# The Worldwide General Aviation & Business Aviation Markets

## Owner/Operators and Chief Pilots of These Aircraft All Receive Twin & Turbine Every Month

### Turbo Props

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The advertising solution for general aviation operators.

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FEATURES

4 Editorial
Nothing Else Will Do It
– LeRoy Cook

6 The Great M2 Migration Of 2014
On Tour With A New Citation M2

14 NBAA 2014 Wrapup
Record Crowd In Orlando

20 We Almost Missed
Missing An Approach To A Better Place
– Kevin Ware

From The Flight Deck

26 Clouds in My Coffee
– Kevin Dingman

Twin Proficiency

30 Single Pilot Safety Standdown
The Window
– Thomas Turner

33 NBAA Focus

40 En Route:
Sierra Plans AeroVue For Sapphire Upgrade
FAA “Climb Via” Clearance
Pacific Coast Avionics Upgrades King Air B200 Panel
Centex Aerospace Installs King Air 350 Saddle Tanks
TBM Owner Pilots Association 2014 Convention

46 Advertising Index

48 On Final
Perfections
– David Miller

Contents
Nothing Else

Every so often, I, and probably you as well, get asked the question: “Why Do You Fly?”. While there can be varied and convoluted answers, it really boils down to “nothing else can do what it does.” When it comes to a business tool, only our company airplane can bring us home on an early schedule of our choosing, following a wrapped-up deal. Or, conversely, allow us to stay over a few more hours to wrap up the deal. Our plane leaves when we do.

As a personal indulgence, our aircraft often makes memories that are worth much more than the cost. I have done birthdays and anniversaries and games and, yes, funerals, that were more easily accomplished because my airplane let me be there, on my schedule. Life experiences can’t be replaced, so I’ve learned not to miss the opportunity. Just having an airplane at our disposal is a tool to create these experiences.

But sometimes it’s just about the journey. I have often flown without a specific destination, when I just needed the uplift. Seeing the world from altitude both humbles us and recharges the soul. As the landscape spreads out before us, we realize our puny earthbound accomplishments count for very little, in the grand scheme of things. Seen from above, my holdings disappear into the matrix, as do those of my neighbors. How refreshing it is to just bore a hole in the air, feeling the feedback of the controls and carving a path around a cloud.

And so, our answer of “Nothing Else Can Do What It Does” may be reason enough to fly, if we need a reason at all. Do not apologize for having a company plane waiting to take you on a vital trip, any more than you would apologize for the standby generators in the plant or replacement of the building’s roof when it isn’t leaking, yet. When the airplane’s needed, it’s worth every bit of the capital investment. In business, you have to be ready at all times.

The National Business Aviation Association and General Aviation Manufacturers Association have long collaborated on stressing “No Plane, No Gain”, citing evidence that companies employing business aircraft are more successful. It’s not that firms doing well can better afford to buy a company plane. Studies have shown that the most growth occurred AFTER the airplane was put into service. Business aircraft, properly sized and used, are just one more way to go out in search of new business and to retain current clients through improved support.

On the other hand, my personal airplanes are an indulgence, but one I’ve never regretted. I like the option they present, such as turning a hazardous five-hour drive into a relaxing, routine hour-and-a-half flight. Having them in the hangar means I can choose how I travel, just as when I leave the car in the driveway and ride the motorcycle. Nothing else will take the place of flying in our lives.
Every true adventure begins in the imagination. Picture this: you love to see the world, experience different cultures, have your mind changed by new ways of seeing things. Africa, the home of great lions, graceful giraffes and elusive leopards, has irresistible appeal. You haven’t even imagined yet that a hippo will be bathing in the river outside your colonial tent while you rest after a day of safari. And you see yourself wandering the through the ghostly city of Prague, with the imprint of centuries of change in Europe, and you want to do it all in style.

The real promise of travel is the gift of faith that it bestows, faith in the unknown; after all, you do have the keys to a brand-new Citation M2, purchased in March 2014, and 2,000 jet-flying hours. Our pilot had previously flown a Citation Mustang with the Garmin G1000-based cockpit. His earlier-acquired G525 type rating needed only some differences training to reactivate, bringing him up to speed on the M2’s G3000 touch-screen suite.

Our adventurer had made similar trips to Europe and South America, with his steadfast girlfriend, co-owner, companion and co-pilot, shared with friends who came along for various legs of the journey. Thus, the enterprising pair set out in May, for a series of remarkable self-guided travels over the next four months. Three separate itineraries were developed, with interspersed multi-week breaks so they could airlie home for business. In all, 72 hours of Citation M2 flying was accomplished during 10 weeks of dedicated travel, a great way to learn the airplane’s newly-found capabilities.
A fortnight later, the odyssey resumed with a well-planned African sortie, accompanied by two friends. The initial outbound was a 100-minute hop to Prague, leading them to stops in Aqaba, Djibouti and on to Nairobi, Kenya. Radio communications provided some good entertainment for the pilots during the early stages of the Africa leg. Thick Arabic accents and dialects often had the two airmen asking each other, 'Did you get that?' There were several ominous long silences from ATC, leading up to forward to seeing them both. During the dark African night there was rustling of bush alongside our tents as lions passed close by! The daily game drives were always exciting with knowledgeable safari guides taking us with a few yards of adult elephants with their young, viewing beautiful cheetahs and lions. A spectacular hot-air balloon flight in the early dawn hours had us gliding silently over the Mara Plains, providing a grand view of herding game from above. The African sunsets were spectacular. We had a grand time, and all of us agreed to return soon.

“Cape Town: What a beautiful cosmopolitan city, surrounded by dramatic scenery and magnificent ‘Table Mountain’. It’s all about food, fashion, and beautiful people. A short drive took us to several great vineyards where one gapes at the surrounding vistas and dines in ultimate style. Another highlight lay in store with a helicopter tour...
of the city, flying over the dramatic countryside to circumnavigate the Cape of Good Hope from above. We enjoyed several days together exploring magnificent Cape Town.”

After the return stop in Djibouti, and Luxor, Egypt, the route led across the Mediterranean Sea to Mykonos, Greece. After a stop in Bologna, Italy, it was time to return the M2 to temporary storage in London for another work break. Upon returning to London, the M2 was taken to St. Petersburg, Russia, then to Stockholm, Sweden, Oslo, Bergen and Molde in Norway. From there, it was time to recross the North Atlantic to Keflavik, Iceland, with a stop at Akureyi on Iceland’s north coast. After crossing to Greenland to land in the fjord at Narsarsuaq, the travelers flew up Greenland’s west coast to Nunk and Ilulissat. Stockholm was such
a great city to visit that it will become their “go to” stop in the future. And with friends in Iceland and Greenland, they were able to experience volcanos in Iceland and glaciers in Greenland. Stunning sites in both countries. Then it was time to head back to North America, landing at Goose Bay and reentering the U.S. at Brunswick, Maine. A side trip to Newport was made before returning to Sanford, Florida in early September. What an Odyssey!

The M2

From a certification standpoint, the Citation M2 is a Cessna 525, the same model designation that was used back in 1993 with the original CitationJet, later becoming the CJ1 and CJ1+. With the appearance of the CJ2 and CJ3 and the Mustang light jet, there began to be little marketing justification for the smallest CJ, and it was phased out the line.

However, it soon became evident that a gap existed between the entry-level Mustang and the CJ2. The CJ1 would be too expensive to build in its original form, but with some pricing concessions the 525 airframe could be revived as a step-up from the Mustang, to be called the M2. What was changed? For starters, the Collins ProLine 21 flight deck was exchanged for a Garmin G3000 suite, which involved much more than just a different supplier. The CJ1’s ProLine gear was remotely located in the nose bay, while the G3000 hardware goes mostly in the cockpit; this caused a rearward shift in C.G., so a slight ballast may be required up front when flown by a single pilot. With normal loads, there’s no need for ballast if some baggage is loaded in the nose. A nose-mounted auxiliary battery was made available to power up the M2’s avionics before starting.

The M-2’s Williams FJ44-1AP-21 engines are rated the same as the CJ1’s FJ44-1AP, but FADEC enhancements boost thrust at altitude by 10%, and the overhaul cycle of 4,000 hours was a 500-hour increase from the previous engine, to eventually be raised to 5,000 hours. No thrust attenuators were needed for ground operations.

Externally, the M2’s major visual distinction from the CJ1 is the addition of a set of small winglets; the engine pylons were also reclocked. These, along with more usable thrust, boosted max cruise speed to 405+ knots and brought maximum range up to 1,400 NM. As with the earlier CJs, bleed air windshield heat remained, supplemented by an alcohol spray bar for the left side, and the hot wing was retained, with pneumatic boots on the horizontal stabilizer.

An aft lav, with solid doors, is an option for the M2, with a belted seat. New LED lighting is used in the M2 cabin, along with the optional Clairity wireless entertainment system. Up front, the center pedestal is slimmer, compared to the CJ, and the instrument panel was slightly tilted.

Overall, the Citation M2 represents a good value and a good step-up choice for Mustang owners seeking more of everything. Embraer’s Phenom 100 was the obvious reason Cessna chose to offer a gap-filler model in the Citation line. The M2 has become an excellent option for the owner/pilot looking for a light jet upgrade.

Recap

The owner of the spanking-new Citation M2 had done his homework and had employed the resources of Air Journey’s trip-planning department, which he calls his “Guardian Angel”.

The Rocket Route flight planning website is an excellent help in Europe, he told us. His best resources, however, were a long list of friends and business contacts from previous travels, always available to lend a hand in their locale. American Express’ travel agency does a great job of finding accommodations in Europe, he said. He also reported that the Honeywell AeroWave internet service on board the M2 worked well, at a reasonable cost.

With prior experience and planning, and with the capability of the new Citation M2, a multi-continent excursion is possible and practical.
Continuing on a recent string of highly successful Business Aviation Conventions and Exhibitions, the National Business Aviation Association’s 2014 show in Orlando, Florida’s Orange County Convention Center was another blockbuster. Over 100 aircraft were stuffed into static displays on the Showalter Flying Service ramp at Orlando Executive airport and inside the convention center itself. The exhibitor count of 1,100 firms held steady with the pace of the latest record-setting shows, as did the total of 26,000 registered attendees from 95 countries worldwide.

The mood at NBAA 2014 was upbeat and hopeful, all signs point to continued growth in business flying activity, with new products announced to take advantage of this optimism. Gulfstream Aerospace surprised most of the crowd by unveiling planned G500 and G600 models, positioned just above the G450 and G550, incorporating a larger fuselage cross-section that will be slightly smaller than the G650’s. Among the many innovations of the G500/G600 are active fly-by-wire sidestick flight controls instead of control yokes, designed to move in unison whether either pilot or the AFCS is flying the aircraft. The new airplanes will be powered by Pratt & Whitney PW800-series engines, the first time Gulfstream has not used Rolls Royce powerplants on its larger products.

G500/G600 range at Mach .85 is projected to be 5,000 and 6,200 n.m.i., respectively. The already-taxiing G500 is slated to fly in 2015 and the G600 will follow in 2017. A longer-range Gulfstream G650ER was certificated at show time, bringing the G650’s capability up to 7,500 n.m.i.

At show time, Dassault was preparing to roll out its 8X long-range business jet, solidifying its lineup of new-technology aircraft, with first flight scheduled for Q1 2015. With a cabin 3.5 feet longer than the 7X, the 8X will offer added range and comfort. Dassault’s twin-engine, wide-cabin 5X continues in ground test, aimed at a first flight in Q2 2015. Meanwhile, perennial supersonic bizjet hopeful Aerion announced a partnership with Airbus to help develop its Mach 1.6 AS2 SSBJ.

Embraer’s Legacy 500 has secured FAA certification in reciprocal fashion, after Brazil’s ANAC approved the Legacy 500 two months earlier. Also in the lineup at its large-cabin Citation Latitude to the static display, and Textron also showed the Beechcraft King Airs 350i, 250 and C90Gtx. The C90Gtx now features standard-equipment Raisbeck aft-body strakes and swept-blade Hartzell 96-inch propellers. These have reduced max-gross takeoff distance by 591 feet, to 1,984 feet. The King Air 250 can now be ordered with CenTex Aerospace’s Halo 250 conversion factory installed, permitted it to be operated with a maximum takeoff weight of 13,420 pounds (a type-rating is required), boosting useful load by 870 pounds. BLR Aerospace reportedly worked with Textron/Beechcraft on the increased gross-weight option.

Embraer’s Legacy 500 has secured FAA certification in reciprocal fashion, after Brazil’s ANAC approved the Legacy 500 two months earlier. Also in the lineup at
the full-line Embraer static display was the prototype Legacy 450, 3.5 feet shorter than the 500; the 450’s certification is expected in Q3 2015.

Bombardier made the first public showing of its new Learjet 85, bringing the flight test airplane down to Orlando from Wichita in two hours and 23 minutes. Bombardier also announced plans to evolve the Challenger 605 into an upgraded Challenger 650, a move similar to the 305/350 evolution.

HondaJet is closing in on certification of its HA-420 light jet, having just finished a sales tour with the serial #11 production aircraft. At NBAA time, the order total was quoted as “over 100” and production of 50 aircraft is predicted during the first year of deliveries.

In new flight-deck products, Universal Avionics unveiled its new InSight integrated avionics suite at the show, a fully-capable system that brings the company into the ranks of complete Part 25 business jet cockpits. Innovators of the first FMS for business jets, Universal worked to create a flight deck that could use input from many existing boxes, keeping the cost down and saving much re-certification effort for owners. A three-display system is priced at $250,000 and a four-tube setup is $375,000. Display size is 10.4 inches.

Business Sessions

At NBAA 2014’s Opening Session, Chris Hart, acting chairman (and presumptive next head) of the National Transportation
Safety Board, decried the loss of professionalism seen in some recent high-profile aviation accidents, stemming from over-reliance on automation to keep the flight safe. Following Hart, Enterprise Holdings chairman Andrew Taylor related his car-rental company’s growth with the aid of business airplanes, from $70 million in revenue 35 years ago to $18 billion today.

The Al Ueltschi Humanitarian Award was presented to International Jet Aviation Services and Make-A-Wish Foundation. Denver-based International Jet uses a brightly-painted Learjet 35A, called the “Dream Chaser”, to fulfill travel requests for seriously-ill children selected by Make-A-Wish. This year’s Dream Chaser is the fourth Learjet IJA has temporarily painted in fanciful candy colors, each supporting Make-A-Wish with special flights that began in 1990.

The second-day General Session saw unvarying “pilot’s pilot” favorite R.A. “Bob” Hoover honored with NBAA’s Meritorious Service Award for providing a lifetime of inspiration to his fellow aviators. Accompanied by his friend Sean D. Tucker, the still-sharp nonagenarian reminisced at length about working with Charles Lindbergh and Roscoe Turner, he was slated to receive the Wright Brothers Award in December.

This being an election year, the General Session also featured political power couple Mary Matalin and James Carville, who each gave their opposing views of the Washington, D.C. landscape and the possibilities for change at the looming mid-term election.

For 2015, NBAA’s exposition returns to Las Vegas, Nevada, scheduled for later-in-the-year dates of November 17-19. The world of business aviation will be gathering for the biggest dedicated show and information-sharing event of its kind. We’ll see you there.
We Almost Missed
by Kevin Ware

I n a Lear 40, it’s a very short 28 minute, 177 nm-mile trip from Skagit Regional (BVS), just north of Seattle, to Hillsboro Airport (HIO), west of Portland. As we pass over the volcano-flattened mountainous region of Saint Helens and start our descent, Jeff H (the pilot flying) and I find ourselves wishing we could delay arrival by another hour or so.

Although VFR conditions were predicted for our arrival when we planned the flight, we are now just six minutes from the Initial Approach Point (IAP) and IHO is reporting fog, ceiling variable 100–200 feet and visibility varying between 1/4 and ½ mile. But, the weather otherwise is pretty decent, with tops at 1,500 feet and calm winds. In addition, HIO has a good (200 and ½) ILS approach to runway 13, with the surrounding terrain relatively flat. The missed approach procedure is also quite simple, a climbing right turn back to the VOR for a hold, where we could reconsider our options. Unfortunately, no other aircraft have tried the approach this morning, so we are going to be the brave guinea pigs.

After a long respite of fairly good weather, this is my second approach to a minimums in two days, including one yesterday into Juneau, Alaska with Jeff H. The experience makes me again appreciate the effect local topography can have on flying weather, sometimes good, sometimes bad. A basic understanding of how this can affect the region you are operating in, plus knowledge of the services available at nearby airports, can make the approach procedure itself much more relaxed, and the missed approach option much easier to decide upon. It can also influence the passengers’ experience, either frightful or comforting and reassuring.

HIO is located in a valley on the western side of the Cascade Mountains, at the confluence of the Columbia and Willamette rivers. In the fall, as surface temperatures drop, the temperature/dew point spread closes, and fog can blanket the entire area for days at a time. A key to understanding what the HIO missed-approach options might be is the fog-producing conditions rarely move eastward up the Columbia River gorge more than 30–40 miles. The reason for this is the pressure is usually higher on the eastern side of the Cascades, the mountains themselves act as a barrier, and the gorge itself is so narrow that moisture-bearing winds have trouble squeezing through. For all these reasons, the Duls (DULS), just 75 nm east of HIO, almost always has sunny and bright conditions when the entire Portland area is fogged in.

In addition to topography, another item to consider during a low-minimums approach is what the passengers are going to think about the experience, and your abilities as a pilot, after it is all over. For most passengers, a missed approach is just a plain frightful event. At one moment, they are calmly expecting to land, then the airplane abruptly pitches up, engines strain and roar, acceleration pushes them back in their seats, half-finished coffee cups spill their dregs, the ground or trees flash by their side window at what they will later describe as “inches away”, loud clunking sounds and worrisome whines occur as the gear and flaps come up, and they may see the pilots moving their hands over the levers and dials in (what they imagine to be) a desperate fashion. Many assume that when pilots say “we missed”, they really mean that everyone narrowly “missed” a gruesome death.

A Better Place To Be

Given these emotions in the back of the airplane, it is very useful to know that DLS (just 12 minutes away) is out in the sun and has a nice airport restaurant with picnic tables on the lawn, right in front of which you can park your airplane… serving really good pie made from local apples. Given the choice, nearly all passengers will opt for hobnobbing with the pilots while they eat apple pie in a sunny location, waiting for conditions to improve, rather than sit through another death-defying “missed”. Pilots who promptly go back for another try at the approach (particularly if there is a second miss) will probably be considered overly-zealous lunatics who are not to be trusted. Pilots who instead fly to the sunny airport with great apple pie are considered aviation geniuses, mature, wise and safe.

Similar to HIO, Juneau, Alaska (JNU) has a unique set of weather problems caused by its location. In the fall and winter, as the sun moves back closer to the equator, a low pressure system forms over the Gulf of Alaska, rotating in a counter-clockwise fashion. This tends to push moist, cold air from the Gulf eastward, and the first eastbound break it gets along the coastal Brahason Range is the entrance at Cape Spencer to Cross Sound. Unlike the narrow Columbia Gorge, this wide break in the mountainous shoreline allows moisture-laden clouds to pour eastward past Glacier Bay through to Icy Strait, where they get “held up” again by the Cordillera Range and the Taku Glacier. Juneau happens to be located right at the terminus where all this occurs, and, as a result, frequently has unpredictably fiendish weather.

To make matters worse, even though Juneau is the state capital, it does not have an ILS approach, for a variety of technical reasons. In addition, the airport lies at the entrance to a fjord with high mountains to the east, and runway 8 is ten degrees offset. Given the choice, nearly all passengers will opt for hoboing with the pilots while they eat apple pie in a sunny location, waiting for conditions to improve, rather than sit through another death-defying “missed”. Pilots who promptly go back for another try at the approach can be used, which has a 1,200 foot MDA at the Missed Approach Point (MAP), the Cochlan Island beacon, located 3.2 miles from the runway. Effectively, the lowest IFR approach possible at JNU requires VFR conditions. The missed approach procedure is an immediate climbing, steep 160° degree turn to the right, then back over the water to the Sisters Island (SSR) VORTAC via the 027 radial. From SSR you can hold, try it again, or be more sensible and just go to Sitka (SIT).

Similar to the situation at DLS, the weather at SIT, just 95 nm to the south, is usually much better than anywhere else in the vicinity. This is because Sitka lies right on the Gulf of Alaska, and the weather systems that get all bottled up in the Juneau area usually just blow on by. In addition, from a passenger perspective, SIT has a nice airport restaurant, with windows that face the runway and a picturesque harbor where fishing boats and cruise ships can be seen moving about. It serves fresh halibut, locally-caught halibut and chips, plus (for the pax) Alaska Amber Ale. Now, it’s only pilots of extraordinary dedication to their art who carry the latter kind of detailed missed-approach information around in their head.

Down To Misses

Back in the Lear 40, with Saint Helens behind us, Jeff and I are quickly closing in on HIO. Two minutes from the IAF, the tower controller announces the biertsweet news that he can’t see the ground for fog in the cab, but the equipment is reporting 200 and ½. We continue on and intercept the ILS to 13. Just inside the IAF, our helpful, “lost in the fog” tower controller says the visibility is now 1/4 mile and ½ with ceiling 100 – 200. But, since we’ve already begun the approach system, the “missed” criteria can be used, which has a 1,200 foot MDA at the Missed Approach Point (MAP), the Cochlan Island beacon, located 3.2 miles from the runway. Effectively, the lowest IFR approach possible at JNU requires VFR conditions. The missed approach procedure is an immediate climbing, steep 160° degree turn to the right, then back over the water to the Sisters Island (SSR) VORTAC via the 027 radial. From SSR you can hold, try it again, or be more sensible and just go to Sitka (SIT).
go through 1,000 feet and lose sight of the sun above us. At 500 to go, we are surrounded by a curtain of light gray. At 400, 300, 200 and 100 feet to go, the gray just gets darker and even the nose of the airplane just four feet away gets hard to see. I think, this is not looking too good… it is probably going to be an ‘apple pie’ type of morning.

Leaving 100 feet, I start calling out altitude-to-go in 20-foot increments, "80, 60, 40, 20...". At 20’ I can see Jeff’s thumb on the left throttle move over the go-around button… I was looking for that and it clearly confirms we are thinking the same thing. Then, just as I get ready to say ‘minimums, no contact’, a strobe light pops into view at 12:30. I change my words to ‘strobes in sight’, and then see the first 300 feet or so of the runway come into view with a big 13 written on it. Jeff looks up, clicks off the autopilot and five seconds later we land at a very wet, cold and foggy airport. No apple pie and warm sunny picnic benches today. We almost missed
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Clouds in My Coffee

None of us get to where we are by avoiding hard work or tough decisions. But, when contemplating choices with potentially life-altering consequences, often times it’s rejuvenating to set aside the daily grind and embrace the visceral. My hangar office is just about finished; one of last year’s resolutions. Now I find myself at my desk, feet up with a cup of coffee, staring at the Duke, when, according to the calendar (and the IRS), I’m supposed to be writing, not staring. If my articles are a bit late to the editor, it’s the Duke’s fault. But, sometimes, writing can be like trying to get the last glob of toothpaste squeezed from the tube. After staring at the Duke, I often find a full tube is right there for the squeezing. Stepping back from the issue to get a fresh perspective can be revealing.

Perhaps a resolution to the question of whether to fly, or not to fly, is simple. We do things to elicit or avoid sensations: fear, joy, pain, exhaustion, discomfort, excitement, relaxation, gratification, love and hate. Why did we get into flying in the first place? And are those reasons still valid, or have they been replaced by new or better reasons? For many, it’s the emotions and the sensations of flying an airplane—particularly the gratification of completing complex tasks that combine mental and physical abilities, having control and the sights and the freedom. It’s also sharing these emotions with other pilots, family and sometimes even normal, wingless earthlings.

Altered States

One of the most enjoyable contrasts, and perhaps another of the main reasons we fly, is our ability to alter the environment by choosing a destination that has a climate that we want. This can be either tropical or arctic. Some want to play in the sun and sand; others want snow; some want solitude and some want a crowd. Some want friends, and some want relatives—a condition that is occasionally mutually exclusive. All are rewarding possibilities and provide a change in scenery. Pilots are blessed to see many things that non-pilots and most passengers do not: the view out the front window. While in flight we may see majestic panoramas or massive weather formations. We have seen countless sunrises and sunsets from, arguably, the best seat in the house. We witness drastic changes in climate—for better and for worse, and geographic features only visible from the air. In the U.S. alone there is Mt. Rushmore, the Grand Canyon, Niagara Falls, the Barringer meteor crater and views of major cities, oceans, lakes and the heavens.

UFO’s

Technically, we have all seen them, on just about every flight in fact. Airplanes from a distance are unrecognized at first; birds, party balloons, even what we assume are meteors, could just as easily be space debris in the final stage of a decaying orbit. Until recognized, they’re all UFOs. Have I seen any? I can’t tell you how many times I’ve been asked the question by non-pilots–usually airline passengers, hundreds I suppose. I answer no, of course, because they mean have I seen the flying-saucer kind. I’m pretty sure I wouldn’t admit to it even if I had…. until I’m retired anyway. Venus was the only UFO we had the kahonas to ask Center to identify. Yes, Venus the planet. It was really bright and the colors were fluctuating, so give me a break. I know better now. And to prevent you from having the same embarrassment, Venus is very bright and when near the horizon, its color changes from white to blue to green and then red. It looks very much like the navigation lights and strobes of an airplane. I know from experience that ATC can’t see it on radar, so don’t ask. It probably won’t even show up with the newfangled ADS-B.

From The Flight Deck

Kevin R. Dingman

Clouds in My Coffee

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January 2015
When considering a suite of ADS-B compliant avionics, new de-ice boots, a prop overhaul and some engine work, the Duke could easily absorb a year of my salary in upkeep and new stuff. So, I'll lean into the wind, start picking off the stars in the night one at a time and keep flying; it's an expensive resolution but what else can I do, sell the Duke? Not this year.

I'm not ready to stop seeing new things from the air or looking at the Duke through my office window. Perhaps the emotions of aviation give us the equivalent mental sensation as that of a tailwind, even when life presents us with headwinds. I'll stare a bit longer to convince myself the hypothesis is true. If you resolve to give up looking out the window of your airplane, find another window first because looking out the window is important. Other than a good fire, it may be the only thing that really is.
L

ast month I described the first presentation made in the National Business Aircraft Association’s 2014 Single-Pilot Safety Stand-down, held in October. That first session focused on single-pilot resource management. Additional sessions, one on loss of control and upset/emergency maneuver training by Paul “Bl” Ransbury of Aviation Performance Solutions, another by Dr. Scott Shappell of Embry Riddle Aeronautical University on spatial disorientation, were excellent reviews of these important topics. This month, however, I’ll focus on a particularly interesting presentation: “Airframe Icing: Filling in the Details,” by Scott Dennstaedt.

Scott Dennstaedt is an FAA-certified instrument flight instructor and former National Weather Service research meteorologist. He specializes in teaching pilots how to minimize their exposure to adverse weather. In the last 15 years, Scott has authored over 100 articles published in various aviation magazines. He is now employed by ForeFlight LLC as its weather scientist—published in various aviation magazines. He is now employed by Foreflight LLC as its weather scientist—employed by ForeFlight LLC as its weather scientist—employed by ForeFlight LLC as its weather scientist—employed by ForeFlight LLC as its weather scientist—employed by ForeFlight LLC as its weather scientist—employed by ForeFlight LLC as its weather scientist—employed by ForeFlight LLC as its weather scientist. Scott is the author of the book “The Science of Airframe ICing,” published in various aviation magazines.

The presentation focused primarily on operating aircraft certificated for flight in icing conditions...the so-called FIKI, or Flight Into Known Icing, aircraft certification. Scott asked a question: “How many feel that your primary training did not adequately prepare you from an icing perspective?”

The classroom participants, packed primarily with business pilots of light turbines and piston twins, unanimously agreed that primary training does basically nothing to prepare a pilot for ice flying. Addressing the ice-certificated crowd, Scott noted that: “We’re taught how to plan a flight to avoid ice, not plan a flight through ice.”

Is gaining icing experience the answer? Just get out and fly more often, that’s all you need to do, right? Well, no. Scott agrees with the conclusions of the National Transportation Safety Board’s report Risk Factors Associated with Weather-Related General Aviation Accidents (September 2005). On page 38 of that report the NTSB states:

• It appears that pilots generally require formal training to obtain weather knowledge, and cannot be expected to acquire it on their own as they simply gain more flight experience.
• “There are no ‘great’ rules of thumb with respect to airframe ice,” Scott reports. “You need to understand the science behind airframe ice.”
• Airframe ice is directly related to how supercooled liquid water is realized in the atmosphere.
• In a pure vapor environment (no condensation nuclei), condensation won’t occur until the relative humidity exceeds 100%.
• Condensation occurs when adequate volumes of cloud condensation nuclei, or CCN (“dirt”) exist.

As relative humidity increases CCN become “wetted” and visilibility becomes obstructed.

A relatively clean environment (fewer CCN) will typically increase the drop size.

Larger drops represent a greater icing hazard.

Where are the clean environments? Over large bodies of water, over snow covered ground, in clouds above temperature inversions, near the tops of clouds.

“Cloud top temperatures warmer than -12°C means the cloud is likely dominated by supercooled liquid water.”

“The only way to guarantee there will be no ice [above the freezing level] is to fly at colder than 40°C below zero,” Scott advises.

Supercooled Liquid Droplets

Even airplanes certificated for flight into icing conditions (so-called “FIKI” approval) are not approved nor permitted to operate in Supercooled Liquid Droplet (SLD) conditions.

SLD Conditions: An environment containing drops with a median volumetric diameter (MVD) greater than 50 microns.

1,000 microns = 1 millimeter
50 microns = Half the width of a human hair

If you can see water droplets or distinguish drops in the mist on the windscreen or leading edges before takeoff, or as you fly through clouds or precipitation, it’s SLD conditions. Flight Into Icing Conditions approval is not valid in such an environment; FIKI equipment will not protect you. The worst SLD condition is freezing rain. In freezing rain, the rate of ice accumulation is so great that no amount of ice protection equipment is going to prevent the dangerous build-up of aerodynamics-destroying ice in very short order.

We’re taught the almost universal presentation that conditions resulting in freezing rain involves a shallow band of freezing air near the surface, perhaps only a few hundred feet thick, over which lies a band of warm air, with above-freezing temperatures. Far higher, a second freezing layer marks the boundary above which the air is below freezing again. The freezing rain model we all learn goes like this: Snow forms in the cold air at altitude. As snow falls through the above-freezing layer of air it melts, with water droplets coalescing into larger, supercooled raindrops. These large raindrops, upon striking surfaces chilled to below freezing by the cold air near the surface, flash-freeze onto those surfaces. This creates a thick and irregular coat of clear ice—freezing rain.

Using this model for the formation of freezing rain, one in which above-freezing air is just above the surface, suggests pilots may employ these common avoidance and escape tactics for flight in areas of freezing rain:

If freezing rain is reported at or near the surface, cross the area a few thousand feet above the height of the freezing rain and you’ll remain in ice-free, albeit potentially wet air.

If at any time you encounter freezing rain conditions, climb. Above-freezing air is just a few hundred feet above you.

The trouble is that, meteorologist and commercial pilot Scott Dennstaedt warns, this set of conditions is what’s happening in only 8% of all freezing rain events. In 92% of all freezing rain events, Scott tells us, below-freezing
temperatures exist from the surface, with no warm band of above-freezing air above the lowest layer. Instead, this is how freezing rain usually forms. Above a boundary defined roughly by the height where the temperature is at -12°C, small supercooled water droplets (SLD) are suspended in the atmosphere. These droplets collide with one another and fall into the lower levels, where the temperature is still below freezing, but closer to the freezing point. In this environment, larger supercooled droplets can form without themselves freezing. These large supercooled raindrops, upon striking surfaces chilled to below freezing by the cold air near the surface, flash-freeze onto those surfaces. This creates a thick and irregular coat of clear ice—freezing rain.

Scott tells us, in 92% of all instances when freezing rain occurs. Since there is no band of above-freezing air overlaying the freezing rain, flying at a higher altitude still exposes the airplane to SLD conditions—for which no aircraft is certificated. And trying to escape by climbing out of freezing rain conditions, hoping to melt off the ice accumulation, would only result in adding additional ice to the airframe.

The only workable strategy when freezing rain is reported, Scott tells us, is to avoid flight in clouds or precipitation anywhere near or above the freezing rain unless the outside air temperature is colder than -40°C. This applies to Known Ice airplanes as well as those not certificated to be equipped for flight in icing conditions.

Many Twin & Turbine readers may never have been exposed to information such as was presented at the NBAA’s Single-Pilot Safety Stand-Down. Yet, it’s this level of pilot education that makes the difference between the superb safety record of airlines and professionally crewed corporate aircraft, and the much less desirable accident history of business and personal IFR flying. IFR flying is a profession whether you pursue it as your livelihood or not. It takes significant continuing educational investment of time and, yes, money, to enjoy the benefits of personal aviation at an acceptable level of risk.

By the time the business aviation community came together in Orlando last October for NBAA2014, signs of a stepped-up level of optimism were visible everywhere, most notably in the wide array of new products and services on display.

For example, at the start of 2014, we were contending in Washington with a controversial proposal from the FAA – introduced at the close of the previous year – that the agency planned to begin mandating that all pilots with a body mass index of 40 or greater be screened for obstructive sleep apnea before receiving a medical certificate. Outside Washington, it appeared that the economy might be gaining some long-awaited traction, although that outcome wasn’t yet certain.

Today, at the beginning of 2015, I believe our industry is stronger now than at any time since 2007. Demand for business aircraft continues to increase across the board. Fuel sales are also on the rise, flight activity is holding steady, the inventory of used aircraft is declining, and prices for previously owned aircraft are stabilizing.

However, that does not mean we won’t continue to face significant challenges. A variety of issues, from the coming FAA reauthorization debate (which could prompt renewed proposals for user fees, and efforts to privatize the ATC system), to onerous tax legislation, and even new “pop up” challenges like the one we saw with the FAA’s sleep apnea proposal, could all potentially affect the industry’s future.

So, as we look to 2015, it is clear to me that policy outcomes for business aviation will fare, at least in part, on how galvanized our community can continue to be when faced with political challenges.

Of course, we at NBAA will continue to work with federal officials every day, reminding legislators and regulators of the value of business aviation. However, continued vigilance will be required, and there may be times when everyone in the industry will need to mobilize in order to impact legislative and regulatory outcomes. When such moments arrive, I know we can count on the business aviation community to make its voice heard.
NBAA Applauds House Vote to Renew Accelerated Depreciation on Business Assets, Including Aircraft

If your plans for the upcoming year include the purchase of a new aircraft for business use, NBAA has good news for you. Just last month, Congress once again demonstrated its strong support for business aviation by voting to extend several expiring tax provisions, including accelerated depreciation, for one year.

"NBAA applauds this action by the House to renew bonus depreciation and other tax incentives that encourage businesses to upgrade equipment and invest in assets such as aircraft," said NBAA President and CEO Ed Bolen.

Bonus depreciation expired at the end of 2013, but NBAA and a broad coalition of industry groups have backed efforts in Congress to renew it retroactively as part of a package of tax "extenders."

"Bonus depreciation strengthens our economy in two essential ways," Bolen explained. "It gives our nation's businesses immediate access to the most advanced equipment, including aircraft, making them more competitive, and it preserves jobs in America's vital aircraft-manufacturing industry."

For qualified property, accelerated depreciation allows businesses to take a first-year deduction equal to 50 percent of an asset's cost basis. After the first year, the asset is depreciated according to the Modified Accelerated Cost Recovery System.

The House-passed bill also would renew increased limitations for Section 179 expensing. The provision allows businesses to expense, rather than depreciate, certain assets (such as aircraft parts) with a value up to $500,000.

The House of Representatives and the Senate have been working toward agreement on a tax extender bill for most of this year. In April, the Senate Finance Committee approved a plan to renew several tax extenders for two years.

At the time of this writing, the House of Representatives and Senate plans were to be reconciled before a final bill was sent to the president for his signature.

NBAA REGIONAL FORUMS
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www.nbaa.org/forums/twinandturbine
NBAA Continues Work with NTSB
On Behalf of Business Aviation Community

For years, NBAA has represented the business aviation community in working collaboratively with the National Transportation Safety Board (NTSB) to help enhance aviation safety. That tradition continued on Dec. 3, when an NBAA delegation spent several hours at NTSB’s headquarters in Washington, DC.

Some 20 representatives from the Association toured NTSB’s upgraded facilities, including NBAA President and CEO Ed Bolen; Doug Carr, NBAA’s vice president of regulatory and international affairs; Mark Larsen, NBAA’s senior manager of safety and flight operations; and members of NBAA’s Board of Directors and Associate Member Advisory Council.

NBAA representatives toured the NTSB’s cockpit voice recorder labs, as well as the board’s facilities tasked with repairing electronic equipment, researching materials from accident scenes, and creating post-accident event sequence animations.

Larsen noted that during his meetings with NTSB officials, the safety board indicated it is clearly interested in continuing the focus it has had in recent years on better understanding the operational concerns of NBAA Members and other general aviation operators — including owner-operators — in order to improve safety.

In addition to the work that the NTSB does with the Association’s professional staff, the safety board also routinely provides input to NBAA’s Safety Committee when the committee develops its annual list of the Top Safety Focus areas for business aircraft operators.

“NBAA maintains regular communication with NTSB members and staff, and the crux of those conversations involve finding common ground and working together on all aspects affecting the safety of our Members,” Larsen explained.

Personnel from NTSB also participate frequently in NBAA meetings. Most recently, NTSB’s Acting Chairman Chris Hart delivered the keynote address at the 2014 NBAA Business Aviation Convention & Exhibition (NBAA2014) in Orlando, FL.

NTSB staff will also participate in the NBAA Safety Committee’s annual risk-assessment meeting in January.

FAA Clarifies Policy That Fuel-Tax Revenue Must Fund Aviation

NBAA welcomed a recent announcement from the FAA, amending the agency’s airport revenue usage policy to emphasize that tax revenue from aviation fuel sales must go back into the aviation system. The change, published as a “Final Policy Amendment” and effective Dec. 8, reconfirmed a nearly three-decade-old policy that nevertheless had faced periodic challenges due to perceived ambiguity in the regulations.

General policy mandating that airport revenue be returned into the aviation system was established in a 1987 update to airport grant approval requirements. In 1999, FAA released its “Policy and Procedure Concerning the Use of Airport Revenue,” further codifying how airport-generated funds must be used.

Both the initial policy and the 1997 clarification aimed to keep municipalities from placing so-called “hidden taxes” on air transportation. However, efforts by several state governments looking to use aviation fuel tax revenue for non-aviation purposes convinced the FAA that still more clarity was needed.

For example, in 2009, Nebraska considered adding aviation fuel to a list of products that carry a statewide sales tax linked to a general fund. Hawaii sought in 2010 to have aviation fuel included in a statewide tax on petroleum products, arguing that because its tax language did not mention aviation fuel specifically, it was not in violation of federal law.

In these cases and others, the FAA issued legal opinions clarifying that revenue from a tax on aviation fuel, regardless of how the tax language is worded or how the levy is applied, must be put back into the aviation system.

While acknowledging in the amended policy guidance that state governments and local municipalities – and not airports – have ultimate control over the disbursement of taxes they receive, the FAA also noted “the plain language of the statute at issue, [and] the detailed legislative history, reflect strong Congressional intent that aviation fuel taxes be used for airport purposes and State aviation programs.”

Attorney Jol Silversmith, a partner with Washington, D.C.-based Zuckert, Scoutt & Rasenberger LLP who advises NBAA, said the FAA’s determination also clarifies that the agency will not hold airports accountable for any non-aviation-related uses of those revenues outside their control.

“Before the FAA’s recent ruling, there was some uncertainty about the FAA’s ability to regulate taxes not levied directly by the airport or its owner,” he added. “In this ruling, the FAA is asserting broad jurisdiction to take actions against state or local governments which collect fuel taxes but use those funds for purposes not related to the airport or in support of aviation.”

The latest amendment updates FAA’s 1999 policy to incorporate the agency’s interpretations and underscore that the policy and related law apply to local governments, such as cities and counties, as well as states. It also codifies the long-practiced policy of permitting revenue from state-imposed taxes to fund state-level aviation initiatives.

“When states, counties, cities and other local jurisdictions tax aviation fuel, it is critical that the proceeds are used for the capital or operating costs of an airport, a local airport system or any other airport facility,” said Scott O’Brien, NBAA’s senior manager, finance and tax policy.

“The amended Revenue Use Policy is helpful in clarifying the prohibition on taxes of any kind on aviation fuel, unless the revenues are used in a manner that is consistent with federal law and policy.”

NBAA joined about two-dozen other groups in voicing general support for FAA’s effort.
Regional Forums Offer Owner-Operators Convenient Access to Industry Resources

While NBAA’s annual convention provides an unparalleled opportunity for owner-operators in the business aviation industry to network with their peers from across the United States and around the world, it is not always possible for these busy professionals to commit to a multi-day event. That’s where NBAA’s Business Aviation Regional Forums come in.

These valuable, single-day events offer an important opportunity for representatives from the business aviation community to participate in many of the activities that are staples of NBAA’s annual Business Aviation Convention & Exhibition, in locations closer to home and offering quick and convenient, “in and out” access.

In 2015, editions of these popular forums will be held at airports in Florida, New Jersey, and Missouri.

On Feb. 19, 2015, Atlantic Aviation at Palm Beach International Airport (PBI) will host the inaugural Business Aviation Regional Forum for the year, with additional facility support courtesy of GAMA Aviation and Signature Flight Support. The Teterboro, NJ forum takes place June 25 at Landmark Aviation at the Teterboro Airport (TEB). The final forum of 2015 is set for Sept. 17 at the St. Louis Downtown Airport (CPS) in East St. Louis, IL at the Jet Aviation facility located just 3 miles from the St. Louis Gateway Arch.

“These cities have been popular locations for past forums given the high concentration of NBAA Members and Member Companies in the area, the locations’ access to airline service, their variety of lodging options and other benefits,” noted NBAA President and CEO Ed Bolen. “We’re confident these venues will be well received in 2015.”

Bolen added that the regional forum venues also complement the location of the 2015 NBAA Business Aviation Convention & Exhibition (NBAA2015) to be held Nov. 17-19, 2015 in Las Vegas, NV.

Participants in NBAA’s Business Aviation Regional Forums benefit from many of the same seminars, side-by-side static displays of aircraft, and education sessions offered at the annual convention, in a handier format. These events also offer an important venue for local business aviation leaders to exchange information about specific airport policies, environmental protocols, safety and security proposals, taxation and other issues.

In addition to these services for the business aviation community, NBAA’s regional forums also offer the valuable opportunity for industry representatives to meet with local officials and other leaders interested in learning more about the industry, and underscore the importance of a healthy and vibrant general aviation and business aviation industry to local leaders in business and government.

Additional information about NBAA’s Business Aviation Regional Forums is available at www.nbaa.org/events/forums/.
As previously announced, the Sapphire program targets all S25-series Cessna business jets, including all CitationJet, CJ1 and CJ1+ models. Sierra’s sister company, SkyWay Aerospace Technologies (SWAT) and Honeywell’s Bendix King are in discussions on the level of integration required for this fleet upgrade as well as the improved utility and pilot’s situational awareness that can be accommodated through the highly sophisticated avionics platform.

In addition to the GE Honda HF120 engine and aerodynamic upgrades, the *Sapphire* program will incorporate new-technology avionics systems to integrate the airframe and engine modifications. The avionics integration, likely based on the Bendix King AeroVue™ platform, will provide the Citation Jet with state-of-the-art flight deck displays, integrating critical health parameters for the new engine.

Mark Huffstutler, founder and CEO of the SkyWay Group, followed its announcement of the Sapphire program, a new suite of performance upgrades to the Cessna S25 Citation Jet series, by revealing that it is currently in discussions with Honeywell’s Bendix King for an avionics integration solution, centering on the recently introduced AeroVue™ platform.

Mark Huffstutler, founder and CEO of the SkyWay Group remarks, “The S25 Citation Jet is an ideal platform to bring together two of the current industry-leading technologies in one retrofit solution.”
Pacific Coast Avionics Completes All-Garmin Panel Upgrade on King Air B200

Advanced Garmin G600 with Synthetic Vision, dual GTN750 touchscreens and GDL88 ADS-B gives this 23-year-old King Air 21st century capabilities.

On November 6, 2014, Dewey Conroy, Vice President and COO of Pacific Coast Avionics Corporation in Portland, Oregon, announced that the company recently completed its latest complete panel upgrade on a Beechcraft Super King Air B200.

“This King Air is owned and flown by Rick Coulter. Being in the software business, he makes frequent trips to the Bay Area and with the traffic and airspace congestion challenges in California, he needed more situational awareness capabilities to ease his workload,” Conroy said. “We looked at a lot of options, but it became clear that, dollar-for-dollar, this configuration gave him all the capabilities he needs now, along with the flexibility to grow in the future.”

“The first time Rick saw the new panel, he really couldn’t believe it was his King Air,” he added. “Sitting in the left seat, you’d never know this is a 23-year-old airplane. He’s very happy and I’m extremely proud of the work our guys did in creating this panel.” Conroy explained that the all-new panel features:

* Garmin G600 EFIS with Synthetic Vision
* Dual Garmin GTN750 touchscreen GPS/NAV/COMs
* Dual Garmin GTX330/ES Mode S/ES Transponders
* Garmin GDL88 ADS-B
* Garmin GMA350 Audio Panel
* Garmin GWX70 Digital Weather Radar.

“We worked with Rick to design the panel to his exact specifications. We kept some of the original analog instruments, but moved them around to optimize the new Garmin digital displays,” Conroy said. “Then we did the CAD design and powder-coated the new metal panel in-house. We also built new wiring harnesses to ensure optimum performance and reliability of the new avionics.”

“This King Air now has three, full-color MFD’s, EFIS with synthetic vision, dual WAAS GPS’s for LNAV/
CenTex Aerospace, Inc. recently announced a just-completed installation of its Saddle Tank system on a King Air 350 Guardian Flight, with corporate headquarters in South Jordan, Utah, is the largest air Medevac provider in the state of Alaska, with seven bases statewide. Rick Wysowski, Director of Operations, says that the Saddle Tank system “will allow Guardian Flight the operational flexibility required to operate to any remote locations throughout Alaska non-stop to a higher level of medical care.”

CenTex Aerospace recently received FAA approval of an amendment to its Saddle Tank system STC that makes a number of additional King Air models eligible for the conversion. The new system can now be installed on the Beechcraft C90 series King Air and the larger Beechcraft 200 series and 300 series King Air airplanes. Originally approved for the 65-A90-1 or “U-21” King Air, CenTex’s Saddle Tanks provide an additional 180 gallons of fuel for the King Air 90s and 190 gallons for the larger King Airs. An optional “Saddle Tanks Plus” configuration offers a combination of fuel plus an integral storage bin, providing 120 gallons of fuel plus 8 cubic feet of lockable storage. The president of CenTex Aerospace, Greg Barnes, said “The Saddle Tanks make an excellent addition to any King Air, specifically those that fly over long stage lengths or to remote locations. The tank’s construction and finish are second to none. This quality plus the simplicity of operation ensure the customer will be satisfied for many years to come.”

CenTex Aerospace is a Waco, Texas engineering-based company staffed with highly experienced engineers and technicians dedicated to producing utility enhancing products and providing industry leading customer service. With innovations such as the Saddle Tanks Plus, Halo 250 IGW conversion, Halo 90 IGW conversion, affordable engine upgrades for King Air 90s, and replacement engine control cables for King Airs, Barons, and Bonanzas, CenTex Aerospace is “Making Aviation Better!”

For more information, contact CenTex Aerospace at 254-752-4290 or on the web at www.centex.aero.
for owners to learn and socialize with each other, meet with vendors, and talk with personnel from DAHER-SOCATA. The social events encouraged further discussions about flying and offered the means to develop friendships.”

McKee expressed his appreciation to the vendors who provided support and financial contributions for TBMOPA’s charitable foundation. In 2014, more than $100,000 was raised to provide, among other things, scholarships for disabled veterans to learn to fly through the non-profit Able Flight association.

Stéphane Mayer, DAHER-SOCATA’s President and CEO, joined a U.S.-bound TBM 900 ferry flight to attend the convention. He said the TBM 900’s recent introduction has raised interest throughout the aviation community, which was reflected in the presence of newcomers at this year’s event.

“These new attendees share the passion for aviation, and are welcomed to join the TBM community,” he added. “Overall, the TBMOPA team’s excellent work once again resulted in a series of top-quality events for the organization’s annual conventions, which attract increasingly large audiences.”

Nicolas Chabbert, Senior Vice President of the DAHER-SOCATA Airplane Business Unit, said the 2014 TBMOPA convention was very well managed by the TBMOPA team, under the direction of Frank McKee, assisted by Bill Alberts and Andrew Knott.

“This 11th TBMOPA Convention continued the event’s ascension, and was remarkable by its professional organization and the camaraderie of the owners who attended,” Chabbert concluded.

The 2015 TBMOPA Owners Convention is scheduled for October 7-11 in Charleston, South Carolina.
PERFECTIOUS

per-fect-i-ous (pur fek shus) noun. 1. The art of attempting perfection. 2. Description of any pilot.

There you have it. I have created a new word. Perhaps you have not given this word much previous thought. But recently, I had two occasions to do so. The first was during a visit to ProFlight in San Diego for my recurrent training in the CJ3 simulator.

There I was at 10,000 feet in a steep turn. Power precisely at 67% N1. No, make that 70% as the turn began. Precisely at a 45-degree bank angle. With an acceptable tolerance of 5 degrees of bank, plus or minus 100 feet in altitude, within 10 knots of airspeed, and rolling out within 10 degrees of heading. In addition, I had to avoid any indication of a stall, abnormal flight attitude or exceeding any structural or operational limitation.

All this, just to meet “minimum standards.”

For two and a half days, I had to perform all sorts of tasks, multiple times. Rejected takeoffs, engine failures, recovery from unusual attitudes, holding, precision and non-precision approaches, circling, missed approaches, no-flap landings, and more.

Perfectious.

Our flying vocation, or avocation, leaves little room for error. And, as good as we are, we never master it. I realized after my simulator ride that I have been attempting perfection for over 40 years and will never achieve my goal. I just have to keep trying.

Perfectious also describes one who is a stickler for details. For instance, we must memorize countless emergency checklists and vocalize them during the most stressful situations. With no mistakes. I try to be perfectious in my writing too. It just doesn’t always turn out that way.

Thus, my second experience.

In November’s ON FINAL, “Do You Remember?” I wrote that in 1965 I was “in junior high school.” Although both statements were technically correct, I led many of you astray.

Boy, did I hear about it.

From Fred, “Was David Miller a junior in high school in 1968 or 1965?”

From Ralph, “David, I always enjoy reading your articles in Twin and Turbine. I am sure that you have heard from many readers like me who were surprised to learn how successful you have become after spending 3 years as a junior in high school. Keep the blue side up and may the wind always be smooth and on your tail.”

From Jeff, “Your Do You Remember article in Twin and Turbine was very interesting, but it seems you were a junior in high school in 1968 and 1965.”

Fred, Ralph, and Jeff are all perfectious pilots. I’d bet they could all fly circles around my steep turns.

From one perfectious pilot to another,

Fly safe.

by David Miller

CALL NOW ABOUT OUR NEW “EXPRESS RECURRENT” DESIGNED BY PILOTS FOR PILOTS TAILORED TO YOUR SPECIFIC NEEDS

With 5,000-plus hours in his logbook, David Miller has been flying for business and pleasure for more than 40 years. Having owned and flown a variety of aircraft types, from turboprops to midsize jets, Miller, along with his wife Patty, now own and fly a Citation CJ1+. You can contact David at davidmiller1@sbcglobal.net.

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Dr. Alfred Tria and his daughter Taylor King Jr. Owner/Pilot SIMCOM San Diego

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