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SEPTEMBER 2018 \$3.95 US

VOLUME 22 NUMBER 9



B-29 Superfortress: Flying Back in Time

Labor of Love

Evaluating Weather & Exercising Options

Review: Bose ProFlight Headset

Best Practices for Recurrent Training



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COVER PHOTO

B-29 Doc – Photo by Brett Schauf,
Visual Media Group

Issues of Twin & Turbine are available for free
www.twinandturbine.com

POSTMASTER: Send address changes and inquiries to
Twin & Turbine, Village Press, Inc., P.O. Box 968, Traverse City, MI 49685.

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Twin & Turbine (ISSN 1945-6514), USPS 24432 is published monthly by Village Press, Inc. with advertising offices located at 2779 Aero Park Drive, Traverse City, Michigan 49686. Telephone (231) 946-3712. Printed in the United States of America. All rights reserved. Copyright 2016, Village Press, Inc. Periodical Postage Paid at Traverse City, MI.

SUBSCRIPTIONS: *Twin & Turbine* is distributed at no charge to all registered owners of cabin-class aircraft. The mailing list is updated monthly. All others may subscribe by writing to: *Twin & Turbine*, P.O. Box 968, Traverse City, MI 49685, or by calling 1-800-447-7367. Rates for the United States and its possessions follow: one year \$29.95; two years \$52.50. Canadian subscriptions are \$15 per year additional, including GST tax. Overseas subscriptions are \$30 per year additional, U.S. funds. Single copies \$3.95.

ADVERTISING: Advertising in *Twin & Turbine* does not necessarily imply endorsement. Queries, questions, and requests for media kits should be directed to the Advertising Director. *Twin & Turbine*, P.O. Box 968, Traverse City, Michigan 49685. Telephone 1-800-773-7798. Website: www.twinandturbine.com.

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editor's briefing

by **Rebecca Groom Jacobs**

Labor of Love



When I moved back to Wichita four years ago, I had no clue I would soon take part in one of the most incredible and rare of projects. A Boeing B-29 Superfortress named "Doc" was undergoing an extensive restoration not even 20 minutes from my house. It was (and still is) the last-known restorable/airworthy B-29 bomber in the world; joining only FIFI, operated by the Commemorative Air Force. The mission of the restoration: return the iconic warbird to flying condition in order to honor, educate and connect generations.

This huge undertaking was spearheaded largely by aerostructure manufacturer Spirit AeroSystems and over the years enlisted the help of dozens of volunteer mechanics, engineers and electricians from the surrounding areas – many of whom were former Boeing employees. Spirit machined one-of-a-kind parts and airframe structures in the very factory Doc was built. Nearly every part of the 1944 aircraft had to be removed, inspected, cleaned and rebuilt or replaced (more detail can be found in our cover feature article, page 16).

My involvement began when I joined marketing agency Sullivan, Higdon & Sink (SHS) in 2014. SHS was assisting pro bono in the marketing and communications efforts on behalf of Doc's Friends – a nonprofit formed by Wichita business leaders to financially support and manage the B-29. I met Doc my third day on the job.

Over the next two years, a small group from both SHS and Spirit, including myself, regularly met and collaborated on Doc's Friends projects and fundraisers. Doc was nearing completion and approaching test flight status, and it was our goal to achieve national attention and support to help get Doc across the finish line (which we proudly accomplished). During the process, I formed a lasting friendship with one particular Spirit employee/volunteer; someone who continues to be fundamental to the Doc's Friends' mission today and undoubtedly deserves recognition. His name: Josh Wells.

Now, Josh's "real job" is communications and government relations at Spirit AeroSystems. But he also holds several titles with Doc's Friends: board member, communications/marketing director and executive director of operations – and he does all of this as a 100 percent volunteer. If you were to calculate the number of hours he dedicates to Doc's Friends in his spare time, especially now that Doc is touring the country, it'd easily add up to be a full-time job. As both a fellow communicator and a friend, I am constantly amazed at how he is able to juggle his numerous responsibilities (on top of raising a family and staying active within his local community).

"For me, this is a once in a lifetime opportunity," said Wells. "Both of my grandfathers and several of my great uncles served in WWII. It is humbling to play even a small role in promoting what the Greatest Generation did for our country and showing off this beautiful airplane."

If you have followed Doc's story in any capacity via articles, social media or video, you've likely seen or heard Josh quoted. He knows the history, the airplane and the mission by heart. He's quick to recognize his fellow volunteers, and there is no doubt that with a project the size of Doc, it's absolutely true that every volunteer is essential. But today, I want to personally take the time to applaud Josh and his tireless efforts to carry out Doc's mission.

"Every flight in Doc, I touch the airplane and remind myself how blessed and honored I am to be sitting where so many young men sat 70-plus years ago to protect our country," said Wells. "Sharing their stories, alongside the wonderful volunteers who restored the airplane, is something I will never take for granted."

Thank you for your passion and dedication, Josh. It is truly a labor of love.

A handwritten signature in black ink, appearing to read "Rebecca Groom Jacobs".



Josh Wells – one of the many dedicated volunteers with Doc's Friends.

Airmail

In Response to Kevin Ware's "It's All About the Ice"

The excellent article in May about flying in the Northwest in a pressurized twin is right on point! I read the article and it sounded so familiar; I've been there twice in the past 15 years flying across the Cascades, Blue Mountains and the Salmon River Range. I'm flying a Pressurized Navajo (amazing airplane) and it is generally a weather tank! But when the icing is extreme, it is no match and just cannot keep up long enough to climb into the flight levels. I have found that the propeller deice gets behind first and with that everything slows down.

I hope all pilots read your article carefully and take it to serious heart! Thanks for your excellent and insightful writings in *T & T*. I enjoy them all; there are always things to learn.

Allan Gillespie
Walla Walla, WA

Just wanted you to know how much I enjoy your articles. I was going to mention specifically the article regarding flying in the Pacific Northwest but after a moment's thought, I realized how much I enjoy all of them. Both content and writing style are superb. I may be a little biased as I too am a physician and professional pilot trying to make both careers work. You have a gift – keep it coming!

Bill Frank

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So That We Remember



The “We Remember Tour” kicked off at AirVenture 2018. From left, Rob Bowen, Baron owner and tour co-founder; Buck Kern, program director for Snowball Express; and Jim Kaiser, tour co-founder.

On Sunday, July 22, I was one of the thousands of pilots with intent of reaching Oshkosh or one of its reliever airports. Marginal weather in Wisconsin prevailed, but with an IFR slot secured for Appleton we felt confident we'd be pounding tie-down stakes by mid-afternoon. As my husband and I hurriedly loaded our plane, I couldn't help but notice a strikingly painted Beechcraft Baron parked nearby on the ramp of our home airport (KIXD). In spite of our tight schedule, I trotted over to the plane to take a closer look. Standing nearby were the aircraft's owner Rob Bowen and friend Jim Kaiser. Both retired career American Airlines pilots, Rob and Jim were also Oshkosh-bound, but their mission was much different.

Rob and Jim were bringing the Baron to AirVenture 2018 for the kickoff of the “We Remember Tour” honoring America's fallen military members since 9/11. As Jim explained it, Rob initially came up with the bucket-list idea of flying the Baron around the perimeter of the lower 48 states. Jim, a retired Navy officer, upped the ante and suggested they dedicate the aircraft to fallen military servicemen and women and tie it into Snowball Express, a charity that serves the children

and families they left behind. Now a permanent program of the Gary Sinise Foundation, Snowball Express's stated mission is to provide hope, healing and new happy memories to children through events, trips and connecting them with other Gold Star families. (I urge you to read more about the organization's purpose and genesis at snowballexpress.org.)

That led to the decision to repaint the Baron in a unique way. What's most stunning about the Baron is not its prominent patriotic red-white-blue paint scheme or its homage to donor American Airlines on its vertical stabilizer. On the plane is the name of every active duty U.S. military member who lost his or her life since Sept. 11, 2001. As a result, there are nearly 7,700 names listed in neat columns covering the entire fuselage.

Rob and Jim also carry special cargo on board. Last year, the Baron was featured at a Snowball Express event at the Carswell Joint Reserve Base for Gold Star families. During their preflight afterward, they discovered a small painted rock sitting on the wingtip of the plane. The rock was meant to honor a fallen hero and asked that pictures be posted on Facebook of its travels with the Baron. After faithfully posting pictures of the rock at various airshows and events, the mother of a young girl named Kiley Weaver saw the posts and contacted them. Kiley's mother told them that following the travels of the rock helps the girl deal with the loss of her dad, who was killed in action in 2010.

Two days later I found myself standing next to the "We Remember" Baron again, this time at a prominent spot on Boeing Plaza at EAA AirVenture. According to Jim, the response to the Baron's presence at Oshkosh fell into two categories. "If you were a member of the general public without any connection to a fallen hero, the response was one of shock that so many had been killed over the years. When we are experiencing only a few losses a month it does not really hit you, but when you see all those names on the airplane at once it really impacts you.

"If you were a friend or family member, the reaction was quite different because the loss of just one hero was someone's husband, wife, father, mother, son, daughter, friend. They all have stories to tell, and each one is deeply personal. Their responses were of deep gratitude and appreciation for not letting their loved ones' losses be forgotten."

When asked to recount a particularly poignant moment, Jim answered, "I'm not sure where to start. We've had military members who had a list of names, sometimes more than 10 names. Many times, their fallen heroes had died in a group from a helicopter crash or an IED explosion, and their names would all be together on the airplane. We rarely made it through an entire list before they had to stop looking; it was just too intense for them. I had a man come up to the airplane and he was obviously looking for a name. After I helped him find it, he turned to me with tears in his eyes and said, 'That was my son.' I could not comprehend what it must be like to bury a child, but he thanked me for doing what we did."

Jim continued, "We started out with a simple plan to honor one individual at a time on each leg around the United States. We were just planning on hitting some of the military bases and keeping it kind of low key. That plan went out the window as we realized we needed to take the stories of our fallen heroes to as many people as possible.



Kiley
Weaver's rock
that Rob and
Jim discovered
on the wingtip
of their aircraft.

"I think what has surprised us the most is the reaction of the families and friends. We were not prepared for the impact the airplane would have on them and in return what they would have on us. The mere fact that we have not forgotten our heroes means the world to them, thus the name 'We Remember Tour.' We are honored to be able to do this for our Gold Star families."

To follow or catch up with the Tour at an airshow near you, go to www.facebook.com/WeRememberTour.

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The Checklist

How and when the checklist should be used, and why single-pilot IFR demands a different approach.

by Joe Casey

My aviation career began like many; learning to fly in a humble Cessna 172 with a nearly-starving CFI at a non-controlled, rural one-runway airport. For me, the airport was Just Plane Fun Airpark in Nacogdoches, Texas; a short grass strip hewn from an East Texas pine forest. Literally stumbling onto the airport (actually looking for a job, not a pilot license), I was offered a ride in the back of a 1956 Cessna 172 to observe a training flight.

Within a minute after takeoff, I was enthralled by the shift in perspective that happens when you leave the ground, but I also loved the manner in which the student went about the work of flying. It was not haphazard or random; there was a definite order, a “way it should be done,” and I liked it. I was in desperate need of a disciplined approach to life in my youth, and the systematic way that the pilot organized the flight just looked right.

During my private pilot training, the checklist was used during the start and run-up, but once the airplane left the ground the checklist disappeared. Using a checklist for every touch-and-go just didn’t seem to happen, so the checklist was relegated to the space under the seat, only to be found after being back on the ground for shutdown.

As my aviation training expanded, checklist use did not. During my instrument rating training, the CFII half-heartedly expected me to use the checklist, and I used it a lot more during commercial pilot training. It seemed like I’d get more “checklist discipline” when approaching the date for a practical test so I’d look more professional with the examiner. But after the practical test was over, checklist use drifted back to the ground checks before flight, and relegated to the sidewall pocket for the flight portions.

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It was not until I joined Uncle Sam's Army as a rotary wing pilot that I learned all about the importance of a checklist. Every flight from day one was with another pilot in the other seat, ranging from an instructor in the early days, to a Pilot-in-Command when I was assigned to my first unit, and then to a co-pilot for much of the rest of my career. Checklists were drilled into our routine, and not just during run-up and taxi...we'd use the checklist for every phase of flight. But, this was a multi-crew aircraft, and there was no excuse for not using the checklist. The checklist was performed by the pilot-not-flying (PNF) reading the checklist and the pilot flying (PF) responding. With one pilot not flying, it's easy to safely run the checklist, even in a tough phase flight.

When I left the regular Army, I became an airline pilot and the checklist was again used prolifically in those two-pilot aircraft. Literally every phase of flight included a checklist and the same "call-out and response" format. This is as it should be, and there's no doubt it is appropriate for the safety record of the

airlines is exemplary. But, the Army and the airlines both have two-pilot cockpits, and it's difficult to replicate those procedures in a high-performance, super-advanced, single-pilot airplane operating in hard IFR.

Fast forward to today and I see a wide range of cockpit flows, checklist use and cockpit procedures. To be forthright, most of the pilots that see me for training have reverted to their early days of flying, and only use a checklist during start, run-up and taxi. A few don't even have a checklist in the cockpit, and some have four or five different varieties of checklists yet don't use any particular one regularly. Checklist use, both how and when, is at random.

What a Checklist is Really For

So, how should a pilot manage the cockpit? The airlines and military have proven that checklist use contributes to safety, and we in the general aviation world should also use checklists. But, how should they be used without a second pilot in the cockpit most of the time?

In my opinion, the checklist should be used exactly as it sounds: a "check" list, not a "read and do" list. By this, I mean that a pilot should conduct the items that are listed on the checklist for various phases of flight from memory (some call this a "flow"), and then the checklist should be used to "check" and make sure that everything is accomplished.

For instance, the pilot should takeoff and then conduct a flow of tasks found on the after takeoff checklist from memory, and then run the after takeoff checklist by reading down each item and confirming those tasks were completed. Then, the same is done for the climb, cruise, descent and approach checklist after those phases of flight are encountered. Once on the ground, the airplane should be brought to a full stop off of the runway and the after landing checklist can be accomplished by either the "check" list or the "do" list method.

I am strongly against a pilot using a checklist as a "read-and-do list" in flight. A read-and-do list means that a pilot will read one item on the list, do it, and then refer back to the check list again for the next item to accomplish. The read-and-do list method is simply too slow for single-pilot operations. I've seen many well-meaning and serious pilots get completely behind the airplane by trying to read and do while in a critical phase of flight. Try hand-flying an ILS while reading a checklist and I'll show you an approach that is ugly at best, and downright dangerous at worst. There's only one time that a "read-and-do list" method is acceptable in single-pilot IFR, and that is while the airplane is NOT moving on the ground.

This article first appeared in the most recent issue of MMOPA Magazine and was used with permission. 



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EAA AirVenture 2018: Bigger & Better

Near-perfect weather and a robust economy helped annual airshow set new attendance record.

by Dianne White

From ideal weather to record-setting attendance, AirVenture 2018 was as close to perfect as it could be. The annual Oshkosh, WI airshow, held July 23 through 29, attracted 601,000 attendees, nearly two percent above of 2017's record total.

"EAA members and aviation enthusiasts attended in large numbers, even without the presence of a military jet team as we had in 2017. Our efforts to create unique attractions and aviation highlights across the grounds were incredibly successful. Attendance on opening day was the best in our history, as the vast majority of our guests came to Oshkosh early and stayed throughout the week," said Jack Pelton, EAA Chairman.

More than 10,000 aircraft arrived at Wittman Regional Airport (KOSH) and other airports in east-central Wisconsin. At Wittman alone, there were 19,588 aircraft operations in the 11-day period from July 20-30, which is an average of approximately 134 takeoffs/landings per hour. In addition, there were 2,979 show planes (second straight year over 2,900): 1,160 homebuilt aircraft, 1,094 vintage airplanes, 377 warbirds (7 percent increase), 185 ultralights and light-sport aircraft, 75 seaplanes, 22 rotorcraft, 52 aerobatic aircraft and 14 hot air balloons.

Fans of modern military air power weren't disappointed as nearly every airframe in the current U.S. Air Force inventory either flew or was on static display throughout AirVenture 2018. Dubbed the "Year of the Tanker," a number of military refueling aircraft, including a KC-10, KC-135 and HC-130P/N, were featured. Among other aircraft highlights were: B-29 "Doc" fly-bys, B-1 bomber on display, RAF 100th anniversary, tours of Air Force C-5M Super Galaxy, a wide assortment of rare historic military aircraft, and a surprise fly-by of the U.S. Navy Blue Angels while on their way to an airshow in North Dakota. AirVenture attendees also witnessed the Oshkosh debut of the innovative Yak-110,

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which was built by joining two Yak-55s and hanging a jet engine from the center wing. The Yak-110 performed an aerobatic routine in the afternoon air shows on Tuesday, Thursday and Saturday.

The weeklong show was kicked off with a concert by country stars Dustin Lynch and Maddie & Tae on Boeing Plaza. Also, approximately 1,000 women pilots wearing red commemorative t-shirts took part in the annual WomenVenture photo on Boeing Plaza, which highlighted a day of inspiring presentations and networking opportunities.

"A 'perfect' event may be unattainable, but AirVenture 2018 came about as close as one could imagine. The combination of outstanding programs, aircraft variety, a robust economy, and good weather combined to complement the efforts of our staff and 5,000 volunteers throughout the grounds. The week was upbeat, exciting, and filled with many 'Only at Oshkosh' moments," added Pelton.

Looking ahead to 2019, AirVenture will celebrate its 50th consecutive year in Oshkosh. EAA is already putting together activities that involve EAA's hometown and its unique place in aviation history.

"While 2018 is barely in the record books, we're talking to many groups and individuals with intriguing new ideas for aircraft, innovations, exhibits, and events. We're already planning for 2019 and looking forward to announcing features and attractions very soon," Pelton concluded. 

Dianne White can be contacted at
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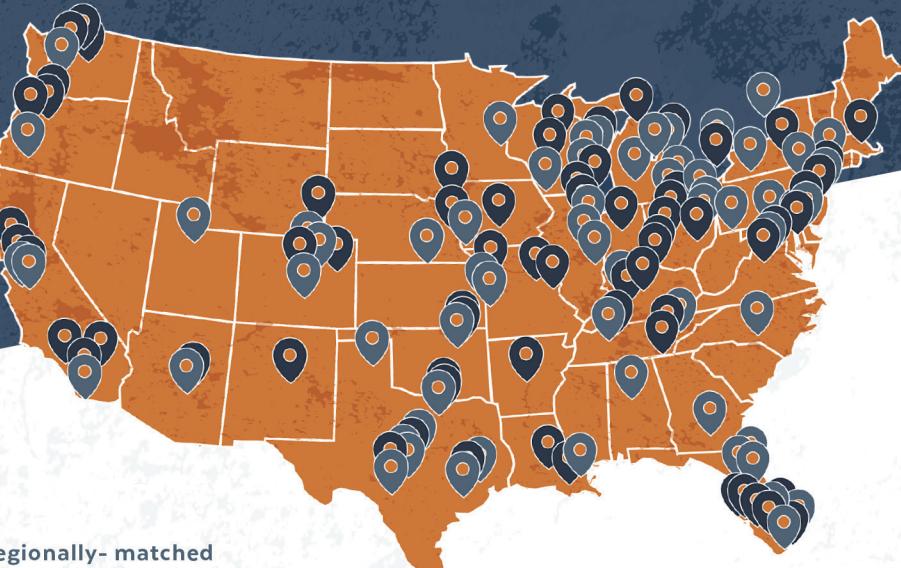
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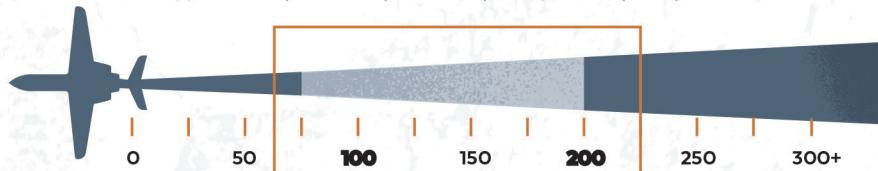
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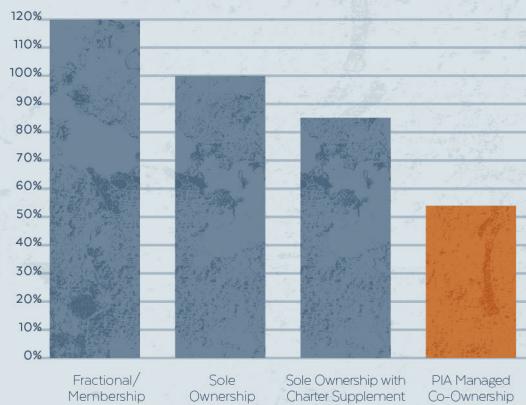
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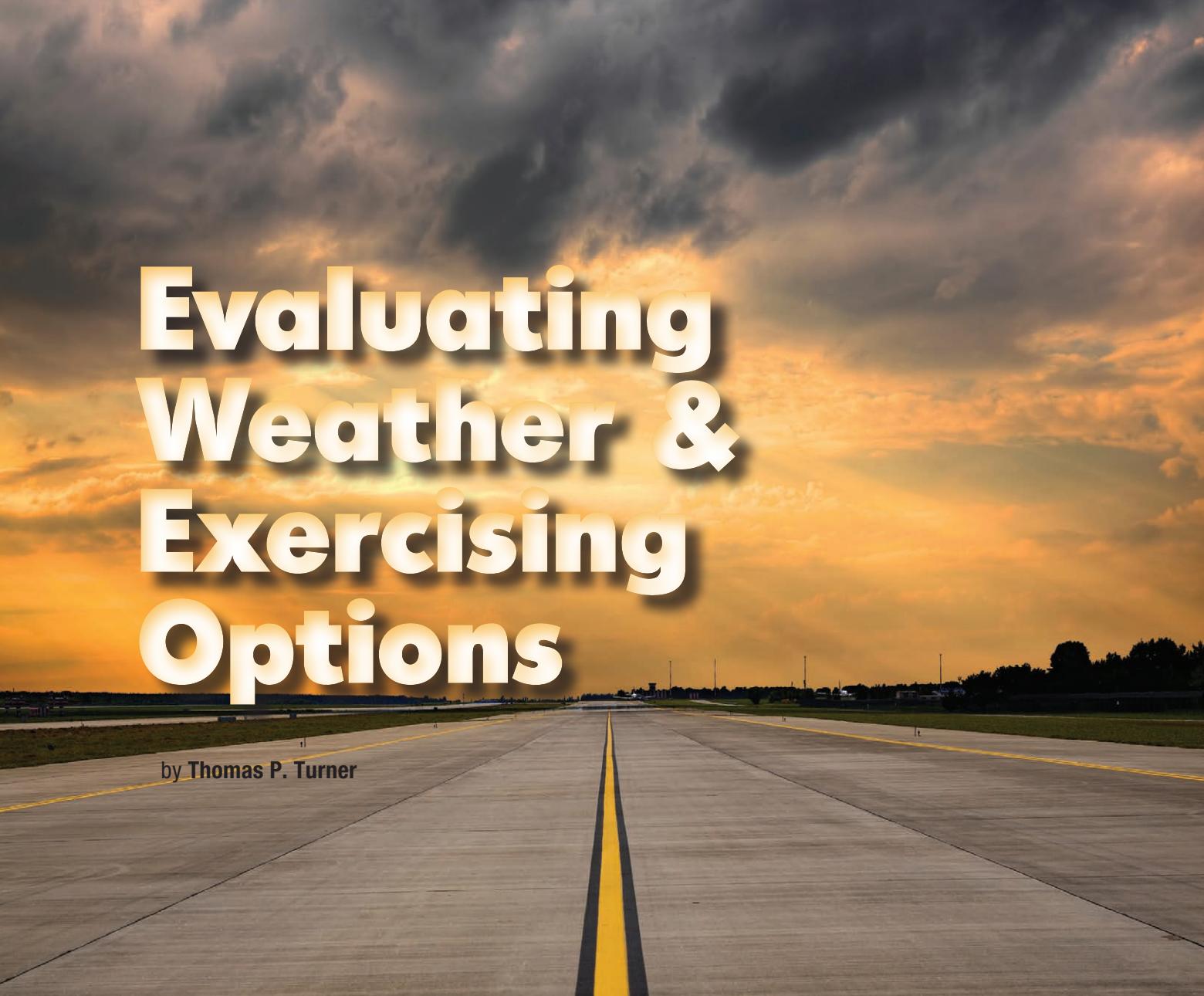
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Evaluating Weather & Exercising Options



by Thomas P. Turner

I planned to fly up to Oshkosh from Wichita on Friday before AirVenture. My plan, following suggestions I included in "Are You Good Enough to Fly into Oshkosh?" (July issue), was to fly about 2.5 hours to Dubuque, Iowa (KDBQ), top off the fuel tanks, then make the roughly one-hour hop to Oshkosh following the NOTAM visual arrival.

A few days before the trip, forecasts called for marginal VFR conditions off and on along the route. I began to think about flying IFR to KDBQ and the possibility of having to stay there overnight since conditions were forecast to be Visual Meteorological Conditions (VMC) on Saturday morning. I made a refundable hotel reservation at Dubuque.

Friday morning the weather was VMC to KDBQ, but with a 4,000-foot broken to overcast layer – not bad, but worse than forecast. I filed IFR to cruise above the clouds, still thinking I might descend to visual conditions at Dubuque, fuel up and then fly visually under the clouds into Oshkosh. As I flew closer and closer to KDBQ, uplinked METARs showed the clouds were lowering at Dubuque. Soon it became obvious I would have to fly the RNAV (GPS) approach into KDBQ and I did, breaking out at about 900 feet AGL in good visibility. Half a dozen Oshkosh display airplanes were already there for the night with IFR reservation slots into KOSH the next morning. The ramp looked like Pensacola, Florida or Sweetwater, Texas in 1944, with dozens of North American SNJs and their Army AT-6 counterparts of the North American Trainers Association (NATA) waiting to go to Oshkosh as well. I shared a cab with a retired Air Force officer who was weathered in his RV-8, and took the hotel room I'd reserved.

As soon as I checked in, I took another look at forecasts for the next morning. The updated TAFs looked good: MVFR with good visibility, averaging about 1,800 feet overcast along the route for Saturday morning. That's not great, but it meant I could fly about 1,300 feet AGL and still be 500 feet below the cloud bases, the minimum distance permitted for VFR. Sure, most of the route I could fly "one mile, clear of clouds" in Class G airspace below 1,200 feet AGL, but I don't play that game even without the traffic likely to be heading to KOSH at the same time.

Meanwhile, brief but intense bands of rain swept repeatedly over Dubuque, taking the visibility and clouds in and out of IMC...none of which had been in the day's forecasts.

A look at the Graphical Forecasts for Aviation (GFAs, which have replaced Area Forecasts) showed the ceiling would be lower along the route. The terrain I'd overfly in western Wisconsin is about 300 feet higher in elevation than Oshkosh but the cloud bases were a constant altitude Mean Sea Level all the way. In this world of immediately available weather data, I've seen a trend in pilot behavior where they will check METARs, TAFs and the radar picture, make a decision, and go. They apparently forget that METARs and TAFs are only valid for five miles around the reporting point, and radar shows rain but not clouds or other hazards.

So, while a cursory check of the weather might tempt me to go, a more detailed look told me I definitely did *not* want to try a one-hour VFR trip beneath the clouds. And most importantly, the actual weather was already trending worse than the forecasts, and there was no approaching front or other weather disruptor expected overnight that would suggest it would do anything besides be *as bad or worse* than the GFAs predicted for morning.

Get a Reservation

I went to the Oshkosh NOTAM, found the procedure for obtaining an IFR reservation, and made my online request. The system lets you name your requested airport, day and time, including alternatives. In seconds, I had a 9 a.m. arrival reservation (my first choice) at Appleton, Wisconsin

(KATW, my second choice after KOSH...which the website said was unavailable). I filed using the reservation code with an alternate back at KDBQ, knowing I could divert somewhere closer if needed, but I had the fuel to get out of busy Oshkosh NOTAM-area airspace if I had to.

Although the previous night's forecast for my departure time was for 1,800 broken, the reality when I arrived at the airport was 1,000 overcast in drizzle. The weather at destination (KATW and KOSH) was still 1,800 overcast with good visibility. But the worse-than-forecast weather at KDBQ was slowly drifting east toward Oshkosh – it was probably not going to remain MVFR at Oshkosh. So, my plan was this:

- Depart IFR toward KATW.
- If approaching Appleton I broke out high enough to proceed with the visual approach to Oshkosh, I would cancel my IFR clearance and go visually to KOSH.
- If I landed at Appleton and the weather later improved enough to take off for the visual procedure at Oshkosh, I would do so. If it did not within a reasonable time, I'd get ground transportation to Oshkosh and get the airplane another day.
- If I had to miss the approach at KATW, I would return to KDBQ or some other airport where I could rent a car, drive to Oshkosh, and return for the airplane later.
- Request to divert to Oshkosh en route if ATC permitted.

Any one of those options was equally acceptable. Deciding this beforehand, making the appropriate decision in flight would be a low-stress event with no temptation to second-guess or "make it up as I went." I planned my flight; now I merely had to fly my plan.

Flying the Plan

Whether KOSH or KATW, the NOTAM preferred route starts as "Direct Madison." Although I was cleared to my requested 5,000 feet cruising altitude, soon after handoff to Departure I was cleared to 7,000 feet as I flew directly over a Cessna 182 on the same course. As I approached Madison, ATC directed me even higher for traffic, up to 9,000 feet.

Meanwhile, I tuned the #2 radio to the Oshkosh visual arrival frequency as found in the NOTAM – the printout of which I carried, with all my notes and tabs, alongside me in case I needed the visual procedure before landing. Sporadically I heard an airplane calling in on the visual approach, between the controllers' standard soliloquy about how the NOTAM was in force and if you get too close to the airplane ahead of you "it isn't going to work." So at least a few airplanes were getting in visually. The clouds beneath me were breaking up a bit, revealing narrow swaths of very-green Wisconsin farmland. Sucker holes, they used to call them. The KOSH METAR on my cockpit weather was still 1,400 broken, 10 miles visibility.

I was talking to Madison Approach. Appleton is in the Green Bay Approach area, while Oshkosh is controlled by Milwaukee Approach. I had printed hard copy of charts for both airports with me, and already briefed myself on the approaches to include all the note-taking preparations I teach and use for instrument approaches. I again briefed the Oshkosh RNAV (GPS) 27 approach, listened to ATIS (the field had gone IFR, 800 overcast) and got ready to load and activate it on the GPS because I wanted to try something. If it didn't work, I'd brief for Appleton. I wanted the most recent briefing to be the approach I was going to fly, so I wouldn't mess myself up.

"Contact Milwaukee Approach 127.0." Perfect! I knew my request wouldn't work with any controller other than the one with a real-time eye on Oshkosh arrivals. After checking in, then pausing for a moment to determine the sector wasn't very busy, I asked with an intentional lilt to my voice, "Milwaukee, request." "Go ahead," the controller replied, probably already knowing what I was going to ask. "Milwaukee," I replied, "I know it's highly unlikely, but is there any way I can change my destination to Oshkosh? I have Information Hotel." A slight pause. Then, equally animated, the controller replied simply, "Wait right there!"

In retrospect that may have been holding instructions I don't know.

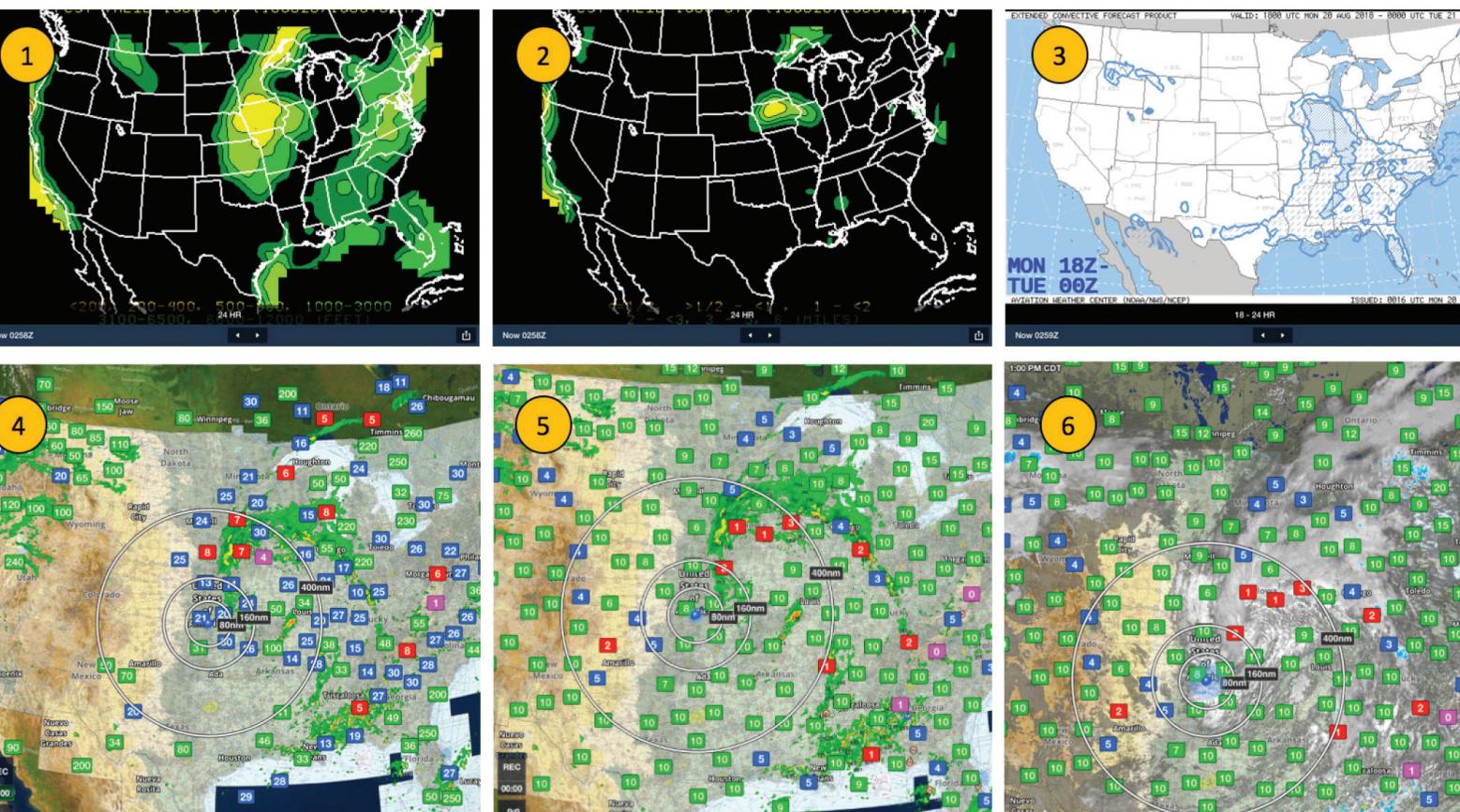
"You're cleared to Oshkosh. You're five miles from IGVEW (the first fix on the approach), maintain 3,000 'til established, you're cleared for the RNAV (GPS) 27 approach. Oh, and if you could give me a good rate [of descent] through 4,000 [feet], that would be helpful."

I gave the controller a big "thank you," threw out the speed brakes and extended the landing gear for drag for an expedited descent out of 9,000 feet with five miles to the fix, and activated the approach direct IGVEW. I could not have done all that if I didn't already have the weather information, the approach briefed, the GPS ready for the switch and the paper chart with my notes immediately available...not having to call it up electronically, because I was still heading for the ILS at KATW when I made my request, and I had my iPad ready for that even though I had an annotated paper chart for the Appleton ILS as well.

I'm not writing all this to boast. It's simply my public debrief of what went right on this flight. It all came down to preparation. I made it all click on this flight and as a result broke out of the clouds at about 800 feet over Lake Winnebago.

A Weather Example

Here is an illustration of a weather forecast the night before a planned trip of mine (not the Oshkosh flight). The forecasts for 1800Z (1 p.m. Central time) were (1) ceiling, (2) visibility and (3) convective outlook. The following day, the actual weather for that time was (4) ceiling and radar, (5) visibility and radar and (6) visibility and satellite imagery. In this case, the forecasts were pretty accurate. On that basis, I would have a high degree of confidence in the forecast for later that afternoon and evening as well.



on a three-mile final for Runway 27 at precisely the place I wanted to be – Oshkosh...knowing it was the least likely of outcomes on this trip, and I was just as ready to end up with any of the other equally acceptable options. I landed about 9:15 a.m. before several bands of showers began taking KOSH in and out of IMC for most of the day.

Lessons Learned and Reaffirmed

The key lessons of my trip to Oshkosh include:

- Check not only the weather *state* (how it exists in the briefing), but the weather *trend* (is it getting better or worse?).
- Part of the weather trend is not only checking which way the forecasts say the weather is going from now on, but also how the current state compares to previous forecasts for the current time. In other words, did yesterday's forecast accurately describe today's weather? If not, is today's weather better or worse than was earlier forecast? If it's worse, is there a front or other major weather feature to break the trend, or do you have to assume the forecasts for

later on are inaccurate, too? Forecasts and actual weather trend evaluation is something that happens over *days*, not *hours*.

- Don't be afraid to make requests from ATC. But don't be disappointed or argumentative if you don't get what you ask for. Sometimes, as they say, the answer is "no."
- Before you make a request, be fully prepared to execute it immediately. It's bad form, at the very least, to ask ATC to do you a favor and then not be able to do it when granted. It's even worse if you force yourself into a high-risk, high-workload condition because you aren't ready to do what you initiated in the first place.
- Brief yourself for as many options as possible, and realize that any number of outcomes can be equally acceptable as long as you are prepared.

Flying is all about weather and options. The better prepared you are, the more options you'll have. 

Thomas P. Turner is an ATP CFII/MEI, holds a master's Degree in Aviation Safety, and was the 2010 National FAA Safety Team Representative of the Year. Subscribe to Tom's free *FLYING LESSONS* Weekly e-newsletter at www.mastery-flight-training.com.



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Flying Back in Time

A black and white photograph of a B-29 Superfortress bomber in flight, viewed from the side. The aircraft's four radial engines and distinctive tail fin are visible against a clear sky. Below it, a paved runway or taxiway is visible, marked with several small orange markers. In the background, there are some low-lying trees or bushes.

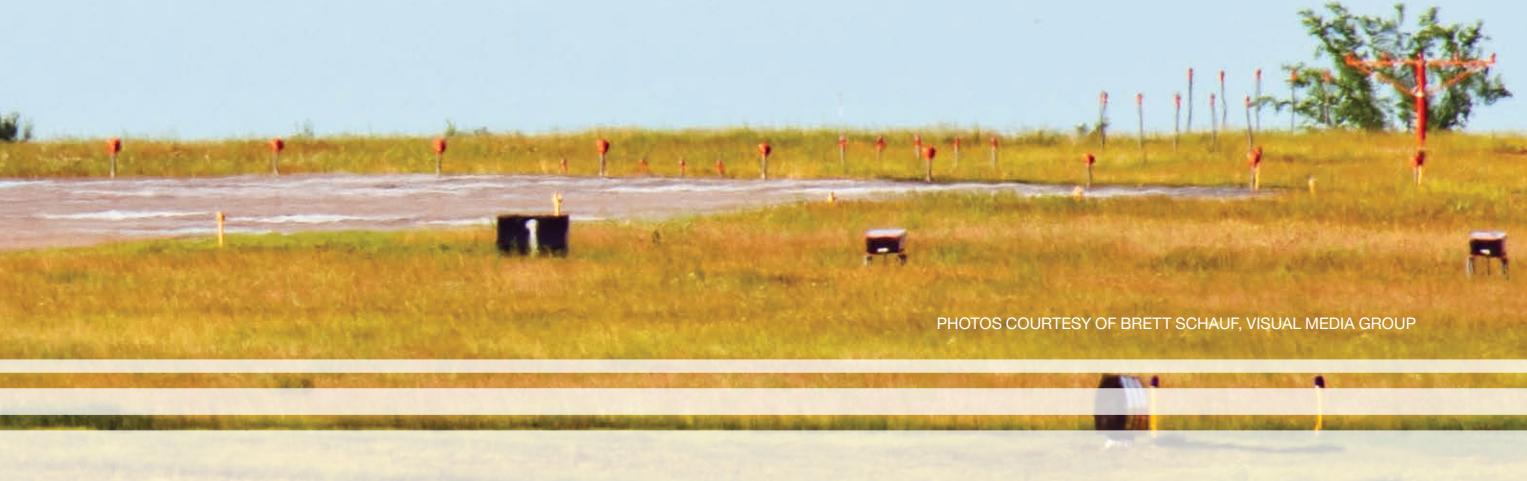
A flight in "Doc" – one of only two airworthy B-29 bombers in the world.

"Ladders up; crew in position; 15-degree flaps; departure to the south. Superfortress Doc is ready for takeoff."

I'm seated in the bombardier's seat as Mark Novak, retired military pilot and today's pilot-in command, completes his checklist just a few feet behind me. I tense with excitement as he calls up the McConnell Air Force Base tower for clearance. The afternoon heat is intense within the B-29's infamous all-glass nose, but I take little notice. I am too busy absorbing the number of dials and switches around me (the majority of which involve "bomb" in the label). I specifically note the Norden bombsight mere inches in front of my feet. The reality of this device's purpose some 70 years ago is difficult for me to fathom. Even more difficult is imagining the thoughts and feelings that the occupant of this crucial seat would have felt preparing for takeoff.



by **Rebecca Groom Jacobs**



PHOTOS COURTESY OF BRETT SCHAFER, VISUAL MEDIA GROUP

After receiving clearance, Mark lines the warbird up on the centerline and instructs the flight engineer, Donnie Obrieter, to set the manifold pressure to 30 inches. He obliges, running the power up on each engine simultaneously, checking temperatures and pressures as he does. He announces when everything is stabilized. Mark promptly releases the brakes, cranks the throttles and we lurch down the runway.

Fortunately, I was forewarned that a B-29 takeoff is not arrow-straight. We sway back and forth slightly while gaining speed; an especially noticeable occurrence from the most forward seat. Without nose wheel steering, the pilot must use differential power to turn the aircraft, or to correct for any crosswind, until the rudder becomes effective around 60 mph (note: the airspeed indicator in a B-29 displays mph versus knots).

Once this speed is achieved, I hear Mark request, "Engineer, set max power." Donnie confirms and proceeds to take over the throttles (throttle control remains in his hands for the duration of the flight). The four massive 2,200-horsepower radial engines (a hybrid of Curtiss-Wright 3350-95W and R-3350-26WD) launch

us past Wichita's Air Capital Flight Line where B-29 "Doc" has been housed since 2000. The significance of this location is goosebumps-worthy as it is the former Boeing Wichita facility; the very place that Doc came off the assembly line in 1944.

At this point, we have rolled over 1,500 feet. Mark is now looking for a speed of around 100 mph. By 2,000 feet, we hit it and he lightly lifts the nose, allowing the airplane to fly when it's "ready." We lift off and start our climb, accelerating to 130 mph before Mark raises the gear and lifts the nose higher. Around 150 mph, Mark finally raises the flaps and requests Donnie adjust the power settings from max power to a reduced power setting they refer to as "Climb 1." As we make our climb-out, I am in awe of the largescale view of Wichita developing in front of me. Despite having flown above this city countless times, experiencing it from a B-29's nose somehow makes it seem like the first. I am struck with an airy feeling closely resembling the thrill I experienced during my first solo.

At 170 mph, Mark requests the next reduced climb setting, "Climb 2," which produces an estimated climb of

500-600 feet per minute. This is the setting he keeps as we turn north and continue to climb toward our assigned altitude of 7,500 feet. Next stop: Eau Claire, Wisconsin.

Doc's Story

Doc's chronicle began in December 1944 when it rolled off the Boeing Wichita assembly line (Serial No. 44-69972) and was delivered to the U.S. Army Air Corps the following March. The giant bomber earned its namesake when it was assigned to the "Snow White" radar squadron, each B-29 named for one of the seven dwarfs. During WWII, radar squadrons were used to train the navigator bombardiers on the latest radar equipment used for bombing and routing.

Over the next 11 years, Doc would serve in various non-combat roles before being retired to China Lake, California, to be used as a target for Navy missile testing and bombing practice. For 42 years, it sat in the Mojave Desert until Tony Mazzolini and a team of local volunteers were finally able to rescue the relatively unscathed warbird from its resting place in 1998.

Deplete of the necessary resources to piece the giant airplane back to operational status in California, Tony Mazzolini soon contacted Doc's birthplace, Boeing Wichita. Boeing executive at the time, Jeff Turner, welcomed the opportunity to have the WWII hero return to its home. So the rescue team in China Lake, led by Tony, disassembled Doc and shipped to Wichita on seven flatbed trailers in 2000.

Over the next 16 years, thousands of aircraft parts and more than 350,000 volunteer hours were invested in bringing Doc back from the brink of destruction. Local mechanics, engineers, electricians and other technicians came together from neighboring manufacturing plants to piece the iconic aircraft together.

"You could not restore a B-29 anywhere else in the world. The reason for that is the people," said Josh Wells, spokesperson for Doc's Friends, the nonprofit organization managing the operation of B-29 Doc. "Without Wichita's aviation workers and can-do attitude, this would not have been possible. Not to mention the dozens of local aviation companies who contributed custom parts solely for Doc."

Doc's Friends was formed in 2013 by Wichita business leaders to financially support and complete the final stretch of the B-29 Superfortress restoration. The group continues to manage events, fundraising and communication efforts meant to ensure and protect Doc's future. The latest endeavor is the construction of a permanent 32,000 sq. ft. hangar situated at Wichita's Dwight D. Eisenhower National Airport (KICT). The hangar will not only provide a secure home and maintenance facility, but will also make the warbird significantly more accessible to the public. The \$6.5 million project is expected to be complete this Fall.

"The hangar is not meant to be a museum, but a living experience," said Wells. "We want to honor the men and women who designed, built and flew the B-29 by allowing the public to be able to come in

and see, touch and feel the technology and engineering that went into this airplane."

Doc's Friends is currently raising additional funds to launch its STEM (Science, Technology, Engineering and Mathematics) education project which will be delivered from inside the hangar. The group is working through a curriculum and plans to eventually host schools with the hope that the experience will spark future aviators and engineers.

Flying Museum

Last year, B-29 Doc completed its first air show tour with eight show appearances, including its much-anticipated EAA AirVenture debut. Joined by fellow B-29, FIFI, the pair flew their first formation flight. It is believed theirs was the first formation flight of two B-29s in over 60 years.

"Everywhere we went, Doc attracted record crowds," said Wells. "The most emotional of course are the WWII and Korean vets who actually witnessed these airplanes in combat. They're often speechless upon seeing Doc. You can tell the memories are suddenly flooding back and they are 19 again. It is truly amazing to learn their stories, which is exactly why we restored the airplane and why Doc's Friends exists."

Upon meeting many veterans, specifically WWII veterans, the Doc's Friends team often sets up a camera/audio and allows them to talk however long they wish. The recordings are collected and added to a library so they can be preserved.

"I think this is something we owe that generation," continued Wells. "What they did during those dark days is incredible. To capture their stories and the emotion behind them is really what we are all about."

Doc's Friends plans on attending as many as 12 air shows each year. With it being an all-volunteer organization, the airplane will typically only be away from Wichita three to four days at a time. The main hurdle, specifically when flying to the east or west coast, is fuel cost. The group estimates a burn of \$2,000 to \$3,000 per hour in fuel and oil. Adding in maintenance, hangar rent, etc. and



My view from the bombardier seat while awaiting takeoff in Wichita.



The B-29's infamous tunnel was originally designed in order to connect the pressurized fore and aft sections of the airplane, while the bomb bays below remained unpressurized.

Back to the Flight

After just 15-20 minutes of flight time, we are out of the city and flying our assigned altitude. We cruise along at about 200 mph with the total flight expected to be 2.5 hours. I am tagging along as the group makes its way to the Chippewa Valley Air Show where Doc will be on static display for the weekend. The crew is relaxed and carrying on casual conversations. Like old friends, they exchange stories, ask about family members and discuss the weather. Thanks to the B-29's modernized panel, navigation is simple with the inclusion of Garmin's GTN 650, GTX 33 and GDL 88.

the total operating cost climbs to around \$8,000 - 10,000 per hour. This is covered by a combination of appearance fees, merchandise sales, donations and as of just recently, rides.

Doc's Friends received FAA approval for passenger flights in July. Each "B-29 Doc Flight Experience" is approximately 90 minutes and includes a 30-minute ride. Rides can be purchased on the Doc's Friends website and either coincide with an air show or take place during a "Ride Weekend" in Doc's hometown of Wichita. Proceeds go directly toward supporting the Doc's Friends mission.

It's not long into the flight when the crew tells me it is safe to move about, and invites me to explore. Though it's tough to abandon the views from the bombardier seat, I am curious to check out the rest of Doc. I climb over the seat and make my way toward the infamous tunnel.

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There are three scanners onboard Doc every flight, offering extra eyes for the pilot and looking for any abnormalities among the gear, flaps, engines or propeller.

The B-29's tunnel was originally designed in order to connect the pressurized fore and aft sections of the airplane, while the bomb bays below remained unpressurized. In wartime, pressurization was a unique advantage and allowed the bomber to fly altitudes of up to 30,000 feet. This capability was the B-29's best defense as it put it out of the range of unpressurized fighter aircraft. Today however, Doc is unpressurized and typically maintains an altitude anywhere between 4,000 to 8,000 feet each flight.

After making the awkward but fun crawl, the crew opposite of the tunnel greets me with smiles and offerings to

try their various seats. I first sample one of the scanner positions. Situated on both sides of the aircraft, the scanners serve as additional eyes for the pilot and watch for any abnormalities with the landing gear, flaps, engines and propellers throughout the flight. Next, I jump up into the central fire control seat (or "barber chair" as the crew calls it). It sits on a raised platform in the middle of the aircraft, between the scanners, and allows its occupant to pop their head out the top of the airplane within a secured bubble. I take a look and the view has me awestruck at first. I can see everything: fuselage, engines, empennage and tail. Because the chair swivels 360 degrees, gunners were able to easily maneuver and scan the open sky for potential threats.

I take my time in this seat before finally stepping down and inspecting the

rest of my surroundings, which include passenger seats and the tail gunner position. With no stone left unturned, I then head back to the bombardier seat for the remainder of the flight.

Landing a B-29 Bomber

As we descend and approach Eau Claire, my headset is alive with communication. Each crew member affirms their position and Mark calls out to Donnie with his first under-power setting of 26 inches manifold pressure. This gradually slows us to 180 mph and Mark proceeds to let the gear down. The scanners observe from the back and soon confirm, "three green."

Abeam of the numbers, we have slowed to around 150 mph and Mark puts in 15-degree flaps. He then flies his typical "bomber pattern" of 1-2 miles past the runway before turning base and putting in 25-degrees of flaps. On final, he sets them to 35 degrees, closely watching his airspeed. He again calls to Donnie to reduce the manifold pressure, this time to 24 inches. He is looking for an approach speed of about 125 to 130 mph.

Once we are above the runway, Mark says, "Engineer, ease it off." Donnie slowly cuts the throttles and we make a smooth touch down, coasting nearly 3,000 feet before Mark finally tests the brakes. I let out a deep breath (I must have been holding it) and smile as we safely exit the runway and taxi toward the airport's small terminal building.

After that, it's a whirlwind weekend at the Chippewa Valley Air Show, filled with great performances and passionate aviators. I thoroughly enjoy my time spent with the Doc's Friends crew, friends both old and new. And on Sunday morning, we clamber back on-board, crank up and start home to Wichita.

Despite it being my second ride, I am again struck with emotion; a mixture of excitement and awe. I think of my own grandfathers who served in WWII, a doctor and a paratrooper. Doc's history – our history – is overwhelming in its presence on board. I am highly grateful I was given the opportunity to experience it firsthand, and encourage readers to schedule a ride themselves.

To schedule a ride or learn more about Doc's Friends, visit b29doc.com.



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FIVE on the FLY



PHOTOS COURTESY OF BRETT SCHAUF

by **Rebecca Groom Jacobs**

WHO:

Mark Novak
B-29 Doc Chief Pilot

HOMEBASE:
Dawson, Nebraska

RATINGS:
Comm/Inst/SEL&MEL
with types in
LR-JET
B-707
B-720
DC-B26 and
Authorized
Experimental
Aircraft, B-29

HOURS:
5,200 Military
3,000 Civilian
350 in the B-29

1. Can you summarize your piloting background?

I was a military pilot for almost 24 years, flying great aircraft like the C-21 (military version of the Lear 35), B-1 Bomber and TG-7A glider. I eventually left active duty and joined the National Guard flying the KC-135 for nine years before signing up for active duty retirement.

2. What inspired you to get involved with organizations like the Commemorative Air Force (CAF) and Doc's Friends?

Before I became a pilot, I loved airplane movies! I never thought I would actually be able to fly any of those old airplanes, but while stationed in Texas flying the B-1, I became involved in the Big Country Squadron of the CAF. One of the members told me of an Interstate L-6 that was for sale. It was a fairly rare aircraft (250 produced and only two left in original condition). I ended up purchasing the L-6 and owned it for eight years – getting bit by the warbird bug in the process. From there, I worked my way up the ladder flying and owning many types of historic aircraft including a T-6 I still own today. To me, the aircraft of the World War II era are amazing. Less than 40 years after the Wright Brothers flew, we had P-51's and B-29's. These aircraft are the reason the Allies won the war. I consider it an honor to be able to fly, display and tell the story of those who flew these great aircraft.

3. You have been flying the B-29 Superfortress for more than six years. From your perspective, what makes flying the B-29 particularly special?

For my first four years, there was only one B-29 flying: FIFI of the CAF. Everywhere we took her, we were greeted by enthusiasts whose parents and grandparents flew and worked on the B-29. They all wanted to touch the aircraft and tell their stories. For the past two years, I have flown both Doc and FIFI. The crowds and excitement met by either of the iconic warbirds is infectious. Some might think every stop is the

same, but it is the people I meet that keeps me coming back. I travel 2-3 weekends per month giving rides and talking about these wonderful pieces of history.

4. Based on my experience onboard Doc, it is apparent a great deal of communication is needed to operate the B-29. Can you explain the crew dynamic?

You are not the only one to comment on the crew dynamics. I am asked a lot about how we do it. First, the FAA requires us to have six crew members on the aircraft at all times: two pilots, one flight engineer and three scanners in the rear. Of course, as a pilot I consider myself the big cog in the wheel, but it is truly the flight engineer that we cannot function without. He starts and stops the engine, runs the fuel and electricity and is constantly monitoring the four massive R-3350's. Often, people are amazed that the pilots rarely touch the throttles. In fact, pilots only use the throttles for taxi and takeoff. While flying, I will call each power setting to the flight engineer. Since the propellers are almost 17 feet across, just a slight difference in power can make the aircraft fly sideways.

The scanners are my eyes for the back half of the aircraft. Since I cannot see very much of the engines during flight, they look for leaks, smoke and (heaven forbid) fire. They

also call out aircraft configurations and constantly keep a lookout for traffic. In an emergency situation, they are the ones that would lower the gear and flaps manually if needed.

The most imperative time for crew coordination is during the landing phase. As the pilot, I'm concentrating on putting the 80,000-plus-pound aircraft on the centerline and touching down in the first 1,000 feet of the runway. I will call out different power settings to the flight engineer before finally requesting the removal of all power once we are above the runway. It's more of a dance than an exact science, but as a team we get the job done.

5. What is one of your all-time favorite flying memories?

Well I have many, but three years ago I was honored to participate in the 70th anniversary of VE (Victory in Europe) Day to celebrate the end of World War II. Over 50 aircraft flew over the National Mall in Washington D.C. Originally, I was to fly FIFI as the last aircraft in the flyby, but the only participating A-26 needed a pilot and I ended up flying it instead. The swell of pride and patriotism seen that week was incredible. I am already really looking forward to taking part in the 75th anniversary flight in 2020. **T&T**

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112	CHALLENGER 601-3A
52	CHALLENGER 601-3R
295	CHALLENGER 604
9	CHALLENGER 800
183	CITATION 500
298	CITATION 525
269	CITATION BRAVO
155	CITATION CJ1
84	CITATION CJ1+
206	CITATION CJ2
169	CITATION CJ2+
360	CITATION CJ3
63	CITATION CJ3+
222	CITATION CJ4
146	CITATION ENCORE
46	CITATION ENCORE+
299	CITATION EXCEL
19	CITATION I
249	CITATION I/SP
463	CITATION II
60	CITATION II/SP
163	CITATION III
44	CITATION LATITUDE
140	CITATION M2
377	CITATION MUSTANG
126	CITATION S/II
256	CITATION SOVEREIGN
61	CITATION SOVEREIGN+
238	CITATION ULTRA
238	CITATION V
29	CITATION VI
94	CITATION VII
254	CITATION X
24	CITATION X+
210	CITATION XLS
205	CITATION XLS+
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46	DIAMOND IA
3	DORNIER ENVOY 3
230	ECLIPSE EA500
41	EMBRAER LEGACY 500
133	EMBRAER LEGACY 600
60	EMBRAER LEGACY 650
235	EMBRAER PHENOM 100
239	EMBRAER PHENOM 300
84	FALCON 10
22	FALCON 100
21	FALCON 200
174	FALCON 2000
21	FALCON 2000EX
68	FALCON 20C
16	FALCON 20C-5
24	FALCON 20D
2	FALCON 20D-5
30	FALCON 20E
9	FALCON 20E-5
71	FALCON 20F
68	FALCON 20F-5
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33	HAWKER 750
191	HAWKER 800A
34	HAWKER 800B
352	HAWKER 800XP
35	HAWKER 800XPI
80	HAWKER 850XP
148	HAWKER 900XP
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4	JET COMMANDER 1121B
1	JETSTAR 6
6	JETSTAR 731
12	JETSTAR II
10	LEARJET 23
17	LEARJET 24
2	LEARJET 24A
14	LEARJET 24B
39	LEARJET 24D
10	LEARJET 24E
7	LEARJET 24F
16	LEARJET 25
39	LEARJET 25B
10	LEARJET 25C
100	LEARJET 25D
4	LEARJET 28
29	LEARJET 31
167	LEARJET 31A
33	LEARJET 35
380	LEARJET 35A
13	LEARJET 36

33	LEARJET 36A
29	LEARJET 40
194	LEARJET 45
174	LEARJET 45XR
99	LEARJET 55
4	LEARJET 55B
12	LEARJET 55C
261	LEARJET 60
478	PILATUS PC-12/45
111	PREMIER I
7	SABRELINER 40
19	SABRELINER 40A
2	SABRELINER 40EL
1	SABRELINER 40R
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19	SABRELINER 60ELXM
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15	SABRELINER 80
6	SABRELINER 80SC
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32	WESTWIND 1124
65	WESTWIND 2

Turboprops – 10,774

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11 KING AIR 300LW
564 KING AIR 350
57 KING AIR 350C
286 KING AIR 350I
19 KING AIR 90
11 KING AIR A/B90
70 KING AIR A100
214 KING AIR A200
58 KING AIR A90
106 KING AIR A90-1
94 KING AIR B100
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95 KING AIR B200C
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22 KING AIR B200T
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141 TURBO COMMANDER 690A
144 TURBO COMMANDER 690B
83 TURBO COMMANDER 840
26 TURBO COMMANDER 900
55 TURBO COMMANDER 980

Twin Piston - 6,961

Owners

Count	Aircraft
39	BARON 56 TC
1,459	BARON 58
3	BARON 58 PA
351	BARON 58P
112	BARON 58TC
3	BARON A56TC
301	BARON G58
197	BEECH DUKE B60
176	CESSNA 340
531	CESSNA 340A
90	CESSNA 402B BUSINESS LINER
140	CESSNA 402C
29	CESSNA 404 TITAN
266	CESSNA 414
363	CESSNA 414A CHANCELLOR
49	CESSNA 421
41	CESSNA 421A
362	CESSNA 421B
610	CESSNA 421C
53	CESSNA T303
116	PIPER 601P AEROSTAR
25	PIPER 602P AEROSTAR
488	PIPER CHIEFTAIN
24	PIPER MOJAVE
835	PIPER NAVAJO
16	ROCKWELL 500 SHRIKE
27	ROCKWELL 500A SHRIKE
82	ROCKWELL 500B SHRIKE
47	ROCKWELL 500S SHRIKE
5	ROCKWELL 500U SHRIKE
16	ROCKWELL 520 COMMANDER
7	ROCKWELL 560

COMMANDER	
15	ROCKWELL 560A COMMANDER
13	ROCKWELL 560E COMMANDER
8	ROCKWELL 560F COMMANDER
17	ROCKWELL 680 SUPER
7	ROCKWELL 680E
13	ROCKWELL 680F COMMANDER
17	ROCKWELL 680FL GRAND COMMANDER
8	ROCKWELL 680FLP GRAND LINER

High Performance Move-Up Singles - 5,602

Owners

Count	Aircraft
228	BEECH BONANZA
462	CESSNA 182
59	CESSNA 206
412	CESSNA P210N
21	CESSNA P210R
54	CESSNA T182
1	CESSNA T206
751	CIRRUS SR20
2,905	CIRRUS SR22
241	PIPER MALIBU
468	PIPER MIRAGE

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Review: Bose ProFlight Aviation Headset

by Rich Pickett

The bar has been raised for lightweight Active Noise Reduction (ANR) headsets. Bose made its first major public debut of their new ProFlight aviation headset at EAA AirVenture 2018. I stopped by for an in-booth demonstration and ultimately walked away impressed and with a headset in-hand to try in real world scenarios. I have since tested the headset in a CJ3, Eclipse 500 and Cirrus SR22.



The Design

Weighing in at 4.9 oz. compared to approximately 12 oz. for the Bose A20 headset, the ProFlight presents Bose fans with a much lighter weight option yet retains exceptional noise cancellation the company is known for – specifically when flying turbine and quieter turboprop aircraft.

Designed with ear buds instead of over-the-ear cups, the ProFlight makes easier use of sunglasses or prescription eyewear. To accommodate different ear shapes, the headset offers three different sizes of ear buds. The silicon ear buds are molded to a soft “wing” that enhances retention in the ear. Two pads are located above each ear along with an overhead arch which provides support for the wired ear buds and mic boom.

Though the ProFlight's ear buds provide some passive noise attenuation, it does not match the same level of passive noise reduction of the full size, over-the-ear headsets like the A20. This is one reason Bose does not directly market this headset for noisier aircraft.

Where the ProFlight shines is in its unique ANR design for lower noise cockpits found in turboprop and

turbine aircraft. I've found through my testing that the noise level in most light jets is around 80-86 dB, while turboprops like my Meridian are 96 dB and high performance pistons, such as the SR22, are closer to 100 dB.

The ProFlight headset achieves its proprietary noise reduction by incorporating three acoustic profiles, each tuned to a particular combination of frequency attenuations or cancelling. Rather than a flat reduction of sound levels across the frequency sound spectrum, each profile is customized to provide attenuation at specific frequencies. In the “Low” setting, external bass frequencies are attenuated while mid and voice frequencies appear to be enhanced or amplified. In the other two settings, “Med” and “High,” the attenuation profile changes progressively, with maximum attenuation of all frequencies experienced in the “High” profile.

Tap Twice for Your Passengers or Co-Pilot

Now, for probably the coolest feature. Bose incorporated instant ANR reduction by way of double tapping either ear piece. If your ANR settings are set to “Med” or “High”, tapping twice on either ear bud instantly lowers the ANR to “Low”, allowing for easier hearing of any sound such as a passenger talking. This eliminates the need to remove your earbud or fiddle with your noise reduction settings. Once you are ready to return to your previous ANR setting, simply tap twice again on the ear bud.

Comfort

Frankly, if a headset isn't comfortable, pilots aren't going to use it for long – no matter the whiz-bang features it proclaims to offer. Over my career, I've used an assortment of designs and brands: earplugs, regular

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The ProFlight headset incorporates three acoustic profiles: Low, Med, High. Each are tuned to a particular combination of frequency attenuations or cancelling.



Bose incorporated instant ANR reduction by way of double tapping either ear piece.

over-ear headsets, ANR. I've owned or tested almost all makes of Bose, Lightspeed, David Clark and others. My over-the-head headsets perform great, even for my longer 10 to 13 hour flight days. However, Bose's promise of a lightweight ear bud solution with high quality ANR for turbine aircraft still caught my interest.

During my initial demo at AirVenture, Clay Pipkin, acoustic engineer at Bose, set me up with the headset and walked me through all its features while simulating cockpit noise conditions. As we quietly talked amidst the roar of a turbine engine simulation, I was quickly impressed with its lightweight, comfortable fit. I've found that

no matter how comfortable a full-cup headset is, when you wear sunglasses or prescription eyeglasses, you will eventually feel the pressure of the earpieces on your temples. I frequently remove my sunglasses during my flight to communicate with my passengers or simply for comfort during long flights. To be able to comfortably wear sunglasses with a headset is a big plus for me.

This is possible because the ProFlight incorporates a unique set of side pads connected to the headband that sit about one-half inch above the ear, allowing for easy removal or placement of eyewear. Neither the side pads nor headband touches most glasses and eliminates pressure points that can be caused by over ear headsets. I've also found that when faced with turbulence, the side pads aide in keeping the headset in place while the headband's lower profile reduces contact with the cockpit ceiling. An important feature for taller pilots.

In-Flight Performance

Since procuring my demo set, I've tried the ProFlight on several flights including my return trip to California in a Citation CJ3 from AirVenture. I generally fly and instruct while wearing my Bose A20 or David Clark Pro X and was impressed with how easy the ProFlight was quick to adjust. I found that it fit me better if I moved the headband slightly forward on my head when wearing a baseball cap. I rotated the ear pads into their horizontal position and placed them slightly above my ears.

The earbuds with the molded silicone wings fit securely in my ear. A nice trick for fitting them in: slightly rotate the buds when placing them in the and ensure that the cords are in the 2 o'clock position. As you adjust, you may inadvertently place them in the tap to talk mode, however I quickly learned to avoid that action. When not in use or storing the headset, the side pads have a handy clip to hold the ear bud cord in position to avoid catching and or damaging the cord.

Overall, the ANR performance in-flight is amazing. I have tested it in

all three profile modes, with High being my preferred setting. During my flights, I even swapped with my Bose A20s to better analyze the difference in noise reduction. I was expecting to find an appreciable difference between the two, but was surprised to find it was marginal in the CJ3. I used a decibel meter to determine the perceived reduction. During cruise, it measured 82 dB and in a low altitude descent, 90 dB (for any sound experts reading this, I used type Z frequency weighting).

I have also tested the ProFlight in an Eclipse 500 and Cirrus SR22. The Eclipse is as quiet as the CJ3 and as expected, the headset worked very well. The surprise came when using the ProFlight in our SR22, a fairly loud example of a high-performance

piston airplane. On takeoff, I measured 102 dB yet found the ProFlight still performed exceptionally well. I even alternated between the A20 and ProFlight during the remainder of flight and found them both to be more than adequate for the job.

Bluetooth Connectivity

Like the A20, the ProFlight supports Bluetooth connectivity to an external phone or music device with the connection process being the same. The only difference I noted was the lack of an auxiliary 3.5 mm input option. I personally prefer two methods of connection for flexibility, however, most external devices now have Bluetooth so the functionality shouldn't be an issue for the majority of pilots.

The audio quality while using an external music source on my iPhone

was very similar to what you would find in high quality ear buds you might use on the ground. Bose uses the same audio profile in the ProFlight as their other ear buds and headphones, and streaming various albums showed a good frequency response, whether I was listening to Lady Gaga or Tubular Bells. The bass was full, with good clarity of the higher frequencies, and possibly some attenuation in the vocal bands which might be expected in an aircraft environment.

Conclusion

If you are in search of a super light-weight headset, especially for turbine flying, the Bose ProFlight is a great choice. If flying in higher noise environments, I would recommend demoing the ProFlight first and see if it fits your needs in those aircraft. 

Since receiving his private pilot's license in 1977, Rich Pickett's passion for flight has only intensified. President of Personal Wings, Inc., Rich is the former chief information officer for San Diego State University. With more than 10,000 hours in the logbook he holds ATP, CFII SMEL, AIGI, commercial SES and glider ratings. His type ratings include Citation 500, 510S, 525S, Eclipse 500S, the Aero Vodochody L-39 and L-29, and SIC on the DA-10. He serves on the NBAA Citation Technical Advisory Committee.



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CJP Convention 2018 Preview

by Andrew Broom



Cessna Citation owners, partners and exhibitors will soon gather at CJP's annual convention, October 24-27, at the scenic Hyatt Regency Hill Country Resort and Spa in San Antonio, Texas. It will be a particularly special year as the Citation Jet Pilots Owner Pilots Association (CJP) is celebrating its 10th anniversary.

Each year, the CJP Annual Convention is focused on helping Citation owners operate their aircraft in a safe, professional and efficient manner; all while fostering new friendships and creating memorable social and companion activities. Over 100 Citations are expected to fly into the San Antonio Airport (SAT) for this event.

Guest speakers will include world renowned air show performer, Sean D. Tucker and former NASA astronaut, Charlie Precourt. In the last 40 years, Tucker has performed in more than 1,000 air shows in front of approximately 80 million spectators. Charlie Precourt, a Citation owner and Chairman of the CJP Safety Committee, will lead an in-depth "safety standdown" where he and other safety experts will analyze accidents/incidents and discuss best practices.

Additional guest speakers will include: Greg Feith (aircraft accident analyst), Pete Basile (Textron Aviation accident investigator), Neil Singer (CJP Safety Consultant), David Miller (CJP Safety and Education Foundation Chairman), Dr. David Strahle (NEXRAD expert) and others.

This will be the inaugural year of the CJP Gold Standard Safety Award, which will be presented by the recently instated CJP Safety Committee. Open to all Citation pilots, the award's purpose is to recognize an individual who goes above and beyond minimum Citation currency requirements to complete enhanced training programs offered by CJP partners. Examples of the award's criteria include 100 turbine hours PIC (in the last year), a second 61.58 check at a Part 142 simulator training provider, adding a rating and/or undergoing upset recovery training. Interested applicants can find more information on CJP's website.

Throughout the gathering, attendees will hear the latest updates from CJP partners including Textron Aviation, Aviat Aircraft, FlightSafety International, Garmin, jetAVIVA, TRU Simulation + Training, Rockwell Collins and



Tamarack Aerospace. Moreover, these partners will participate in assorted breakout sessions regarding Citation operations, avionics and engines.

CJP partner jetAVIVA will host a two-hour Companion Ground School led by CEO Cyrus Sigari. Additionally, jetAVIVA instructor pilots will be offering a "Companion Flying Training Course." These courses are designed to refresh the principles of the pinch hitter course and increase companion safety and knowledge of their model aircraft. Also available will be a Companions Lounge that offers yoga, massage, painting and other activities.

The event will conclude with CJP's annual auction on the final evening. Proceeds from the auction support the many programs and activities that meet the goals of the CJP mission

such as the CJP Bob Hoover Presidential Scholarship and The Russ Meyer Citation Library. During the auction, attendees will be treated to a private concert courtesy of Textron Aviation: music superstar Dierks Bentley (a Citation pilot himself). Bentley has amassed more than one billion digital streams and countless music awards.

If you are a CJP member (or are interested in joining), registration for the 2018 CJP Convention is still open. Visit www.citationjetpilots.com for more information. 

Andrew Broom is the Chief Executive Officer for the Citation Jet Pilot Association. He can be reached at andrew@citationjetpilots.com.



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Best Practices for Recurrent Training

by Neil Singer

Step I: Get a Progressive Check

One of the biggest single factors that can make the difference between a positive, efficient recurrent training experience, versus one that merely “checks the boxes” at a cost of high stress and minimal learning, is if the required pilot in command proficiency check (PPC) is done as a progressive check (good), or as a standalone check on the last day of training (not so good).

Here's what FAA says about progressive checks. On December 19, 2016, they published notice N8900.396, “Progressive Checking for Pilot in Command Proficiency Checks Under 61.58.” It states:

Progressive checking is the practice whereby an applicant is trained on a task or a set of tasks, and then after having been trained is subsequently checked on those tasks. After this checking phase, further training is conducted on additional task(s) and then those task(s) are checked. This process continues until all tasks have been trained and subsequently checked.

In other words, the PPC does not need to be completed all at once, in one session, but can be spread out among several simulator sessions, and woven in with training (practice). This is ideal for two reasons: time isn't wasted revisiting items that were performed fine during an early session, and the stress of a single session with air work, four instrument approaches and one visual pattern is avoided. Anyone who has done a standalone PPC will attest that it is a fatiguing, fast-paced session as there are numerous required tasks to accomplish in only two hours.

There are some important limitations to be aware of with regard to progressive checking. First, let's look at what is said regarding an unsuccessful maneuver during a “checking” attempt:

Training to proficiency may be accomplished when an applicant fails to perform to the required standards during the checking event. In such a case, the check may be suspended while the applicant is retrained, after which the proficiency check may be resumed and the task can then be reevaluated.

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Checking may only be halted twice to provide additional training during the entire training program. An individual task which is failed can only be retrained one time. After either of these thresholds has been reached, the check is considered unsatisfactory and the applicant must complete all training and complete a new, standalone proficiency check.

Simply meaning you can retry any unsuccessful task once after practicing it a bit more. If that task isn't done satisfactorily the second time, or if any three tasks are failed, a stand-alone PPC will be required on the last day.

An even more important caveat exists:

All checking must be conducted by a Training Center Evaluator (TCE). Checking is not authorized to be conducted by instructors.

TCEs are the simulator equivalent of a designated pilot examiner (DPE); they have been specially trained and tested to hold the authority to issue certificates (e.g. ATP), type ratings, and certify PPCs as complete. Since only a TCE can conduct any portion of checking, and we want to conduct a small amount of checking during each session, it is critical we request a TCE for every session. This can take some time to coordinate, and perhaps some arm twisting, but it should be possible with a bit of lead time.

Step II: Get Good Instruction

Having a TCE conduct a progressive PPC across three days won't make for a good experience if the TCE is a terrible instructor. It's an unavoidable truth that the best sim center is

Checklist for an Optimal Sim Recurrent

- Advocate, advocate, advocate
- Request a progressive PPC
- Request a TCE for every session
- Request a TCE identified as above average
- Consider bringing an experienced instructor to training
- Use the full sim time allotted
- Come to training with a list of extra things to do with free sim time

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only as good as the instructor with whom you are interfacing. At every one of the Part 142 schools, you will find a range of instructor quality, both in terms of depth of knowledge and in instructional talent/personality.

If you have had a positive experience with an instructor, request them again. Yes, there is something to be said for learning from multiple teachers, but more can be learned from one excellent instructor than from a dozen mediocre ones, so if you find a jewel in the rough, don't be afraid to stick with them.

Also, understand that some sim instructors, sometimes even the good ones, don't naturally "think outside of the box." If attending your first sim-based recurrent training, or the first one after several years of in-aircraft recurrent checks, consider having an experienced instructor accompany you through the training. Some schools will offer your instructor a discounted, or even free, recurrent course if they attend with you, and paying to have an experienced (and good) instructor sit in the right seat with you during your sim sessions can be invaluable.

An experienced in-aircraft instructor often will be quicker to diagnose what you could do to improve a task, rather than simply "repeat it until it's passable," often the sim instructor's go-to. They can also spend extended time after the session in a debrief with you, perhaps practicing chair flying of a rough maneuver, or reviewing an avionics or instrument procedure finer point you are having trouble grasping.

Step III: Advocate for Yourself

This really is step zero. Getting a progressive check, a TCE, a good instructor will all require advocating for yourself, and not passively allowing the training to fall as it will. The advocating doesn't stop with the start of training, though. For a top-notch recurrent experience, you must be prepared to keep up the advocating each and every day of training.

A key way to do this is to come prepared to use every minute of sim time you've paid for. It costs more to rent most sims than it does to fly the airplane for the same amount of time, so don't let any of that expensive box time to go to waste. If you finish all the required tasks 15 minutes early, don't just take a long coffee break, but ask to use the time to work on something.

What to work on? That's another job you have before you show up for day one. Prepare a list of things you'd like to do in the sim such as difficult approaches, challenging weather conditions, landings, etc. Have a list ahead of time, maybe even have the approach plates printed or bookmarked, and it will be easy to extract the most value from the sim time you've bought.

Understand the difference between flying that can "count" for the purposes of required training and checking and that which can't. But don't be afraid of asking for the latter. For example, the FAA has only certified a small handful of airports as having the visual characteristics needed to perform a circling approach. Any circling approach that will be conducted as part

of an approved syllabus or the PPC must be performed at one of these airports. However, if you perform a certain circling approach regularly, there's no reason it can't be done during any extra time left over once the required items are completed.

Finally, if despite careful up-front planning and strong advocating during your course, you're still not getting what you need out of the training, don't give up. Meet with both the program manager (in charge of the type you're training in) and the facility manager (in charge of the entire training center) and lay out the issues you're having, and what you need to get better training.

This article first appeared in the most recent edition of Citation Jet Pilots Association's safety publication Right Seat. While originally written for Citation owner-pilots, the article contains valuable information for owner-pilots of any business jet aircraft. We thank CJP and Neil Singer for allowing us to republish it for the T & T readers.

Neil Singer is a 10,000-hour turbine mentor and designated examiner. A former charter and airline pilot, he instructs in the CJ and Mustang series, as well as in the Embraer Phenom 100 and 300. His website is www.njsflight.com.

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Airport Day

by Kevin Ware

Today is not a typical day of flying. We are nearly 6,000 pounds under maximum takeoff weight. In a Lear 40 with a basic empty weight of 13,232 pounds, that is really light. The airplane's TFE 731-20 turbofan engines each put out 3,500 pounds of thrust, giving us a thrust-to-weight ratio of 1:2. Following the maximum performance takeoff checklist, we hold the brakes, push the throttles to the takeoff indent and wait a few seconds for the FADEC computers to get the engines operating at MTO (maximum takeoff thrust). Then with the airplane shuddering slightly, we suddenly release the pressure on the brake pedals. Particularly at sea level like we are, the sensation from all of this is akin to being launched from a sling shot.

When the brakes are released, the airspeed comes alive almost immediately. And nearly as fast as I can call out the numbers, the airplane accelerates through 80 knots then V_1 and V_r (rotation speed). By the time the tires leave the ground, we are already going through V_2 . As the wheels come up and lock with a firm "clonk," we pitch up to maintain V_2 as the airplane climbs out at over 5,000 feet per minute. We pass through the crosswind turn at 500 feet AGL in 10 seconds. In order to stay halfway close to the traffic pattern, we then roll into a left hand 45-degree banked turn. At 1,500 feet AGL, we cut back the throttles to keep the speed legal and pitch forward to arrest the climb, which produces a contradictory feeling of rapid deceleration and a slight sense of weightlessness at the same time. We make another steep left turn to keep the downwind leg close in. At the speed we are flying, our position reports on Unicom at this non-towered airport are almost continuous, yet we have the whole airport to ourselves.

We are flying this way because we are performing a demo flight as part of our local "Airport Day." Below us is a large crowd gathered on the ground watching our every move. Unbeknownst to me, the announcer even plugged his PA system into the Unicom frequency, so all of my airborne transmissions were heard

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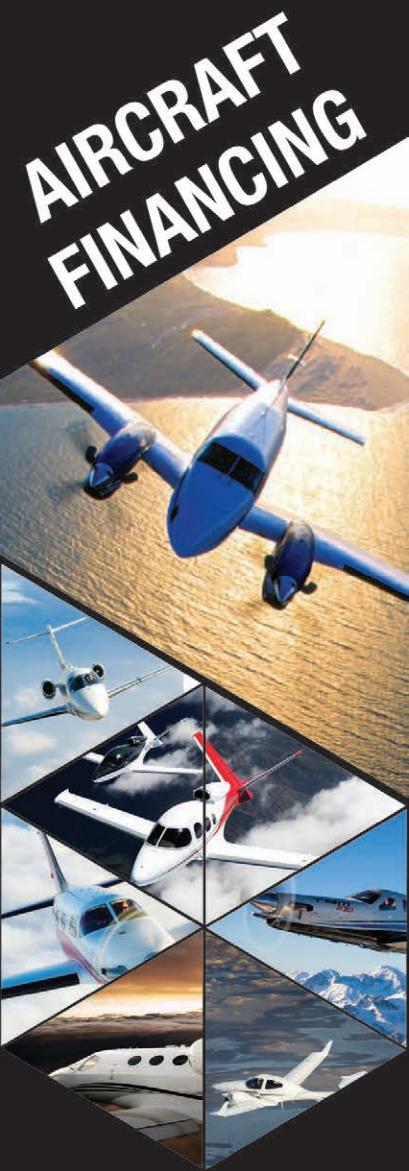
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loud and clear by everyone below...yikes, I wish I had known he was going to do that.

Small Airports

Though the majority of U.S. airports are publicly owned and we as pilots utilize them frequently, we often are unaware of their individual history or what their owners (the taxpayers) actually think about them. Truth of the matter is, pilots commonly think about airports the same way truckers think about rest stops on the interstate: a public convenience that has always been there and is therefore taken for granted. However, the important difference is that virtually all members of the public have a driver's license whereas a minuscule amount of the population has a pilot's license. The majority of citizens are not aware of the benefits local airports brings to their community. As a result, general aviation (non-airline) airports often exist in financially precarious and politically controversial circumstances, with the local taxpaying voters having little knowledge of how they came to be, or how the airport benefits them personally. In a democracy, this does not bode well for the future of many airports.

Given the above problem, the airport I am based (KBVS) decided several years ago to put on an annual community aviation event, or just plain "Airport Day." Once a year, the entire facility is open to the public so they can freely wander around and learn more about aviation and the happenings at their local airport. Special programs are put on for kids (as most of those attending are families with children in tow), speeches are given by local dignitaries, aircraft are put on display

and demonstration flights are conducted to show the capabilities of various aircraft.

During our flight described above, there were more than 1,500 people watching as we demonstrated what the Lear can do. The most enthralled are usually the kids, wearing their free aviation paper caps, faces plastered with sunblock and all staring up in the sun as we fly by. In between looking upward as well, the parents chat with neighbors or friends, pointing out the relative merits of one aircraft over another (often with a surprising level of recently acquired knowledge). Folks also eat hot dogs from the mobile stand operated by one of the local service clubs, or examine the wide variety of aircraft sitting on the ramp; everything from WWII fighters (normally only found at the local Heritage Flight Museum) to a mix of general aviation airplanes including business turboprops and jets like the one we fly. While sitting on the ramp, all aircraft are available for the kids to see and touch; their faces reflected on the shiny fuselage surface, while their proud parents take creative double image photos with their cell phones. As part of the event, the adults also watch a variety of informative programs about the airport's history, and what it contributes to the community on a daily basis.

Our airport, KBVS, has a history that is fairly common among the community-owned airports in the Pacific Northwest. It is about 50 miles north of Seattle and is a former WWII auxiliary fighter base. It was built in less than a year during the 1940s when there was a perceived national threat. Following the attack on Pearl Harbor, the fear was that the U.S.





West Coast was going to be invaded from the sea by the Japanese, with the invasion being led by fighter attacks. Because of this perceived threat, fighter bases were built all along the West Coast, often just 25 to 50 miles apart; a distance which was considered appropriate for the combat range of fighters at the time. In the Puget Sound area alone, this type of airport was built at Bellingham (KBLI), Skagit Regional (KBVS), Arlington (KAWO), Paine (KPAE), Shelton (KSHN) and Olympia (KOLM); all of them within 15 minutes of flight time from each other. This was in case of any dire situations such as an injured pilot, a bullet-damaged aircraft, dog fights or fuel shortages. Events that fortunately never occurred but the public readily relates to today.

People also find it interesting to learn the details surrounding how and why these facilities were designed the way they were. Most former WWII fighter bases along the West Coast have a classical triangular runway layout, which is why they use up a large, relatively square patch of land compared to something that might be built today. The purpose of the triangular pattern was to make certain the novice 200-hour fighter pilots could safely land their heavy, hard-to-control taildraggers without any more of a crosswind component than absolutely necessary. The three runways are typically 5,000 feet each with an angle of 120-degrees from each other; the principal runway being lined up with the prevailing wind. Alongside this runway, various Quonset hut type support buildings were constructed – some of which are often still present today.

At that time, reliable information about the winds was not often available so a technique used to determine runway compass orientation was simply to walk into the nearby forest and count the number and direction of fallen dead trees. No fancy science or expensive studies necessary.

Just old fashioned logger wisdom. Learning this kind of history gives non-pilots a sense of appreciation for how and why their airport came into existence in the first place. The next question usually is, how did it become to be owned by the local community?

Airport Ownership

After the war ended in 1945, the U.S. Army and federal government were uncertain as to what to do with the many triangular shaped military airports they had quickly built all over the country, particularly along the West Coast. In England, many of the WWII secondary fighter bases had the concrete torn up and were returned to their original status as farmland. But land in the United States was plentiful, and money required to return the site to its original condition was in short supply. So instead, ownership was commonly transferred to the local community as a type of gift (something not always totally appreciated by the local taxpayers). Typical of a government "gift," it came with strings attached, one of which was very wise in hindsight. The airport's title transfer came with the condition that in perpetuity, the location must always be used as an airport, and any surrounding land included in the transfer, must be used for activities that contribute financially to the airport. This little bit of bureaucratic history is very helpful in conveying the message that regardless of its naysayers, the airport will never go away.

Often in the 1940s and 1950s, when these title transfers occurred, the local community did not realize the economic value of a functioning airport, so they neglected the facility. But with the passage of time (particularly following 9/11 with the advent of TSA awkwardness at Part 121 airports), business aircraft began using local airports more frequently, making it more evident that the facility has a big economic

impact on the community. In addition to business aircraft use, other examples of the airport's value readily understood by the public include FedEx air cargo operation. Today, just about everyone receives packages delivered by FedEx. The fact that it arrives via air right to their local airport onboard a "small" single-engine Cessna (Caravan), and is quickly transferred to a nearby van is a personal benefit they can readily appreciate.

Another notable benefit is the use of the airport by a local air ambulance service. It is surprising just how many people have had a friend or relative flown somewhere urgently for medical treatment. Knowing that there is a local facility available for this purpose contributes to their sense that the airport provides personal value to them. Naturally, on Airport Day, the aircraft involved in activities such as these are present for all to see.

Now, you might think with the heavy emphasis on airport history and value, Airport Day should be a time when airplane demonstrations are flown with great conservatism; we have not found that to be the case. There is a certain magic in flight that especially comes alive during events like Airport Day. That is how we found ourselves in the Lear showing off for the crowd on that sunny day, having every bit as much fun as the kids watching.

My only regret is if I had known my Unicorn transmissions were going to be broadcast over the PA system with 1,500 people listening, I would have dropped my voice an octave to sound more like the proverbial old, grey-haired, 30,000-hour airline captain we all try to emulate when the mic is keyed. **T&T**



Kevin Ware is an ATP who also holds CFI, MEII and helicopter ratings, has more than 10,000 hours and is typed in several different business jets. He has been flying for a living on and off since he was 20, and currently works as a contract pilot for various corporations in the Seattle area. When not working as a pilot he is employed part time as an emergency and urgent care physician. He can be reached at kevin.ware2@aol.com.

From the Flight Deck

by Kevin R. Dingman

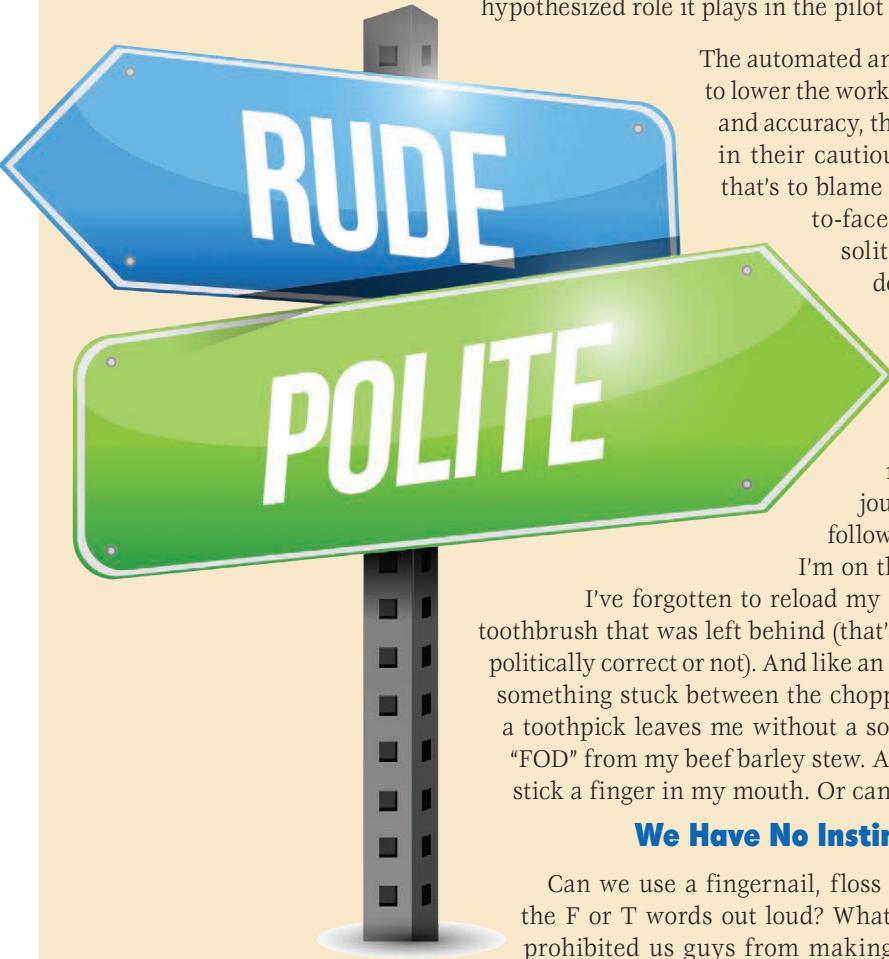


Watch Your Mouth

Delivering a politically correct passenger briefing or PA.

Lest someone posts thine vile words or actions to The Kingdom of Social Media, lightens thine purse with litigation or washes thine mouth out with a bar of soap.

When I transitioned from the Mad Dog to the Guppy, I had to restrict my gravelly-voiced public address jabbering to accommodate the 737-NG's automated safety announcements (see "In the Groove," T&T June, 2017). I now limit my PA's to one at the top of climb, an update at the one-hour-to-go point and a final PA at the top of descent. If you have yet to uncover why some airline pilots make no PA's at all, please read on with giddy anticipation of this whimsical, not completely factual disclosure of political correctness gone awry and a hypothesized role it plays in the pilot shortage.



The automated announcement system on airliners is not only used to lower the workload of flight attendants and increase consistency and accuracy, there is also a politically correct rationale entwined in their cautious yet sterile reasoning. And it's this rationale that's to blame for the extinction of the old-school PA and face-to-face interaction with customers, replaced by our solitary confinement behind a bullet-proof cockpit door. I mean flight deck door. More on this subtle linguistic distinction and its relevance to the pilot shortage in a bit.

Toothpicks

Since the availability of a free seat on the regional jet from AZO to ORD is unpredictable, my journey to work consists of an hour drive in the Jeep followed by a two-hour ride on a "luxury" bus. Today, I'm on the bus segment of the commute and realize that

I've forgotten to reload my supply of toothpicks. On the last trip, it was my toothbrush that was left behind (that's something that can inhibit human interaction, politically correct or not). And like an annoying splinter in your finger with no tweezers, something stuck between the choppers is an all-consuming distraction. The lack of a toothpick leaves me without a socially acceptable, in-public-view remedy for the "FOD" from my beef barley stew. After all, I can't pull out a length of dental floss or stick a finger in my mouth. Or can I?

We Have No Instinctive or Intuitive Knowledge

Can we use a fingernail, floss or even a toothpick in public view? Can we say the F or T words out loud? What if I'm in my airline uniform? They've already prohibited us guys from making adjustments or scratching, and from spitting,

belching and swearing. We can't chew tobacco and there is no sneezing without covering. Apparently some pilots, men in particular, have no instinctive or intuitive knowledge about such things – nor crafting a politically correct passenger briefing or PA. Understanding and avoiding such social faux pas is a learned behavior and this airline pilot learned plenty of social restrictions along the path of enlightenment. From a factory working outdoorsman (guilty of most of the prohibited activities above), to a fighter pilot, to an airline career where I am under the all-seeing eyes and ears of the flying public. Let not you, my non-PC pilot friends, suffer a similarly painful study in social etiquette nor the fine art of tooth-picking.

*Political
correctness is
tyranny with
manners.*

– Charlton Heston

The good manners that mom and dad taught us are now called “politically correct.” And politically correct speech and behavior is an important aspect in all endeavors. But the PC police have gone too far. I understand why boarding announcements and inflight PA’s are now recorded instead of live. Each body movement, facial expression and word, including any unintended inferences due to intonation, inflection, volume and tone must be passed through a committee of linguists, accountants and attorneys. All this to avoid hurting anyone’s feelings, embarrassing someone, causing undue stress or being labeled as a bigoted and biased B-word. So, whether male or female, when in public or one-on-one, don’t do any of the guy things listed above, nor show prejudice or bias toward race, religion, gender, age, hair length or those that use toothpicks in public.

**Better to have
something stuck in your
choppers than a bad word
stuck in your throat.**

A few of the previously mentioned, left-behind toothpicks live in my wallet and another few in the pocket of my airline work shirt. The ones in my wallet are for days off, traveling in civilian clothes and while on layovers. In the cockpit, I can’t reach those that are in my wallet because I’m strapped in and sitting on it, so the ones in my shirt

pocket are used when I’m at the controls of the mighty Guppy. But while the word Guppy is still permitted, we can’t say the C-pit word anymore – too much emotional trauma over the origin.

Its first use began as a way to describe a place where cock fights were held. A cock is a rooster, also known as a gamecock, and is a male, gallinaceous (a heavy bodied, ground feeding) bird, usually a chicken. Later, cock-pit was used by Shakespeare as a reference to the round, noisy and crowded theatre.

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An example of a modern-day petroglyph.

Then it later described the rear part of the lowest deck of a fighting ship before also defining the steering pit of a sailing yacht – a small sunken area where a coxswain is stationed. Eventually, the term spread to describe the area used to steer an airplane. Now, only “flight deck” is allowed to pass through the non-gallinaceous, non-anatomical PC social filter when describing our office.

You are Not Arthur Fonzarelli

In addition to the C-word, we probably shouldn't say “strapped in” or “sitting on it” either (unless you're the Fonz). But what if I'm on the flight deck needing a toothpick and it's just the FO and myself? What if the FO is female, does it make a difference? Does refraining from using one in front of a female make me a gentleman or a chauvinist? Is the answer the same for any adjusting, scratching, belching and occasional use of profanity? Can I say the S-F-B or T words out loud? What if the potentially prohibited word begins with a vowel instead of a consonant? When making a PA or communicating with the crew, perhaps some type of text abbreviation or emoji would be wise; they're the only remaining social format with few bounds, rules or decency. Isn't it ironic that 4,000 years later, we're back to using symbols to communicate? Smartphones, road signs, restrooms and symbols aboard airplanes all use some type of modern-day petroglyph. At least the petroglyphs from cavemen were sensitive to the feelings of others – and they didn't need diversity, inclusion, bias, sensitivity or PC training to know the difference. Or perhaps they were in fact trained in such matters but were prohibited

from posting training results on the cave walls. The very first privacy, anti-bullying, anti-shaming ordinance most likely.

True Cause of Pilot Shortage Exposed!

The pilot shortage that many predicted (including yours truly: see “Pilot Pendulum Predicament,” *T&T* January, 2013 and “Simple Math Soapbox,” *T&T* September, 2014) is finally affecting the bottom line of the majors and low pay is no longer the root of the cause. It's us old guys and gals that are retiring in droves because we cannot adapt to the use of PC emojis. Politically correct etiquette has reached a crescendo and formal, mandatory diversity, sensitivity, inclusion and anti-bias training have superglued our lips together. In addition to the piloting profession's inconveniences and fishbowl lifestyle, some Part 121 pilots now list etiquette and political correctness conundrums as tertiary reasons for choosing to retire. There will be no saying “thank you sir/ma'am” or “ladies and gentlemen;” much too gender specific – use “folks” instead. No saying hello from the cockpit (the location is subject to that anatomical or chicken-fighting misinterpretation). Severe thunderstorms must now be called “heavy rain showers.” We can't say severe or storm, and turbulence or windshear is called “bumpy air.” We'll be “on the ground soon” must be “we're landing soon.” We can't have them thinking that it's just any-old, non-specific ground we're headed for. An engine failure is a “problem with one of the motors.” A porked approach is for “spacing” and a cancellation for crew rest is the “FAA's fault.”

People will forget what you said, people will forget what you did, but people will never forget how you made them feel.

– Maya Angelou

If our generation can learn FORTRAN, BASIC, COBOL, DOS, how to program a VCR and pump our own airplane gas, then maybe we can learn to be PC. Already, we can text in shorthand and we know the difference between LOL and LOP, OMG, OAT, ROFL and ROTG. We certainly don't want to be seen on social media or the six o'clock news betraying some facet of PC though. So, remember my friends: better to remain silent and thought a fool than to use non-PC words or actions and remove all doubt. Perhaps we gallinaceous, old-school pilots should simply join those retiring in droves so that we can resume our adjusting, scratching, spitting, belching and tooth picking without the threat of a bar of soap to the mouth. **T&T**

Kevin Dingman has been flying for more than 40 years. He's an ATP typed in the B737 and DC9 with 23,000 hours in his logbook. A retired Air Force major, he flew the F-16 and later performed as an USAF Civil Air Patrol Liaison Officer. He flies volunteer missions for the Christian organization Wings of Mercy, is employed by a major airline, and owns and operates a Beechcraft Duke. Contact Kevin at ding-er10d@gmail.com.

En Route

Avidyne Receives STC Certification for IFD 550 in Select Citation 525s

The STC provides installation approval of Avidyne's dual hybrid-touchscreen IFD550/540 Series FMS/GPS/NAV/COM systems in Cessna CitationJet 525/525A models with Collins Pro Line 21 and the FGC-3000 Digital Flight Control System. The upgrade also includes compliance with the ADS-B mandate.

"Upgrading to the Avidyne IFD Series gives these CJ owners significant new capabilities that extend the mission profile of their aircraft while reducing pilot workload and providing enhanced situational awareness," said Mitch Biggs, Avidyne's Vice President of Sales & Marketing.

The upgrade will provide applicable CJ owners with capabilities like autopilot-coupled LPV approach, 3D synthetic vision and wireless connectivity to the IFD100 and third-party apps including

ForeFlight. The IFD550 and IFD540 will also provide dual 16-watt VHF communication radios, dual VHF navigation/ILS capability, plus the option of dual Avidyne SkyTrax 322

remote-mount or SkyTrax 340 panel-mounted Mode S transponders for ADS-B OUT. The IFD550 with Release 10.2.2 software has a list price starting at \$21,999. **T&T**



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En Route

Garmin Expands Aircraft Approvals for the GFC 600 and GFC 500



The Bonanza/Debonair (C33, E33, F33, G33), Cessna 210 and Grumman AA-5 series will soon be approved for the GFC 500 autopilot, while the Beechcraft Baron (58P, 58TC) and Cessna 208B will be eligible for the GFC 600. Between the two autopilots, Garmin has completed 10 STC's in the last year, with more to follow.

The GFC 500/GFC 600 offers pilots a suite of safety-enhancing technologies such as Electronic Stability and Protection

(ESP), underspeed/overspeed protection, Level Mode and Flight Director (FD).

"Since the introduction of the GFC 600 and GFC 500 to the market just one year ago, we have been working hard to complete a broad range of STC's on some of the most prevalent aircraft flying today," said Carl Wolf, vice president of aviation marketing & sales. "We are very humbled by the popularity and adoption of these game-changing autopilots as they have redefined the standard of what aircraft owners should expect from an autopilot and based on the overwhelming demand – our customers agree."

Designed as a standalone autopilot, the GFC 600 has integration potential with the G500 TXi/G600 TXi and G500/G600 flight displays, Garmin navigators and a variety of third-party flight displays, instruments and navigation sources. The GFC 500 uses the G5 electronic flight instrument and will soon be able to pair with the G500 TXi or G500 flight displays. The two both offer traditional autopilot capabilities such as altitude hold, vertical speed and heading modes, as well as the capability to fly fully-coupled GPS, ILS, VOR, LOC and back-course approaches. To view the most up-to-date aircraft STC list, visit the Garmin website. 

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Left, Right or Straight Ahead

During thunderstorm season in the U.S., added considerations are required almost every flight. Such was the case in June as I departed with four passengers to Tampa, Florida.

The flight down from ADS (Addison, Texas) was fairly routine as we deviated around several buildups along the Alabama and Florida coastlines. Arriving at KTPA (Tampa) however, I found no one at the FBO to marshal us to the ramp. They had all disappeared. Strange, I thought. It was 11 a.m. Surely someone worked here. I then glanced to the right of the covered ramp and noticed a line person holding a handmade sign against the line shack window. It read, "Lightning."

All the line folks were in the building hiding from the weather. "We'll be out in two minutes," one yelled. "Our sensor says there is lightning in the area and we can't come out yet."

This came as a surprise since I hadn't noticed any electrical activity on the arrival or landing. I guess their sensors were better than mine. Shortly thereafter, an army of seven people streamed out from relative safety to help us unload.

Round one went to the lightning gods. The return to Dallas two days later was equally interesting.

I had chosen the coastline route back home with a fuel stop in Hammond, Louisiana. The 6 a.m. brief showed a large area of convective activity north of my route but moving south. By our 9 a.m. departure, the weather was right across our path. A

SIGMET was issued for tops to FL450 with little movement. We were in the clear for the climb to FL380 and I was impressed with how well the Mustang was performing in ISA+10 temperatures despite a gross weight takeoff.

"Ah, Jax center, is anyone deviating around the area of weather at my 12 o'clock," I queried.



"Some have deviated north, but you may be able to top most of it and have room to make your descent into Hammond on the other side," came the controller's response. "I just had an F-16 depart from a base off your left and climb to FL450. He didn't say much, but most of those single-pilot fighters don't say much anyway."

"How about 'wrong way' FL 410," I asked.

"November four one six Delta Mike, cleared to flight level four one oh."

At that altitude, we were on top and able to see the cells off to our left. Now, it was decision time. As my real-time picture showed, to the left were indications of lightning strikes and one individual cell showing on the G1000 NEXRAD. To the right and straight ahead, only green and yellow returns. Turbulence was no more than light. Checking the weather radar confirmed the NEXRAD picture.

Straight ahead it would be. "Folks, make sure your seat belts are fastened," I reminded.

"November four one six Delta Mike, descend and maintain flight level three six zero," came the clearance. Wait a minute. I thought he said I could stay high and descend past the weather? Then I realized that's what the previous controller said.

"Six Delta Mike would like to stay as high as possible for weather," I pleaded.

"Okay, descend now to flight level three eight zero," he compromised.

Engine heat on, we descended into the abyss. Within a few minutes we broke out of a high overcast for a satisfying landing. A great flight.

Fly safe.

With 6,000-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, Patty and David currently own and fly a Citation Mustang. You can contact David at davidmiller1@sbcglobal.net.

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