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Confessions

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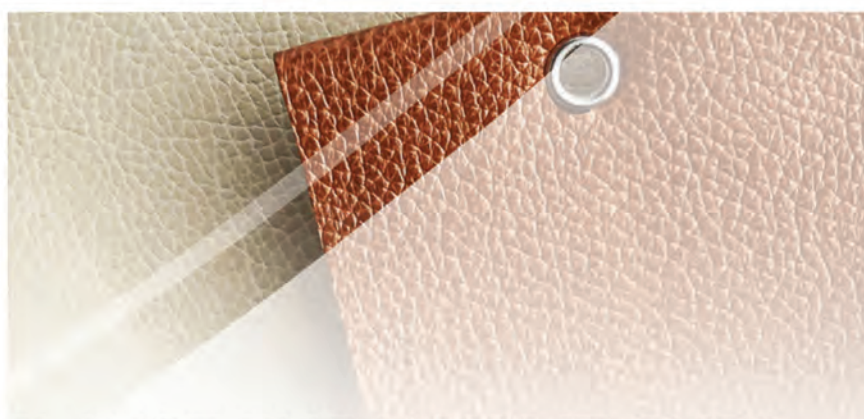
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EDITOR

Rebecca Groom
rebecca@twinandturbine.com

EDITORIAL OFFICE

2779 Aero Park Drive
Traverse City, MI 49686
Phone: (231) 946-7770

PUBLISHER

Dave Moore

PRESIDENT

Dave Moore

PRODUCTION MANAGER

Mike Revard

PUBLICATIONS DIRECTOR

Jake Smith

GRAPHIC DESIGNER

Marci Moon

TWIN & TURBINE WEBSITE

www.twinandturbine.com

ADVERTISING

Jenna Reid
316-409-7033
Jenna.Reid@VPDCS.com

ADVERTISING COORDINATOR

Betsy Beaudoin
1-800-773-7798
betsybeaudoin@villagepress.com

GENERAL AVIATION

ADVERTISING INFORMATION

Aviation.Publications@VPDCS.com

SUBSCRIBER SERVICES

Rhonda Kelly
Jessica Meek
Jamie Wilson
P.O. Box 968
Traverse City, MI 49685
1-800-447-7367

To change mailing address,
email rhonda.kelly@vpdcs.com

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Editor's Briefing

by **Rebecca Groom**



Expanding Expertise

This month, I want to highlight some of the newest contributing writers joining the T & T roster in the last year: Elliott Cox, Matthew McDaniel, Lance Phillips and Brian Sagi. All active pilots, the group collectively brings to the table advanced knowledge across several areas, specifically aircraft maintenance, training, safety and sales. Below you will find expanded bios and backgrounds for our new authors. Welcome to the team!

Elliott Cox

elliott@thewritingflyer.com

Elliott Cox is an A&P, IA, and Commercial-Multi Instrument-rated pilot. He got his start in aviation as an F-16 avionics tech in the US Air Force before taking a contract job in Holland working on the Dutch Air Force's F-16s. Once Elliott returned to the US, he worked as an avionics/maintenance tech at the Cessna/Citation Service Center in Greensboro, NC. He's currently the Director of Maintenance and type-rated pilot for a corporate flight department operating a Dassault Falcon 900LX. He lives near Charlotte, NC, with his wife and four kids.

Matthew McDaniel

matt@progaviation.com

Matthew McDaniel is a Master & Gold Seal CFII, ATP, MEI, AGI, & IGI and Platinum CSIP. In 32 years of flying, he has logged over 20,500 hours total and nearly 5,800 hours of instruction given. As the owner of Progressive Aviation Services, LLC (progaviation.com) he's specialized in Technically Advanced Aircraft and Glass Cockpit instruction since 2001. Matthew is also a Boeing 737-Series Captain for an international airline, holds eight turbine aircraft type ratings, and has flown 123 aircraft types (and counting). He was raised and learned to fly in southern Indiana but has called the Milwaukee, Wisconsin, area home for the past 22 years. There, he lives with his wife and their two teenagers.

Lance Phillips

lance@phillipsaeroservices.com

Lance Phillips is an aviation professional, writer, pilot and photographer. In addition to managing aircraft and flight operations, he has held management and executive positions for FlightSafety International, Hawker Beechcraft, Textron Aviation, Mooney Aircraft and Lancair. He is now

executive director for the Pinnacle Air Network and operates Phillips Aero Services, an aviation consulting services provider. Lance was born in Dallas, Texas and currently lives there. He is type-rated in the Gulfstream G100 and flew the Beechjet as a corporate pilot. But nowadays, he'd rather stay in the low knots than mach numbers.

Brian Sagi

bsagi@cerian.com

Brian Sagi is an airline transport pilot and certified flight instructor. He has flown military, general aviation, business and transport category aircraft in test flights, ferry flights, business flights, instructional flights and personal flights. Brian instructs turbine and piston transition and recurrent training, upset recovery training, and aerobatics at Enhanced Flight Instruction (eflightinstruction.com) in San Diego and throughout the world. He holds three engineering degrees, a business degree, and an airframe and powerplant mechanic certificate with inspection authorization. Brian has owned various piston and turbine aircraft and is passionate about aviation and aviation safety.

And, of course, a sincere shout out to our esteemed and longstanding contributors David Miller, Dianne White, Kevin Dingman, Rich Pickett, Joe Casey, Grant Boyd, Kevin Ware, Thomas Turner, Stan Dunn and Dale Smith. Thank you for sharing your real-life insights and experiences (the good and the bad) and evident passion regarding the GA industry and aircraft ownership.

In 2023, readers can expect to continue seeing articles from this team covering a diverse range of ownership topics, along with content from our ongoing "Pilot Confessions" and "Owner's Corner" series. Stay tuned for January's issue where I will unveil a couple of new series in the works.

As always, should you have a story idea, feedback or comments, please feel free to email me at the address below. From all of us at T&T, Merry Christmas and Happy New Year!

A handwritten signature in black ink that reads "Rebecca Groom". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

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Pilot Confessions

Low Fuel in Bosnia

by Joe Casey



Author Joe Casey

In my ongoing saga of “Pilot Confessions,” I tell the tales of some of the stupidest mistakes I’ve made in an aircraft. For reference, I just broke 16,000 hours of flight time and I have 10 really good stories of personally-owned aviation stupidity. So, on average, I do something stupid every 1,600 hours, probably more frequently. Hopefully, your average is less, and one day you’ll be able to tell your stories to someone else who can learn from them.

In 2004, I was assigned to the Texas Army National Guard as a UH-60 Helicopter Instructor Pilot, and my unit was deployed to Bosnia. This was a “peacekeeping mission” to a part of the world with an incredibly

ugly civil war. Civil wars are the worst because the death tolls are high and the fighting is among brethren. In the United States, our Civil War was easily the most brutal of our country’s wars (even considering WWI and WWII), with lasting effects that remain today. Bottom line: the Bosnian War was a terrible war for Bosnians.

I was in the odd position of being a Second Lieutenant (2LT) and also a Standardization Instructor Pilot. I was in my twelfth year of service and had recently moved to the “dark side” from being a warrant officer. I know – my intelligence is already being questioned because who would move from the perfect rank structure in the military (a warrant officer is

easily the finest rank structure!) to a 2LT? There is no one more profoundly ignorant than a 2LT in any Army. But here I was, a 2LT with Master Aviator Wings on my chest in a foreign land. A truth like this just cannot be made up.

The men and women in my unit were looking for the butter bar to live down to butter bar expectations. Surely, the freshly minted 2LT would start acting like a 2LT. Unfortunately for me, I did exactly that.

When we first arrived in country, my job as an instructor pilot was to fly with all of the pilots to give the “local area orientation” and to give the local ground units we supported an orientation flight to ensure that everyone knew what to do in case the

bullets started flying. We supported a Quick Reaction Force (QRF) unit full of ground troops. Our job on this day was to load up a bunch of grunts (what we affectionately called any soldier who is not in aviation) in the back of the Blackhawk, fly a short flight, and let them practice getting on and off the helicopter in rapid fashion. For the pilots, it was an easy flying day.

So, we'd load up about 10 grunts in the back of the Blackhawk, fly around for a short while, drop them off at an offsite location, fly away from that location, and then come back to pick them up again for a ride back to Tuzla, Bosnia. We'd then load up the next group of eager grunts for the next round-robin.

Even stranger, my copilot for this flight was another lieutenant. But, this lieutenant was a 1LT (just a step above me) with hardly any flight time – a real newbie in the cockpit. Even though I was the lowest ranking pilot in the Blackhawk, I was the experienced pilot and the PIC of the flight. I called the shots while flying.

It was a beautiful day in Tuzla and we were having fun with the mission that day. The back doors were slid completely open and the grunts in the back were having a blast as we gave them a fun low-level tour of the area around Tuzla. I'd fly one round robin and then my 1LT cohort would fly one. Everyone was having fun and we were burning fuel – lots of fuel.

The crowd of grunts awaiting a ride in our Blackhawk got less and less as we worked through the hours of flying, and our fuel gauges got lower and lower. Late in the day we saw the last of the grunts climb on board. By this time, the fuel load was low, and we discussed the potential of not having enough fuel to get the mission accomplished. But, there was just one more load of grunts and we would be finished with our mission quickly. It's such a pain to stop for fuel, right? So, I made the call. I told my crew that we'd be just fine. We'd load up the last of the grunts and take them on an abbreviated flight and come back quickly. And that's what we did.

So, with two "Fuel Low" caution lights blinking, I departed in the

Blackhawk with two pilots, two crew chiefs, and ten grunts crammed in the back with the doors open on a joy ride. There were 14 souls onboard and I was responsible for everyone's safety. We flew our flight and I sweated those blinking lights the whole time.



Simply put, there is no excuse for fuel exhaustion in any properly functioning aircraft today. If you have a fuel exhaustion episode in a properly operating aircraft, it is your fault. Either your planning failed or your decision-making failed.

We finally came back, landed, and everyone thanked us for a nice day of flying. I felt good about it all until about 10 minutes after the flight. After the rotor blades had stopped, my crew came to me and asked, "Is it safe to take off with two blinking Fuel Low caution lights?" Then, the fuelers came to refuel the helicopter and top off the fuel tanks. The sad state of affairs is when I landed that Blackhawk we had less than 15 gallons of fuel in each

tank. Thirty gallons of fuel is nothing in a Blackhawk. The fuel receipt was given to one of the maintenance officers who ratted on me (very appropriately) to the company commander. Soon the word spread around the entire battalion that I landed with so little fuel in the tanks.

The instructor community got involved, the command structure got involved, and I ended up being the spotlight testimonial in a "Pilots Call" meeting. Pilots Call is a weekly meeting where all the pilots come and talk about safety issues that are facing the aviation unit. Trust me – you do not want to be the testimonial pilot in a Pilots Call.

It was easily one of the more embarrassing events of my life. I had to stand before every pilot in the task force (around 40 aviators) and explain why I did what I did. And they were right. I placed 14 people in danger that day. A dual engine failure in a Blackhawk is a potentially catastrophic event. It would mean an autorotation to the ground, a maneuver we don't practice because the only causes of a dual-engine failure would be a well-placed RPG in a wartime scenario or an idiot PIC allowing a fuel exhaustion event. The Army wisely concluded that the risk of a dual engine failure was so low (and the training risk so high) that we didn't even practice autorotations to the ground.

Why did I take off with two blinking Fuel Low caution lights? Well, I can't blame it on being a 2LT. I can blame it on my being zealous to "accomplish the mission." As a military

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Tuzla, Bosnia

officer, I'm expected to be a mission accomplisher. Officers that cannot accomplish their assigned missions are not respected. I learned quickly being a mission accomplisher in the Army is important.

But at what risk should missions be accomplished? I mean, we were in a foreign country earning "hazardous

duty pay." We were expected to "push the limits," right? Or were we?

My commander used me as an object lesson to teach every pilot in that meeting that I accepted too much risk for the benefit gained. I could have easily landed, refueled and then flown that last batch of grunts. He used my decision to highlight to everyone that

the mission is important but not at the risk of loss of life. We were on a peace-keeping mission, not a mission where actual bullets were flying. Loss of life on the deployment was unacceptable.

Personally, the rest of the deployment was a real downer. Many pilots in the unit lost respect for me. It was a really tough deployment for many, myself included. To make it worse, my decision to depart with the blinking lights was at the very beginning of the deployment. It was going to be one long deployment.

How does this relate to you as a civilian pilot? Well, I think two lessons are germane: fuel exhaustion and mission accomplishment.

Simply put, there is no excuse for fuel exhaustion in any properly functioning aircraft today. If you have a fuel exhaustion episode in a properly operating aircraft, it is your fault. Either your planning failed or your decision-making failed. Every pilot should know the level of fuel in their tanks and, if you don't, it is your fault.



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I know there are piston-powered airplanes that have crappy fuel indicators. In those airplanes you should allow for extra margin. One old adage about fuel gauges states, "fuel gauges are only accurate when they are on the ground and full or completely empty!"

True, but you can monitor the flight time on the amount of fuel you have onboard, you can "stick your tanks" to be certain of your fuel level, and you should watch the fueler and verify the amount of fuel that is placed onboard. You should never take off without knowing how much fuel you have onboard. If you fly an airplane with inadequate instrumentation, then move up in panel or airplane. You must know how much fuel you have onboard. I know this is a harsh word, but it is a true word that might help some pilots with reality. If you sense that you are going to land with less than comfortable fuel, make that stop. In my experience, the stop is far less painful than anticipated. With prior planning, they are even less painful.

Mission accomplishment: It is the bane of aviation. For some reason, the usual people that migrate to aviation are mission-accomplishing, got-to-finish-what-I-start kind of people. We are good at so many things in life, but we are not good at making decisions near our objective. When we can see the light at the end of the tunnel; when we are on the last mile of the marathon; when it's fourth and goal – that's when people like us tend to kick it into high gear and accomplish that mission. And normally we do accomplish that mission. But, sometimes we put the value of accomplishing that mission above the safety of the flight.

Bottom line, we tend to be terrible at analyzing risk when in the last segments of a mission. Sometimes we accept a flight to our home airport when the weather is clearly not acceptable. Sometimes we push the limits of our fatigue knowing that our own bed will feel so much better than a hotel bed. Sometimes we land with less fuel than we should. And sometimes, thankfully

rarely, we get to log some unexpected glider time in an airplane with a perfectly good engine and dry tanks.

If my story of woe resonates with you, I'm so sorry. I made a terrible decision on that day in Bosnia in the Blackhawk to fly with less fuel than I'd fly in a Piper Meridian. Decide today what you will do when that still, small voice in the back of your mind tells you, "Think about this twice." It's probably not a mission that must be accomplished, and a fuel stop is almost always a good idea. **T&T**

Joe Casey is an FAA-DPE and an ATP, CFI, CFII (A/H), MEI, CFIG, CFII, as well as a retired U.S. Army UH60 standardization instructor/examiner. An active instructor in the PA46 and King Air markets, he has accumulated 16,000-plus hours of flight time, with more than 5,200 dual-given as a flight instructor. Contact Joe at joe@flycasey.com or 903.721.9549.

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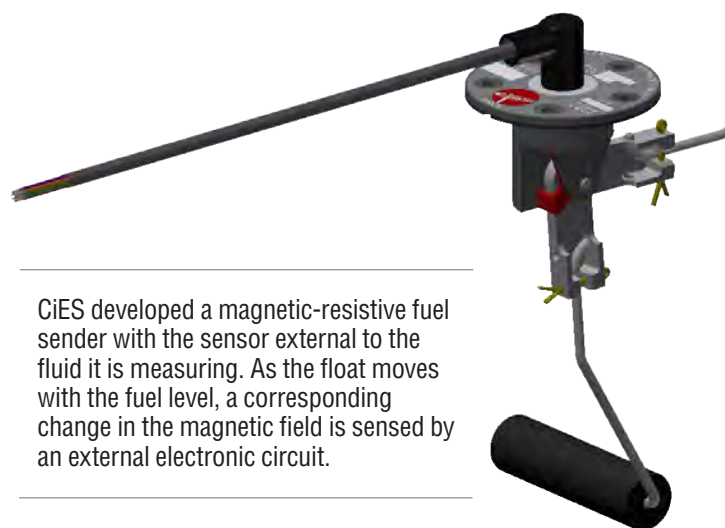
by Rich Pickett



Author Rich Pickett fuels his Cessna T206H which has CiES fuel senders.

As pilots know, accurate fuel level determination has eluded pilots of many aircraft for decades, especially lighter piston-engine airplanes. Many of us would either top off the tanks or insert a “calibrated” stick into the tanks of aircraft before flight rather than rely on the accuracy of the fuel quantity depicted on the gauges. Some of us also believe the old myth that the only FAA requirement of a fuel gauge was to be accurate when it was empty. Perhaps it was one way for us to be comfortable when they didn’t work very well.

The issue is not so much the fuel gauge but the accuracy of the fuel senders. With the exception of capacitance-type fuel probes in some turboprops and virtually all jets, the design of the fuel senders in most aircraft is extremely simple – they simply float. The float is attached to an arm that moves across a variable resistor, and the fuel gauge uses the resulting change in resistance to measure fuel



CiES developed a magnetic-resistive fuel sender with the sensor external to the fluid it is measuring. As the float moves with the fuel level, a corresponding change in the magnetic field is sensed by an external electronic circuit.

quantity. Over time, and even from initial installation, the components deteriorate and are notorious for causing inaccurate readings. I've owned some piston aircraft, including my 2005 SR22, that read very accurately for over 5,000 hours, while other airplanes were notoriously inaccurate. The variability could be frustrating, and a potential safety issue for pilots. Scott Philiben and his team at CiES in Bend, Oregon, sought to change that.

Scott, president of CiES and engineer by training, has former experience designing aircraft oxygen systems and other components. He was approached by Cirrus Aircraft in 2010 to see if he could develop a "better mousetrap" – in this case, fuel senders. Cirrus, being very technically focused, wanted to provide more accurate fuel level information since many owners were noticing annoying quantity variations similarly seen in other piston aircraft.

CiES worked on a very novel design that, while it may appear simple, actually involves a significant amount of engineering innovation. Scott believed that one of the design problems was using a resistive element sloshing around in the fuel (at extremely low voltages and not a fire hazard) that was prone to errors. The new sender design they created has no electrical components within the tank. CiES has developed a magnetic-resistive fuel sender with the sensor external to the fluid it is measuring. As the float moves with the fuel level, a corresponding change in the magnetic field is sensed by an external electronic circuit. This extremely slight change in the magnetic field as the float arm changes position can be used to indirectly sense the fuel level.

Cirrus implemented the new design from CiES in its 2012 aircraft, and soon after, it was available as a popular retrofit for the existing SR20 and SR22 fleet. Scott didn't stop there. He then expanded to other OEMs in 2014 when Tecnam and Vulcan Air used the senders in their production aircraft. One of their next projects was the Piper Malibu and Mirage aircraft, which have a float placement design that complicates even the traditional inaccurate senders. Piper Malibu and Mirage owners

would occasionally cringe at the inaccurate fuel readings, sometimes trying to solve the problem by replacing the senders with new ones of the same design. This solution often didn't work well. The CiES engineers came up with a design, working with several aircraft owners, to offer a better solution. It took several attempts,

however, the resulting fuel sender design has proven to be an effective alternative to the previous design.

Now available on over 600 airframes, more than 100,000 fuel senders have been produced. I have them in one of my aircraft, a Cessna T206H, and I can attest to their accuracy compared with the original factory probes. While I also have a fuel totalizer in the Garmin G1000 NXi, it is important for me to also have accurate fuel tank information. The totalizer will tell you how much fuel you have burned and indirectly what you have remaining. Fuel gauges inform the pilot of the actual fuel in the tanks, which can be very important in the case of a potential fuel leak or inaccurate initial information provided to the totalizer at engine start.

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The CiES fuel senders are extremely accurate, showing accuracy in level flight easily within the smallest resolution I can detect on the MFD.

I had a chance to talk with Scott at the recent NBAA event in Orlando. Scott and the CiES engineers are now working on a solution for the fuel level inaccuracies with the inevitable aircraft attitude changes during flight and turbulence. While not revealing too much of their new design, when they solve this issue, they will be providing aircraft operators with fuel level indications that will rival, or even surpass, the capacitance-type fuel probes

used in turbine aircraft. Imagine being in turbulence or a climb or turn and having accurate fuel information upon which you can confidently make your flight decisions. The increase in safety and reduction in concomitant risk will be significant for aviation.

CiES, a 20-employee company, has designed a very nice product. And it was clear after talking with Scott they will continue to innovate, not only on the advanced fuel sender they are developing but also on other aircraft products. Scott also believes in the importance of developing their staff and encouraging the love of flight. Employees can enjoy the use of their Diamond Katana for lessons and personal flights. When Scott told me about some of the employees' flight success stories, you could tell he was just as proud of those accomplishments as the products they produce. 

Approved model aircraft for the CiES STC include:

- Beechcraft 33, 35, 36, 55, 58, T34
- Cessna 150, 170, 172, 177, 177RG, 180, 182, 185, 190, 195, 206, 207, 210, 300, 400, TTx
- Cirrus SR20, SR22
- Mooney
- Piper PA23, PA24, PA28, PA30, PA31, PA32, PA39, PA44, PA46
- Vulcanair P68

Source: ciescorp.net



With 12,000+ hours of piloting more than 100 aircraft models, **Rich Pickett** still has a passion for flying. Rich holds an ATP, CFII SME, SES, glider licenses, and type ratings in the L29, L39, Citation 500/510s/525s, Eclipse 500S, Beechcraft Premier and DA10. His company, *Personal Wings*, provides training, mentoring and aircraft services. You can contact Rich at rich@personalwings.com.

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FLIGHT
REVIEW

DAHER KODIAK 900

by Joe Casey

Ever since seeing a Kodiak at the Reklaw Fly-In (Texas) around a decade ago, I have admired the Kodiak series of airplanes. The Kodiak 100 looked at home on the grass runway among the thousands of aviation aficionados and their short-field airplanes. Since that first sighting and flying the Kodiak 100 Series II model four years ago, my outlook toward the Kodiak developed from a curiosity to a deep appreciation.

So, when the opportunity came for Twin & Turbine to fly the new Kodiak 900, the editor didn't even have to finish the sentence. The answer was, "Yes!" Kodiak Chief Demo Pilot and Sales and Marketing Director Mark Brown met me at the Lufkin Airport (LFK) to show me the company's newest steed. After he landed and taxied up to the ramp, the restaurant and FBO quickly emptied to come and see up close what was clearly an impressively different airplane. We chatted with the locals, and then I got down to the business of learning from Mark about the Kodiak 900 differences.





The Kodiak 900 measures 4.5 feet longer than the Kodiak 100 and incorporates several aerodynamic improvements, such as wheel fairings.

Lead-Up to the 900

Originally designed to fill a niche for a turbine-powered airplane to support missionary and humanitarian endeavors in remote parts of the world, the Kodiak 100 quickly gained the trust and admiration of its owners and pilots as an honest, reliable and incredibly safe airplane. Though admittedly slow and, in its early years, unremarkable in terms of amenities, the Kodiak 100 excels in exactly what it was designed to do: move a lot of people and cargo in and out of short, unimproved landing strips.

In 2018, the Kodiak 100 Series II came to market with an upgraded interior and much-needed avionics upgrade to the G1000 NXi. But it didn't go faster or farther or look much different from the exterior. There were refinements, but it was still a working airplane at its core.

And then something happened that surprised me. In 2019, Daher bought Quest Aircraft Company along with the production line of the Kodiak. Why would Daher, known for its super-fast TBM series of airplanes, purchase Quest and the Kodiak 100 production? I didn't get it. I mean,

there's no real way to make the Kodiak fast or sleek, right? Wrong.

Daher has a long history of taking the TBM series of airplanes and making them go faster and farther and carry more. While the TBM 700 is a fine airplane, the TBM 850 goes 25 knots faster with more horsepower. And the 9XX series is almost 50 knots faster than its oldest sibling. Fifty



Daher selected the PT6-140A, which easily produces 900 HP. That's 200 more horsepower (in cruise) than the Kodiak 100.

knots. That's a lot of speed. What Daher did to the TBM was bolt on bigger engines and find every possible aerodynamic efficiency to turn the latest and greatest TBM 960 into the current pinnacle of owner-flown, six-seat flying.

So, when Daher bought the Kodiak production line, their highly proficient and experienced research and development (R&D) team went to the task of making the Kodiak product line sleeker and faster. The company took plans in development and brought more to the table. Instead of the new Kodiak just being a little bit faster or a little bit bigger, they looked at every aspect of the project to ensure its reputation aligned with the TBM.

Regarding speed, two sides of a coin must be considered: increase the horsepower and reduce the drag. With its TBM line, the Daher team draws experience in both.

Horsepower is King

To find more horsepower, Daher needed to move up in engine. They selected the PT6-140A, which easily produces 900 HP. That's 200 more horsepower (in cruise) than the Kodiak 100. The PT6-140A is the biggest of the "small PT6s." I personally love the small PT6s because they inherently weigh less than their "big block"

sister engines but create tremendous horsepower. In aviation-speak, they have a high power-to-weight ratio, especially at the lower altitudes. Seeing as the Kodiak isn't designed for high altitude, the PT6-140A is a perfect mate.

Effectively, everything firewall-forward is brand new on the Kodiak 900. The engine is completely different, and the propeller is upgraded to the five-blade composite Hartzell. Even just sitting statically on the airplane, the huge blades are a work of art, reeking of fine design. But they are more than bold and beautiful, they create a ton of efficient thrust quietly.

Quiet. That's a word you don't hear much in turboprop aviation – but it is true with the Kodiak 900. Daher wanted a quiet airplane to meet all the rigorous noise standards required in Europe. They also desired a low noise signature because one market the Kodiak 900 is designed for is special missions (more on this later in the article). The net effect is the Kodiak is quieter on the outside of the airplane but also significantly quieter on the inside.

With the horsepower problem solved, the Daher R&D team tackled the abundance of parasite drag found on a Kodiak 100. To reduce drag, Daher used smaller tires and added wheel fairings. And these are not flimsy “wheel pants” you find on some light, piston singles. The wheel fairings on a Kodiak 900 can be stood or sat upon and are incredibly strong and sturdy. Daher added fairings to just about every nook and cranny possible. In short, they reduced interference drag – the type of parasite drag related to the sum of drag from competing airflows. For example, where the wing mates with the fuselage or the horizontal stabilizer mates with the vertical stabilizer, there will be competing airflows and an increase in interference drag. Reducing interference drag leads to a faster airplane.

The Cabin Experience

Many refinements of the TBM were transferred to the Kodiak 900.

I'm 6-foot 4-inches and 220 pounds of pure muscle (we can all dream, right?), and I can tell you that few airplanes are made for us tall people. But, the Kodiak has a “big feel” and plenty of room in the right places. The pilot seats adjust in every conceivable way, and the tallest of pilots will still be moving the seat forward when landing or taking off. I never once hit my head in turbulence, a rarity in most airplanes.

During a portion of the demonstration flight, I hopped in the back of the cabin, giving up the front seat to my sidekick for the day, teenage aviatrix Bailey Ward from the “In the Hangar” YouTube Series. I learned while riding in the back of the Kodiak 900 that it's like riding in the back of a TBM – meaning it is fabulous. The seats are made for comfort and style, the amenities are aplenty (cupholders, USB ports, headset plugs), and there's plenty of room. Speaking of room, the 900 is more than 4.5 feet longer than the 100, adding more space for more cargo. The noise levels are low enough to fly without headsets, but headsets make it incredibly comfortable.

Comparing the Kodiak 100 to the 900 reveals all sorts of neat upgrades. The seats in the back can face either forward or backward. The main landing gear is moved aft, so there is no need for a tail stand. The main landing gear is attached lower on the fuselage making ground clearance even greater. Single-point refueling capability is easily accessible underside of the left wing. Dual-zone air conditioners work incredibly well, and the vastly improved cargo pod is standard.

By the way, that cargo pod on the belly of the airplane is impressive. It has the same volume capacity as the

Kodiak 100 but has been aerodynamically improved and offers an opening in the back that allows for long items (rifles, skis, tent poles, ladders, etc.) to be easily loaded.

Flying the Kodiak 900

The Kodiak 900 is an honest and true airplane with no gimmicks or gaps in performance. We were lightly loaded on the day I got to fly, but the



The propeller is upgraded to the efficient and quiet five-blade composite Hartzell.

Kodiak climbed extremely well. I usually talk about the rate of climb in an airplane when considering performance, but a better judge of performance (arguably) for an airplane is the angle of climb. Using the immensely useful Garmin Flight Path Marker on the G1000 NXi, I observed a climb angle of 9 degrees on takeoff with light winds, and I wasn't even trying to perform a V^x climb. Contrasting that to other single-engine turbine airplanes, most climb at 7 degrees at most. Departing from the 5,400-foot Runway 07 at KLFK, we



were ready to turn crosswind when we approached the end of the runway.

Our photo airplane (Cessna 172) took off well before us, so we sprinted to our rendezvous point over Lake Sam Rayburn, about 20 miles east of Lufkin. The top speed was 200 KTAS at 7,500 feet with +10 ISA. That's an impressive number for any fixed-gear airplane but really impressive for an airplane that can land in less than 1,500 feet.

I performed stalls, slow flight and a few steep turns to get to know the airplane, though I felt like I already did. It simply is not a hard plane to fly as its stable, responsive and very predictable. I want to underline and highlight one aspect of the flight characteristics – responsive. This is a hard aspect of flying to describe, but some airplanes get “sloppy” when flown slowly. While all airplanes get sloppier when flown slower, the Kodiak 900 retains its responsiveness at slow speeds much more so than I expected. While the Kodiak 100 was designed for slow speeds, the impressive part of the Kodiak 900 is its fast cruise speed. A cruise speed of 200 KTAS is an

aerodynamic feat for an airplane that can land in 1,500 feet, is FIKI-capable, handles rugged terrain, and has a useful load of over 3,600 lbs. But the real story of the Kodiak 900 is that it cruises at 200-plus KTAS and still behaves predictably and responsively when flying slow.

Landing the Kodiak 900 is simple, with just a few nuances, mostly related to the engine operation (especially if peak performance is desired). But, for the most part, anyone in the general pilot population could jump in a Kodiak 900 and take off and land on a reasonably long and wide runway without much trouble. Of course, if flying into a 2,000-foot grass strip nestled in the mountains at a high-density altitude with a full load of people and stuff onboard, a well-trained pilot will be required. But, the nature of a Kodiak is that it is a rather simple airplane to fly and most pilots will be able to graduate to being a solid Kodiak 900 pilot in short order.

The Right Mission

Daher foresees three primary markets for the Kodiak 900: special

missions, fleet operators and owner/operators from the backcountry.

Special missions include governmental agencies ranging from border patrol, police departments, surveillance operators, fire patrols and medical transport. Many of those agencies presently use rotary wing aircraft for these types of missions, but rotary wing is expensive. A Kodiak 900 can loiter longer (over 9 hours!), carry more people and equipment, and it has a much smaller noise signature. The maintenance requirements for a Kodiak 900 are far less than a helicopter, and the associated dispatch reliability is super high.

“Fleet operators” means smaller airlines. I recently flew from Friday Harbor in the San Juan Islands to Seattle, WA, with a fleet operator to connect with my “big” airline flight to Texas. The flight was in a tired and old Cessna Caravan that had none of the advancements and safety features of a Kodiak 900. The Kodiak 900 is going to provide an efficient alternative for fleet operators who want to lower their operating expenses and increase the safety of their fleet, all while moving up in speed. And

most aviation prognosticators believe there will be an increase in fleet operators as cities become more crowded. City planners are realizing small airlines can move people quite efficiently from small airports in rural areas to and from big cities.

And then there's the owner-flown market – the market I've spent my last two decades serving. This market is flush with super cool turbine airplanes that are the epitome of style and speed, but few can operate from a grass strip. If you own a ranch with a grass strip and a Piper Meridian, TBM, Vision Jet or King Air, you've dreamed of the day you could land at your ranch. But none of those airplanes are really made for rough strips. You might land there 30 times with success, but the first time you have a nose gear collapse, an engine tear-down, off-pavement maintenance or an insurance claim, you'll land on the asphalt and then drive to the beloved ranch.

What has been interesting to me is that in the last two months, I've had two Piper Meridian owners approach me to sell their Meridian so they can buy a Kodiak 900. With 200 KTAS cruise, full icing capability, and enough room for three times as much load, the Kodiak will show up to the ranch far faster than the Meridian because of the cumbersome and lengthy drive from the airport. The Kodiak 900 can bridge the gap from asphalt to grass or dirt with style and speed.

If you want to do an interesting study, enter a hypothetical Kodiak 900 into your flight planning software (Foreflight or FltPlan) and contrast the time-to-fly with any of the other much faster turboprop airplanes on the market. Except on the longest of flights, the slower Kodiak 900 will show up only minutes behind the faster turboprops. And, since it goes from asphalt to grass, the Kodiak 900 will beat the asphalt-requiring

turboprops every time if landing off paved runways.

So, will Daher's bet on making the Kodiak bigger, better, faster and stronger win sales in the marketplace? It appears so. Kodiak received the type certificate in late July 2022, and they have already sold all the production capability through the summer of 2023. The much improved Kodiak 900 is grasping market share, and I suspect there'll be a long production history. Now, where are my fishing poles and camping gear? **T&T**

Joe Casey is an FAA-DPE and an ATP, CFI, CFII (A/H), MEI, CFGI, CFII, as well as a retired U.S. Army UH60 standardization instructor/examiner. An active instructor in the PA46 and King Air markets, he has accumulated 16,000-plus hours of flight time, with more than 5,200 dual-given as a flight instructor. Contact Joe at joe@flycasey.com or 903.721.9549.

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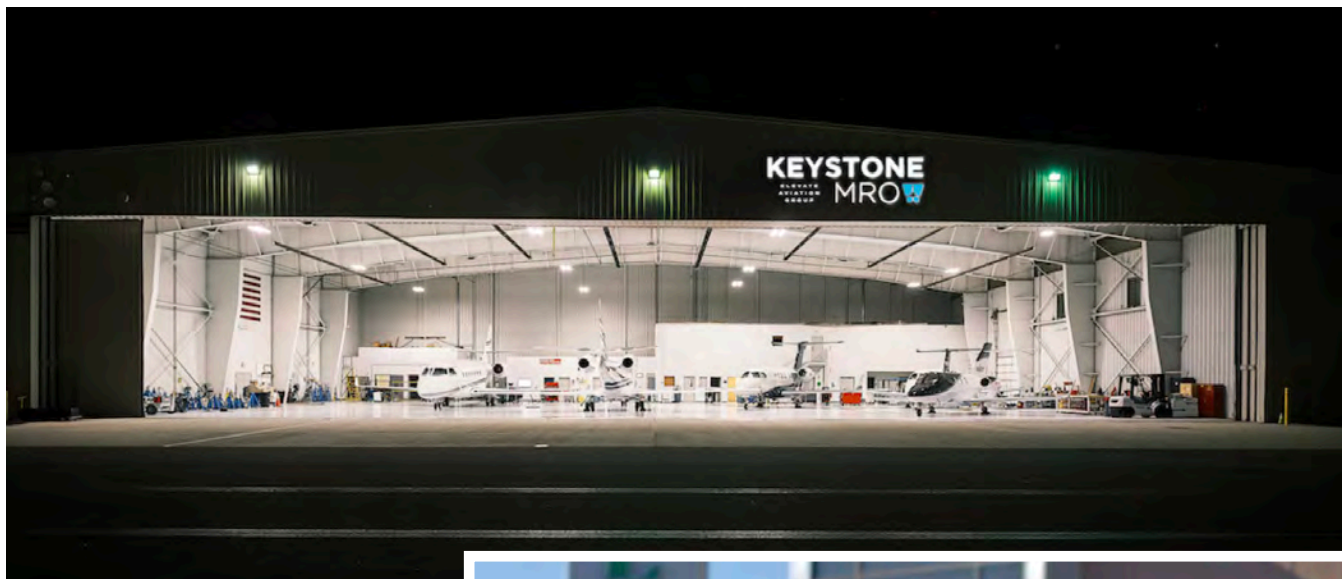
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Keystone Aviation

by Lance Phillips



Throughout the last eleven months, the Company Chronicles column has highlighted small-to-medium-sized, mostly private aviation companies whose roots go way back to the beginnings of general and business aviation in the United States. We can also find compelling stories surrounding some of our younger organizations. This month, for our final chronicle, we focus on one relatively new aviation company that has not only demonstrated much success but has attracted the investment of other organizations looking to expand their service capabilities.

In 1995, a couple of aviation business leaders in Salt Lake City (SLC) determined that the time was right to bring an all-encompassing aviation one-stop shop to the area. The Million Air SLC FBO was up for sale at the time, and Bill Haberstock, a local charter guru, pilot and sales pro, saw an opportunity. Haberstock was a partner in a turbine specialty business in SLC called Business Aviation



Bill Haberstock and Leon Christensen.

Management. “I saw some untapped potential for growing an even larger general aviation company at Salt Lake City International Airport,” Haberstock told NATA’s Aviation Business Journal. “[It] had been nearly 15 years since the airport had a full-service general aviation business. What did exist was a lot of small companies that offered different services.”

SLC had FBOs providing fuel, some charter work, and some aircraft sales and distributorships.

That’s when Haberstock brought in Leon Christensen, who at the time was managing the Hudson General FBO, to partner in the formation of Keystone Aviation. The sole purpose was to purchase the existing Million Air FBO at SLC. “Leon brought expertise in FBO operations, which we combined with my experience in aircraft management, charter operations and sales,” Haberstock told the Aviation Business Journal. “With financial backing from one of my

customers at Business Aviation Management, we began to build a team of believers in offering superior customer service at Salt Lake City.”

Prior to Keystone's Million Air acquisition, the FBO was mainly just selling fuel. There were two maintenance technicians on staff, but they weren't really focusing on growing the maintenance business. That was all about to change. And along with Million Air SLC, the group was eyeing potential operations in Provo, Utah, about 40 miles away. In addition, they were buying up and bringing in businesses with expertise in aircraft and parts sales and distributorships, as well as charter, management, brokerage and maintenance services. The clientele ranged from operators of single-engine pistons to large business jets – and airlines.

Million Air SLC got into the airline ground handling business, including fueling, baggage and cargo handling, push-back services, ground service equipment and some line maintenance. “Some of our customer airlines asked us to handle their retail cargo, which allowed their customers to drop off the package at our facility,” Haberstock said at the time. “Then we do all the paperwork, screening, and put the package onboard the airplane. Inbound, we unload the packages from the airplane and move them to our facility for customer pick-up.” Million Air SLC also provided retail cargo services for five airlines and line work for nine. One airline also contracted out both baggage and cargo handling to Million Air. And with ten deicing trucks at SLC, they were even taking care of deicing services for seven airlines.

However, their primary goal was growing the general aviation business and bringing products and services to market that would help their customers and be profitable at the same time. “We tried to be a company that would help introduce new people to general aviation, and at the same time, support those already involved,” Haberstock said. “If we felt that we could make money with a particular service or capability and at the same time provide a better product for the customer, that's what we would do. [Maintenance]



Keystone's charter fleet ranges from the Pilatus PC-12 to Phenom 100 to Gulfstream 200, among others.

was seen as a natural, complementary component to fuel sales as well as aircraft management, charter, sales and brokerage services,” he said.

In 2001, as luck would have it, the city of Provo released a request for proposal (RFP) for a company to come in and develop a new FBO at Provo's municipal airport. They had already been considering Provo as an expansion area. With the successes they had demonstrated in Salt Lake City, they easily won the RFP and immediately bought the existing general aviation services infrastructure at Provo, which included two FBOs. New hangars and a terminal were built. The new Million Air Provo boasted around 28,000 square feet of hangar space, with maintenance conducted under Million Air SLC's Class IV Part 145 certificate, bringing the combined hangar space to almost 80,000 square feet between the two city's facilities.

Since Haberstock had brought his Part 135 charter certificate along with him when Keystone was formed, the team was also inclined to grow that part of the business. Their managed fleet, also on the charter certificate, boasted charter capabilities ranging from Pilatus PC-12s all the way up to Gulfstream G550s. In fact, Million Air SLC was one of the first charter organizations to implement a robust safety management system (SMS), which further separated the operation and helped solidify trust with its customers.

As Million Air expanded in SLC and Provo, the Keystone umbrella also

expanded into aircraft sales. Its subsidiary, IntermountainAir, became Piper's exclusive distributor for several western states. Two DBAs of IntermountainAir, Northwest Aircraft and Arizona Piper, managed sales for the Pacific Northwest and Arizona, respectively.

By the end of 2009, after almost 15 years of success in Utah and abroad, Haberstock evaluated what he thought the future would require and how Keystone could continue its success. He said, “The important thing to ask is, ‘Can we as an industry introduce people to general aviation in a simple and economically justifiable manner?’ Really, that's the challenge right now. I think we can.”

Fast forward a few years to May 19, 2012. A press release from The Arnold Companies announces the acquisition of Keystone Aviation by TAC Air, immediately expanding its FBO presence to the west with the facilities at SLC and Provo. The FBOs would immediately be rebranded as TAC Air. “This move brings many positive things to the users of SLC and PVU, as well as the other TAC Air locations,” stated TAC Air's then-VP & COO Christian Sasfai, who is now president of Stevens Aerospace & Defense. “We're going to deliver the best of both operations to our customers in the 14 markets we serve.”

All of the other Keystone subsidiaries were to be rebranded under the Keystone Aviation brand. Haberstock was to continue his leadership role as president of Keystone Aviation, with all other supporting cast

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members remaining intact. "The integration of Keystone Aviation's FBOs into TAC Air, along with the backing of Truman Arnold Companies, will allow us to place a renewed focus on our aircraft sales, maintenance and management services," stated Haberstock. Sasfai went on to state, "Consolidation and resource sharing has become a necessary component of today's aviation services industry in order to provide high quality, low-cost products and services to aircraft owners and operators."

Over the next few years, new aircraft sales became less of a focus and leadership at TAC Air and Keystone was evolving. In July 2019, The Arnold Companies announced that Joe Gibney, director of business development, was being promoted to vice president and chief operating officer, reporting directly to Greg Arnold. In addition, the same announcement also highlighted the transition of Keystone's controller to a new role as vice president and chief operating officer for Keystone Aviation, now reporting directly to Gibney.


Two and a half years later, in January 2022, another big announcement hit the airwaves: TAC Air was divesting Keystone Aviation. Keystone's new owner, a New Hampshire-based company, Elevate Aviation Group, would be looking to grow its charter and management services business to the west. Elevate has a palette of worldwide charter and management operations, and the addition of Keystone Aviation made a lot of sense to Elevate CEO Greg Raiff. "Elevate Aviation Group and Keystone Aviation are both focused on delivering outstanding white glove service and mission-critical solutions to our clients," said Raiff. "We believe the business aviation industry needs a provider large enough to deliver benefits at scale to its clients without sacrificing the personal touch so critical in a high-end service business. Together our teams will continue delivering high-touch experiences with more business aviation options than ever before."

In the deal, TAC Air (since July Signature Aviation) continues to operate the former Keystone Aviation

FBOs at SLC and PVU. Elevate and Keystone continue a strategic partnership and preferred service at former TAC Air FBO locations throughout the United States.

While speaking with Elevate Aviation Group's new chief marketing officer, Will Dent, I got the impression that the acquisition of Keystone is just the beginning of a lot of great things to come. "Keystone Aviation's team has been managing and maintaining business jets for 30 years now, and with the integration of Keystone Aviation into Elevate, we see a bright future for this group of integrated companies. Keystone Aviation was founded on superior customer service, and we feel the same way." Adding to that, Bill Hoddenbach, Keystone's long-time director of aircraft maintenance, said "things are moving at 100 miles per hour" and that they're all excited about what's to come in the future.

But that's not quite the end of the story. Just a few weeks before we all got to enjoy the 69th edition of EAA's Airventure at Oshkosh, WI, the aviation world learned that Signature Flight Support had purchased TAC Air and was to add 13 of its FBOs to the Signature portfolio, including the two Keystone FBO locations at Salt Lake City and Provo, Utah. So, as the saying goes, "In aviation, the only constant is change."

And with that, we will sign off from 2022's Company Chronicles column. It has been an eye-opening and seriously fun endeavor to research and learn about some of the company beginnings in our general and business aviation industry – and the families and leaders behind them. Thank you for reading, and please let us know if you would like any additional stories about the people and businesses that serve you and me as we fly. 

Lance Phillips is an aviation professional, writer, pilot and photographer. He is executive director for the Pinnacle Air Network and owns Phillips Aero Services, an aviation marketing services provider. You can contact Lance at lance@phillipsaeroservices.com.

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From the Flight Deck

by Kevin R. Dingman



All Through The House Flying When 'Twas The Night



You may have noticed that I use a few contractions in my writing. I'd probably use more if I didn't have a proofreader and editor to save me from myself. Professional writers often consider contractions informal and indicative of "undeveloped" writing skills. Why we still use so many contractions and acronyms in aviation is a mystery: CA, FO, FA, ATIS, NOTAM, FAA, AMEL, ATP, RVSM, METAR and EIEIO. Ok, maybe Old McDonald is the only one that uses EIEIO. In the olden days of aviation, we were trying to save ink (printers), time (FSS teletypes) or thermofax paper (ACARS).

In the age of smartphones, tablets and magic avionics, we could very easily use the full words – especially in our weather reports, automatic terminal information service (ATIS) and notices to air missions (NOTAMS). Whose idea was that "air-mission" thing instead of airman anyway? Since nonapplicable NOTAMS often put us to sleep, canceling "airman" must be to wake us up.

Not like FAA or IRS

A comedian like Jerry Seinfeld might say: "What ever happened to those old contractions?" 'Twas, for example.

As in "Twas the night before Christmas.' Did its patent get renewed, or did we decide using 'it was' is plenty efficient?"

Even the MS Word spell checker doesn't like 'twas. Personally, I think 'twas rolls off the tongue quite properly. Not like FAA or IRS. And it's easier to say than both supercalifragilisticexpialidocious and pneumonoultramicroscopicsilicovolcanokoniosis. The spell checker recognizes both words – one made up by songwriter Robert B. Sherman (for Disney's *Mary Poppins*) and the other a lung disease. But it doesn't recognize 'twas. Who'd a thunk?

Well, once upon a time, 'Twas the night before Christmas and this writer was a junior in seniority airline captain, flying along in his shiny MD-80, and I didn't have eight tiny reindeer. I used to have a co-pilot and four reindeer working the cabin, but cost-cutting reduced the cabin reindeer to three. And neither Mr. Seinfeld nor Ms. Poppins was onboard, and the air was filtered to prevent that pneumonoultramicroscopic-thing. And as usual for a junior pilot, it was evening. Well, it was past evening – it was dark, very dark. By the time midnight rolls around aboard the last flight from O'Hare to LAX, there is indeed not a

creature stirring, not even a mouse. We did find them on the planes every now and then, by the way. Mice, that is, not creatures. Well, perhaps a few grumpy, not in the spirit, humbug-type creatures.

Confiscated

Traveling by commercial air on a holiday is always, shall we say, colorful. Like the scene from the now classic Christmas movie “Home Alone” when mom realizes they’ve overslept, it’s easy to get behind during the holidays. And while masks are no longer mandatory and we may be accustomed to removing our laptop, iPad, belt, shoes, and posing in the “stick-em-up” position for the full body scanner, getting wrapped Christmas presents past TSA is like trying to get DCA flight plan papers stored at Mar-a-Lago past the FBI. Neatly wrapped packages must be scanned and sometimes unwrapped – declassified or not. And don’t forget, even though pot is legal in many states, you can’t take it through TSA.

We Are Empathetic

When traveling in our planes Part 91 or as a Part 121 or 135 crew member, we may often ignore the ordeal of hotel checkout, rental car return, tram to the terminal, ticket counter and TSA inspection and interrogation that the traveling public must endure. It’s no wonder our passengers often arrive to our airplane behaving like one of those humbug creatures vs. a meek, mild and humble mouse. We don’t forget the ordeal and we are empathetic, but many of the tribulations of commercial air travel, especially on the airlines, are simply beyond the control of the crew.

Strangers Become Family

Once you make it through security and into the terminal, some of the more pleasant aspects of Christmas travel may begin. The commercial terminals and FBOs are nicely decorated with Christmas ornaments, lights and displays. One terminal in Chicago has a very nice “Twelve Days of Christmas” display; each tree is decorated to represent one of the twelve days. And most airline terminals have a chapel in which services are held several times throughout the day.

The main halls are decked with giant ornaments and lights while Christmas music fills the air and sets the mood. Some songs are traditional classics like “Baby it’s Cold Outside,” “Santa Baby,” “Frosty The Snowman,” and “White Christmas.” Others are more modern such as Mariah Carey’s “All I Want for Christmas is You,” “I believe in Santa Clause” by Dolly Parton and Kenny Rogers, and “Christmas Eve Sarajevo” and “Christmas Canon” by Trans-Siberian Orchestra. The decorations and music help strangers to become like family.

Deicing, Uniforms, PAs and CGSD

With a blizzard at the field, do you really expect an on-time departure? A lot of airports (including GA FBOs) will have deicing plans in effect. You should know what types(s) of deicing/anti-icing fluid are acceptable to use on your airplane (I, II, III and IV). It’s based on POH specifications and takeoff rotation speed. The most common uniform change among working crew members will be neckties,



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scarves and holiday jewelry. Airline captains may make special welcome aboard and enroute PAs.

The most common addition to the enroute PA during a Christmas Eve flight will be information on the progress of our fellow aviator and his reindeer crew. Once word is received that his flight plan is on file (via an automatic text from Flight Plan-Go), a ceremonious announcement is made. More PAs are made providing updates on his location throughout the flight, sometimes to the chagrin of humbug-type passengers. Traffic is typically light on Christmas Eve, and direct routing is common – unless a vector around aforesaid, high-priority, multi-mammal-powered traffic is required. Even though Santa's Sleigh Avionics Suite (SAS) was updated with TCAS and ADS-B, he's still negative RVSM because Rudy can't get a proper O2 mask fit due to a congenital-glowing-schnoz-disorder (CGSD).

A Peaceful Stillness

Everyone on a commercial flight seems to have a special connection as Christmas Eve slips away and Christmas morning arrives. The connection is even more special between crew members. We're all away from our homes, families and pets, so as a crew, we become a family even more so than normal. The view out the windows seems different on Christmas Eve too. When you look down at the normally busy roads at night, you notice a peaceful stillness. And even though you can't see snow on the ground, you feel that it's there – like a Christmas card or painting of a wintery landscape.

If the moon is bright enough, you may see the shiny glimmer of a snowy field or mountain every now and then. Sometimes you may get a view of the Northern Lights or glimpse a meteor. You also realize that hundreds of thousands of euphoric children nestled in their beds are struggling to sleep with that once-a-year incredible anticipation of the upcoming day. The children onboard are not nestled in their beds for a long winter's nap. And I doubt it's sugar plums dancing in their heads – more likely some electronics, games and toys, and their euphoria is contagious.

It's the Thought that Counts

Once you arrive at your destination, the Merry Christmas goodbyes begin. After a Christmas Eve flight, the thank

you's and goodbyes are quite sincere. And people really seem to care about each other. If you're headed to another hotel like the crew, you are reminded that a lot of other folks are working Christmas Eve and Day: clerks, maids, drivers, and restaurant workers – even a manager or two. And it can feel strange waking up in a hotel room on Christmas morning. When I was an airline captain, I'd try to bring cards and gifts for my crew when we met for breakfast or crew pick-up on Christmas morning. It could be difficult to select a gift since we normally don't know each other very well. But it turns out that it truly is the thought that counts.

Like flying at night on July 4 or midnight on New Year's Eve, there is something special about flying and working on Christmas Eve. If you are one of the thousands of people working on Christmas Eve and Day, you are blessed with the task of helping others to enjoy “not working.” I think that the folks tasked with working seem to have more Christmas spirit than those with the day off. They're given the opportunity of sharing that spirit with strangers and to treat them as family. Those working Christmas Day get to experience the often elusive “true meaning of Christmas.”

It's Better To Give

Assisting at a food bank or taking gifts or a meal to one of your favorite local businesses like a restaurant, auto shop or doctor's office are examples of special things we might try on Christmas Day in pursuit of the true meaning of Christmas. What about the folks at your FBO? The maintenance shop will be closed, but the office and line people will be working. How easy would it be to deliver a few pizzas with a ribbon and bow on each box! Bring along a gallon of eggnog or apple cider and some plastic champagne glasses too. If you have never tried these types of things, you may be amazed at the feelings it will generate in those involved.

Fly Away All

Well, you've made it through another contraction-filled story. But hopefully, this heartfelt rendition from an undeveloped writer refreshes your perspective and puts you in the holiday spirit. I also hope there is one contraction you noticed I did not use: the one where you substitute an “X” in Christmas, taking out “Christ.”

If you're flying your sleigh Christmas Eve like Santa and me, then to the end of the runway, to the top of the climb, fly away, fly away, fly away all. But get deiced first and be careful out there my friends. Happy Christmas to all, and to all a good night. **T&T**

Kevin Dingman has been flying for more than 40 years. He's an ATP typed in the B737, DC9 and CE-650 with 25,000 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 retired from a major airline, flies the Cessna Citation for RAI Jets, and owns and operates a Beechcraft Duke. Contact Kevin at dinger10d@gmail.com.

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A PHENOMenal Jet



2011 Embraer Phenom 300

Marcus Adolfsson of Tampa, Florida, has owned an Embraer Phenom 300 for a little over three years. Flying what he calls the “ultimate owner-pilot plane” is the culmination of more than a decade of owning and operating cabin-class aircraft.

Summing up his aviation journey thus far, Adolfsson said, “Aviation helps to define you as a person. It is like the old jest, ‘How do you know

someone is a pilot? They have already told you, right?’”

Jokes aside, he went on to explain which aspects have proved most beneficial to him.

“One – being able to do amazing family trips over the last 15 years we wouldn’t have been able to do without general aviation. Two – expanding my business by getting to the right place at the right time. Three would be networking. Once you start talking



Marcus Adolfsson and family.

to other pilots, especially owner-operators, it's a really good camaraderie with great networking opportunities."

An all-white "white tail" 2011 Phenom 300 is the second Embraer product that the technology entrepreneur has owned. Prior to stepping up to the largest single-pilot bird in the Brazilian manufacturer's fleet, Adolfsson owned and operated a Phenom 100. He flew the aircraft for several years. Prior to Phenom ownership, he owned an Eclipse 500 for nearly a decade.

In 2019, Adolfsson decided that he wanted a more capable plane. "At that point, the Phenom 300 was the only aircraft I was considering," he recalled. "I was already in the Embraer family and liked the systems integration and the design of the aircraft. But when I left the Eclipse

world, I did shop the market. I looked at Mustangs, CitationJets and the [Beechcraft] Premier, but I was attracted to the Phenom 100 because it was a modern clean-sheet design. The other planes in the segment did not have as integrated of avionics."

Once he saw a Phenom for the first time, he was immediately impressed. The cockpit's purposely created lines and thoughtful designs pleased Adolfsson and his attention to fine detail. His positive experiences with the Phenom 100 were not just related to aesthetics either. The ease of operations and well-integrated systems were things that Adolfsson hoped to replicate when continuing his ascent in jet ownership.

"Once I was in the Embraer family, there really was no reason to look at the Citation CJ4. That aircraft was the only reasonable competitor to the Phenom 300 for single-pilot operations. The Phenom 300 is a very simple plane to fly and it's so automated. Even with breaks between flights since I'm not a professional pilot, I feel very comfortable getting back into the cockpit," he explained.

"There are very few things that you as the pilot can do to screw something up from a systems perspective (such as forgetting to turn on the pitot heat or something similar). Most of the systems are automated. The only time you move a knob out of the 'auto' position is when the checklist calls for it. This would typically only be during an emergency. Otherwise it's all in auto and you power on the engines and go. You can go from having a cold plane to being on the runway in a few minutes."

Outside of being an intuitive aircraft that isn't too demanding for an owner-operator to fly, the step-up has proved beneficial in other ways. One of the biggest reasons for Adolfsson



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desiring a larger aircraft was that former jets of his had key limitations.

“What I often tell people is that the Phenom 300 is my first ‘real’ jet. Before that, my previous jets were compromised aircraft in the sense that you can either do full payload or full fuel but not both at the same time. In the Phenom 300, you can top it off and still pretty well fill the seats and luggage space and fly four or five hours with plenty of reserves. You don’t have that capability with many other light jets.”

The Phenom 300’s additional reach also increased the possibilities for Adolfsen and his family. Not only can they go further, the increased payload opened up the possibility of bringing others along for the ride.

“Previously, the average flight I took included myself and my immediate family. So, only three or four people on board. With the Phenom 100, we couldn’t take two families and go to Salt Lake City, Arizona, or even up to New York. There just

wasn’t enough seating capacity or you would have to add another stop. With the 300, for better or worse, you can always bring along more friends and not lose performance. The difference between two people on board and eight people on board is five minutes on a four-hour flight.”

Adolfsen’s family and passengers love the Phenom experience for a multitude of reasons. One feature that is appreciated is the (externally serviceable) lavatory. It is nice peace of mind for all those aboard, Adolfsen contended. Especially when the Phenom’s nearly 2,000 nautical mile capable legs are stretched, it isn’t feasible to tell your passengers to “wait until we land.”

“In the Phenom 100, if someone used the toilet, you had to manually remove the tank, carry it through the cabin and find a place to empty and wash it. With the 300, it is the line guys’ job.”

He also noted other cabin amenities popular by passengers and pilot

alike: “The tube size of the Phenom 300 is the same as the Phenom 100, but substantially longer. The passengers love the airstair. It looks like a much bigger plane than it is sitting on the ramp because of the airstair. Also, I have GoGo Avance L5 on the plane, so the passengers love being connected to high-speed internet in flight. That makes the time go by a lot faster.”

Adolfsen’s experience up front in the cockpit has proved positive as well. “This is the ultimate single-pilot plane. Between the massive payload, flexible CG, long range, impressive systems integration, awesome ramp presence, and Embraer’s worldwide support network, in my mind, it is the only plane that I want to own.”

Moving into the aircraft from its smaller sibling was surprisingly easy Adolfsen noted.

“Unfortunately, in the United States, they have separate type ratings. But in Brazil, they share a common type rating and perhaps elsewhere

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in the world. They are very similar airplanes from a systems perspective. The cockpits are almost identical, for instance.”

Adolfsson did note some differences in operations from his former aircraft. “When transitioning, one thing that you notice right away is the 55-foot wingspan of the Phenom 300. The Phenom 100 has a shorter stubby wing, similar in size to a Cirrus SR22. After a month, the plane feels normal in size and you get used to it. But I remember thinking initially I might hit something [with the bigger wingspan]. Especially when you are flying single pilot, you cannot see the right wing at all. I can’t even lean that far over to see, so you really have to build a spatial awareness of where the plane is at when moving around on the tarmac.”

For any current or prospective owners looking to better understand the various Phenom models and related topics, Adolfsson created the Phenom Pilots organization in 2020.

“The beauty of the Phenom Pilots group is that anyone can join – people researching the plane, pro-pilots, maintenance providers, owner-pilots – and it’s free to do so. In today’s age, we are competing with Facebook groups, so we can’t be charging \$300 to join a forum,” he explained.

“There are hundreds of Phenom owners on the site discussing various topics, such as problems encountered with the planes, solutions to those problems, good places to travel, and other topics. We also host social get-togethers, where owners gather, have some safety seminars, and we discuss our joint flying experiences.”

Adolfsson concluded: “In addition to the website (phenompilots.org), we also have a Facebook group called Phenom Pilots. We also have an iPad app called ‘My Phenom.’ This is a full performance planner where you can do weight and balance, takeoff distance, landing distance, as well as cruise performance calculations. For those considering a Phenom 100 or 300, this is a great way to explore all the performance capabilities of the two aircraft.” 



“With the 300, for better or worse, you can always bring along more friends and not lose performance. The difference between having two people or eight people on board is five minutes on a four-hour flight.”

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The \$1,000 BBQ Sandwich

When I was growing up, it was called the \$100 hamburger. That was the approximate cost of flying your Cessna 172 a hundred miles and back for an airport lunch. It was simply a reason to go flying.

In the turbine world, things have changed. I figure it costs at least a hundred dollars just to go look at the Mustang in the hangar nowadays.

With a jet, I like to fly once a week, but that is often not possible. So, how often is enough to maintain the skillset necessary in the ATC environment? I start looking for an excuse to fly around the two-week point.

Late August found me looking for an excuse.

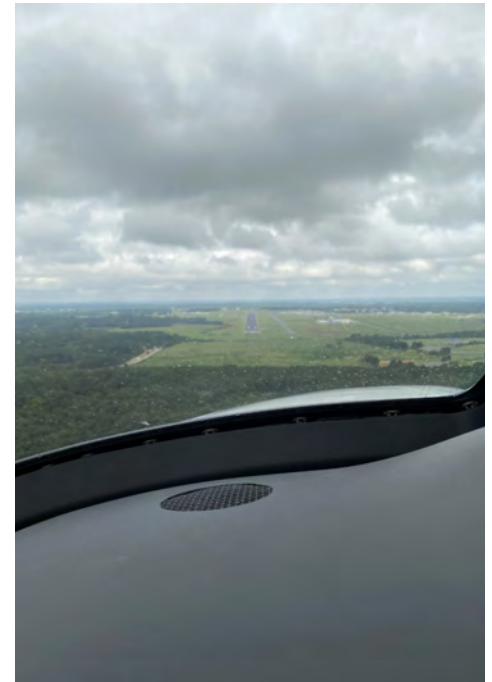
Dallas had just experienced over nine inches of rain in 24 hours, with lots of residual moisture and IFR conditions east of town. Perfect for a morning flight to Shreveport, LA.

The morning METARS showed VFR weather in Dallas and overcast ceilings of 500 to 700 feet with 10-mile visibilities in Louisiana. Ideal conditions for an IFR exercise.

Clearance in hand, it was a left turn off Addison (KADS) and a climb to 2,000 feet. Frequencies were quiet on the early morning departure. "November three nine six delta mike, climb and maintain flight level two one zero," said Fort Worth Center.

Above the overcast, I ran the checklist, checked the weather and prepared for the approach. I reprogrammed the ILS as Shreveport changed the active runway during the short 40-minute flight. Descending into the overcast at 4,000 feet, all was stable, and it stayed that way as I broke out at 700 feet on the ILS.

"Six delta mike, say destination on the airport," said the tower. "Delta mike would just like to taxi back to the active and pick up an IFR back to Addison," I replied.



I calculated that the \$1,000 hamburger would be \$1,200 if I purchased fuel from the single source FBO at over \$7.00 per gallon. In the 1970s, I remember buying car gas at under \$2.00 a gallon and receiving a free Dallas Cowboys drinking glass with each fill-up. Eight tanks later, Patty and I had a set of glassware for the early years of our marriage.

Turbine pilots may be cheap, but we are not stupid.

Clearance loaded into the Garmin NXi and takeoff checklist complete, I headed back to Addison and cheaper fuel. After cleaning up the airplane, I drove next door to the barbeque joint and ordered a sliced beef sandwich and fries for \$12. And that was \$5 too much.

Fly safe. **T&T**

David Miller has owned and flown a variety of aircraft from light twins to midsize jets for more than 50 years. With 6,000 plus hours in his logbook, David is the Director of Programs and Safety Education for the Citation Jet Pilot's Safety Foundation. You can contact David at davidmiller1@sbcglobal.net.

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