for International Air Transport Association created by the airlines while the four-letter airport codes are created by ICAO which is the International Civil Aviation Organization.

I started to look at the other airport codes and see if there was some correlation that would make life easier for the pilot.

The list starts pretty simply:

In Iceland, the two-letter code is “BI” and then the other two letters are cities- Reykjavik is BIRK and Keflavik is BIKF.

In Greenland, the two-letter code is “BG” (B because of the location in the world and G because it’s Greenland). Sondre Stromfjord Airport in Kangerlussuaq, Greenland is BGSF. Nuuk which is the capital of Greenland, (previously named Godthab) is BGGH. Kulusuk, on the east side of Greenland is BGKK, and so on.

Looking deeper, it was the ICAO (International Civil Aviation Organization) who decided to assign regions different codes. For example, the UK starts with the letters EG (for England), followed by the name of the airport.

The three-letter airport codes are created by IATA (International Air Transport Association). We’re all familiar with LAX, JFK, MIA, DFW, ATL. In Europe you’re going to see LHR, CDG, MAD, FCO, DUB, and FRA and further away you might see HKG, SYD, RIO, and you can even guess what the destination is going to be.

But going back to ICAO codes, we need to understand that the first letter has been assigned by ICAO based on the location of where the airports are.

- ***The letter K is the contiguous United States, C is Canada, and E is northern Europe. So EB is Belgium, EG is England, EN is Norway, EK is Denmark, and EG is Germany.***
- ***F stands for Central and South Africa. FA is South Africa, FB is Botswana, FL is Zambia, and FY is Namibia.***
- ***G is West Africa. GN is Morocco, and GO is Senegal. H is east Africa. HE is Egypt, HK is Kenya, and HD is Djibouti.***
- ***L is Southern Europe. LE is Spain, LF is France, LG is Greece, and LP is Portugal.***
- ***M is Central America. MG for Guatemala, MP for Panama, MN for Nicaragua, and MZ for Belize. An exception here is MB for Turks & Caicos.***
- ***O is the Middle East. OB is Bahrain, OE is Saudi Arabia, OO is Oman, and OM is United Arab Emirates.***
- ***The letter R is further east. You're talking about Taiwan, Japan, etc. RC is China, RJ is Japan, RK is Korea, and RP is the Philippines.***
- ***S is South America. SA is Argentina, SB is Brazil, SC is Chile, SE is Ecuador, and SP is Peru.***
- ***T is the East Caribbean. TA is Antigua and Barbuda, TB is Barbados, TI is the US Virgin Islands, TJ is Puerto Rico, TU is the British Virgin Islands, and TX is Bermuda.***
- ***U is Russia and post-Soviet states. U is Russia, UD is Armenia, UK is Ukraine, and UT is Turkmenistan.***
- ***V is South Asia. VC is Sri Lanka, VH is Hong Kong, VM is Macao, VR is the Maldives, and VT is Thailand.***
- ***Y standing all by itself, is for Australia.***

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All of that said, we now have a better understanding when we enter a code into our GPS. There is a logic behind it when we understand the first two letters of the code and what the other ones stand for.

Some countries make it very easy, others don't. If you look at the French codes for example: LFPB is Paris Le Bourget, LFPG is Paris De Gaulle, LFPO is Paris Orly, LFAT is Le Touquet. I don't know where that one is coming from– LFQQ is my hometown of Lille.

You look at Nice in the south of France, LFMN. You go to Ibiza in the Mediterranean, LEIB. You go to Menorca, LEMH.

So hopefully you now have a better understanding where all of this comes from. It was created years ago by pilots to make their lives easier for the future.

Exciting stories from the world of flying will be coming out in the next article! Tail Winds and Blue Skies!

– Thierry Pouille

# WINTER CHILL

## A pilot's guide to making the coldest season your friend.

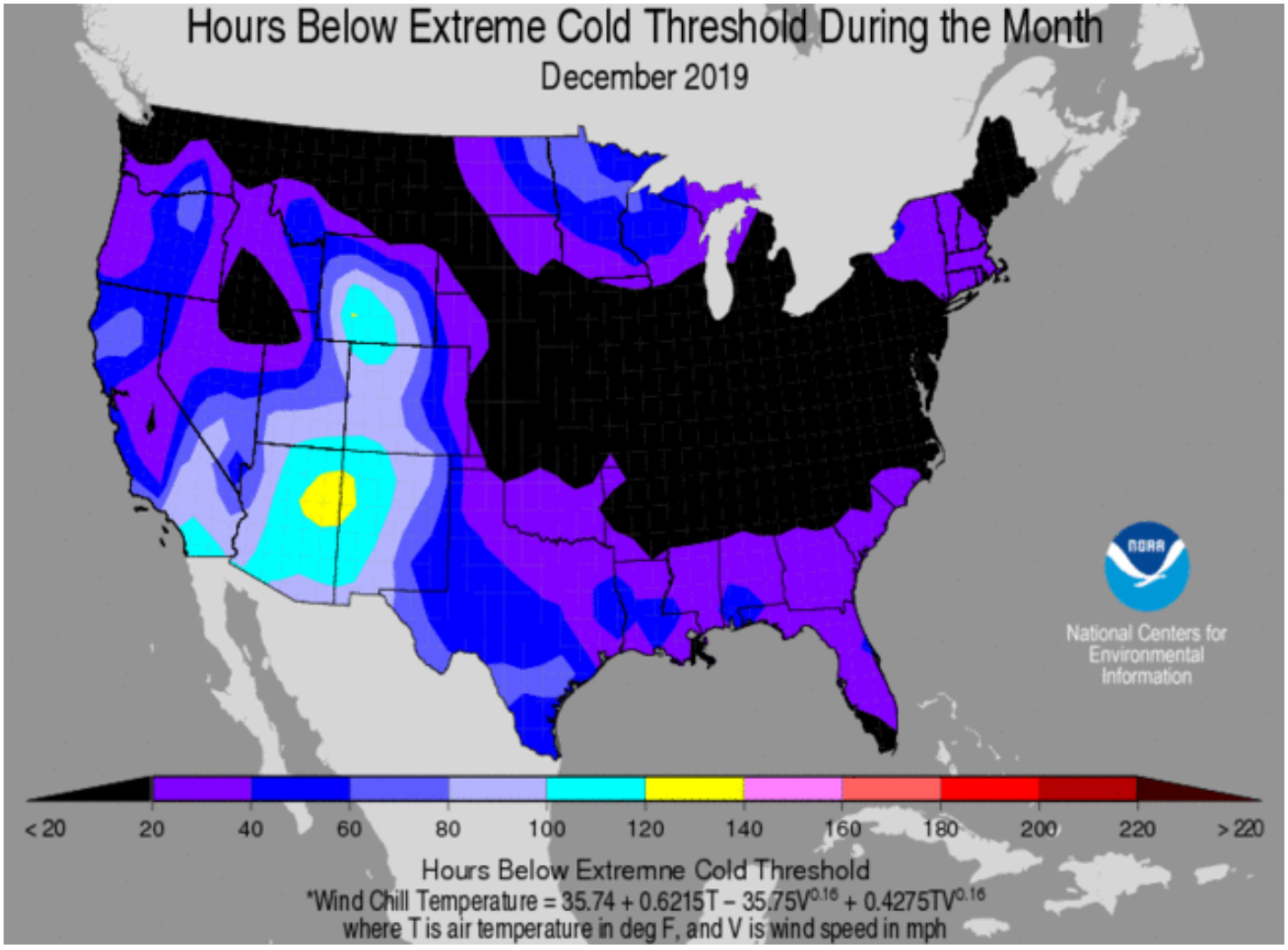
**By Stefanie Lauber**

You may or may not be a fan of winter (that's why there's a place called "Florida"), and that's ok. Although, I'm willing to bet that if you're a pilot, you'll put up with at least some measure of "winter;" if not only for the engine performance these non-summer months tend to offer, then certainly for the adventure of travel. As with all things in life, there are pros and cons to the flying conditions inherent of winter. Here's how they square up with the weather we've been experiencing so far across the U.S.

A review of the first signs of winter take us back to October, when the first major accumulations of snow piled up on the northern plains and Rockies. While the Southeast U.S. was sweltering under the summer-like heat, the Northwest was bundled up in a winter wonderland. This is obviously not the ideal flying weather one embraces in the autumn, but the nature of the beast is just that: like spring, fall is a transition season and oftentimes calls for topsy-turvy weather systems.

In fact, that snowstorm was not all that "early" considering Great Falls, Montana sees its average first snowfall during the first week of October. That doesn't always mean the first snowfall is going to dump about 4 feet of snow in Browning, Montana, as was the case a few months ago. The contrast between the simmering south and snowy states caused concern for aviators on the go for obvious reasons. No one likes ice, icing, or anything remotely frozen when they're behind the yoke and that's exactly what you get with the transition from fall to winter. Melting and refreezing can occur as intermittent batches of chilly polar airmasses that funnel down the lower 48 in waves, causing transportation headaches on the ground and above.

You may remember this statistic from a previous edition: by an overwhelming lead, weather is the number one reason for delays according to the Federal Aviation Administration. The benefit of winter usually means more consistent weather. Rather than leaping from 70°F on Monday to 20°F by Tuesday, as can be the case during fall, the overall weather is a bit more forgiving. This of course ignores those pesky low-pressure systems (read: nor'easters, clipper, and general snowstorms), which of course still wreak havoc.



The cooler winter air is more dense and has more to offer your airfoils and your engine. Increased air density allows for better thrust and gives a bigger "bite" to both jet and propeller engines. Certainly, the prospect of icing and freezing engine fluids course through the mind, but this is a challenge of winter flying that should be assessed and addressed during pre-flight checks. VFR conditions tend to be more prevalent during the winter time for much of the lower 48 as well, thanks to the more stable airmasses settling in. Unfortunately, daylight hours are limited, though. The glass half full in this situation is that the winter solstice is the "shortest" day of the year and the northern hemisphere gains daylight hours thereafter.

Looking ahead, the early snow accumulations from this past fall can have delayed effects that impact air travel. Many regions of the mountainous West depend on snowpack melt in the spring as a major source of water. This heavy accumulation could ultimately have a generous role in reducing droughts and fire weather out West that tend to cripple the surrounding communities and airspace. On the same note, all those snowy winter wonderlands you love to visit depend on the gifts of winter weather. Ski trips are usually less fun when most of the resort's trails are off limits due to inadequate snow depths.

Weather has such a profound relationship with aviation that the FAA and National Oceanic and Atmospheric Administration (NOAA) are working to understand it in greater detail. According to the National Centers for Environmental Information (NCEI), "planned development includes an Airport Weather Index that will quantify the impact of weather on aircraft takeoffs and landings due to factors such as convective storms, reduced visibility, low ceilings and precipitation." This advanced modeling will allow the FAA and NOAA to provide improved decision-making tools for the aviation community as a whole.

If none of this has motivated you to file your next flight plan for a little winter getaway, that's ok (no judgement, promise!) The take-away here is that you need not fear the crisp cool winter weather. Solid tips for navigating the cold include always obtaining a weather brief. Know what weather to expect along your route and avoid the headaches of winter storms. Take your time with pre-flight inspections and preparations; these should generally take longer in the winter than the summer. Finally, embrace the season! Don't let a little chilly weather get in the way of your need for altitude. Grab some patience, be thorough and thoughtful in you preparation, then prepare for takeoff.

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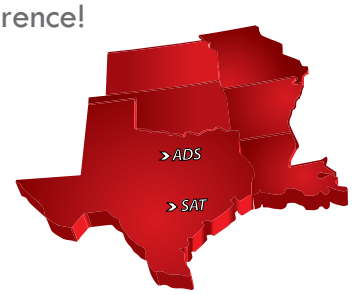


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# How AIREON Will Make Sure You're Never Lost

By Wayne Rash

Aireon's global aircraft surveillance network is already in operation tracking aircraft and providing data to air traffic control services around the world, and there's more to come with the new ADS-B requirements of 2020.

Now that Aireon is up and running and tracking every properly equipped aircraft in flight anywhere on Earth, the safety of your flight is improved, and your chances of getting lost anywhere in the world are near zero. Aireon tracks data provided by ADS-B Out radios and provides it to air traffic control in the US and Europe, as well as many other nations. The global coverage, provided by modules hosted on Iridium communications satellites, is total – their polar orbits cover every part of the planet.

Iridium is a satellite communications company that provides ubiquitous communications coverage to a variety of private and government customers. While Aireon is closely linked to Iridium because its modules are included in their satellites and because the two companies share a global control center in Leesburg, Virginia, they are two separate organizations. Aireon provides aircraft surveillance.

A visit to the control center of Aireon includes a visit to the larger operations center for Iridium. In a large amphitheater-like room, a range of huge displays covers one end, and rows of desks face them. On the screens are images of the earth from over the poles, and the positions of each of the Iridium satellites. There are status indicators on some screens, and other screens are for the Aireon modules that let you see the positions of every aircraft flying with an ADS-B Out radio.

"It generates a 100% tracking capability no matter where they are around the planet," said Cyriel Kronenburg, Vice President of Aviation Services for Aireon. He said that Irish aviation authorities are already using Aireon to provide separation over the North Atlantic in areas without radar.

"It makes for more flexibility to climb to the right altitude and at their best speed, where wind is optimal," Kronenburg said. "Normally they would be held back and not have optimal routes and the right altitudes," if flights were to depend on traditional airways and ATC. But he said that by the use of Aireon, ATC can track them directly and provide the most efficient routing.

The Aireon modules listen to the ADS-B Out signals from aircraft as they fly. Those signals include position information along with velocity data and altitude. That data is fed into a global data network shared by the satellites, which means that even if the satellite receiving specific aircraft's position information isn't over a ground station, it will send the data to another satellite that has communications with the ground. It's then passed into Aireon's data network where it's received by ATC as well as by a number of partners such as FlightAware.

For the aircraft being tracked, nothing beyond the equipment that's already required by the FAA is needed. ADS-B Out is required of all aircraft in Class A, B and C airspace as well as parts of Class E airspace as of January 1, 2020. It's also required in Europe, parts of Africa and South America and South Asia including India. You can assume that the rest of the world will follow suit.

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In the United States, aircraft owners have a choice of two different ADS-B approaches, one that operates at 978 MegaHertz and one that operates at 1090 MHz. If you plan to fly above 18000 feet or outside the US, then the 1090 MHz solutions are required. Some manufacturers including Garmin make ADS-B products that will transmit on one of the chosen frequencies, but will receive on both, giving better visibility of traffic.

There's nothing else that's required for Aireon to track your aircraft, although having an ADS-B antenna on the top and bottom of your aircraft will help its effectiveness. Tracking by Aireon costs the aircraft operator nothing. Most of the services Aireon provides are included as part of the flight control services you're already receiving when you fly. This means that you'll get more efficient routing, better separation, optimized tracks, and better predictability of flight arrival times.

"When you look at parts of the world where business jets are most of the traffic, this now adds the capability for air traffic control to offer enhanced services," Kronenburg said. He also noted that Aireon meets the global mandate from the ICAO to track every aircraft in at least 15 minute intervals.

Aireon also has the ability to generate an alert if the power to the ADS-B equipment is cut. This alert is viewed immediately in the Aireon control center and is sent to the aircraft operator. The alert provides the last known position of the aircraft, which can be invaluable in search and rescue operations.

Aireon data and tracking products are primarily aimed at airlines and corporate flight departments. These can include air taxi services and some fractional ownership fleets. Smaller users can work with Aireon's channel partners, a list of which can be found on the company's website at aireon.com.

Aireon's global flight surveillance has already begun to transform aviation in a number of ways. On a daily basis, it enables ATC to allow more efficient routing and closer separation than was previously possible, which will save both money and time. It will allow better management of flight arrival times which adds efficiency. And it provides a higher level of protection, especially when flying over oceans and other areas where radar coverage is sparse or absent.

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# TAX RETURNS AND THE DREADED 100 PAGES

By Adam Meredith

AOPA Aviation Finance (AAF) works annually with thousands of members on aircraft financing. We know it's common practice for airplane lenders to require tax documents and credit reports as part of credit-based loan applications. Of the thousands of members we service each year, over fifty percent submit tax documents to us that exceed 100 pages. Processing that much information is part of AAF's normal business practice. .

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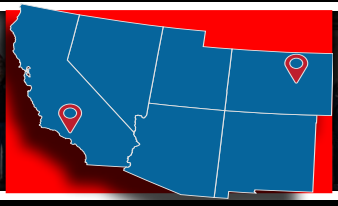

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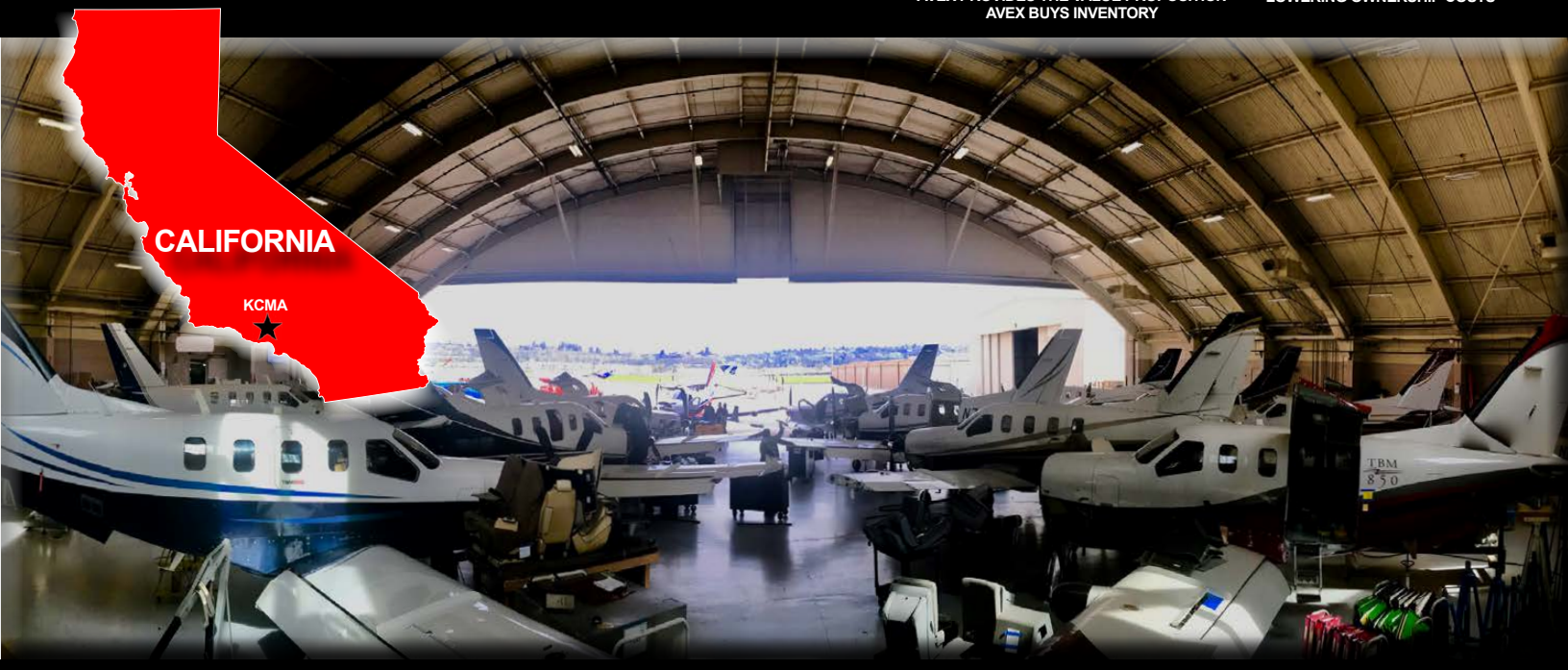


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That's all well and good, but the question remains: Why do lenders require tax returns instead of accepting my P&Ls? After all, isn't a credit-based loan application all about cash flow?

Aircraft financing institutions require tax returns as part of the financing process because of what those tax returns imply. Financial statements like P&L's can be finessed in a way tax returns cannot. Signed documents submitted to the federal government represent a verifiable financial picture. Anything less than accurate and there's a risk of being audited or succumbing to other unwanted problems with the IRS. Lending institutions can be confident from a tax statement that the financial picture presented should be a conservative estimate of what the financial situation is.

That's also why the full return, including all Schedules, are part of the loan package. Submitting a partial tax statement raises doubt. A lender is left to wonder, "Are there any losses there? Are you throwing money after something that we didn't know about?" All those nuances get vetted by going through the entire tax return.

And remember, if assets are held in a business entity rather than in your name personally, the lender will also typically need a copy of those tax returns, or they may need a copy of a debt schedule for any debt related to an entity which you might own or in which you might have significant ownership.

Some of our members tell us they don't have access to their tax returns. Perfectly fine. We liaise with accountants, CPAs, and CFOs all the time. As long as borrowers grant us permission to work with their designees, we can coordinate with them and remove all the hassle involved.

Regardless of our experience and our precautions, we still encounter members who will never be comfortable sharing their tax returns. We understand. For them, their option would be a collateral-based type of financing. With this type of financing, there are more limiting options, and the terms are going to be a little different. For example, the borrower will need to put more money down. Also, the amortization will likely be shorter. Regardless, there are several good, collateral-based options. Have a conversation with somebody like us to find out your best options.

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Adam Meredith, President of the AOPA Aircraft Finance Company

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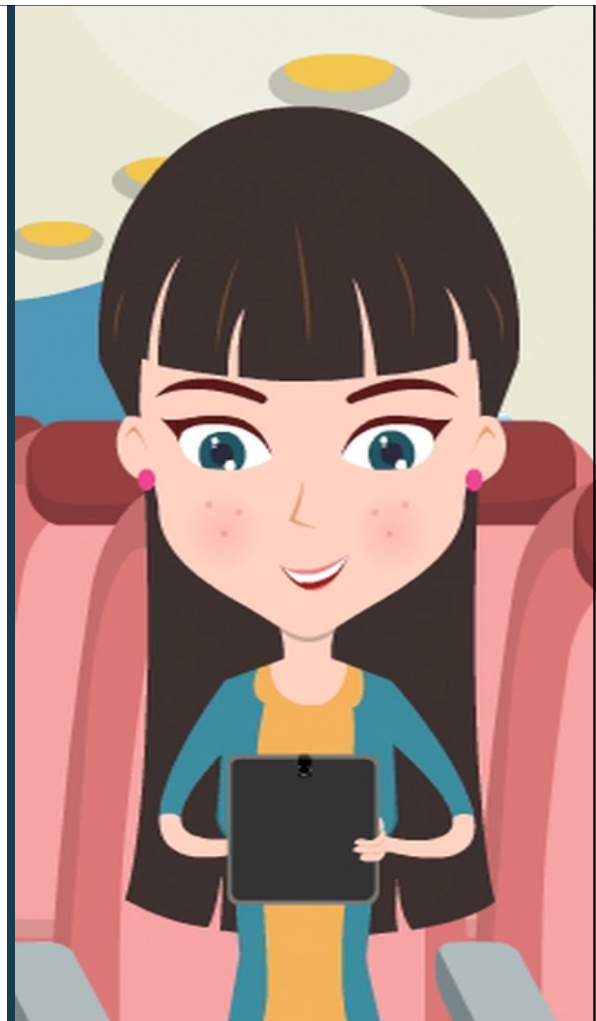


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