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TBM

OWNERS AND PILOTS MAGAZINE

SUMMER 2015

FLYING ANGLE OF ATTACK

General Aviation is learning from the military

HOW TO HANDLE THAT LAST 1,000 FEET

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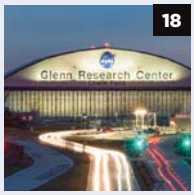

DEPARTMENTS

FEATURES

The TBM makes our world small

About two weeks ago, during an unscheduled visit to replace a cut tire in Pompano, Fla., I bumped into Michel at the new Daher North America headquarters, who was preparing for the TBMOPA European convention. He encouraged me to consider coming, and after some days went by, don't you know, he made me an offer I couldn't refuse.

"Frank, you find your way over there, and we will give you a ride back in a brand new TBM 900 that Margrit Waltz will be bringing back to the States."

The moment David Fabry, the TBMOPA Europe president, heard this, he knew I would be coming. And, as any sane TBM pilot would do, I said yes.

My adventure began with a commercial flight from Philadelphia to London Heathrow followed by a drive (on the wrong side of the road, mind you) to the Biggin Hill airport where fellow TBM owner Steve Thomson met me with his wife. We flew over to the Isle of Sylt in the North Sea, Germany's northernmost point, for the convention. Bill Pannarello was in the cockpit with us (in spirit) as we had to elude a line of thunderstorms between us and the European mainland. Thank you, Bill, for the radar training!

We arrived on Friday afternoon, and that evening the social events began with just over 50 pilots and their companions in attendance. The seminars took place on Saturday and Sunday mornings and featured talks from Pratt & Whitney about engine operations, Mark Diaz on flying safely, a discussion of hypoxia from our own Dr. Ian Blair Fries, a technical update from Daher, an overview of regulatory issues from Thomson, greetings from the USA from yours truly and, best of all, a talk from Margrit about her experience flying all types of aircraft around the world. She even donned an orange survival suit for us.

Here's hoping that some of those folks will be able to join us in the lovely city of Charleston for our convention in October. I know Coleman Bunting is working hard to ensure our best convention yet.

The European group was extremely friendly and made me feel very welcome. They are doing a great job, and it was a real pleasure to spend time with them. We even met a couple of folks who flew all the way from Singapore in their TBM.

Here's hoping that some of those folks will be able to join us in the lovely city of Charleston for our convention in October. I know Coleman Bunting is working hard to ensure our best convention yet.

Well, all good things must come to an end and so did this meeting but my adventure was just beginning. Margrit and I dropped off some folks in Bremen, Germany, on Sunday afternoon and headed for Glasgow, Scotland, to refuel before heading north to Keflavik, Iceland, to spend the night by the Blue Lagoon. In the morning, we got up early and headed to Iqaluit, Canada, for a fuel stop and then off to Bangor, Maine, to clear Customs before heading back to Pennsylvania.

This wonderful machine took us safely over 4,500 miles in only 16 hours of flying time. We are truly blessed to be able to fly such a machine!

Thank you again to all of our fellow TBM pilots from around the world. Fly safely!

Frank J. McKee
Chairman TBMOPA

TBM
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New&Notable

New airport rental-car option

Go Rentals is a family-owned business founded by two brothers two decades ago. What started as a small company with a niche in passenger vans quickly grew into the only rental-car company catering to the private-jet industry. The company's mission is to "create deep, meaningful relationships with our clients by going that extra mile in the form of unparalleled, customized one-on-one service. By hiring the best people and fostering an environment for service heroics, we are able to do this every day. Go Rentals currently operates out of 45 airport across the country, with more locations coming soon."
Search its website at **GoRentals.com**.

New aviation film debut

Brian Terwilliger fell in love the day he soloed in a Cessna 150 at Van Nuys, Calif., Airport. For him it was so much more than a deep, emotional attachment to flying that many pilots feel when learning to fly. Terwilliger was entering into a true romance with General Aviation. No one was really surprised when the young man announced he wanted to make a movie about what he'd discovered. The result was the highly acclaimed "One Six Right" about the Van Nuys (VNY) Airport.

Now the cinema auteur brings "Living in the Age of Airplanes," released by National Geographic Studios to theaters, museums and iMAX screens across the country. The new film is a tribute to how airplanes have changed the world and was filmed in 18 different countries across all seven continents, at 95 locations across the globe. Narration is provided by Harrison Ford, and the music comes from Academy Award-winning composer James Horner (Titanic, Avatar). The narrative weaves together the profound ways that aviation has transformed our lives, connecting countries and cultures while expanding horizons and minds.

For a full list of theaters or to view the trailer, visit **AirplanesMovie.com.**

New app finds courtesy cars

If you're planning a trip to a city that you haven't flown into before, there are several things to consider when choosing both the airport and FBO. A common consideration is the availability of courtesy cars (often called a "crew car") if you're only visiting for the day. A new iPhone app can help you with this by providing a fairly thorough listing of courtesy cars at FBOs around the country. The free Airport Courtesy Cars app currently contains more than 1,000 listings of airports and FBOs with user-generated info and comments related to courtesy cars at the facilities. You may also see comments too about free FBO shuttles services offered if a vehicle isn't available to borrow. You can browse the listings by either viewing a map or a listing by state, though a search option is currently not available. You can also contribute info based on your own courtesy car experience at an FBO with a form directly in the app. **The Airport Courtesy Cars app** is a must-have for your iPad or iPhone app collection and can be downloaded free from the app store.

The eyes have it

Tired of looking at a sea of fingerprints and smudges on your instrument panel? It's not only annoying and unsightly, dirty glass screens can become a safety hazard. When it's time to clean up, iCloth is the go-to tool for the United States Air Force, the United States Navy, Boeing, Bombardier and the list just keeps on going. Made of space-age Dupont Sontara super soft aerospace-grade fabric, iCloth gives you a dust-free, streak-free, static-free glass surface after every use. And when you order, you don't get a gigantic box of 'wet wipes.' Each wipe is individually wrapped, giving you damp, ready-to-to cloth each and every time. For information and a free sample, go to **iClothAvionics.com.**

iPad kneeboard

Tired of chasing your iPad around the cockpit? Sporty's comes to the rescue with a collection of kneeboards that are custom made for Apple's electronic wunderkind. With an ear tuned to pilot feedback, the Batavia, Ohio company has fashioned a collection of kneeboards to fit all iPad models. The popular Bi-fold (folds over to protect your iPad when not in use) also has an organizer section with mesh pockets and a zippered compartment to store cables and screen cleaners, and can be adjusted for either portrait or landscape views. The Slimline is an even smaller solution for iPad use in the cockpit and also features horizontal and vertical viewing. Find out more about these products at **Sportys.com.**

Border-crossing app

Unless you cross the border regularly in your aircraft, the rules, regs and procedures wrapped around our country's eAPIS system can cause consternation. The law says that all pilots must use the Electronic Advance Passenger Information System to submit your manifest to U.S. Customs, both coming and going.

FlashPass is a free app that makes the process about as easy as it can be. Enter the required information — pilot, crew, passengers, emergency contact, aircraft, departure and destination info — and hit Send. The whole process takes about 30 seconds. And because your data lives on the cloud, it's accessible from anywhere in the world.

You can try the app free for 30 days, then pay a yearly subscription of $60 for unlimited use. If your border crossings are infrequent, you can buy one trip at a time for just $3.99 or a five pack of manifests for $15.99. Learn more at **Flashpass.net**.

Personal cabin pressure monitor

While aircraft operating in the flight levels have pressurization-failure warning systems, pressurization accidents are still with us. The Carlsbad, Calif., company Aviation Technology has introduced the AltAlert, a new portable cabin-pressure monitor with both visual and aural warnings to pilots of pressurization issues, well before the onset of hypoxia. The device clips onto a shirt pocket or can be suction-cupped to a window and has an 18-month battery life. The AltAlert is based on a NASA patent with new algorithms to customize the unit for aviation uses.

"I started researching the number of accidents, logged with the NTSB, related to pressurization," Stacy Sawaya, CEO of Aviation Technology, said. "The Payne Stewart accident is the most highly publicized, but the number is enormous."

The device "chirps" and a red light flashes every 15 seconds if the cabin altitude rises to 10,000 feet. At 11,500 feet, the AltAlert's red light flashes every five seconds and emits two chirps. Cabin altitudes of 12,500 feet bring a flash every second along with a triple chirp.

Visit **AviationTechnologyInc.com**.

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ALPHAB

AOA for the masses BY SCOTT PURDUE

NDB, VOR, GPS, WAAS, FAA, NTSB. After awhile it seems as if you need a magic decoder ring to keep up with all the abbreviations and terms used in aviation.

Today there is a lot of buzz about Angle of Attack, or AOA. The FAA recently came out with a ruling that makes installation of AOA devices a minor alteration for the majority of General Aviation airplanes. Just what is AOA and why would it be a good thing for you to know in your aircraft?

ET SOUP

Let's start off by sorting out just what AOA is in the first place. By definition, Angle of Attack is the angle between the chord line of the wing and the relative wind.

Fundamentally, Angle of Attack defines whether we fly — or not. (See Image A on next page)

In order to develop lift, a wing must move through the air. When it does, the free stream of air presents itself to the leading edge of the wing; some flows on top of the wing, and some flows underneath the wing. The path each parcel of air takes along the wing follows the shape of the wing. A line drawn between the leading edge and trailing edge of the wing is called the chord line. The amount of lift generated by the wing is dependent on the angle between the chord line and the relative wind.

The lift required to maintain level flight is determined by the weight of the airplane. When you go more slowly, the wing must develop more lift and can only do that by increasing the Angle of Attack. The faster you go, the lower the Angle of Attack required to develop the lift to stay in the air. Conversely, the higher the AOA, the more drag is produced along with the lift. (See Image B on next page)

So, even if AOA has always been with us, how have we gotten

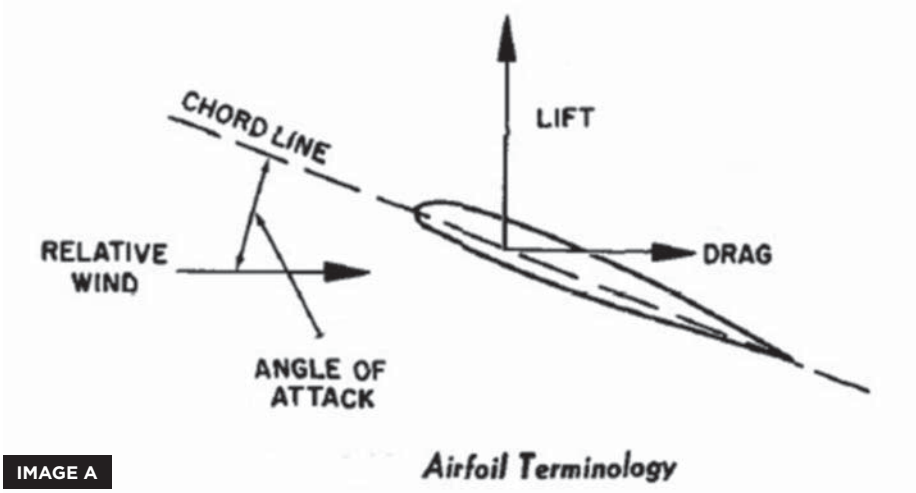


IMAGE A

along without AOA indicators for so long?

The simplest answer is that AOA is hard to measure. We can measure airspeed relatively easily and, therefore, we use that. Virtually every airplane you see on the ramp has a pitot tube mounted somewhere on the wing or the fuselage. By subtracting the local static-air pressure from the ram-air pressure in the pitot tube, we can derive the speed of the airplane through the air (with errors, of course).

With the widespread use of airspeed, the FAA has seen fit to define the stall speed of each aircraft. But it is important to note that this specific defined stall speed is dependent on aircraft weight and acceleration. A wing experiencing high-load factors stalls at a higher airspeed. We use airspeed as an approximation for AOA. In truth, the wing will always stall at the critical angle of attack. It's always the same AOA, regardless of wing loading.

In other words, if we had AOA indicators, we would fly approaches based on AOA rather than airspeed, and you as the pilot wouldn't have to worry about winds, weights and gusts. You wouldn't be referencing the speed all the way around the pattern. If you flew the optimum AOA, the indicator would always tell you the lift margin you had before stall, no matter what the actual weight of the airplane.

For any wing, the production of lift is proportional to drag but varies with the angle of attack for a particular airfoil shape. From the critical angle of attack diagram, we can see that, at CLmax, drag goes way up and lift drops way off. The wing stops flying. An AOA indicator would keep you well away from that point, regardless of weight or accelerations.

After many, many accidents, the FAA mandated the installation of technology that warned pilots of large airplanes of an impending stall, including stick shakers and stick pushers to prevent inadvertent stalls. To do this required the installation of AOA probes on large aircraft. For the most part, this AOA was not provided to pilots. Instead, pilots used airspeed charts based on gross weights to approximate the approach angle of attack. For many years the military, Navy and Air Force have used AOA for approaches, first for supplemental information, and then replacing airspeed-gross weight calculations altogether. With the current flat-panel screens used in large civilian aircraft and airliners, AOA is presented as supplemental information, but still isn't used as primary.

When a large airplane manufacturer does flight testing on new airplanes, they put test devices all over the airplane, including the wing. This allows them to see what is actually going on with the air stream and relative wind. These devices would get knocked off a working airplane on the ramp and are left off production aircraft.

The safety implications of using AOA for takeoff, approach and landing are unmistakable. AOA works, providing a dramatic improvement in safe operation of aircraft in critical phases of flight. AOA is also beneficial in cruise flight, as an easy reference to show the most efficient cruise or divert speed for any given aircraft configuration.

If AOA is so handy, we come back to the reasons why it is so hard to measure. In fact, AOA is so hard to measure on a wing, that Boeing, which makes large airliners, has refined the definition of AOA as the angle between the relative wind and a reference line on the aircraft. For Boeing, that reference line is usually the centerline of the fuselage. They can do that, for the most part, because the wings and the fuselage remain attached in the same configuration.

When a large airplane manufacturer does flight testing on new airplanes, they put test devices all over the airplane, including the wing. This allows them to see what is actually going on with the air stream and relative wind. These devices would get knocked off a working airplane on the ramp and are left off production aircraft.

During testing, the airflows are determined, and AOA measurement probes are located along the fuselage, calibrated to be accurate with flight test data. Virtually every AOA device is located on the fuselage for any large airplane from fighters to Dreamliners. AOA probes vary from simple vanes (that look like a weather vane on its side) to cones with slots that grab the relative wind. Each probe is calibrated to read in units that are then re-

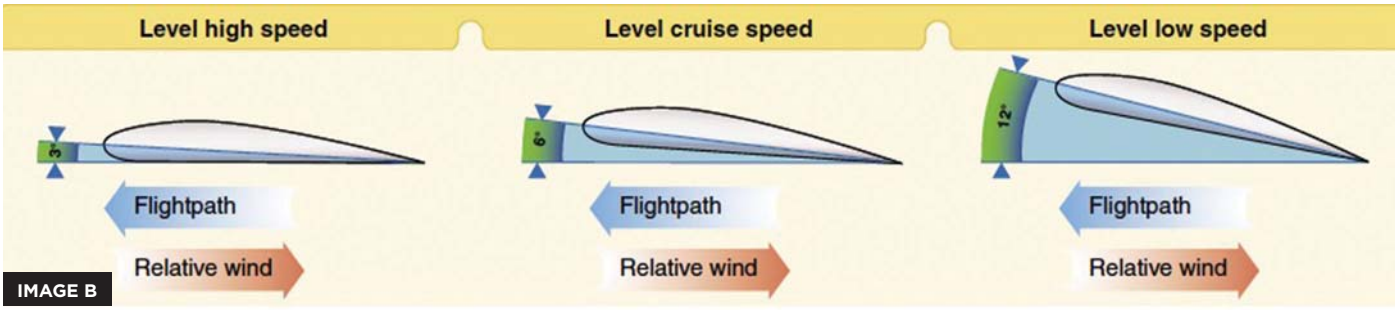
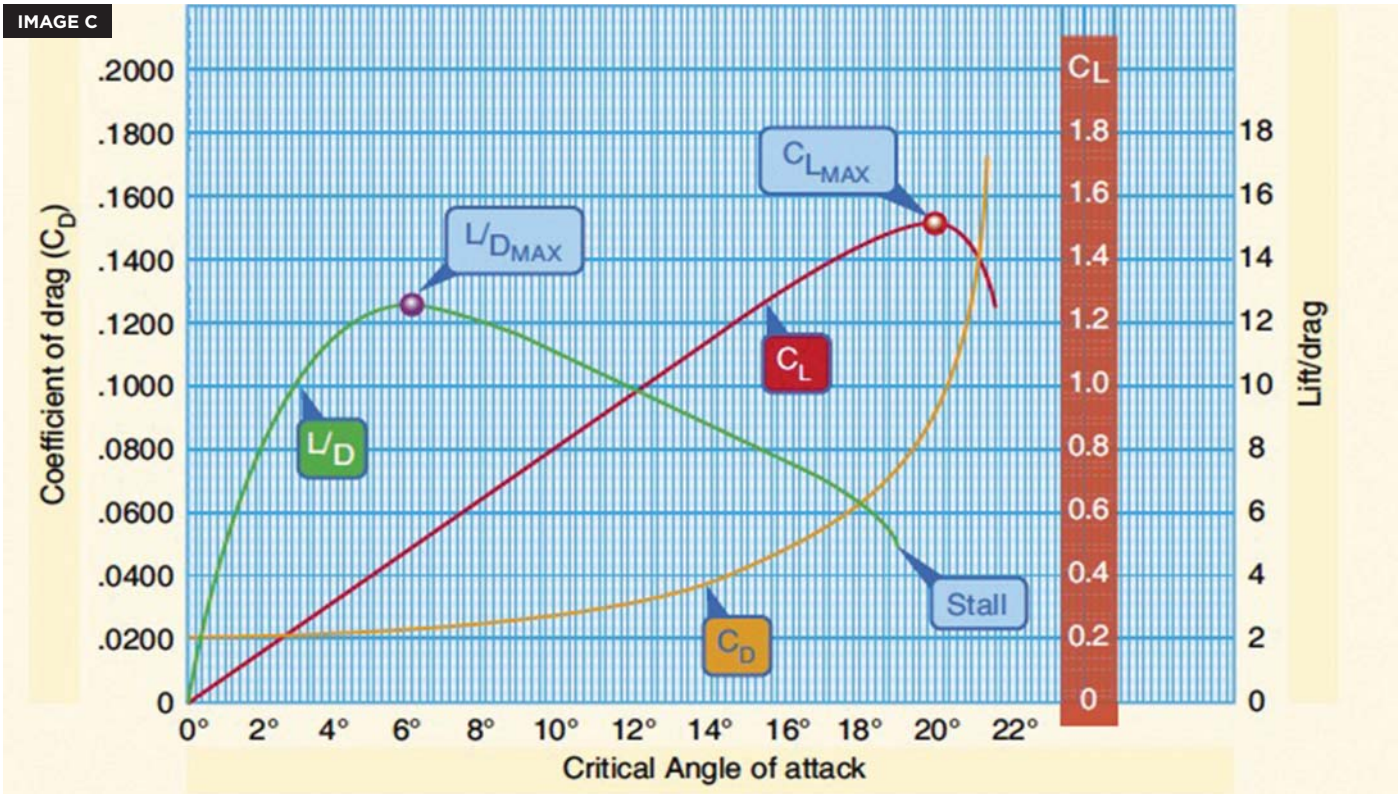


IMAGE B

IMAGE C



lated to the actual critical Angle of Attack of a particular wing design.

Locating an AOA probe on the nose of a jet is an entirely different proposition than trying to find a place on a propeller airplane. For jets, the location of the AOA probe is just a matter of finding a place on either side of the nose that maintains a steady flow of air and matching the indications with the critical Angle of Attack for the aircraft wing. Most installations have probes on either side of the nose to prevent aircraft side-slip from blanking the instrument completely.

The flow of air along the fuselage of a propeller airplane is heavily influenced by the twisting flow of air generated by the propeller. This renders most AOA probes unusable for propeller applications. So, most General Aviation AOA indicator manufacturers take another approach. GA AOA probes, generally take advantage of pressure differentials, another aspect of the physics of airflow across a wing, to approximate a direct reading of Angle of Attack.

The center of pressure shifts along the wing as a function of Angle of Attack. Some areas of the wing, in particular the underside of the leading edge, experience a negative pressure and even stagnation of flow. This allows the current generation of GA probes to use these pressure differentials to map the approximate AOA and present the information to the pilot.

The important point to remember is that this is an approximation of AOA and not a direct reading. Each installation needs to be calibrated for your particular airplane.

Indicators vary from the traditional green donut/red arrows to lift reserve columns and even simple number indications. Some AOA manufacturers offer you a choice of displays. The folks who make the Aspen display, capable of being retrofitted in virtually any GA aircraft, have just introduced a AOA system that approximates AOA using airspeed, attitude and GPS position and speed. The good thing is that this system requires no other installation considerations other than a software upgrade. While vane-type AOA probes are the most accurate, pressure devices and software-based displays are good enough to enhance safety significantly.

The FAA has reduced the hurdle for introduction of AOA in General Aviation aircraft, and that is a step in the right direction. The impact of AOA in the marketplace depends on its acceptance among pilots. Cost is not always the driving factor in pilot acceptance. Pilots need to see the benefits in person and in action for the technology to make a real impact.

The bottom line is that we fly as a function of Angle of Attack and being able to read the AOA and incorporate it into our everyday flying would make us all safer pilots. TBM

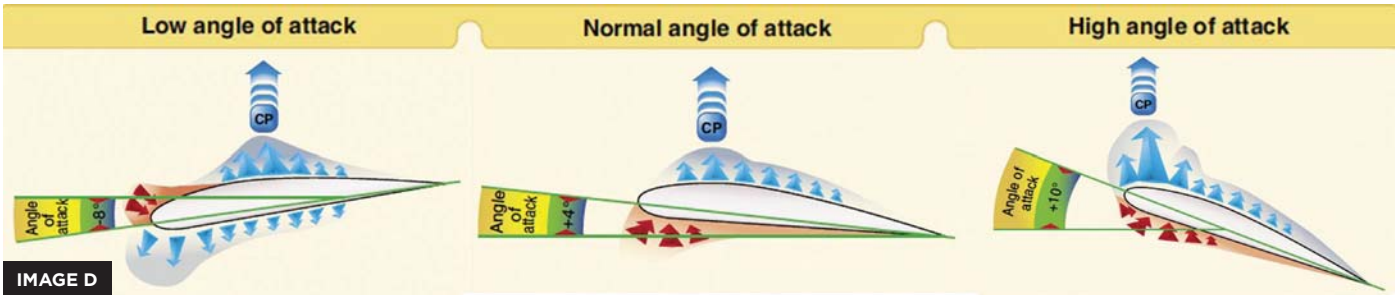


IMAGE D

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A VISIT TO THE NASA ICE HOUSE

BY SCOTT C. DENNSTAEDT

When it comes to icing research, there's no better place to be than the NASA Glenn Research Center in Cleveland, Ohio. Recently I visited the Icing Research Tunnel (IRT) for a personalized tour and the chance to talk to several experts in the field of airframe icing.

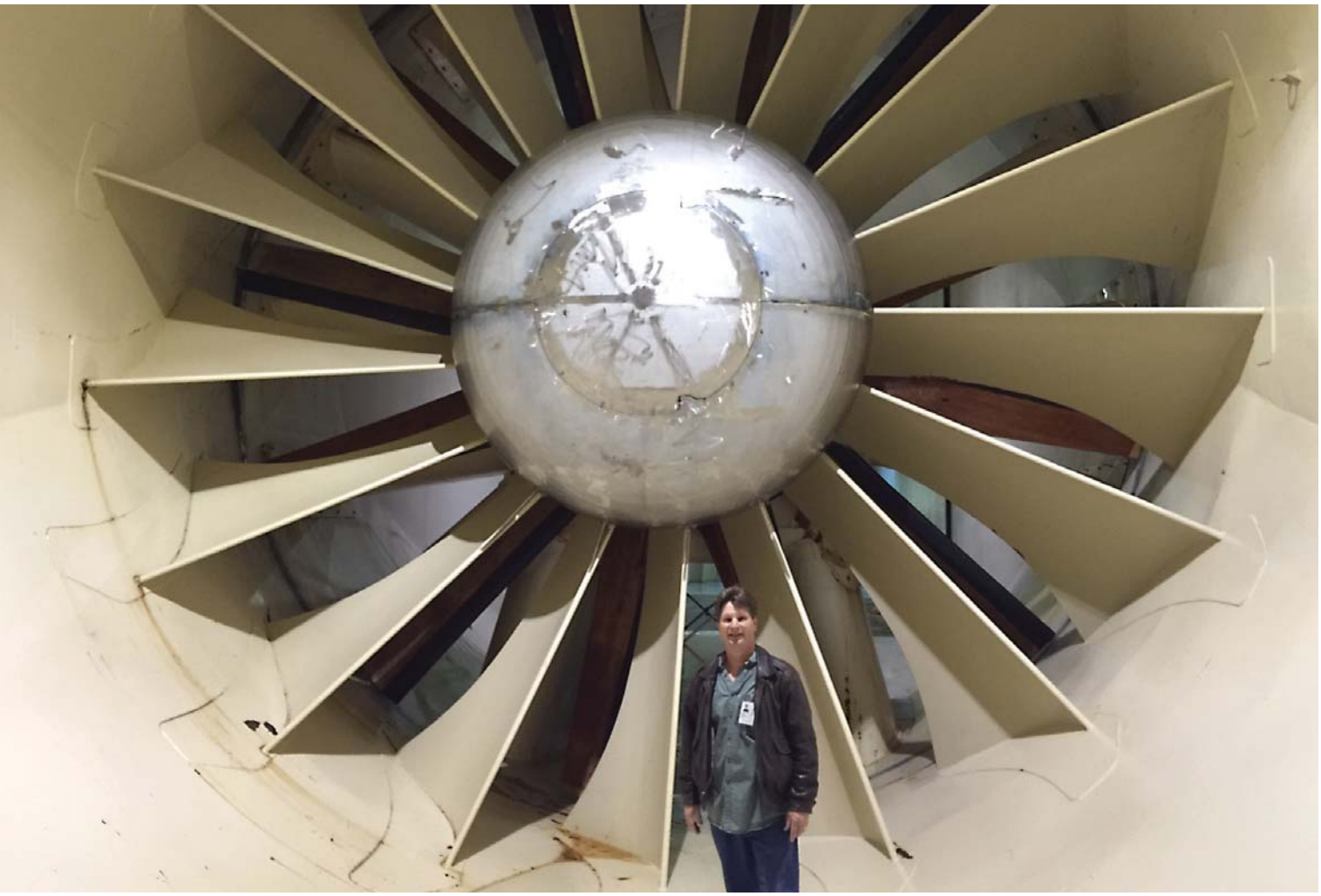
My tour was conducted by Andy Reehorst, who has worked at this location since becoming a college intern for NASA in the early 1980s. My goal was to learn more about the science associated with airframe icing, but Andy also gave me a historical perspective of the tunnel that was just as fascinating.

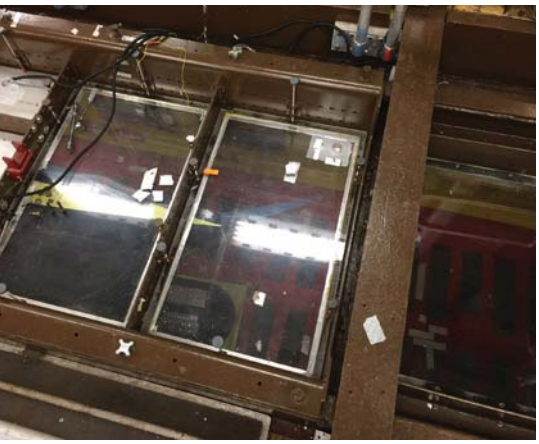
The IRT was built just before the United States entered World War II. The United States Army Air Forces flew C-53 military transport aircraft (the military version of the DC-3) from India to China over the eastern end of the Himalayas, appropriately nicknamed The Hump. They were losing planes to airframe icing, so as you might expect, this became a national priority.

In 1939, Charles Lindbergh had returned from Europe and chaired a committee on aeronautical research facilities. With the Europeans making significant improvement in their engine design, he recommended building an engine-research laboratory in the United States. So on January 23, 1941, the National Advisory Committee for Aeronautics, NASA's predecessor, began to build the new Aircraft Engine Research Laboratory in Cleveland.

The laboratory had an altitude wind tunnel that could run an engine at simulated altitudes, including low pressure and cold temperatures, courtesy of a large refrigeration plant next door. So it was very convenient to build an icing wind tunnel here as well.

As you walk through the facility, you can tell it's been around for quite a while. It's as if you stumbled into a time machine and found yourself back in the '40s and '50s. The facility has been upgraded several times, as Andy pointed out, but it still gives you the feeling of a project that came out of World War II.





(TOP) Here the author is standing in front of the 5,000-hp fan, which can produce 390 mph winds within the Icing Research Tunnel. The same key that is used to gain access to this part of the tunnel behind the fan is also the key used to start the fan from inside the control room. (ABOVE) This view is looking down on the test section (6 feet by 9 feet by 20 feet) of the Icing Research Tunnel. A built-in crane within the facility allows researchers to lower the model into the tunnel where it is installed. (RIGHT) Given that the test section of the Icing Research Tunnel is relatively small compared to the size of the actual airframe, the model is often a scale version of the surface being tested.

WHAT'S AN ICING RESEARCH TUNNEL?

The IRT is a closed loop with a 5,000-hp fan using wooden blades made of spruce that can generate winds approaching 400 mph. Air in the tunnel can also be chilled to a frigid -40 degrees Celsius, which is plenty cold enough to test all ranges of potential icing temperatures. This is a benefit of that refrigeration plant next door and huge evaporator coils in the tunnel laid out in the shape of a "W" to maximize surface area.

The "model" is the airfoil, or other aircraft component, being tested in the IRT. A wing, for example, is actually tilted on its side (up and down) primarily for convenience to work within the tight space of a portion of the tunnel called the test section. The model is brought in from the outside through a huge bay door and lowered into the tunnel with a crane built into the facility. Aircraft manufacturers have used the tunnel extensively for a portion of their icing research and certification-testing process.

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The de Havilland DHC-6 Twin Otter research aircraft after an encounter with freezing rain over West Virginia. Photo courtesy of NASA.

Water, sent through spray bars positioned ahead of the model, is de-ionized first so that it is as pure as possible to keep it supercooled. Otherwise, the water would freeze into a solid before it hit the surface that was being tested.

I was surprised to learn that the IRT cannot test freezing-drizzle or freezing-rain conditions. Even with high wind speeds in the tunnel, many of the larger drops would succumb to gravity and fall out before reaching the model in the test section. The largest median volumetric drop (MVD) sizes that can be used in the IRT are 50 microns, which is the lower end of supercooled large-drop (SLD) icing spectrum. So essentially the IRT is only designed for icing certification standards contained in FAR Part 25, Appendix C, also known as small-drop icing.

THE NASA TWIN OTTER

You can't visit the NASA Glenn Research Center without admiring the Twin Otter. The Twin Otter is one of several NASA aircraft instrumented to be flown in known-icing conditions for research purposes. The flight pictured here was piloted by Tom Ratvasky, a NASA research pilot, who encountered freezing rain (on purpose) over West Virginia on Feb. 4, 1998. This picture was taken shortly after landing in Parkersburg, W.V.

This freezing-rain encounter produced a coating of ice about three-eighths of an inch thick on the surface from the tip of the nose all the way back to the windscreen. The wing itself had accreted ice behind the boot to about the 50 percent chord, with a ridge about an inch high behind the protected surface. Normally, you never worry about the weight of ice. However, Tom estimated that he carried about 1,000 pounds of ice on the airframe that day!

ICE-CONTAMINATED TAILPLANE STALL

A few months after the tragic accident of Colgan Air Flight 3407 near Buffalo, N.Y., in 2009, the NASA Glenn Research Center coincidently posted a video to YouTube (https://youtu.be/_ifKduc1hE8) discussing ice-contaminated tailplane stalls (ICTS). Unless you've had your head in the sand or just recently became a pilot, you've probably viewed this video once or twice. That video went viral in the pilot community and seemed to become the de facto standard for recovery when any type of fixed-wing aircraft departed controlled flight in icing conditions.

The video emphasized that the recovery from an ICTS is the exact opposite of a normal wing stall —which is true. A normal wing stall requires you to push forward on the yoke or stick whereas an ICTS requires the opposite response; you must pull back hard on the controls. Very few aircraft are susceptible to tailplane stalls, but few pilots really understood this from the video.

Most tailplane stalls are usually induced when the aircraft has accreted ice on the horizontal stabilizer and the pilot changes speed and/or configuration of the airplane, such as raising or extending flaps. It's usually on the high end of the flap speed range when the stall occurs. So something as simple as adding power can trigger the event, which is exactly what you see in the NASA video. The test pilot was experiencing some control difficulty but, when full power was added, the aircraft reached the top end of the flap speed, and the tail stall occurred abruptly.

In talking with Kurt Blankenship who is a research pilot and deputy of aircraft operations at the Glenn Research Center, the Colgan Air accident had little to do with icing. In fact, on March 25, 2009, NTSB investigators indicated that icing probably did not contribute greatly to the accident.

"The plane basically trimmed itself to a stall," Kurt said. "It had a stick pusher on it which he (the captain) fought against and pulled back and held it until the plane finally went over, and it was too late."

Could it be that the captain thought he was experiencing an ICTS even though he said nothing on the tape? Kurt thinks, "The pilot simply panicked. He was low to the ground and it (pulling back on the controls) was a natural reaction."

Other mistakes were made as well, such as the co-pilot retracting flaps without it being called and not having a sterile cockpit during the approach to land.

From Kurt's view, this accident "was a low-speed awareness issue and that should be the focus of the training — recognizing where you are at in the (power curve) regime. They were slow; it was a wing stall, clearly."

In response to some of the confusion that was generated by the original 2009 video, NASA is producing another video that is essentially an "icing wing stall video that emphasizes wing stall over tail stall." In the new video they will discuss the characteristics of both flavors of a stall in icing conditions, but Kurt emphasized that pilots should be prepared to recover from a normal wing stall. The new video is being sponsored by the FAA. At the moment there's no definitive date when this will be finished and released to the public. TBM

Scott Dennstaedt is an FAA-certificated instrument flight instructor and former NWS meteorologist. He also founded AvWxWorkshops.com, a subscription-based website designed to teach pilots how to minimize their exposure to adverse weather. He now also works for ForeFlight as its Weather Scientist.

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PROFICIENCY: LOTS TO LEARN IN THE RED ZONE

Flying that last 1,000 feet until touchdown.

BY BILL PANARELLO


N4MD

"Hi, Art!" Now Art is the king down in the Republic of Groton, head of a great team of dedicated pros keeping the TBM equipment airborne.

"Hey, Cap'n Bill, got a great guy named Dave for you to train."

Now I've got a bad reputation for torturing people, so I wasn't quite sure what this Dave guy could've done to Art. Art introduced Dave to me briefly at dinner in downtown Mystic, and the next day I was set to talk about radar and icing at the TBMOPA safety seminar.

Over in the hangar, Ken Dono had a nice new 900 all messed up for the preflight contest so everyone could try to dethrone Frank McKee, the reigning champ. Lots of fun.

Dave, it seemed, was sort of a classic case of a student on his first solo, who got the Miami Dolphin effect on a Florida landing and did not go around. He had to endure seven months before the TBM would be ready to challenge him again. He was transitioning from the Cessna 210. How much difference could it be with the wings on the bottom and an extra prop blade or two?

Glad you asked. The stats show the first 300 hours are a challenge to get the two of you to agree on a few things. And this French lady demands attention! She's the greatest aircraft that General Aviation has ever created, and you guys are blessed to have them. So, welcome to the training bubble for turbine-powered flight. Dave lived through this experience to report that there was a lot more to operating this ship than the 210 he was flying.

Now the dreaded FAA 709 ride would focus on the PTS with a major emphasis on his ADM in the Red Zone, 1,000 feet AGL to touchdown, back up to 1,000 feet, the point after. Now I have been pounded, tortured and abused with the airline mindset for almost 30 years, and I love to pass on that tradition to those willing victims who dare to try.

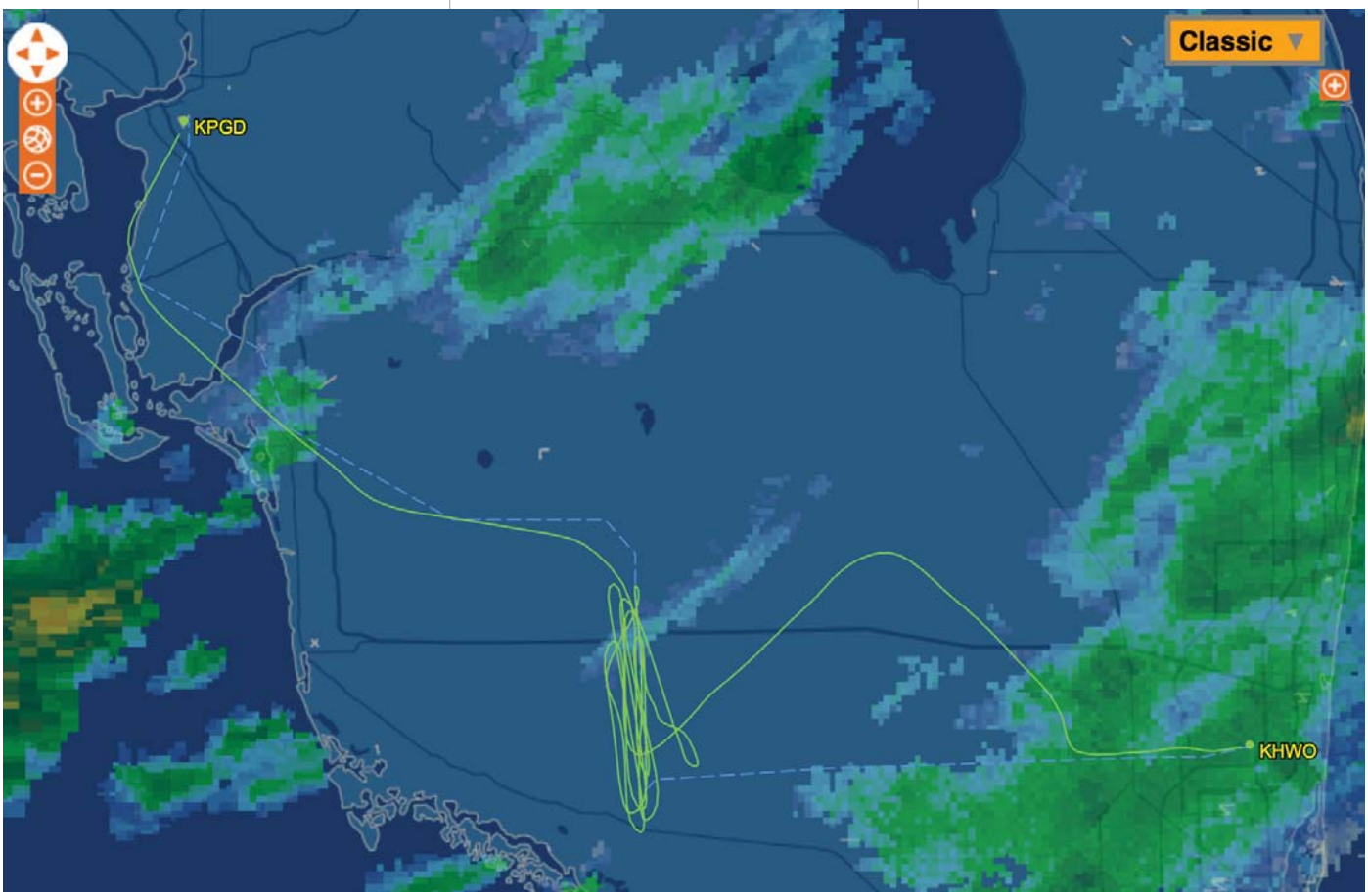
So for all you Children of the Magenta, here's how it went.

Socata was kind enough to let us use the conference room for the briefing, and we went to work establishing flows for each part of the checklist and creating an understanding of each segment of the flight. We were learning and unlearning concepts to simplify the ability to move from the tail of the airplane during a specific phase to climbing in the cockpit, to getting out in front of the ship a few miles. Here, now, next!

We only had four and a half days to finish the construction project, so I noticed right off Dave was already pouring the foundation. Dave had the Dual GTN 750s installed and the GPS steering switch with the dreaded Level Bust Arm Altitude button. We started out on the old fashioned flying called Level 1 — raw data flying with no autopilot, flight director or yaw damper. Maximum airspeed during all the maneuvers for the next couple of hours would be 80 knots with the ball centered. Work, work, work, that's all we do around here!

After that torture, I was kind and gave Dave a well-deserved 30-second break. Then we got an Atis and clearance for the RNAV 4 at Punta Gorda. This required new GTN 750 procedures, a thorough approach briefing, setting the proper Vapp speed, new profiles, new airports and challenges which wisely put us in the IAF hold to get a plan worked out.

The Fed who later did Dave's check ride commented on how late in the game most wait to get prepared for landing and then get behind. We went with a full autopilot mode approach (Level 3) to mins. In a past TBM magazine, I had a full IFR and VFR briefing procedure as we do in the 737, and I have my kids also do it in the



Tiger AA5. Remember I'm in the training bubble so some of the steps are to check awareness and preparation in other spots. All that, despite my distracting him, and he put it in the zone, on speed, for a "how did you do that" great first landing. Since it was Dave's first day, we went easy and only put in a half a day, 12 hours. And then a we had little fine dining, a debrief and a nap. What a trouper he was! For Dave, it was One of Those Painful Days.

On Day 2 we finished off the check-list work, went over the pain, sorry, I mean the plan, and I timed each checklist and compared it to the previous day. Making the new callouts and flowing with the French Girl was nice! We debriefed back at the Italian restaurant, and we were done by 11 p.m. after a little more than half a day. Progress was excellent.

Day 3 had us heading north to Beantown for some radar fun. Wow, we made it nonstop under four hours. We called Flight Watch on the discreet High Freqs and went over the weather charts — GTN 750 settings, EFIS Buttons and the ugly green world stuff. We reviewed the pertinent PTS stuff, got her in the hangar and went home for a nap. Victory!

On Day 4, we were off to the possible check-ride locations of CON and LCI. I can't stress enough about backing visual approaches with the magenta, giving distance to the threshold and a glide path to roll out on final, centered with white and red vasi/papi to take out fighting to get in the slot. Use the 300 foot/mile as you turn final to hit it on center.

We had one of those days with about +/- 5 knots of wind shear keeping us awake on the approach. We had it bugged up for the gust, and Dave was working real hard down to about 20 feet and with the left wing down and an instant 10-knot loss. The bottom dropped out so I called go-around.

After not getting to sleep in your own bed for five days, a looming 709 check ride, a flight destructor with no mercy, four days of 12-plus hours, we now throw in wind shear and a few hours of landings, and I get to watch the results of what's left! We finished up with a late lunch at LCI and slipped into darkness with RNAV approaches to Runway 26 perfecting the GTN 750 approaches. We had a nice 10-knot tailwind landing back at BVY, and it was nap time.

Day 5 featured an airline style check-ride with all the air work, simple emergencies and how to respond, oxygen-mask usage, memory-item flow, feather glide over PSM with config changes and a couple of approaches. That's all I could do so Dave would have time to rest up for the Fed. It felt no different to me than when I soloed the kids and got a text from Dave about how I should have been there to see the beauty in the approach and landing at HIE. Dave surely earned it. It was a privilege to help him.

So what's the moral to this story? Well, Dave, will add his "in retrospect" here.

ONE PILOT'S TBM TRANSITION TRAINING: A CAUTIONARY TALE

It's painful to admit, but I'm one of those pilots. That is, one of those pilots who transitioned from pistons, did the "standard" TBM-transition training, and soon thereafter had a very damaging landing/porpoise/prop strike accident. Fortunately, no one was injured.

So, when I was a bit fast and a bit high on approach that fateful hot day, I cut the power too abruptly and bounced the airplane hard. That was disappointing, but not damaging, and I thought the plane would settle down on the runway like a Cessna. Instead, the second bounce was higher than the first. I should have gone around, but I was unprepared for what was happening. A third bounce ensued, and soon the nose tire had burst and the prop was carving up the runway. I was never afraid for our safety, the TBM being such a tank, but I was horrified at the damage I had caused.

Fast-forward five months to when I attended a TBMOPA safety seminar in Groton, Conn. There I told Art Maurice about my accident and my training needs. He told me not to worry, he would introduce me to Bill Panarello, who he said would drill me hard for a week or so and leave me more confident in my ability to fly the TBM than ever. He was right.

Bill is an American Airlines pilot with a mission to bring airline procedures and discipline to TBM pilots. He met me in North Perry, Fla., where the great team at Socata North America had repaired all the damage to my TBM.

Bill first taught me about the aerodynamics of the TBM design that contribute to its great performance but also make it prone to the type of accident that I experienced. He showed me how the aircraft's design makes it handle very differently from a piston-powered Cessna, particularly in slow flight.

Next, we set about establishing flows and preparing abbreviated check-lists for review after each flow. I had previously been spending too much "head-down" time working through detailed check-lists, which Bill considered "do lists" that were too cumbersome for efficient use. I soon found that doing the flow without the "do list" was much faster and forced me to think more clearly about where each switch and control should be set. Using the checklist after each flow ensured that I didn't miss anything critical, and soon I was accomplishing all of the "do list" items without wading through them one-by-one.

In the airplane, we drilled hard, first on slow flight in all configurations, with the stall warning horn blaring constantly for what seemed like hours. Then we went on to calculating Vapp and Vref depending on conditions, pre-briefing each takeoff and approach, focusing on stabilized approaches, flying VFR approaches with glideslope backup when available, flying visual approach patterns calculated to turn final on the glideslope and fully configured, then staying on the glideslope while maintaining airspeed within tight tolerances, and landings, landings, landings — in all configurations and varying weather conditions, day and night, 42 landings in all.

Bill made me learn the memory items for emergency descents and go-arounds, and we practiced both. Go-around commands came without warning: At 30 AGL, Bill says, "Uh, oh, there's a deer on the runway."

We flew north to New England and sought out the nastiest crosswinds available, which were nasty indeed that week in November. Bill had me fly night IMC approaches to minimums and circle to land on runways with no VASIs. It wasn't comfortable, and it wasn't pretty, but it made "normal" conditions seem relatively easy. My FAA check-ride went smoothly, and I was finally back in the TBM saddle.

My TBM training is far from over; in fact it has just begun. I admit that I thought the transition would be easier than it has been and that my overconfidence was probably a factor in the accident. My advice to transitioning pilots is to focus on stabilized approaches and find an instructor like Bill who will really work you hard in the TBM and expose you to difficult real landing conditions and go-around practice.

My suggestion to insurance underwriters is to place less emphasis on simulator training and more emphasis on the type of training described above. My hope is that the "standard" transition curriculum and methodology will shift toward more focus on the most common causes of accidents, rather than the most sensational. This would reduce losses and help us all to fly more safely. TBM

GOING INTE

Research and preparation required for a complex world.

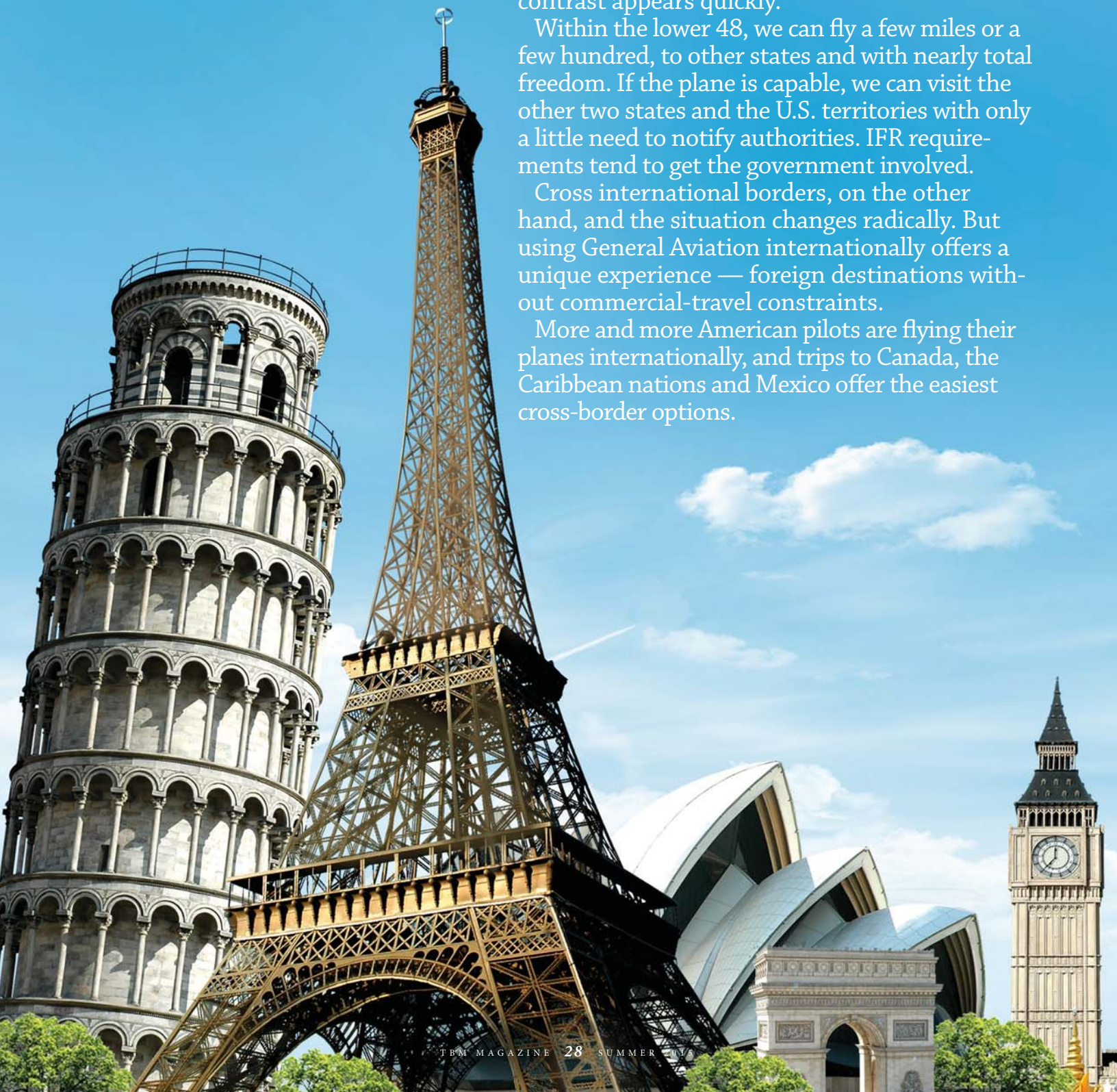
BY DAVE HIGDON

To truly appreciate how easy we pilots have it in the U.S., try flying yourself internationally. The contrast appears quickly.

Within the lower 48, we can fly a few miles or a few hundred, to other states and with nearly total freedom. If the plane is capable, we can visit the other two states and the U.S. territories with only a little need to notify authorities. IFR requirements tend to get the government involved.

Cross international borders, on the other hand, and the situation changes radically. But using General Aviation internationally offers a unique experience — foreign destinations without commercial-travel constraints.

More and more American pilots are flying their planes internationally, and trips to Canada, the Caribbean nations and Mexico offer the easiest cross-border options.



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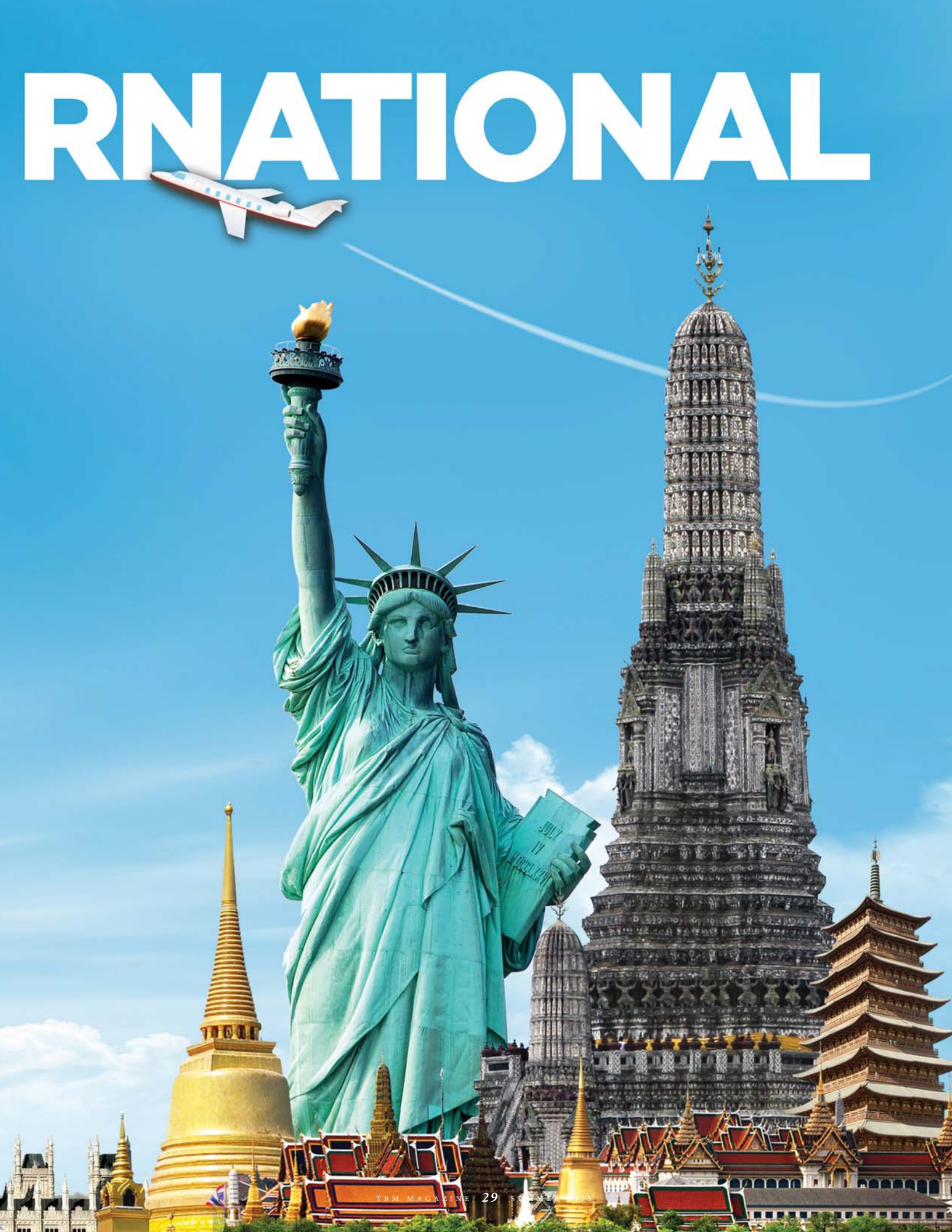


But enjoying the GA alternative requires preparation and planning beyond any domestic trip. The myriad issues involved require far more advance preparation and should begin well before you approach the U.S. border en route to any foreign destination. Furthermore, as you fly across more nations, complexities and local considerations can multiply.

However, you don't have to take it all on alone. In fact, the more complicated a trip, the more wisdom you'll find in working with experts knowledgeable and experienced in the intricacies of international private-aircraft travel.

The rewards are generally self-evident at the destination.

So why fly internationally?

For some, it's strictly business; for others, the appeal is rooted in a desire for adventure or romance – the accomplishment of piloting your own international journey.

That allure never completely ebbs for many – particularly folks with aircraft capable of stringing together the legs to visit their dream destinations. Say Brazil for the 2016 Summer Olympiad. Or fly the Alaska route. Or maybe a trip to Grand Cayman or Cancun.

Maybe even circle the world!

Preparation is always the key. One easy piece of prep work: Become familiar with U.S. Electronic Advance Passenger Information System (eAPIS – see sidebar) followed by a process that is taught to all pilots — planning, with some new elements.

Consider some of the elements of international General Aviation travel.

INTERNATIONAL FLIGHT PLAN

The International Civil Aviation Organization (ICAO) is a wing of the United Nations that helps standardize and coordinate aviation issues internationally. Among its products is the International Flight Plan form.

It's different in several ways – and, like eAPIS, it's easier if you spend some time in advance of using and filing the form with the FAA and the nations you plan to overfly or visit.

You can find the form and guidance here; FAA: gov/documentLibrary/media/Form/FAA_7233-4_PRA_revised_12-2013.pdf

Next in the paper trail...

PERMITS

Permits exist for a broad array of bureaucratic needs. Each country has its own rules, fees and timetables. And they seldom all fall neatly in line.

- Flight permit – Permission to fly there.
- Landing permit – Yep, required to land.
- Fuel permit – Some places require a permit, maybe two — one, to get fuel to the plane, the other to dispense it into the aircraft.
- Flight plan – Typically it must be filed locally and, like permits, requires the appropriate fee.
- Departure permit – Self-explanatory.
- Overflight permit – Yes, so you can pay for air-traffic services to countries over which you may never actually fly, but you occupied their Flight Information Region so your paperwork should reflect that, as well as the fee, even if they never handled you.

EAPIS: BEFORE YOU GO, OR RETURN, USE AMERICA'S ALL-BORDERS CHECKPOINT

Before you start your engine(s) to fly that out-of-country experience, the U.S. Customs and Border Protection Service of the Department of Homeland Security wants you to take care of some home-country business, something foreign visitors also face coming to the U.S. Thanks to modern technology, this one you can handle on your home computer with the Electronic Advance Passenger Information System (eAPIS).

Using eAPIS allows you to enter or upload passenger and crew manifests online. You first must register to begin using eAPIS, and it's strongly suggested that you do this well in advance of your departure (or return) in order to learn the process and its requirements.You can start that here, at the eAPIS website: eAPIS.cbp.dhs.gov.

Depending on your destination, taking care of eAPIS may cover the majority of the required paperwork for the trip; but certainly not all of it. Be sure to read: AOPA.org/Flight-Planning/eAPIS-Frequently-Asked-Questions

VISAS

A visa is a document granting permission to be in a country for a specified time. Visas remain fixtures of international travel, and most countries require some form of a visa.

Rules for them vary widely, and the rules may be different, whether you're passenger or crew. In some countries members of the flight crew need no visa; in other nations, everyone needs a visa.

Further, the acquisition process varies. Some countries allow you to obtain a visa upon arrival; others require a visit to an embassy or consul office before you start the trip.

And these rules usually apply to "technical stops" – for fuel before continuing.

INSURANCE

The coverage of our aviation insurance often ends at our borders – at least without a rider or another coverage option.

Special insurance on the aircraft and owner is required in most nations. Some only require proof that an existing policy provides the required coverage in the nation you're visiting, but many policies are domestic-only.

Country-by-country rules vary.

AIRCRAFT DOCUMENTS

Start with the same documents the FAA likes us to carry: airworthiness certificate, registration, title, weight-and-balance. Add to that proof of insurance (as we said...) and possibly finance information.

CREW DOCUMENTS

Beyond passports and visas (where require), most national authorities require proof that the flight, cabin and maintenance crews hold the appropriate certificates for their jobs. That means licenses and medical certificates.

VACCINATION DOCUMENTS

Depending on where you plan to stop, you and any fellow travelers must produce documentation of inoculation against several exotic, but not-rare-enough maladies – yellow fever among them. Check with the State Department for what's required. And be sure your shots are also up to U.S.-entry standards after visiting some nations.

AVOIDANCE STRATEGIES

The State Department can also help the pilot identify and avoid using the airspace over certain parts of the world. You may need to avoid flying over some nations

due to ongoing hostilities, prohibitions at your departure airport or at the destination. Some nations won't let you land if you have come through an enemy's airspace.

Other countries restrict arrivals to flights originating from approved airports – where that nation's security may check you before you launch.

Know before you go.

GROUND SERVICES

It pays to know before you stop that the location offers what's needed – fuel, catering, access to ground transportation and rooms. In some countries private aviation remains rare enough that no GA FBOs exist – only an airline service system.

Since aviation gas can be rare, be certain any stops offer your fuel. Landing with too little fuel to get somewhere with fuel could leave you stuck for a while.

TRIP PLANNERS, ORGANIZERS AND ESCORTS

There are purveyors of an easier way. International travel – at least beyond neighboring countries – contradicts the old adage, "If you want something done right, do it yourself." Here, expert help is worth its weight in fuel.

Trip planning, concierge service and even guided and self-flown tours are among the offerings of companies whose names often evoke the romance or adventure of international flying: Caribbean Sky Tours; Caribbean Flying Adventures; Pilot Getaways. Others are more business-like and business-oriented, such as Jeppesen's services.

Among those catering more to the tourist is one of the most-seasoned escorted self-flying tour operations, Air Journey, based in Jupiter, Fla.

Owner and tour director/organizer Thierry Pouille recently returned from leading his fourth trans-world tour, landing at some of the globe's most exotic and scenic locales. The participants fly in their own aircraft while the tour staff handles the arrangements – including the bureaucracies.

Pouille started offering escorted flying tours in 1998. Air Journey trips can be all-inclusive with lengths ranging from four to 70 days.

Uninterested in an escorted self-flown tour? Air Journey is among many similar firms that offer something commonly called Concierge Flight Planning Services.

They do the advance work, provide the appropriate paperwork, permits and fee schedules, and offer as much or as little filing service as the pilot desires.

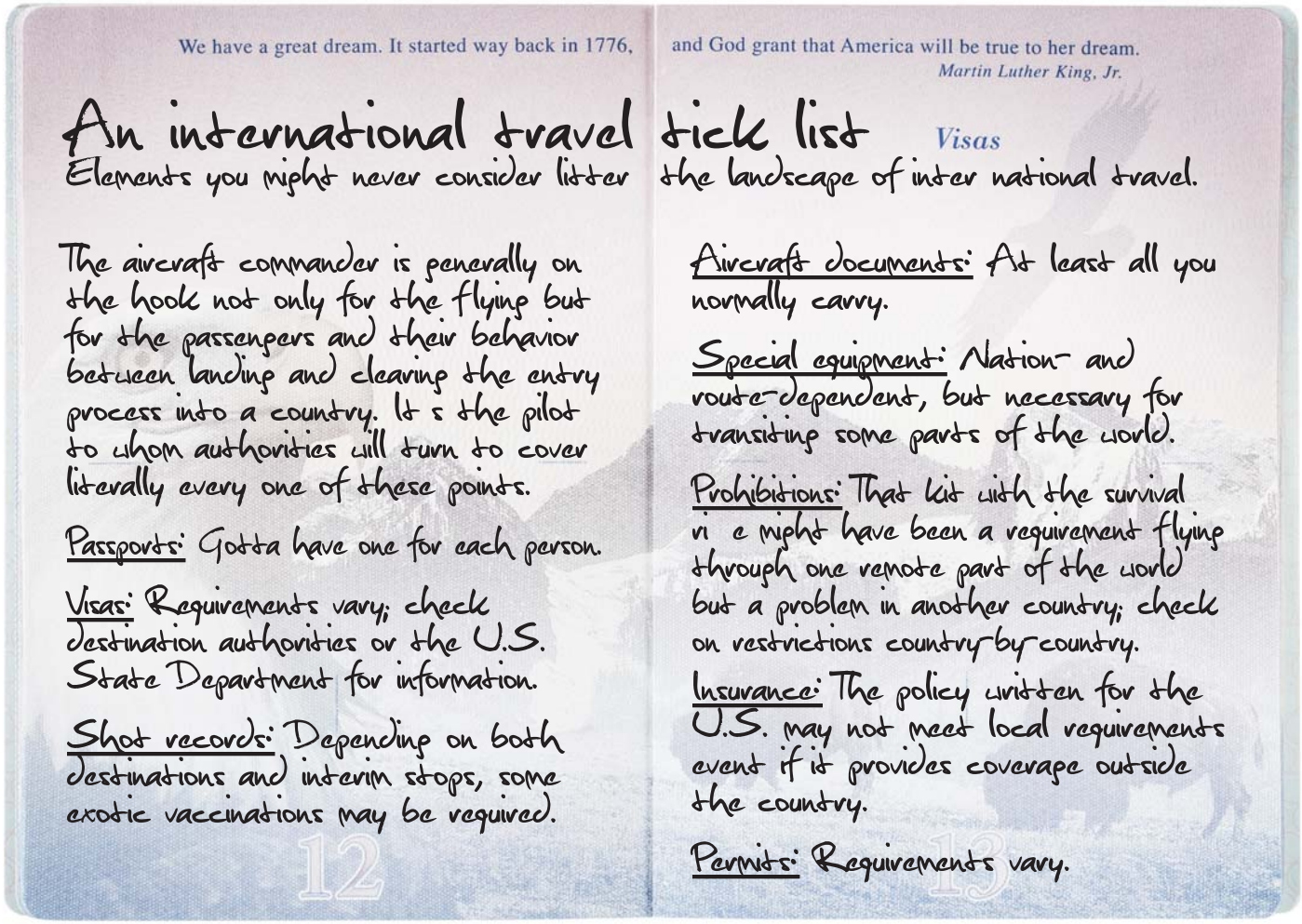
Here is a list of trip services in general. Other options exist through companies geared more to handling business aircraft operators. TBM

Air Journey
AirJourney.com

Caribbean Sky Tours
CaribbeanSkyTours.com

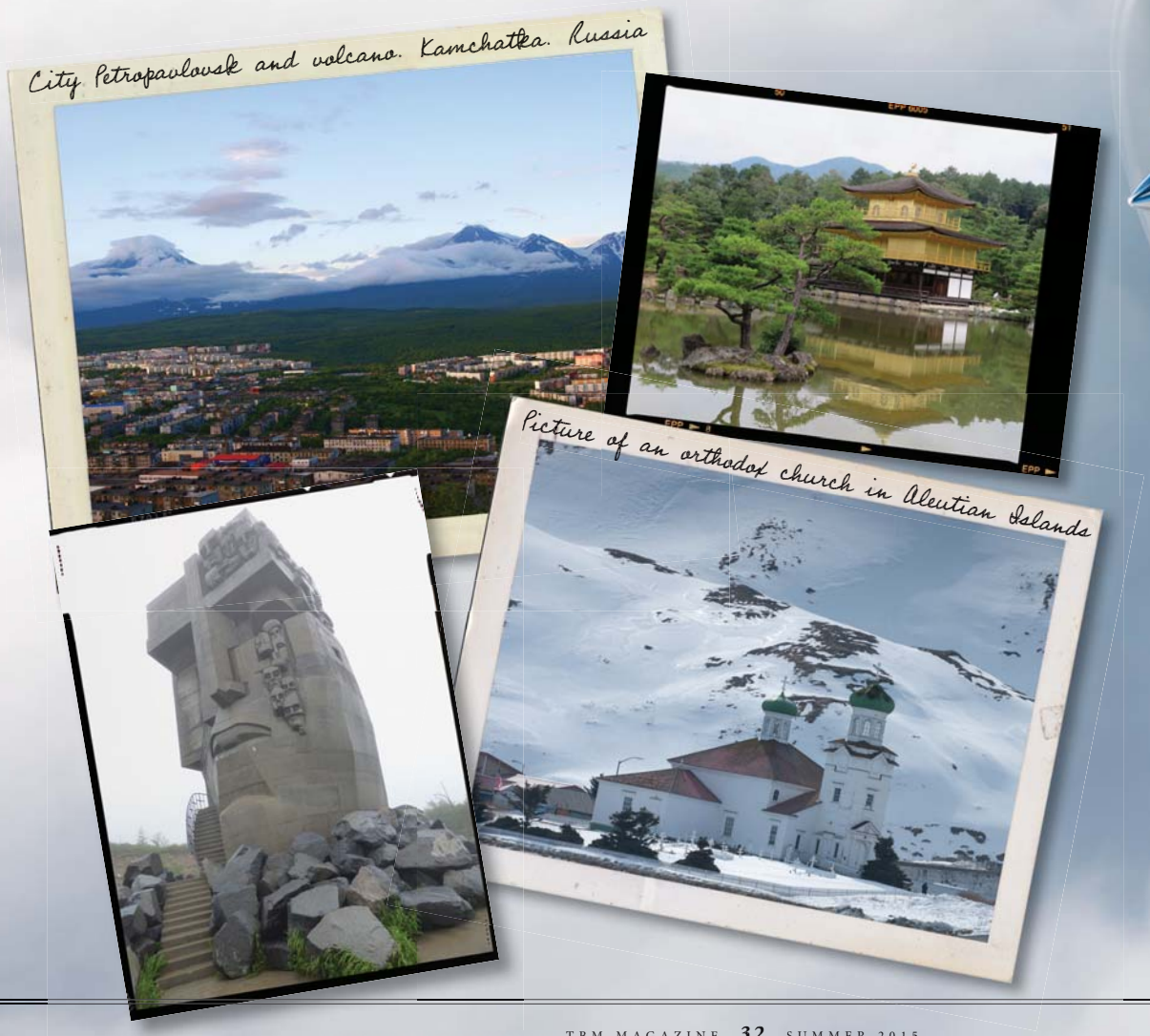
Pilot Getaways
PilotGetaways.com

General resource
ThirtyThousandFeet.com/destinations.htm



FLYING THE NORTH PACIFIC

If you fly a corporate turboprop or jet on a regular basis, you need a full understanding of RVSM airspace and how it applies to you and your aircraft. BY BILL COX



As one of those pilots lucky/stupid enough to deliver aircraft across both the Atlantic and Pacific oceans on a semi-regular basis, I'm often asked which is the more difficult and why.

I'll often answer that the Atlantic is in many respects more risky because of the generally hostile conditions. The good news is, legs are relatively short, and winds are normally on the tail (if you're flying east). Unfortunately, that's the end of the good news.

The bad news — if you do have to ditch, the water is so cold that you may not survive for long unless everything goes perfectly. Without a survival suit, hypothermia will become a problem in less than five minutes. The weather is less clement over the Atlantic much of the time, with icing in the clouds on practically a year-round basis.

The situation is reversed in the central Pacific. For much of the year, the water is comparatively warm, giving you time to deploy a raft and haul yourself aboard should you have to ditch. The weather is almost universally better, with warm temperatures, minimum clouds with low tops, light winds and little or no problems with icing. Unfortunately, the legs are often much too long for most General Aviation turboprops and light jets.

Flying the North Pacific

The distance from Santa Barbara to Honolulu is 2,160 nm and, even if you depart from farther north (say Monterey or Oakland) and aim for Hilo, the closest point of land in Hawaii, the distance is still just over 2,000 nm with not even a rock in between. That's well beyond the scope of most corporate turboprops and light jets. (I once spent 15.2 hours looking down at nothing but ocean between SBA and HNL in a Grand Caravan. Fortunately, I had 16.5 hours fuel aboard.)

The normal second leg, from Honolulu to Majuro, Marshall Islands, is also 2,000 nm. If you're headed for Japan or the Philippines, the third leg to Guam is about 1,600 nm, though there are a few airports along the route. If you're destination is Australia, you can route farther south through Christmas Island, Kiribati and on to Pago Pago, American Samoa. Each of those legs is about 1,200 miles. It's apparent that the Far East is pretty much out of reach for most General Aviation aircraft without ferry tanks.

Or is it? Another route farther north is far more interesting, with shorter legs that don't demand tanking your airplane with additional jet fuel. Many pilots don't even consider the northern route through Alaska, the Aleutians and Kamchatka, Russia, because of bad weather and, for some of the year, that's a valid argument.

During much of the late spring, summer and early fall, however, you can often cross the Pacific on the northern track with little more difficulty than flying the Atlantic. If you're lucky with the weather, the positioning trip along the southeastern, coastal islands of Alaska can be a rewarding experience, with spectacular scenery, good airports and excellent service available every few hundred miles. Even when the clouds are down, weather is rarely below minimums at places like Ketchikan and Sitka.

Pilots traveling in ice season often avoid problems by flying low. I've seen everything from Caravans to Bondurantes and TBMs skimming along at 1,000-2,000 feet above the water in Alaska's Inside Passage, staying beneath the clouds rather than flying in the middle of them where the ice gods hold their parties. Visibility is frequently 20 miles or better beneath the clouds.

Turbines will usually choose to fly on top. Overcasts rarely grow much taller than 20,000 feet over the water, and good approaches are available at airports only 200-300 nm apart. Rain can be frequent and intense at low levels on that route, but it's unusual to find ceilings much below 1,500 feet. Seattle to Anchorage is only 1,250 nm with lots of airports along the way should you need to refuel

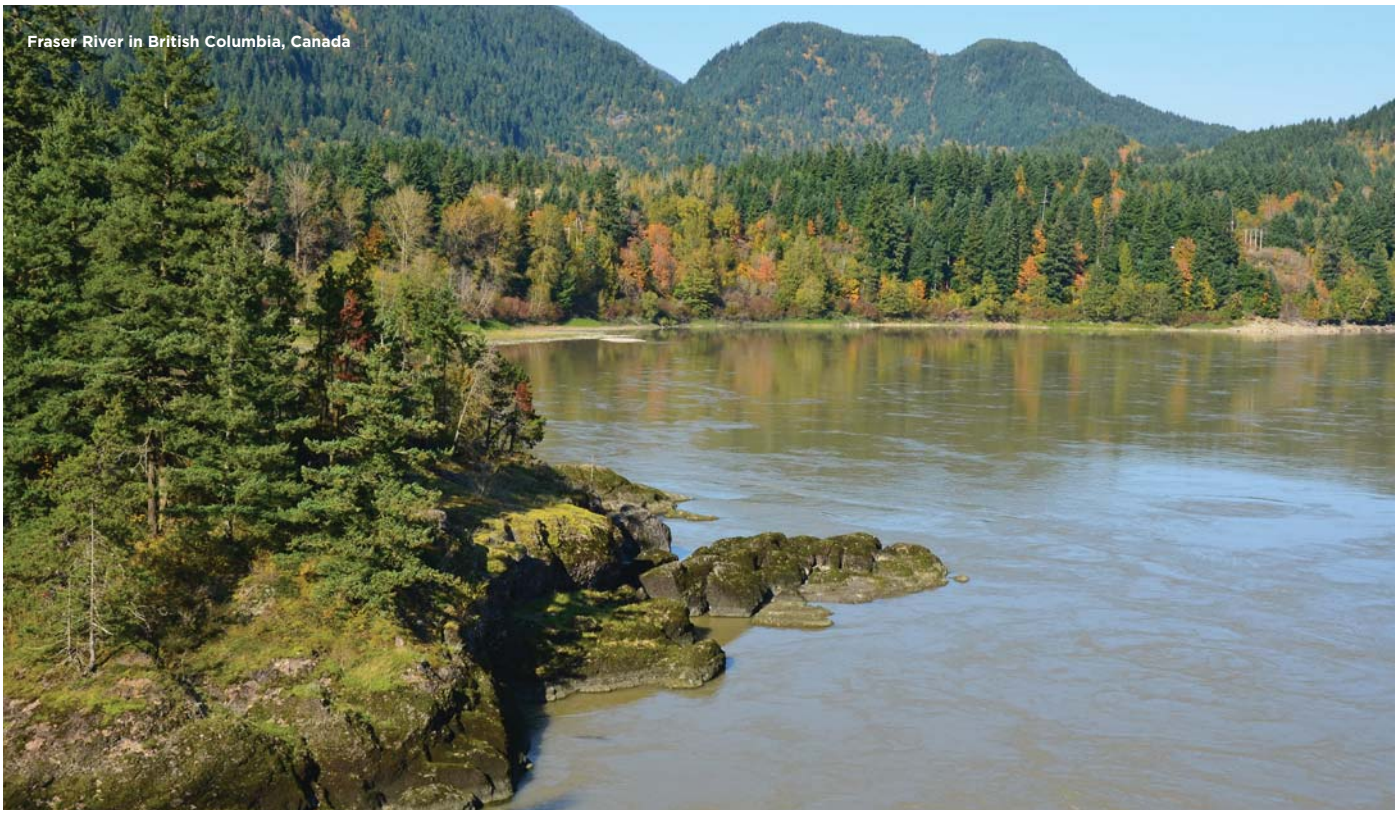
If you're departing from farther east in the U.S., another popular route to Alaska is along the Alaska Highway, from anywhere to Calgary, Alberta, to Dawson Creek, then on to Whitehorse to Alaska. Turbine aircraft will always be above the terrain – the 18,000-foot-tall St. Elias range is the tallest in the area — but flying slightly inland may allow you to skip temperamental weather generated by cold fronts crossing the coast and building tall, turbulent clouds.

A third route, known as The Trench, also tracks slightly east of the mountains along Canada's Fraser River to Williams Lake and Prince George. After that, you fly northwest to Williston Lake and finally to Watson Lake. From there, you can track the Alaska Highway on to the 49th state if you wish to stay near airports.

Alaska in general — and Anchorage in particular — have more pilots and airplanes per capita than any other place in the world. Right outside town is Lake Spenard, the world's largest seaplane base, and Merrill Field, practically in the heart of downtown, has an amazing variety of resident airplanes.

After Anchorage, the universal jumping off spots on the Aleutian Chain for trips across the northern Pacific are either Dutch Harbor, 700 nm southwest of Anchorage,

Sendai, Japan, cityscape over Sendai Station


Fraser River in British Columbia, Canada

or Adak, another 600 nm out in the Pacific. The Aleutian Islands stretch another 400 miles toward Russia, but the few strips beyond Adak are unimproved and no services are available, in any event. Attu, on the very tip of the Aleutians, used to be a Coast Guard LORAN station, resupplied by C-130s, but that was shut down in 2010, leaving the island totally uninhabited.

Departing from Dutch Harbor or Adak, the overwater legs to Asia can be less than half the distance you'd cover to fly West Coast to Honolulu. Assuming you adopt the shortest overwater leg from Adak to Petropavlovsk, the distance is only 905 nm. From Petro on down to Sapporo, Japan, it's another 913 nm, well within the province of single-engine turboprops and the majority of light jets. A typical turbine should manage each of those legs in under four hours and, remember, in deep summer, there are 16-18 hours of daylight.

Keep in mind you will need flight clearances (to avoid the fate of Korean Air 007) and a Russian visa to visit Petropavlovsk. Be aware that it may take a while for your passport to work its way through the Russian bureaucracy. A dozen years ago, I was hired to accompany a dentist from Indiana through Nome to Provideniya Bay, Russia, 250 nm across the Bering Sea to Siberia, for a short, two-day, just-so-you-can-say-you've-been-there visit. Our visas required about two months to come through. Fortunately, we started planning the trip four months in advance.

You'll also need a cold-weather "dry" immersion suit for each soul on board, a raft that will accommodate everyone, and vests for each person. What you carry beyond that is up to you, but more is definitely better if you have the room and the payload. As a highly experienced ferry pilot once told me when I started in the business 35 years ago, "It's all worth it if it only saves your life once." Depending upon your route, you may be able to rent immersion suits, raft, vests and other survival gear from a number of companies. Telford Aviation in Bangor, Maine, is a good source.

Handling is mandatory in Petropavlovsk. Universal Weather and Aviation in Houston, Texas, and Skyplan in Calgary, Alberta, Canada, are two popular choices, though a dozen good companies are available. Expect fees for pretty much everything in Japan, including airways use, so be prepared. After Petropavlovsk, you'll need additional handling to coordinate your landing and overnight at Sapporo. Landing fees aren't that significant, but handling agents and airways fees can be.

One Japanese company that may be able to help reduce costs is Petair of Hokkaido. Peter F. Steeger is their representative at AOPA@petair.us. Identifying specific charges for airways, communications, landing, parking and services varies from model to model, and the prices also change with time. For a better read on those expenses, contact Petair.

Beyond Japan, all of Asia and Australia is available to you. You can fly south, down the Indonesian chain to Singapore, Jakarta, Bali and on to New Zealand and Australia, the latter a continent about the size of the U.S. but with the population of New York City. Or you can press on around the world "backwards," flying west into the wind, perhaps visiting such destinations as Seoul, Bangkok, Bangalore, Dubai, Luxor, Athens, Rome, Paris, London, Reykjavik and on across the Atlantic back to Canada and the U.S.

Using Los Angeles or Oakland as your point of origination, and Sendai, Japan, as your destination, the northern route is nearly 1,500 nm shorter than the southern trip, a curious anomaly associated with a Great Circle that avoids the fat part of the Earth.

Flying the north Pacific isn't really any different than operating anywhere else in the world, and it doesn't require special talents or skills. Any pilot with a good airplane and decent weather judgment should have no problem negotiating the northern Pacific route to Asia.

Just remember to maintain your sense of humor, be patient and bring your wallet. TBM

HERE COME THE FLYING CARS

One of the longest-running fantasies in aviation is about to become real

BY PAMELA BROWN

Airboss Aerospace GF7

Transition Oceanroad TF-X

It's been over a century since the invention of both the automobile and the airplane, but we're still waiting for a successful marriage between the two. What happened to the future that visionaries, scientists and popular culture promised us, a flying car in every garage? Well, if you haven't noticed lately, some pretty interesting innovations are about to make that dream come true.

The frontrunner in the field may just be the Transition, a flying car from Terrafugia, a Massachusetts-based company founded by MIT graduates. After nearly a decade of research and development and extensive testing of at least three prototypes, Terrafugia has produced a two-seat, road-ready plane already approved for use by the National Highway Traffic Safety Administration and the FAA. Having cleared those hurdles, the hybrid's future was further enhanced when the FAA granted it Light Sport Aircraft status, relaxing the requirements to get a flying "driver's license."

Flying Roadster, developed by the Slovakian company AeroMobil

Krossblade Aerospace SkyCruiser

Terrafugia. The TF-X


PAL-V ONE

As a car, the Transition (at 19 feet, 6 inches long and 90 inches wide with wings folded) will fit neatly into a standard home garage and may be driven to any local gas station for fill up. But in order to convert the hybrid from car to airplane, it must be driven to a local airport for take off. Once there, it only takes one minute for the patent-pending automated electromechanical folding wing to convert the vehicle into an airplane, which has been designed to be easy to fly.

Terrafugia CEO/CTO and co-founder Carl Dietrich, who flew the prototype at last summer's AirVenture in Oshkosh, Wis., observed, "It's a very stable and easily controllable platform, exactly what we want to help ease non-pilots into the air. Landing is straight-forward. With no flaps, no retractable gear, no constant speed prop, no mixture control and no carb heat to worry about. If you want to descend, just pull the throttle back."

The Transition is also the only light sport aircraft designed to meet Federal Motor Vehicle Safety Standards with driver- and passenger-side airbags, safety cage and crumple zone. It's also equipped with an airframe parachute. Another not so obvious safety feature is the simple fact that, if a pilot faces inclement weather, he can simply drive to his destination.

Terrafugia is in the advanced stages of testing the Transition, with deliveries estimated for 2017. The company has more than 100 orders on the books at an approximate cost of $279,000.

If the Transition doesn't quite live up to the flying car of your dreams, you can wait for the TF-X, also in development at Terrafugia. The TF-X, a four-seater with a plug-in hybrid power train, will be capable of vertical take offs and landings. Plans to automate controls of the hybrid could mean as little as five hours of training will be required to operate the car-plane. Much like the Osprey, flown by the U.S. military, the TF-X could get airborne from a level clearing of as little as 100 feet by rotating twin wing-mounted propeller motors to a vertical position. Once airborne, they would rotate back to a conventional, forward position.

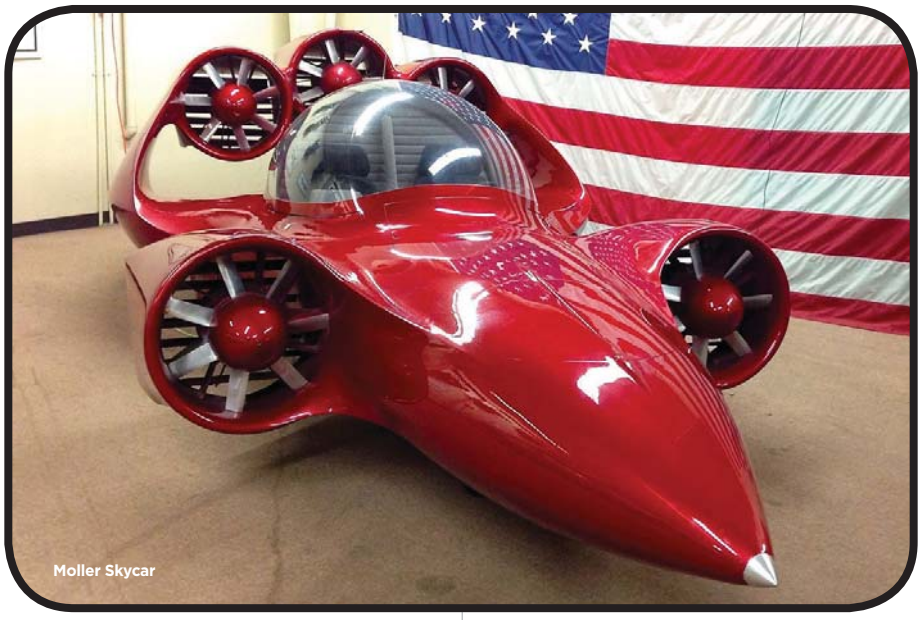
In air, the TF-X could reach 200 mph and travel 500 miles. The vehicle would take advantage of a computer network that would automatically guide the plane around crowded airways and bad weather. The TF-X will also feature auto-land capabilities. Terrafugia estimates the vehicle is eight to 12 years away from reality.

Also headed into the market is the Flying Roadster, developed by the Slovakian company AeroMobil. With its wings folded back alongside the "fuselage," this two-seat flying car also fits into a standard garage. It runs on automobile gas with a projected range of 545 miles on the ground or 435 miles in the air. And you might not have to take the AeroMobil to an airport. The new craft will take off anywhere you find 650 feet of flat surface and can land on space as short as 160 feet. AeroMobil has a flying prototype (see it at YouTube.com/watch?v=kzYb68qXpD0) and will begin taking orders in 2016. The company has also unveiled its next venture, a self-flying car.

The Vaylon Pegase (Pegasus) manufactured in France is a two-person combination hang glider/dune buggy and is currently being tested by the French Special Forces for use in missions from reconnaissance to hostage rescue and equipment transport. The aircraft can take off in less than 330 feet and requires only about 33 feet to land. The Pegasus flies at about 35-50 mph for up to three hours at altitudes as high as 10,000 feet and uses quiet, specially designed propellers for stealth. The company envisions military, humanitarian and leisure purposes. The Pegasus is expected to become available before the end of this year at a price of approximately $130,000.

Developed by Arizona-based Krossblade


Krossblade Aerospace SkyRunner


Moller Skycar

Aerospace, the SkyCruiser is a five-seat, electric hybrid concept vehicle – part airplane, part helicopter, part flying car. In airplane flight mode, the hybrid uses two 150 bhp electric motors in the tail. To shift to helicopter mode, the plane is converted to vertical flight by four "switchblade" rotor arms that fold out from the fuselage. The patent-pending switchblade mechanism is what allows the SkyCruiser to convert from airplane mode to vertical takeoff and landing. Currently no certification date is available.

The SkyRunner, like the Pegasus, is part all-terrain vehicle and part light-sport aircraft that uses a propeller and a parachute to glide through the air. Unlike the Pegasus, the SkyRunner is purely recreational. Developed by Parajet International and Dorset Aviation, the hybrid can reach up to 55 mph in flight and has a maximum soaring altitude of 15,000 feet. On the ground, it can reach a maximum speed of 115 mph. Using a Ford 125-horsepower, one-liter, turbocharged three-cylinder engine that runs on mogas, a SkyRuner prototype was recently given an airworthiness thumbs-up by the FAA. Production models will be certified as light sport aircraft. Expect the SkyRunner to come to market sometime next year.

Perhaps the most impressive and futuristic of the current batch of flying cars is the GF7, an electric flying jet car, the concept of designer Greg Brown and engineer Dave Fawcett of Airboss Aerospace (engineers of the Viper, the Maverick and the Javelin jets). Drawings of the GF7, released last May, reveal a virtual Batmobile that transforms into a sleek four-seat luxury jet (including leather seats) with a 3,500-pound thrust jet engine. The GF7 needs 2,500 feet to take off but can climb to FL380 and cruise at more than 550 mph. Range is projected to be 700-1,000 nm. The prototype is still three to four years away, and the production models are estimated to come with a price tag of between $3 million and $5 million.

PAL-V ONE (personal air and land vehicle) is a road-ready gyrocopter with a pusher prop and a free-spinning rotor to provide extra lift. On the ground, the prop folds, and power from the gas engine drives the three-wheeler at speeds of more than 100 mph. A prototype flew in 2012, and the Dutch manufacturer is now accepting orders for the 45 units it plans to sell in 2016/2017 for a mere 500,000 Euro.

Also waiting in the "wings" is the Moller Skycar, a design that's been on the drawing board for very long time. The most current iteration flies four passengers up to FL250 with a max cruise speed of 350 mph and a range of 750 miles. The most impressive feature is the craft's proposed vertical takeoffs and landings. While the Moller invention has taken quite a bit of critical heat over the years, renewed international interest makes the Skycar a real possibility for the near future.

"Mark my words," Henry Ford said in 1928, after giving up his attempt to create a flying car. "A combination airplane and motorcar is coming. You may smile, but it will come."

So smile — and keep your eye on the car in front of you. It may just take off! TBM

A Pilot-Shaping Purpose

A Canadian aviator is working to give everyone a plan for living a happier life.
By Lyn Freeman

Lorne Brett has been selling cars since 1969. Over the years, he created a remarkably successful collection of car dealerships in St. John, New Brunswick, Canada. He lived a comfortable life, flew his own TBM 700 and generally enjoyed the fruits of his labor. But when his son took over the family business, Brett found himself in an odd position.

"It became clear to me I wasn't going to be needed in the car business," Brett said.

And that was bitter sweet. It was nice to see his legacy continue, but the company's change in leadership left Brett with virtually nothing to do. He'd been replaced. He was, in fact, irrelevant. That was a problem. He had no clue what he was going to do with the rest of his life.

Brett shared his dilemma with fellow aviators and found immediate kinship. He was clearly not alone. Many of his pilot friends confessed a similar conundrum. They'd found themselves in the same boat with no plan for where they were headed next.

"How many pilots would take off without a flight plan?" Brett asked. So why would anyone want to run their lives without a "life plan"?

When he met a woman who had exactly the same issues, a new life plan emerged for each of them: They created a company called Shaping Purpose. "It became the solution to me for a stage in my life that was quite uncomfortable," Brett said.

Shaping Purpose is a program designed to give people of any age the tools to create a personal life plan that delivers tangible results.

"Everybody has his or her own purpose and expectations of what is really going to be fun for the next stage of life. That's what Shaping Purpose is about — developing that process, developing that clarity to get to the end goal of 'wow!' I really enjoy what I'm doing now."

Remember that old adage about an idea whose time has come?

Shaping Purpose quickly discovered the "lost without a life plan" condition was more ubiquitous than they'd ever imagined. It wasn't just retirees who were interested, but the military, first responders, even college students. A psychiatrist and a psychologist were intrigued enough by the work to join the effort and, in a relatively short period of time, Shaping Purpose was on the radar.

One of its first success stories was a retired captain from the Canadian military. During a deployment in the Middle East, he'd been the victim of a roadside bomb but survived with enduring physical issues. Because of his injuries, he was simply "retired" by the military. He was 33 years old. He was devastated, and he had no idea what to do with the rest of his life. Enter Shaping Purpose. The young man exited the program with a real plan about what to do and is now a successful engineer. He's also become an ambassador for Shaping Purpose. The young man even went back to the same Canadian military that had dumped him and shared his success and enthusiasm for the program. The result? The Canadian military has contracted for four Shaping Purpose courses.

In short order Shaping Purpose also received the blessing of Health Canada's prestigious Research Ethics Board,

the federal department that supports research and fosters partnerships with researchers across the country and the world. That accolade speaks volumes toward the program's credibility.

"Shaping Purpose is now my life plan. This is my purpose," Brett said with a smile. And he has a tiger by the tail. Four-day seminars are scheduled throughout the year in multiple locations, and the Shaping Purpose program is also available on a 10-day, high-end cruise from Istanbul to Rome in September of this year. Recently the program became mobile, offering customized seminars for businesses and social groups around the world.

"Creating a life plan is one of those conversations we put typically put off," Brett said. "But when you don't know what your purpose in life is, you become paralyzed and unhappy. This is not just true for the retiree but even teen-agers transitioning to adulthood find themselves with no plan on what they're going to do next. Shaping Purpose allows people to learn how to build their own life plans and understand their purpose. And the bi-product is happiness."

For more information, visit its website at **ShapingPurpose.com.** TBM

In My Opinion . . .

By Harry Daniels

Well, here we go again. We are half way through 2015 and again we have absolutely no guidance from Congress on the tax laws we will be dealing with for 2015. I wonder if Congress is going to wait until just before Christmas again this year to give us our Christmas present.

The most frequently asked question I get from the aviation community concerns what will be the depreciation rules for the current year. As it stands right now, there is no bonus depreciation for 2015. Right now, the Section 179 depreciation deduction for 2015 allows for a maximum depreciation deduction of $25,000.

In my opinion, both of these statements will change between now and the end of 2015. But reread the second part of the previous sentence – between now and the end of the year. And that has become our problem – between now and the end of the year.

In December 2014, as I was doing some year-end tax planning and update seminars, several clients made their frustrations clearly known about the way the tax law updates and the ability to take advantage of the changes had affected them. They looked at me and said, "How does Congress expect me to find, arrange financing, get delivered, set up and meet the requirement of placing in service a half-million dollar piece of equipment in less than two weeks before the end of the year especially with the holidays staring me in the face? What good do these tax-law changes do me?"

In my opinion, the clients are right. What are they supposed to do?

When you look at a combined federal and state marginal tax rate approaching 45 percent to 50 percent, a $500,000 capital investment in a piece of equipment could mean a tax savings of $200,000 to $250,000 of cash flow. And that can go a long way toward servicing the debt while providing businesses with the equipment they need to run their businesses. But how do you plan for this when you don't know if any of these tax law changes will happen.

In my opinion, you budget for the worst and make plans to meet the needs of your business and — as I advise – run your business! Then, if the tax laws do go your way, you just may have the luxury of asking yourself how much tax do you want to pay? How many times has your tax preparer asked you that question?

In central Florida, thoroughbred horses are a big part of our economy. A client needed a brood mare. He knew no brood mare would be for sale after October so he made the decision to buy a mare at one of the summer sales. He paid $400,000 for the mare. He got the horse he needed for his business, and I got the pleasure of telling him that his Christmas present was a $125,000 reduction in his tax bill. Bottom line – he rolled the dice and got lucky.

This is where we are finding ourselves. We are being forced to make business decisions without a key piece of business data — what are the possible tax benefits. As my thoroughbred-breeder client found out, if Congress does give us a break, we just may have received a heck of a Christmas present.

I predict that we will see a change and that bonus depreciation will be reinstated. I predict that we will see a change in the Section 179 depreciation limit of $25,000. Now, here is the question. What will the bonus depreciation limit be? Will it return to the 50 percent limit which it has been for the last few years? Will it return to the original rate of 30 percent? Will it come back to 100 percent, which we had for about 18 months? Or will it be back at an entirely different amount? Half the members of Congress want to encourage business and half want to raise taxes.

The same thing goes for Section 179 depreciation. For the last few years, the Section 179 limit has been $500,000. I have seen proposals for numbers ranging from $100,000 to making Section 179 permanent at $1 million.

In my opinion, yes, we will see changes between now and the end of the year. But if you decide to wait and see what Congress does decide, you just may find yourself in the unpleasant position of too little too late. Make your business plans now. Otherwise, you may not be able to take advantage of whatever tax laws Congress gives us. TBM

O. H. "Harry" Daniels Jr. is a CPA, a CFP certificant and a certified valuation analyst. He is a partner with the firm of Duggan, Joiner & Co., Certified Public Accountants, and can be reached at 334 N.W. 3rd Ave., Ocala, FL 34479, telephone 352-732-0171, fax 352-816-1370, email OHD@DJ-CoCPA.COM. He has held his license as a private pilot since 1991. This article is available for reprint upon request.

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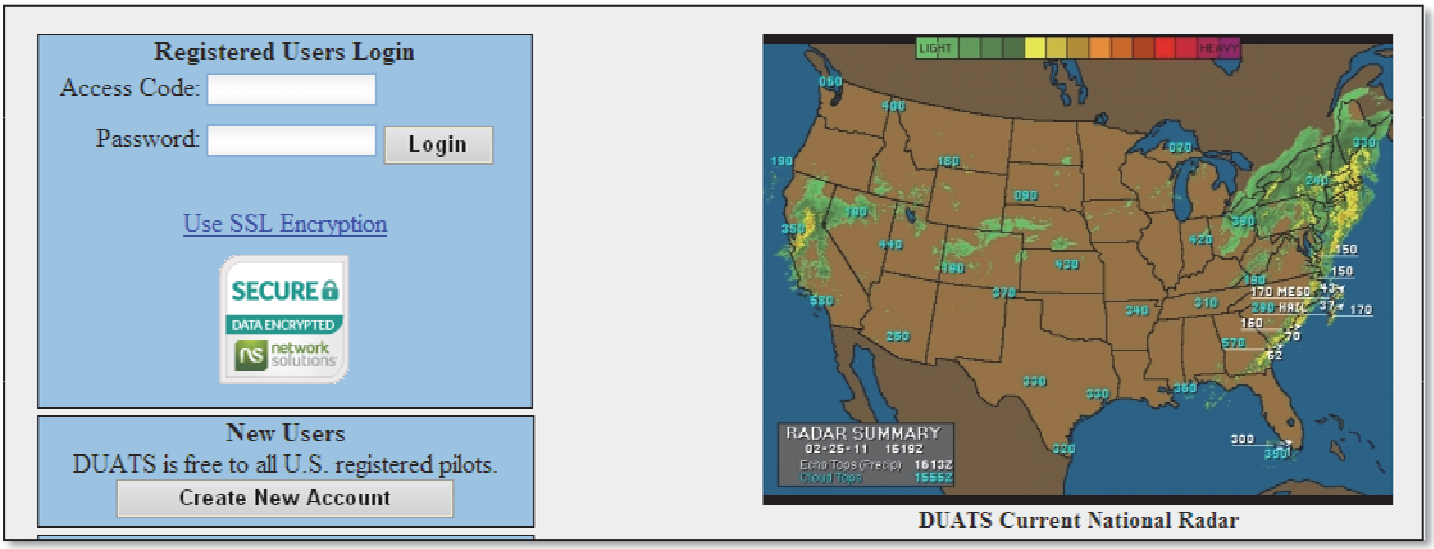

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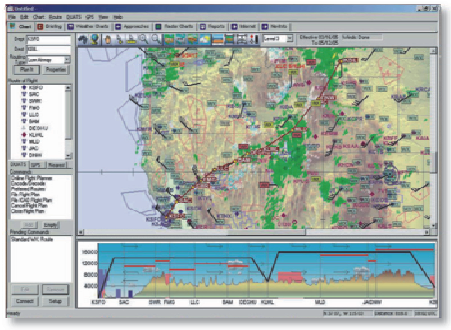

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Moving fast...

By Nicolas Chabbert, senior vice president, Daher-Socata airplane business unit

Things are moving fast these days. Maybe not at the same speed as our very fast turboprop aircraft, but close to it!

From my office at Daher's airplane business unit in Tarbes, France, I can see brand-new TBM 900s in constant motion. These latest versions of our TBM family are painted in stylized and bright colors as they are prepared for an acceptance flight or delivery to yet another customer.

Such a high level of movement underscores the TBM 900's success in the year since its formal unveiling. This is in addition to the constant arrival and departure of civil and military aircraft at Tarbes for servicing at our maintenance center.

The growing overall TBM fleet – 730 TBMs of all versions had been delivered by the end of May – along with other happenings at our Daher industrial site adds up to a great deal of action. We have come a long way since the initial TBM 700 deliveries in the fall of 1990. We've sold nearly 100 of the newest member of the TBM family in a year, the fastest-selling TBM ever.

The 75 TBM 900s already delivered to customers have accumulated an estimated 10,000 flight hours, with 30 percent of these aircraft having flown more than 200 flight hours each since their service entries.

According to first-quarter 2015 aircraft shipment data published by the General Aviation Manufacturers Association, the TBM 900 maintained the best-selling airplane position in its segment, even as total overall industry shipments during this period declined from last year.

These figures, reinforced by the sustained activity of TBM 900 operators, confirm that the TBM is a mature product, keeping its promises of improved efficiency with a unique cost-to-performance ratio. The best example comes from one customer who compared his 400 annual hours flying the TBM 900 with his experience with a previously owned light jet and concluded that he saved $380,000 in his first year of TBM 900 operations.

Our focus on the TBM 900 has not reduced the commitment to the wider community of Daher aircraft owners and operators. We continue to back our other airplane brands – some more than 50 years old and still very active in service – while also developing the services and support available for TBM operators.

As an example of our unwavering dedication to safety, we recently introduced the Flight Information Letter to refresh the TBM pilot community's knowledge in key areas of operations. It serves as a communications channel with operators, training institutions and mentors, with a goal of enhancing awareness on key topics when flying the TBM.

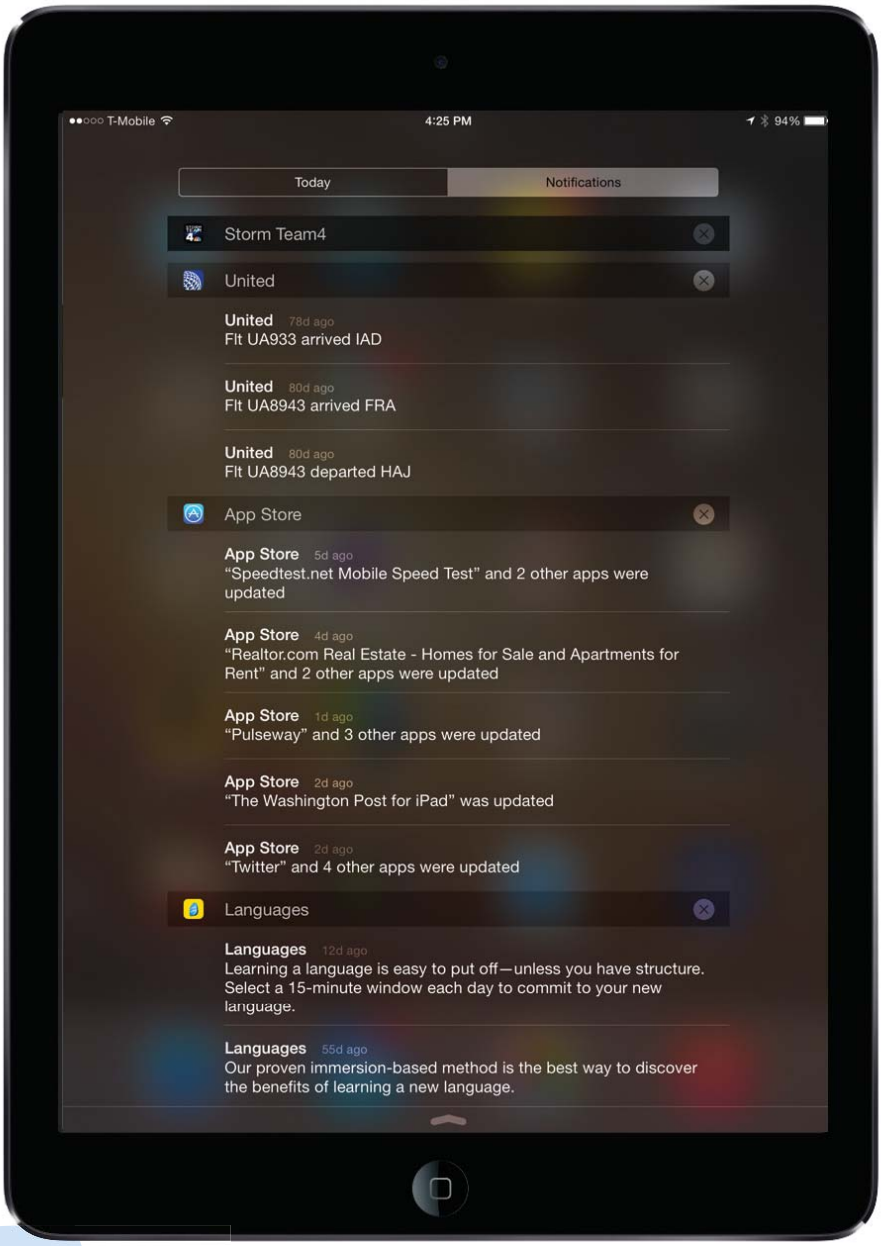
We are also working to raise the level of customer service even further. Our efforts in this field were recognized when we recently won the French Defense Ministry's contract for the full operational support of its 27 TBM 700s. Daher was awarded the contract because we demonstrated to French officials that we could meet their stringent requirements, keeping high dispatch reliability for this military liaison aircraft fleet that today exceeds a combined total of 200,000 flight hours.

The most active TBM 700 in this inventory – Serial Number 100 – just reached the 9,400-flight-hour milestone. And the military unit flying that regularly logs the most hours with the TBM – the French Army's Aviation Transportation Squadron – celebrates 20 years of operation with the TBM 700 this year.

Keeping the military fleet at operational readiness provides us invaluable experience that ultimately benefits all TBM operators. For instance, the TBM military fleet's avionics retrofit from 2011 to 2014 gave us unique expertise in modernizing aircraft with reduced down times; something that we extend today to the civilian sector of our TBM spectrum. European TBM owners already have benefited from this capability, which is being further developed at our new U.S. facility in Pompano Beach, Fla.

Taking all of this into account, we have many topics to talk about if you are able to stop by our booth at the numerous air shows during the 2015 season. We hope to see many of you, and if you fly, fly safely. TBM

TBM 900's



Don't Let Your iPad Ground Your Flight

By Wayne Rash Jr.

A minor and fairly obscure glitch in iPad data kept several American Airlines flights on the ground in April, but a little planning can keep that from happening to you.

April 28 wasn't a very good day for some American Airlines pilots. After they pushed back and begin taxiing for their takeoff position, many of the iPads that they used suddenly stopped working. Making things even more confusing, only some of the iPads crashed, and they didn't necessarily crash at the same time.

The problem was obscure, to say the least. Turns out the chart database contained a duplicate file with a duplicate name for Washington, D.C.,'s National Airport (DCA), and the existence of those duplicate names caused the software to crash. Some pilots had listed this chart as a favorite, and it was those pilots that had the problem.

Then came reports that some of the pilots were able to get things going after taxiing close enough to the terminal to use the airport's wi-fi signals, while others weren't so lucky. A number of flights were delayed and some were canceled because the electronic flight bag (EFB) being used by the airline, Jeppesen FliteDeck Pro, had crashed. The only way to restore the app was to remove and reinstall it, which explains the need for the wi-fi signal.

Fortunately, the folks at Jeppesen figured out what was going on and provided a quick fix immediately, followed by a permanent fix in a few days. "We knew what had happened within an hour or an hour and a half," said Jeppesen Senior Communications Manager Mike Pound. "It was actually a problem with the database."

The problem was obscure, to say the least. Turns out the chart database contained a duplicate file with a duplicate name for Washington, D.C.,'s National Airport (DCA), and the existence of those duplicate names caused the software to crash. Some pilots had listed this chart as a favorite, and it was those pilots that had the problem.

AA solved the problem by sending out digital images of the correct airport data for pilots flying into DCA. Pound said the same thing can be accomplished by having paper charts handy in the cockpit. The lesson here: "The No. 1 suggestion is to always preflight your charts," Pound said, and always have a backup plan in case something bad happens.

But let's say that you're not American Airlines, and you're responsible for your own navigation software and your

own EFB, or that you work for a smaller operation that doesn't have thousands of people using your custom software. If you're using an EFB or some other type of electronic navigation software on your iPad, a problem like this can still happen. The difference is that you might not hear about it so quickly.

So do a digital preflight before you ever leave your office. As Pound suggested, check the charts and other airport and en route data for your next flight while you're still in a position to fix something if it's not working right. In addition, check every app that you use in the cockpit after every update to that app and after every Apple update to iOS.

Finding which of your apps has been updated recently is as simple as looking at the Notifications screen on your iPad. Those notifications show up on the lock screen before you enter your pass code or have your fingerprint read on newer iPads. But if you didn't see those items, you can check Notifications from any of the main screens on the iPad.

To see those Notifications, just flick the top of the screen down and you'll see a black screen with white writing. It may give current meetings and conditions, and in that case, touch the Notifications button at the top of the screen. There you'll see all of your notifications, including the apps that were updated.

So do a digital preflight before you ever leave your office. As Pound suggested, check the charts and other airport and en route data for your next flight while you're still in a position to fix something if it's not working right. In addition, check every app that you use in the cockpit after every update to that app and after every Apple update to iOS.

There's also a more thorough listing available from the AppStore, however. Just go into the AppStore and look for the Updates icon in the lower right corner of the screen (it looks like a square with a downward-pointing arrow). Press that, and you'll see a list of pending and completed updates to the apps on your iPad.

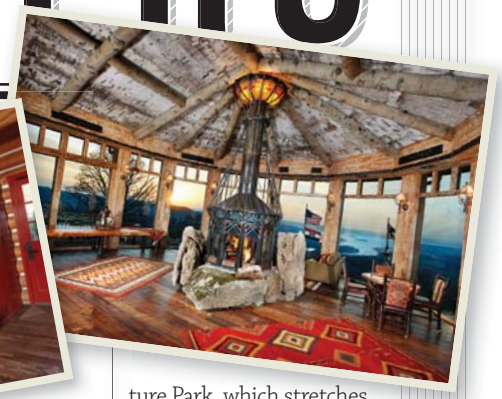
If any of the apps you think you'll use on your flight are listed, then accept the download if the update is pending. Once you've done that, give the app a test to confirm that it works properly, and also to determine what changes may have come along with the update. Trying to figure out what happened to a commonly used menu item that was changed in the most recent update, while you're flying the airplane, is likely to be problematic.

If there's also been an update to iOS, then it's time to test all of the apps you depend on. Incompatibilities due to iOS updates are common, and they can make an app you depend on impossible to use until it's fixed.

And finally, give mission critical apps a test before every flight. Jeppesen's EFB crash didn't appear until 24 hours before its effective date, and while you won't see that problem from that specific app again, something like that could happen just as easily and unpredictably to software critical to your next flight. TBM

WEEKENDERS

SUMMER 2015



LOOKING FOR A LAKE TO LOVE? DON'T MISS BIG CEDAR LODGE

BY MICHELLE CARTER

Tucked into the woods on the edge of Table Rock Lake, Big Cedar Lodge is eight miles south of Branson, Mo., and light years from the bright lights and rubber tomahawk vendors of the celebrated entertainment venue.

Spread across 800 acres in southwest Missouri's Ozark Mountains, its roots stretch back to the wilderness retreat created for two business magnates in the early '20s and then a private guest ranch. Everything changed when the White River was dammed in 1958 to carve out the 43,000-acre Table Rock Lake. Johnny Morris, the founder of Bass Pro Shops, took notice in 1988, and Big Cedar Lodge was born.

Two of the original homes, the Worman House and Devil's Pool, now house the upscale restaurants of Big Cedar that feature hand-wrought metal chandeliers, antique furnishings, stone fireplaces and a century-old mahogany bar. You can expect the best of mid-South cuisine: hickory-smoked prime rib, smoked trout and fresh fish from the lake.

Or you could opt for a private sunset cocktail cruise aboard the Lady Liberty, a custom-built 62-foot luxury yacht, as it glides around Table Rock Lake. If that's a bit posh for your taste, consider an hour-long lake tour on Goin' Jessi, an exact replica of a 1934 Chris Craft, everything from polished walnut and teak to the 353 Ford Marine V8 motor.

The lodges, cottages and log cabins with breathtaking lake and forest views combine to offer 244 guest rooms, many with balconies, fireplaces and kitchens.

The big news today is the grand opening of Cedar Creek Spa, an 18,000-square-foot immersion into total luxury with its indoor grotto pool and 11 unique treatment rooms promising sweet surrender. Yikes, did I mention the candles lining the rustic stone walls and something called the Ozarks Rain Experience?

Bent Hook Marina serves as the activity center for fishing and water sports, including slalom, kneeboard and wakeboard skiing. And you can bet that the fishing is extraordinary if the owner of Bass Pro Shops made camp here. The lake is ranked nationally for the number and sizes of bass and crappie, and veteran guides can be booked for early-morning boat rides to their favorite spots.

Should you prefer to look at the lake rather than go out on it, Big Cedar can offer three golf venues, trail rides and carriage rides from the stables and the wonders of Dogwood Canyon Nature Park, which stretches across the Missouri-Arkansas border.

Private pilots have their choice of several local airports, but M. Graham Clark Downtown Airport (PLK) at Hollister, Mo., with its 3,700-foot runway is the closest. Just a little farther from the lodge is the Branson Airport (BKG) with its 7,140-foot runway and the Branson Jet Center with AvGas and Jet A, heated hangars and rental cars.

Big Cedar Lodge will pick you up at either airport for a fee and, once you've checked into your room, free shuttles will take you anywhere you want to go on the resort.

IF YOU GO…

BIG CEDAR LODGE
612 Devil's Pool Road
Ridgedale, MO 65739
800.225.6343
Big-Cedar.com

BRANSON JETCENTER
130 Wright Brothers Road
Hollister, MO 65672
417.334.8234
417.336.0414
BransonJetCenter.com

M. GRAHAM CLARK DOWNTOWN AIRPORT (PLK)
491 Blue Sky Lane
Hollister, MO 65672
417.332.1847
FlyPLK.com

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CALLAWAY GARDENS OFFERS ANTIDOTE TO WINTER BLAHS

BY MICHELLE CARTER

After a winter of historic proportions, most of us are ready to embrace the first daffodil poking through the snow as evidence of spring. But if spring is what you long for, head south, head to Georgia, head to Callaway Gardens.

A brilliant array of 20,000 native and cultivated azalea plants awaits (and the Callaway Gardens website offers an evolving view of the state of the blossoms so you can plan your trip accordingly). But those celebrated azaleas are just the icing on the cake that the 2,500-acre garden offers in the way of a Weekender destination.

Fly into Harris County Airport (KPIM) in Pine Mountain, Ga., with its 5,000-foot runway and AvGas and Jet A fuel available. Callaway Gardens will send a shuttle (for a fee if you call ahead) and take you to Mountain Creek Inn where you can rent your own electric golf cart or bicycle to scout the garden trails, head to the beach at Robin Lake or schedule tee times at the two golf courses.

Callaway Gardens differs from the usual vacation destination in that it's a public, educational, horticultural and charitable trust, owned and operated by a nonprofit foundation. It was created in 1950 from the private retreat developed by Cason Callaway, a Georgia textiles magnate, and his wife Virginia Hand Callaway. A separate subsidiary runs the recreational, lodging and retail facilities, and those include condos (and hideaways such as the Mountain View Golf Cottage) as well as the inn.

Foodies flock to Callaway Gardens for an entire calendar full of special events such as the Spring Wine Tour, an afternoon of discovering new wines, which begins at the Callaway Discovery Center. A complimentary shuttle delivers guests to the other tasting sites, including the Horticultural Center, Butterfly Center and the Overlook Azalea Garden.

Memorial Day through Labor Day, 650-acre Robin Lake is not to be missed. Every kind of water sport from boating to tubing and waterskiing is offered (with instructors available to go out with you on your boat). But stretching out under an umbrella or in a private cabana on the white-sand beach may be just the ticket after that nasty winter.

As an added treat, Florida State University's Flying High Circus sets up tents by the lake, and you can test your circus smarts in a Trapeze Adventure. Or you can enjoy the Symphony on the Sand, which brings the Atlanta Symphony to Robin Lake to perform under the stars as a benefit for the Ida Cason Callaway Foundation.

One of the most delightful offerings of Callaway Gardens is geocaching, sort of treasure hunting on steroids. Grab your hand-held GPS when you leave your plane so the whole family can plug in cache-site coordinates. Read clues from the geocache site to find the exact treasure spot and then follow the instructions found there. You'll sign in on the logbook to record your find, and you may have to solve a puzzle or trade a small prize. The search will get you out on the trails to get a close-up look at the wonders of Callaway Gardens.

IF YOU GO…

CALLAWAY GARDENS
P.O. Box 2000
Pine Mountain GA 31822-2000
706.663.6881
CallawayGardens.com

HARRIS COUNTY AIRPORT (KPIM)
789 Skymeadow Drive
Pine Mountain GA 31822
706.663.2083
PineMountainAirport.com

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FLY THE BIG SKY TO THE NINE QUARTER CIRCLE RANCH

BY MICHELLE CARTER

In the backyard of Yellowstone National Park, about 90 minutes southwest of Bozeman, Mont., you'll find the well-maintained grass airstrip of Nine Quarter Circle Ranch, which has been welcoming guests for more than a century.

With that kind of history, you can understand why they're sticking with the logo of the number "9" rocking on a quarter-circle. But for half of that century, the Kelsey family — which now includes Kim, Kelly, Konnor, Kameron, Kyleen and Kowboy, the dog — have been the hosts. Perhaps it's time to replace the "9" with a capital "K."

The ranch, comprising several homesteads, was settled in the early 1900s. The Butler family from Chicago purchased the ranch and started the Nine Quarter Circle Ranch, which welcomed its first guests in 1912. Howard Kelsey purchased the ranch in 1945, and the Kelsey family has been inviting people into their home with western hospitality ever since.

The private strip, which is 4,000 feet long with border markers, appears on the Great Falls sectional. It's at 7,000-foot elevation, and one of the Kelsey sons flies his Cessna 172 in regularly. If your mountain flying skills are sharp, email Kim Kelsey at info@ninequartercircle.com for approach details. Otherwise, Bozeman Yellowstone International (BZN) or West Yellowstone (WYS), 40 miles east, are seriously civilized airports, and the ranch will pick you up.

The Lodge is the social center of the ranch where you'll gather around the natural stone fireplace and take your meals, but the cabins are your private refuge. They were built long ago from timber cut on the ranch, with genuine log construction outside and log or knotty pine paneling inside. They're comfortably furnished with handmade quilts and furniture also made on the ranch.

Your stay includes home-cooked meals served family-style. The ranch focuses on fresh, local ingredients with western flair and signals each meal with a clang of the dinner bell. Breakfast is family time or sit-where-you-like. Dinner is served earlier to the children so the adults can relax and enjoy happy hour before finding their own places at the table. (Childcare for children up to age 9 is one of the amazing, all-inclusive perks of Nine Quarter Circle.)

Working up an appetite for hearty meals is what brought you to the ranch in the first place, and horses are a big part of that. The Kelsey family raises and trains their 120 Appaloosas personally, so they know each horse's temperament and stamina in the mountains. You can expect two two-hour rides a day for all levels of riders and two all-day rides during the week for the intermediate to advanced.

For the anglers in your group, fly-fishing on a private trout pond on the ranch, nearby streams or the Gallatin, Madison and Yellowstone Rivers awaits. The ranch's fly-fishing guide will offer fly-casting lessons at the pond for the newbies.

Nine Quarter Circle Ranch is open mid-June through mid-September, and the minimum stay is three nights. And the Kelseys prefer that you plan your trip within a Monday-to-Sunday window.

IF YOU GO…

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info@ninequartercircle.com

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