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EDITOR Lance Phillips lance@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

816-699-8634 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

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

Contents december 2023 • VOL. 27, NO. 12

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Editor's Briefing



'Tis the Season

We are coming up on Thanksgiving as we prepare to go to press for December's T&T, and the Christmas season is just around the corner. This is a great time to refocus our attention on those in need and realize how lucky we are to live where we can fly almost anywhere, anytime, without paying exorbitant taxes and fees, using the safest aviation system in the world. We don't have to worry about war in or around our borders here in the U.S., and most of us reading or writing for this publication own or fly high-performance, high-technology twin and turbine aircraft that most only dream of.

In this issue, T&T writer Rich Pickett helps us celebrate Angel Flight West's 100,000th mission, helping and assisting those in need for over 40 years. Rich highlights the plight of young Luis Peña, who suffered from liver cancer as a child. It's a feel-good story about how aviation has changed a young person's life and has given Luis a reason to pursue goals far beyond what he originally thought possible.

Next, we hear from a new T&T writer about his days flying the night shift in Piper's speed demon, the Aerostar. Pete Ruskay is a life-long aviator with flight running in his family's blood. Let's hope he has lots more to tell us over the next year. Once again, Rich Pickett joins us to discuss the updates Pilatus is bringing to its PC-24. The super-versatile jet is becoming even more capable if that's possible. Later, Rich discusses Garmin's Autoland and Autothrottle technologies.

Rich's son, Tigre, gives an informative view of how Vaunt is bringing empty-leg availability to potential private aviation flyers.

Owner's Corner highlights Jeff Martin's journey to TBM ownership and its benefits.

In On Final, David Miller tells us how to reduce our risks on landing.

Please have a wonderful holiday season, and as we prepare for the new year, take account of all the good stuff we have in our lives and try to divert any negative energies toward helping others. All the best.

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Angel Flight West 40 years and 100,000 missions

by Rich Pickett



Dennis Torres - AFW co-founder and first mission pilot and Rob Ross - 100,000th mission pilot.

uis had liver cancer at a young age, which, thankfully, was successfully treated. However, as a result of the cancer's ravages, he needed a liver transplant as well. Fortunately for Luis Peña, he found an organ donor, saving his young life. The organ donor's generosity allowed Luis, now 12, and his mother, Maria, to be the 100,000th mission recipient of Angel Flight West (AFW) on October 30th.

Now, Luis and his family have become frequent AFW fliers. He lives in southern San Diego County, and his medical team is based in Los Angeles. Driving to reach them takes a substantial portion of the day. With both parents working and other family to care for, such frequent drives can take a toll, especially when patients are undergoing treatments. That is where AFW and other public benefit organizations play a significant role – generous volunteer pilots are essential to people like Luis receiving care.

I met with Rob Ross, who flew his Meridian from Santa Monica (KSMO) into the Coast Air Center FBO at Montgomery-Gibbs Airport in San Diego (KMYF). Rob was at Coast Air to pick up Luis and his mother, Maria Pérez, for this momentous flight — just one of many he has flown—taking them to Santa Monica (KSMO).

As an AFW Command Pilot for several years and previously volunteering as their Safety Officer, I've gotten to know and appreciate all the other critical support staff and volunteers that ensure every mission is a safe success.

Flight missions begin with the patient's providers requesting the service. Then, AFW staff work diligently to locate a mission pilot (or multiple pilots, depending on legs and distance). At the same time, Earth Angel volunteers transport patients between the airports and their appointments or lodging. Charitable donations from individuals, foundations, and corporations also provide critical support to make flights like Luis' possible.

AFW started 40 years ago in Santa Monica when a small group of pilots saw a need to provide medical air transportation when ground transportation wouldn't suffice—flying



Rob Ross, Luis Peña and Maria Pérez at KMYF

more than 5,000 air missions annually with a volunteer roster approaching 3,000. Over 20,000 passengers have benefitted from the kindness and generosity of others.

Celebrating the success of the 100,000th mission celebration at the Santa Monica airport was the pilot who would fly Maria and Luis back to San Diego – Edward Norton, actor, filmmaker and philanthropist. Also at the event was Dennis Torres. Dennis and his wife Averi were two of the original founders of AFW. Dennis also flew the first mission and met Rob and Ed – pilots of the 100,000th.

During the celebration at Santa Monica, Luis and I discussed his passion for aviation! He loves to fly, and while there have been significant challenges in his twelve years, he wants to be a pilot. When his mother remarked on his medical issues, he proudly told her that his challenges wouldn't stop him! When Luis is ready to hit the skies, he and I will set a date to go flying — not as a passenger — but as a student pilot. I'm excited and have his flight logbook ready! Perhaps he can fly the 200,000th mission for someone in need.



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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Banking in an Aerostar

by Pete Ruskay



The year was 1993. Seinfeld was the number one TV show, Whitney Houston was at the top of the charts, and a new thing called the internet was beginning to change how we live our lives. Before the days of real-time banking through your mobile phone, an event happened nightly while most normal people slept soundly. In 1993, when you wrote a check, your bank would return your canceled checks to you at the end of the month along with your statement. With this, you would have proof that they cashed your check, and you could then balance your checkbook. Wow, I'm dating myself!

Enter a bright-eyed, ambitious 24-year-old aviator (yours truly) and my new ride, the Piper Aerostar 600. Flying out of Danbury, CT (KDXR), the charter company I worked for assigned me to a new contract flying bank checks in this essential part of the finance industry.

Every weekday night, I would start at around 9:00 PM, flying 5 to 7 legs within a 100-mile radius of New York City. Upon landing at each airport, a van would approach rampside delivering clear plastic bags full of canceled checks. These bags were about the size of kitchen trash bags, and as the night went on, I would fill the cabin of my Aerostar from floor to ceiling. Well past midnight, with my pickups made, I would head to the canceled check hub of the New York area – Teterboro (KTEB).

Teterboro is within sight of Manhattan and, by virtue of its proximity to the city, caters to corporate aviation. Saturated with hundreds of corporate jet operations by day, Teterboro would morph into an equally hectic hub for check haulers during the midnight hours. Dozens of us twin-engine piston drivers would converge around the same time with our precious paper cargo. Teterboro would become so busy during these hours that on calm-wind nights, the controllers would use both ends of runway 1/19 for arrivals and departures, staggering the flow to keep things moving along. Waiting on the ramp were MU-2s and Learjets, which would take our checks longer distances so they could eventually wind up back in your mailbox. Those battle-scarred turbine-powered workhorses, crewed by pilots, apex aviators to my young eyes, were the epitome of speed and power. Their pilots quietly stood around, cigarettes and Styrofoam coffee cups in hand, while the bank consolidators would distribute our loads to the appropriate aircraft. The speed demons would then blast off to far-flung destinations like Chicago, Atlanta, Kansas City, Dallas, and Denver. A nocturnal ballet that went on like clockwork, largely unnoticed, every evening.

Having previously flown a gentlemanly and forgiving Piper Navajo, I entered a new world with the Aerostar. She stood tall and lean on her main gear, and looked like she was at Vne while sitting on the ramp. Inside, the cockpit was cozy and purposeful, with a metal instrument panel, sturdy switches, and dials - more sports car-like than the Navajo. The mid-wing design placed the engines at eye level. On hot evenings, I would open the top of the clamshell entry door while taxiing, and the spinning prop would be mere feet from my face. Electric nosewheel steering activated by a panel-mounted rocker switch and some differential braking took some practice getting to the runway. When cleared for takeoff and bringing up the power levers, those Lycoming IO-540s would come alive, and it was off to the races. Although the 600s we operated were normally aspirated and nonpressurized, it was always a fast climb out, and I would quickly settle into a 200-knot cruise speed. Since I was flying in such a small radius, it became an exercise in checklists, navigating, frequency changes, ATIS and preparing for the next arrival and approach. I was doing it all alone in the darkness with a bag of NOS Charts and a kneeboard as my only companions. In the summertime, my workload also included manning the radar and Stormscope while avoiding thunderstorms. Come wintertime; it was keeping the windshield clear with my hot plate while activating the leading edge boots as necessary and flinching every time the heated props would fling ice into the fuselage. Needless to say, I was a busy young man, and as the months went on, I fell into a satisfying high-level routine that became a point of pride.

As I became more proficient, I was able to relax and take in the enjoyment of flying this little speed machine. It was, without a doubt, a pilot's airplane. When I first started nighttime check hauling, a wise and experienced aviator suggested that to avoid nodding off during the long nights, I should hand fly the airplane – and hand fly I did. The Aerostar was an excellent platform for hand flying, and I can count on one hand the number of times I used the autopilot in the 18 months I flew checks.

When Ted Smith designed the Aerostar in the 1960s, he envisioned the series to become pressurized and eventually powered by wing-mounted turbojet engines. With this forward-looking vision, Mr. Smith designed some very robust systems around a sleek airframe. Rather than using pulleys and cables for the flight controls, Smith used torque tubes, which provided a smooth, jet-like feel and made it one of the best flying airplanes I've ever flown. I could consistently grease on my landings, not because of my superior skill but because I had such fine elevator control designed into the aircraft.

Now is a good time to address the myth that the Aerostar is dangerous. The fact is that when flown by the book, it was as safe as any of its competitors. The trick was to be thoroughly knowledgeable of the POH and fly it as certified. Ted Smith designed it to fly in the flight levels leaving contrails, so it had higher wing loading than its contemporaries. This high wing loading made it handle turbulence better, but the downside was that it was less forgiving at slow speeds with a more pronounced stall entry. Being vigilant whenever the aircraft was below 100 knots on takeoff or landing became critical. When there was enough runway,



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I would delay my liftoff for a couple of seconds to get more speed and conversely, if I could afford the runway, tack on a few extra knots to my approach speed.

I believe that most Aerostar accidents occurred due to a combination of a few factors, including insufficient training, nonstandard execution of engine out procedures and less than proficient airmanship. In some cases, these pilots flew manageable aircraft into disaster. Over the span of my career, I've witnessed training become more pronounced and standardized. Insurance companies have taken a greater interest in pilots having formal and practical training, steadily lowering accident rates.

While the internet has made the check-hauling business extinct, the ability to access information and connect has positively impacted aviation safety. I can quickly search and find pages and pages of information on operating Aerostars. I can watch hours of videos on how to preflight, fly and maintain Aerostars. Pilots will always be proud of the aircraft they fly, and the Aerostar community has been described as cultish, but it can be considered cultish in the best ways. Their sense of pride in the Aerostar is profound, and that strong sense of community has made it natural to share tips, tricks, and hard-earned tribal knowledge. The Aerostar Owners Association is a shining example of this information sharing. These groups make all operators smarter and more knowledgeable, leading to greater fleet safety. Fast forward thirty years and the bright-eyed and ambitious aviator has become a gray-haired Captain in corporate aviation. For the past 17 years, I have had the pleasure of flying the Bombardier Global Express to worldwide destinations and following through on my lifelong dream of being a professional pilot.

Now and then, though, when crossing an ocean on a long leg, I will gaze at the stars and think about my journey in aviation. While my period of flying the Aerostar barely paid my bills, and nighttime flying put a big damper on my social life, I always view it with a warm heart and cannot help smiling. Flying that sexy rocketship at such a high level of proficiency night after night fostered the discipline and confidence that made me the pilot I am today. I will always have a soft spot for the Aerostar – and you can take that to the bank!



Peter Ruskay, CAM, is a second-generation corporate pilot who holds ATP and FE certificates with five jet type-ratings. He has over 11,000 hours of flight experience and has spent the past 25 years flying long-range, large-cabin business jets in extensive international operations. Pete holds NBAA Certi-

fied Aviation Manager and NBAA Certified Safety Manager qualifications. He can be reached at **airpedro@aol.com**.



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One Thousand Upgrades and Counting Pilatus PC-24 Update

by Rich Pickett



've had the pleasure of flying the Pilatus PC-24 several times, and since its introduction, Pilatus has produced over 200 of these jets. It is a very successful product and an impressive business jet in its use of technology and utility. It is still the only business jet certified to land equally on dirt, grass, and hard surface runways.

While its utility and form have held a unique place in our industry, its fullfuel payload and range were not equivalent to its competitors, primarily the Cessna Citation CJ4, Embraer Phenom 300, and perhaps the Cessna Citation XLS. That has changed, starting with Serial Number 501.

PC-24s, starting with Serial Number 501, will be the recipient of nearly 1,000 modifications to the aircraft.

Pilatus likes to categorize the changes as follows: More range, payload, and possibilities.

Many aircraft manufacturers update their products with various changes over time. We see avionics upgrades, platform changes, software and hardware updates, and, frequently, substantial changes in interior designs. While others provide new owners with some changes in zero-fuel or other weight and balance categories, this is the first aircraft update I've reviewed with so many changes within one model.

Payload and Range Increases

One of the primary goals of Pilatus was to make significant structural changes that would result in lowering the empty weight, increasing the maximum weight, and offering longer range—all the while increasing the full-fuel payload, which was critical. To reduce weight, the OEM needs to change the structure and other components. Pilatus redesigned over 700 components through a combination of changes in the design and the utilization of more advanced materials. Some weight-saving measures were small, from a 0.6 lb change on an oil door hinge to other more significant ones, such as the 15 lb saved using carbon fiber ground spoilers. Incremental savings over the 700 items, even with the enhanced interior, have resulted in savings of 160 pounds.

While weight reductions are useful, increasing the structural weight limits with new component designs was the most significant benefit. These increased by 440 lbs (200 kg), starting with the maximum ramp weight of 18,840 lbs (8545 kg). The net result was a full-fuel payload increase of 599 lbs to 1314 lbs. Operators can now carry three additional passengers onboard with full fuel.

With the changes, Pilatus had to accomplish a nearly complete flight test program, from ground handling to flutter analysis and steep approaches. The Long Range Cruise (LRC) with NBAA reserves has increased by 200 nm to 2,000 nm with six passengers and one pilot. Granted, most operators fly at higher speeds, so the typical range will be less. However, it does provide the option to operate at a lower cruise speed with a significant range increase.

Performance Changes

At the new weights, the runway performance changed slightly. At an MTOW of 18,740 lbs (8545 kg) sea level and 15C, the takeoff distance increased 170 ft. to 3,090 ft. Landing at the maximum landing weight of 17,340 lb (7,865 kg) at sea level and ISA adds 45 ft. to the total distance—negligible increases for the significant weight increases.

Cabin Comfort

Simultaneous with the structural goals was the enhancement of an already impressive cabin interior. I found the cabin of the PC-24 to be quiet, and the cockpit is one of the quietest I've experienced; however, the latest upgrade is even quieter.

Airflow can be a significant source of noise. Pilatus redesigned the air outlets to reduce the noise further and lowered the decibels with a sounddeadening aft curtain. Leaving no stone unturned, Pilatus also redesigned the inlet to the starter generator to minimize the noise profile for an even quieter aircraft.

Pilatus redesigned the forward beverage center and cabinets with a larger work area, an improved storage design, and added storage for crystal wine glasses in keeping with the PC-24 Crystal Class. For those operators accepting their new PC-24s in Q3 2024, a new cabin information system complete with highfidelity speakers, touchscreen control, and new color-controllable lighting will be an option. Those operators can also opt for a three-person side divan that can serve as a 6'6" (1.98M) bed.

With the introduction of the new PC-24, Pilatus has expanded the functionality of their Utility Management System (UMS). Combined with other data collection systems and a gateway that can automatically send data to their analytical software at Pilatus, operators expand their proactive capability to maintain the aircraft.

My wife Jane and I visited the Pilatus factory in Stans, Switzerland, this summer and witnessed the new PC-24s with increased range and payload in completion, as well as an extensive expansion of their facilities to accommodate the production demand. It is also the quietest aircraft production facility I have ever visited, a testament to its thorough engineering.



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Many of their engineering and support staff have offices overlooking the production line, facilitating collaboration. Concurrent with an increase in production is the requirement for more energy. One of their primary corporate goals is a focus on sustainability. We viewed real-time displays throughout the buildings advising employees of their progress toward those goals. Along with extensive materials recycling and efficient design, they utilize a substantial on-premise solar installation, evident when I flew over their airport the following day.

In Person

While viewing the PC-24 in production, and looking at photos, nothing matches personally touring the aircraft. Tigre and I were fortunate to meet up with Theddy Spichtig, Factory Test Pilot and one of the early Pilatus employees, at NBAA BACE in Las Vegas. While externally, you won't see any noticeable changes, the totality of the interior upgrades is immediately visible. The jet's interior was impressive before, and the changes integrate well and elevate the experience. The first impression upon boarding is the new beverage center, with contemporary finishes and convenient wine glasses. The design of the divan is very efficient and comfortable, even for Tigre at 6'6". The larger cup holders and additional power outlets add to the passenger convenience. The cabin management system is useful, although we didn't have time to test all of its features.

The flight deck is a comfortable place for the pilots to work, with adequate room for even the tallest pilots and a wide range of rudder pedal adjustments. The cockpit layout and the very efficient and powerful Honeywell avionics suite are all within easy reach of the pilots. In my PC-24 flights, I've found it to be the most comfortable flight deck in its class. Flying up to 600 hours annually, I spend a lot of time in the front office, and most cockpits need more attention from the aircraft designers. You can view a video tour of the new PC-24 on our YouTube channel – Personal Wings.

Conclusion

The new Pilatus PC-24 is a significant upgrade over the current model. With its increased range, payload, and cabin comfort, the new PC-24 is even more versatile and will appeal to a broader range of operators. The Versatile Jet just became even more versatile.



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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Jeff Martin



eff Martin, of Hattiesburg, Mississippi, expressed that flying has provided him an edge in business that he otherwise would not have. Without aviation, he could not easily access his auctioneering business' locations across nine states – from Texas to New Hampshire to Minnesota.

"Without question, owning aircraft is a competitive advantage for us. We could not do what we do without one or both of the airframes. It's by far one of my most competitive advantages. Our aircraft allow us to go in and out of places where others can't and get there much quicker than other methods. Our business would look a lot different without them."

Martin, an instrument and multi-enginerated pilot, has been flying for more than thirty





Jeff and his wife, Kellie, in the TBM 850

years, during the time in which he has owned more than a half dozen airplanes. TBMs and a single-pilot Citation headline Martin's collection of aircraft. Presently, he owns a TBM 850, which he flies himself, and a Citation CJ1+, flown by a staff pilot—the auctioneering business tallies roughly 900 hours a year between the airframes.

"I am not typed in the Citation; we have a fulltime corporate pilot. His job is to get our team to sites as quickly as possible. Often, we chase each other around the country – ironically, going between different auctions. We try to conduct three auctions weekly, loading everybody up and going. He flies the CJ, and I fly the TBM. We race to see who gets there first. If I get off the ground first, I beat him; if he gets off the ground first, he naturally beats me!"

Much like his foray into the auction business (an industry his dad joined in 1973), Martin's family inspired his aviation journey. He explained

that his grandfather had a Cessna 150, and flying it "from the backyard on Sundays after church when the weather was good" ignited his interest in aviation.

"Then, in the early 90s, I decided that I wanted to follow my passion for aviation and learned to fly. I realized I could use it for business and bought my first airplane, a 1997 Mooney M20J. After a while, I sold it and bought a Beechcraft Baron 58TC. I flew it for a couple of years and started to use general aviation to spread our business. And in 2009, I formed my own auction company, starting with one location in central Mississippi. Mississippi is not an airline-friendly part of the country, so we bought a Cessna 414."

Following that aircraft, Martin moved between half a dozen pistons and turbines until he bought his first TBM, a 2003 700C2. He noted that the TBM replaced a Cirrus SR22T, which had an engine failure and subsequent chute pull. Fortunately, Martin was already considering moving to another aircraft before the incident. "We were spending an enormous time in the Cirrus, and I wanted to find something to go faster, but I wasn't interested in multi-engine aircraft. My biggest considerations were speed, range, and service ceiling. I wanted all the speed that I could get and didn't look at anything but the TBM, just based on the research I had done and what they are truly capable of doing."

The 700C2 was not in the fleet long after an off-field incident. "The landing gear broke off the 700C2 in that incident, totaling the aircraft. So, we bought our 850 as a replacement in 2022. It has a little bit more speed and a little bit more fuel burn. We have the G1000 cockpit in it, which we upgraded to NXi – which is such a situational tool. We don't have Wi-Fi in the aircraft, but we have a satellite phone, so we can always stay in touch with the office. It's so much more capable of an aircraft than our former TBM."



A panel shot of Martin's TBM 850, which has a G1000 avionics system (upgraded to NXi)

Martin has a lot of good things to say about his fast single-engine turboprop. He summarized his feelings: "The TBM is just absolutely a phenomenal airplane. And I could be a very good spokesperson for them, as much as we fly the airplane!"

Elaborating, he provided further details about why he enjoys flying the TBM and how it compares to another turboprop option.





"You load it, and if it fits, it ships! For instance, the TBM 850 is not nearly as popular as a King Air. But dang, if it is not efficient, easy to maintain, roomy for four people, and a lot of other great things. I have friends who own King Airs, one of whom used our TBM because it was the only aircraft on the field that could leave Hattiesburg and go directly to the Cayman Islands, take on fuel and come back. His King Air couldn't do it! You won't get the performance from other planes that you get with this one. I love introducing new people to the TBM whenever I get the chance to"

His standard mission is roughly 600 nautical miles, with anywhere from just Martin and maybe one other passenger (most frequently) to having every seat filled.

"Our operating procedures are that we fly at 27,000 to 31,000 feet consistently. There, we see pretty impressive numbers. We just came back [to Mississippi] from Denver on a trip at 31,000 feet and were burning 55 gallons an hour while going 307 knots true across the ground. That's achievable day in and day out with this airplane. It has a great range, too. We can fly non-stop from Vegas on home and take it from any of our offices back home, generally with a hefty payload. It's also a fairly good short field performing airplane; we use 3,300 feet runways consistently, in and out."

Martin acknowledged that performance was just one of many considerations for prospective aircraft owners. He advised that the TBM 850, considering what it can do in the air, is an economical performer.



The TBM's range from Florida, overflying Cuba on the way to Sangster International Airport (MKJS) in Montego Bay, Jamaica

"TBMs are expensive to maintain if you do so to standards. But so is everything else! For hourly operating costs, all in with maintenance, insurance, training, avionics upgrades, parts, and engine reserves, we are in for about \$500 an hour – not counting fuel. You can add a few hundred bucks every other year for a very extensive annual."

In September of 2022, Martin created the Facebook group called 'TBM 700/850/900 Pilots & Owners' to foster dialogue among current and prospective caretakers of these aircraft. The nearly 1,000 members share their experiences on various topics, from maintenance to costs to training requirements.

Martin also connects with other owner pilots through TBMOPA, which he has been a member of for several years. He noted that he was proud to have managed the organization's recent charity auction, combining his passion for aviation and his lifelong career. All proceeds from the fundraiser went towards the TBMOPA Foundation, a 501(c)(3) organization that aims to improve safety within the TBM owner-pilot community.

That day, those on the other side of the gavel heard one of Martin's benefit auctioneers' rhythmic auction chant – highlighting vacation rental homes, training packages, and other member-donated prizes. Her entrancing mix of monologue hummed with a distinct chant, resulted in over \$150,000 of proceeds. Martin was also present throughout the convention, talking shop with other TBM operators – relishing in the joys of owning a very fast single-engine turboprop.

Sold! Sold! Sold! TET

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41	ASTRA 1125SP
59	ASTRA 1125SPX
266	BEECHJET 400 BEECHJET 400A
250	BOEING BBJ
513	CHALLENGER 300
317	CHALLENGER 350
29	CHALLENGER 3500
29	CHALLENGER 600
108	CHALLENGER 601-3A
52	CHALLENGER 601-3R
351	CHALLENGER 604
283	CHALLENGER 605
78	CHALLENGER 650
53	CHALLENGER 800
5	CHALLENGER 870
504	CIRRUS VISION SF50
130	CITATION 500
375	CITATION 525
345	CITATION BRAVO
207	
255	CITATION C.12
245	CITATION CJ2+
489	CITATION CJ3
267	CITATION CJ3+
464	CITATION CJ4
192	
405	CITATION EXCEL
13	CITATION I
277	CITATION I/SP
436	CITATION II
50	CITATION II/SP
164	
58	
376	CITATION M2
510	CITATION MUSTANG
142	CITATION S/II
366	CITATION SOVEREIGN
215	CITATION SOVEREIGN+
289	CITATION V
27	CITATION VI
135	CITATION VII
324	CITATION X
39	CITATION X+
358	CITATION XI S+
17	DORNIER ENVOY 3
33	ECLIPSE 550
317	ECLIPSE EA500
20	EMBRAER LEGACY 450
03 113	EMBRAER LEGACT 500
72	EMBRAER LEGACY 650
16	EMBRAER LINEAGE
379	EMBRAER PHENOM 100
580	EMBRAER PHENOM 300
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21	FALCON 100
15	FALCON 200
272	FALCON 2000
5	FALCON 2000DX
23	FALCON 2000EX
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25	FALCON 200
15	FALCON 20C-5
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182	FALCON 50
5	FALCON 50-4
8	FALCON 50-40
282	FALCON 50EX
70	FALCON 8X
28	FALCON 900 FALCON 900C
21	FALCON 900DX
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22	GULFSTREAM G100
238	GULFSTREAM G150 GULFSTREAM G200
305	GULFSTREAM G280
13	GULFSTREAM G350
324	GULFSTREAM G450
641	GULFSTREAM G500
465	GULFSTREAM G650
15	GULFSTREAM G-II
12	GULFSTREAM G-IIB
175	GULFSTREAM G-IV
319	GULFSTREAM G-IVSP
202 113	GULFSTREAMG 600
32	HAWKER 1000A
5 7	HAWKER 125-1A
2	HAWKER 125-1AS
55	HAWKER 125-000A
66	HAWKER 4000
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836	PILATUS PC-12/45
216	PILATUS PC-12/47
300	PIPER JETPROP
91	PIPER M500
263	PIPER M600
601	PIPER MERIDIAN
292	QUEST KODIAK 100
3	QUEST KODIAK 900
15	ROCKWELL COMMANDER
6	STARSHIP 2000A
54	TURBO COMMANDER 1000
21	TURBO COMMANDER 690
134	TURBO COMMANDER 690A
136	TURBO COMMANDER 690B
80	TURBO COMMANDER 840
27	TURBO COMMANDER 900
26	TURBO COMMANDER 980

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	OWNERS
COUNT	AIRCRAFT
37	BARON 56TC
1677	BARON 58
428	BARON 58P
119	BARON 58TC
3	BARON A56TC
186	BARON B60
355	BARON G58
108	CESSNA 310
167	CESSNA 340
552	CESSNA 340A
50	CESSNA 402B
124	CESSNA 402C
27	CESSNA 404
317	CESSNA 414
452	CESSNA 414A
42	CESSNA 421
28	CESSNA 421A
309	CESSNA 421B
707	CESSNA 421C
59	CESSNA T303
112	DIAMOND D42
20	DIAMOND IA
80	PIPER 600 AEROSTAR
3	PIPER 600A AEROSTAR
45	PIPER 601 AEROSTAR
201	
201	
24	
207	
20	
255	
233	
168	
100	

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OWNERS

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441	CESSNA 182
55	CESSNA 206
428	CESSNA P210N
22	CESSNA P210R
58	CESSNA T182
1220	CIRRUS SR20
3733	CIRRUS SR22
2048	CIRRUS SR22T
121	MOONEY ACCLAIM
37	MOONEY ACCLAIM ULTRA
407	MOONEY OVATION
12	MOONEY OVATION ULTRA
263	PIPER MALIBU
199	PIPER MATRIX
565	PIPER MIRAGE

Unlocking the Skies: Introducing Vaunt - Volato's Answer to the Empty Leg Problem

by Tigre Pickett



n the ever-evolving realm of private aviation, Vaunt is determined to address a persistent issue of inefficiency and missed revenue opportunities: the empty leg. Vaunt is a sister company of Volato, a fractional aircraft ownership and charter company.

Fractional owners, quarter-share investors (quarter-share is a fractional owner — just the percentage is variable), and even private jet owners all encounter a dilemma upon arriving at their destination: either what to do with an aircraft sitting idle at that destination or how to manage the deadhead leg back to the home airport.

Private owners often face the choice of leaving their aircraft at the destination, incurring the expenses of their pilots and possibly other crew members while they conduct business or vacation. Alternatively, they might send their pilots home via commercial flights, only to have the crew travel back for the flight home. Only a few can afford the considerable expense of sending the aircraft back empty.

Floating fleet operators like NetJets or Volato grapple with a similar predicament. However, they lack the luxury of letting their aircraft sit idle at the destination, as every aircraft not in flight equates to lost revenue, and rarely is a customer ready to depart from the same location the plane landed, necessitating repositioning the aircraft with empty seats. Operators have tried various systems to match passengers with empty legs and lessen the sunk cost of repositioning flights, but these attempts have yet to generate a net gain.

As Volato fine-tuned its nascent fractional program with Honda-Jet's Elite series, it encountered the age-old issue of paying for empty legs. Branded as a disruptor in the fractional jet business, Volato strategically leveraged its technological expertise by establishing a sister company dedicated to addressing this problem — Vaunt.

Vaunt's app is free to join, offers a yearly membership starting at \$1,000, and requires no additional financial commitments for the year – for comparison, a typical retail flight hour for a HondaJet is \$5,000-\$6,000.

After joining, you can add your name to a waitlist for empty-leg

flights. Your priority on the waitlist depends on several factors: your tenure as a Vaunt member, your most recent Vaunt flight, any carbon offsets you've purchased, referrals to other members, and whether you've been a no-show on previous occasions.

During this year's NBAA-BACE event, I had the privilege of speaking with Nicholas Cooper, Vaunt's President and Co-Founder of Volato.

"We view Vaunt as an independent entity from Volato, but with shared interests in enhancing private jet travel access and sustainability," Cooper revealed. "Vaunt was designed for those who aspire to experience private jet travel but lack the means."

"In the era of influencers, we see an opportunity for people to enjoy the privileges of private jet travel and elevate their travel experience beyond traditional commercial flights," Cooper emphasized.

When asked about the absence of surcharges for actual flights, Cooper responded, "We want to provide our customers with a seamless experience after joining Vaunt. We don't want them to have to deal with that decision of making an incremental additional payment. By being a Vaunt customer, they're already onboard — the next step is finding their flight."

The term "Vaunt," originally meaning to boast or praise, was chosen as a brand name because it embodies the aspirational goals of the social media influencer era. Vaunt seeks to tap into the desire to share selfies while boarding a private jet on social media platforms while filling repositioning flights.

With a \$1,000 annual membership, you can fly yourself and up to three additional passengers for free. However, there are a few important caveats.

Booking a Vaunt flight implies being ready to depart within 1-2 days, with no long-range planning options. The app lists 20 available flights at this writing, ranging from one to two days in advance, with half heading to popular or major city destinations. Since these flights are one-way, specifically for repositioning their aircraft, Vaunt suggests members purchase commercial return flights if their travel plans are round-trip.

Even if you bid for a flight, there's no guarantee you'll secure it. Consequently, plans for rental cars, transportation, accommodation, and more must remain in flux until flight confirmation.

If weather or mechanical issues lead to a canceled flight, it won't impact a Vaunt member's status.

If you join a flight waitlist and decide it no longer works for you, you may cancel your request without penalty. If you are confirmed as the passenger for that flight and don't cancel or contact Vaunt, your bid clout drops because Vaunt sees no-show cancellations as "harming the ecosystem."

Another challenge for operators trying to fill empty legs is the unpredictability of the aircraft owner's plans. If an owner decides to alter their flight or arrangements, it may result in the need to bump a standby customer. It remains to be seen how such situations will be handled if a priority owner reclaims an empty-leg flight booked by a Vaunt customer.

Vaunt has garnered over 1,500 sign-ups for their service, though the number of members who have enrolled at the current membership rate remains undisclosed. This service is a tech-savvy, low-friction effort to address the issue of empty legs, and it's likely to see increased utilization as Vaunt is exploring working with other operators and fractional partners to add their empty-leg inventory to the Vaunt platform.

Suppose Vaunt can fine-tune its app and API and establish itself as the first choice for other fractional operators to maximize their empty legs. In that case, it will undoubtedly have reason to boast about overcoming the persistent challenge of empty legs.

Tigre Pickett is a commercial single- and multi-engine pilot type rated in the Citation 525-series jets. With his father and Co-Captain, Rich Pickett, Tigre manages multiple CitationJets in southern California. Tigre has a passion for aviation and loves to fly various aircraft, exploring new destinations with his family in their Cessna Turbo 206. You can follow his exciting journey as a professional pilot alongside Captain Pickett on their YouTube channel and find more aviation content on **PersonalWings.com.**

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Film photography's graininess and little imperfections bring a nostalgic (for those of us old enough to remember when film was king) look to photos you can't get with digital cameras. But it's not just the imperfections that keep bringing us back to film–it's also the great latitude in dynamic range film provides. Shooting film usually requires metering for the shadows, meaning if your camera has a builtin light meter, you'll aim toward a shadowy area in your frame and lock that exposure before re-framing and releasing the shutter.

Digital cameras usually operate the opposite way. Highlights often get blown out with digital cameras, so you'll meter for the highlights and lighten the shadows in post or bracket with multiple exposures. Metering for shadows with film would seem intuitively backward, warranting anxiety as you wait for your roll to develop. As we see here, though, with our Aerostar captured in Tulsa, Oklahoma, a couple of years ago, metering for the shadows produces an other-worldly look to our billowy cumulus clouds above. It reminds me of a Ralph Gibson photo from the 70s.



In these photos, the grains produced by the film developer and the dust spots and other little imperfections provide a perfectly nostalgic reminder of film's greatness.

In this month's issue, T&T writer Pete Ruskay takes us back to his check-hauling days in an Aerostar in the Northeast U.S. I thought it would be a good time to offer these film photos to complement Pete's story.





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Technology Fit for a King

by Rich Pickett



ith such a strong place in aviation, flying the Beechcraft King Air is always fun. I previously flew the King Ranch edition of the King Air 350i for our May 2019 issue of Twin & Turbine. This summer, I was offered the opportunity to fly yet another unique member of the King Air family - Garmin Aviation's King Air B200. This one is equipped with the latest version of the G1000 NXi avionics suite, with a twist, Garmin's Autothrottle and Autoland. Previously, this unique capability was only available on select G3000 installations. Not only was this the first G1000 with these features, but it was also the first multi-engine aircraft to feature this amazing combination.

My son Tigre and I met with the Garmin team at the Appleton, Wisconsin airport (KATW) during EAA AirVenture. Mikayla Minnick was able to arrange a group that included Aaron Newman-Test Pilot, Will Johnson-Flight Test Engineer, Scott Frye-Sales Manager, Kyle Ludwick-Marketing Manager, and Jessica Koss, who, in addition to pilot coordinator duties, has also served as a test pilot in the program.

At our meeting at the Appleton Flight Center FBO, we discussed what makes these new capabilities tick. Garmin's King Air hosted the latest hardware version of the Garmin G1000 NXi avionics. You need the additional computing power offered with NXi to operate autothrottles and autoland. Garmin then had to determine how to control the throttles, brakes, landing gear, and other previously manually operated systems. They developed a perfect solution for the throttles and brake control – their GSA 87 autopilot servo, which is compact and proven in thousands of aircraft.

The hardware was only the beginning of their development; the next hurdle was the software integration. One of the most critical parameters of operating a turboprop engine is power management, to maximize power but also fly within torque and ITT (Inter Turbine Temperature) limits. Exceed these limits, and you may damage the engine, requiring a costly repair. To develop



Garmin Autothrottle system and the vastly more complicated Autoland, control of the engine within limits is imperative. The Garmin upgrade gets as close to a FADEC-controlled engine as you can obtain in the King Air.

The Autothrottle option, available as a stand-alone upgrade without Autoland, can be enabled from takeoff to touchdown, using the manual speed mode or following an FMS-derived schedule. For takeoff, the pilot simply advances the engine power levers (EPL), and nearing full takeoff power; the auto-throttle system will advance them to maximum power - within engine limits. During the climb, cruise, and descent, you can use the manual speed selector or follow the FMS schedule if a flight plan is loaded. Both will control within the speed limitations of the King Air.

It was a beautiful day to fly at Appleton, with just a few cells in the area. The upgraded G1000 NXi suite feature set installed included the optional SafeTaxi, an enhanced alternative to using the FAA or Jeppesen surface charts. This NXi software release also incorporates the new 3D SafeTaxi that provides an even more enhanced view, offering two views – exocentric 3D Taxi and 2D Flight. Coupled with SurfaceWatch, it gives



pilots a detailed surface situational awareness, with both aural and visual alerts on the PFD. I've found the SafeTaxi feature very helpful, especially at night and in low visibility conditions, informing me of present position and crossing taxiways and runways—an additional tool to help pilots avoid runway incursions. We could write a separate article just on this feature alone.

We taxied to RWY 30. Cleared to takeoff, pressing the 'AT' button armed the autothrottle (AT). The AFCS status box on the PFD (I call it the 'scoreboard') shows 'AT' in white. Above the EIS on the MFD is displayed the AT mode, in this case, 'AT T/O' in white. I advanced the power levers forward toward the takeoff position. Above 1,000 ft-lbs of torque, the dual Garmin GSA 87 servos controlling the levers took over, moving them to maximum allowed power and 'AT T/O' changed to green. While the PIC is still responsible for monitoring the engine parameters, this system dramatically simplifies engine management. It doesn't have all the capabilities of a fully digitally controlled engine with FADEC or PWC's EPECS, but it is very close.

The Garmin Autothrottle has two modes – power and airspeed. For example, the system is in power mode for takeoff, providing control over power and torque – within the King Air's engine limits. In the climb, I selected FMS mode for the autothrottle, FLC for the climb, and now it was under speed control, commanding an IAS, as I hand flew the King Air, also still maintaining power within limits.

Engines are not always matched on an aircraft. When one engine reaches an operating limit, for example, torque/ITT, etc., before the other, the system will reduce the throttles to maintain the limits and match. If the difference is significant, more than 5%, Garmin Autothrottle match will be limited to that 5%. The matching capability is also inhibited in certain phases of flight that would be detrimental, for example, takeoff or operating at less than 80% torque. The Garmin Autothrottle will also activate an 'AT HOLD' if the system notices a reduction in engine power on one engine during takeoff, leaving that lever fixed and maintaining speed with the other engine.

Another fascinating capability of the Garmin Autothrottle is that it provides overspeed and underspeed protection and power limit protection, even when the system is disengaged, by automatically activating the capability. The same capability controls engine parameters when the King Air is above 200 feet. The Garmin Autothrottle installation also includes a radar altimeter, which precludes underspeed protection below 50 ft AGL – an Autoland feature integrated into the system. At 45 ft AGL, the AT system enters 'AT IDLE' and moves the levers to idle; on touchdown, the system disengages.

The pilot can still override any AT function, just like overriding an autopilot. The Garmin Autothrottle has additional modes, such as climb ('AT CLIMB'), which controls the power levers for torque, which are automatic depending upon the phase of flight. The pilot selects other functions to fit a particular mission. In cruise, the pilot can decide whether to cruise at maximum or normal power.

After departure and climbing over the Wisconsin countryside, I engaged the autopilot to follow our FMS flight plan to the practice area. Once there, I also wanted to evaluate the Electronic Stability Protection (ESP) feature and talk with Aaron about the Emergency Descent Mode (EDM).

I disconnected the autopilot and started my maneuvers, banking in excess of 45 degrees; the ESP progressively nudges you back to 30 degrees. Go beyond 45 degrees, and the force



increases to encourage you to reduce your bank. The same activation occurs when exceeding pitch angles or speed envelopes. Exceed these envelope limits for more than 10 seconds within a 20-second timeframe, and the autopilot engages. Of course, if you are intentionally outside of the normal envelope, you can either disable the system or temporarily interrupt it, the latter useful when practicing steep turns.

ESP is cool; many of us have seen it operate in single-engine aircraft. What does it do when you lose an engine in the King Air? It helps considerably. Aaron had me reduce one throttle to idle to simulate a failed engine. The One Engine Inoperative (OEI) function within ESP offers unique capabilities to assist the pilot with engine failures. OEI-ESP, as Garmin has named it, can be selectively enabled by the pilot. However, it makes sense to keep it enabled in most situations to offer automatic assistance. It is activated by the King Air rudder boost, supplementing the capabilities. It reduces the normal ESP envelope parameters; the bank limit is now 10 degrees, and pitch limits are decreased to 10 degrees up / 5 degrees down. The low-speed limit is now 15 knots above Vmc. If the pilot is slow to recover the plane to level flight, in a short period of noncompliance, the autopilot automatically activates to level the aircraft.

Too many lives have been lost to pilots improperly responding to engine failures, including some of my friends. Many instances were survivable. OEI-ESP is another feature that could dramatically improve safety in these situations.

Emergency Descent Mode (EDM) is optional with G1000 NXi but included with Autothrottle and Emergency Autoland. EDM is armed when the autopilot is engaged and the aircraft is above 20,000 feet. It is activated when the cabin pressure is above 12,500 – prime conditions for hypoxia. When triggered, the AP changes to heading (HDG) mode and turns left 90 degrees. In aircraft equipped with the autothrottle option, Flight Level Change (FLC) mode



weather (IMC, VMC, gusts, precipitation), towered airports, military or Class B airports, and available fuel. Each factor has a particular score, or weight, that varies with the desired condition. After the software has made the runway selection based upon a merit-weighting of all the parameters, the next step is to develop a route to that airport.

Routing is based on endurance, terrain, weather avoidance, and obstacles. It utilizes current weather to avoid hazardous conditions (hail, severe weather, etc.) and a predictive mode to determine if the weather

speed is set to 10 knots below Vmo/ Mmo, and power is adjusted. The pilot will adjust power at a level-off of 15,000 feet, or the autothrottle will maintain airspeed. If this wasn't cool enough, if the system doesn't record any pilot interaction within one minute, the Emergency Autoland will activate if equipped.

In February 2007, a King Air B200, like the one we were flying, had a cracked windshield at FL270, later traced to a manufacturing defect. The crew depressurized the aircraft; however, they had turned off the oxygen before flight. After fumbling for a minute, they passed out. The King Air descended without their input until 7,800 MSL, when they regained consciousness and fortunately landed, but the plane was totaled. As pilots, we hope to avoid this situation and follow proper procedures. However, they are not alone. In the 12 years preceding this accident, 160 King Air windshields fractured; several crews did not follow procedures. In many other cases of hypoxia, airplane occupants weren't so lucky. This system alone could save lives.

It was time to see how all these components work together with the Garmin Emergency Autoland (EAL) system. We notified ATC we were heading back to Appleton and activating the emergency landing capability. The system can be manually activated or automatically engaged if the pilot is unresponsive after specific time periods or either ESP or EDM activation.



Rich and Garmin Team with Garmin's Autoland King Air B200 at Appleton, WI

I pushed the magic button – Emergency Autoland—and the autopilot activated in level (LVL) mode. I was notified with a CAS message that EAL would activate in 15 seconds. I kept my arms folded. A video appeared on the MFD informing the passengers that EAL was activated.

The system continues to display messages, notifying the passengers of the process, including time to landing and endurance. One of the following decisions made by the system is selecting the optimal airport and runway. Airport selection is based upon several factors, including RNAV approach, hard surface, minimum runway length of 4,000 feet, and a 100-foot-wide runway if possible. EAL may evaluate other factors for selection, including airspace, runway alignment with the approach,

might move and interfere with the calculated flight path. If the weather changes after passing a waypoint, it adapts and modifies the route as needed. If icing is predicted, the antiice and deice systems are activated. If the present altitude is too high or the speed too fast, it will add a holding pattern to descend appropriately for a reasonable descent to the FAF. It can even decide either a left or right pattern for terrain. If the MAP is not at the runway threshold, the system will calculate a pseudo-MAP at the runway threshold. There is no missed approach procedure; the system doesn't need a specific ceiling height or visibility - it isn't looking outside for those elements.

Our flight plan was replaced with appropriate routing back to the FAF for the RNAV runway 20 approach, automatically inserting waypoints. In test mode, I could see all of the changes taking place. Watching your FMS reprogram itself to a new routing while you sit idle is eerie. Perhaps this is one reason Garmin names the combination of ESP and Autoland – Autonomi.

ATC, Tower, emergency, and CTAF frequencies are automatically tuned as needed, and the emergency status and flight progress are transmitted. Since this is an emergency, it activates 7700 on the transponder and simultaneously transmits on 121.5.

In addition to its automatic frequency selection and transmission, the EAL will inform the passengers through the MFD messages, intercom and speakers about the process and the next steps – including preparing to land. Within 12 miles of the destination, it tunes COM1 to either Tower or UNICOM/CTAF and transmits a message. All messages include the registration, position, and status of the flight. If you have the Iridium



satellite transceiver, it also sends a text with the information.

I kept my arms folded, and while I knew that Aaron and his colleagues had performed this same action frequently in the Garmin test bed, it was a bit strange to watch.

We were now on final at Appleton (KATW) using the RNAV RWY 20 LPV approach. As we approached the

FAF, the gear and flaps were up. The flaps were lowered to full deflection at the FAF, and the landing gear was extended. Our landing lights had already been activated with the initial steps of EAL. As with earlier messages, the system notified everyone of the time to landing, counting down.

We had a slight crosswind from the left, enough to require a crab. Flying



at Vref on short final, then right above the threshold, a slight flare at 50 feet AGL, power to idle, left wing down a little for the wind. I mentioned to others the plane was left of the centerline. The system must have heard me and wanted to rise to the challenge. A few feet above the asphalt, the aircraft made a slight correction to the right to be on the centerline, brakes were applied, and we came to a full stop. Ten minutes after I pushed the Garmin Emergency Autoland activation button on the center console, we had stopped safely on the runway.

I turned to Aaron and told him I was disappointed. He was puzzled; I asked him why it didn't taxi to the FBO by itself and perhaps call an Uber for us.

If we had not been in demonstration mode, the automation would have shut down the PT6 engines and displayed an evacuation video for the occupants. Since this was an active runway, and during EAA AirVenture, no less, the power stayed idle with the brakes applied. I finally had control of the airplane, released the brakes, and taxied to the ramp.

The Garmin Emergency Autoland is a breakthrough. I've written about the system previously and flown aircraft with the functionality. My first experience with Autoland was in a Continental DC-10 simulator, which was impressive in its day. The fully autonomous nature of this new Garmin system is the most intriguing part. With broader commercial autonomous flight on the horizon, systems such as this will only improve. I can think of myriad ways their technology could assist pilots and enhance safety.

If you want to upgrade your King Air G1000 NXi, you will need the latest hardware with at least version 7.3 and the RA5500 radar altimeter. The Garmin Autothrottle may be purchased without Autoland, with a hardware cost of \$45,000. Adding in Autoland will cost an additional \$33,000, and we anticipate at least 200-300 hours of labor for the complete installation at a Garmin dealer. The STC's approved King Air model list is constantly updated and available through Garmin Aviation or its dealers.

Appleton Tower complimented us on the smooth landing. Usually, I would take credit. However, I was just a passenger. I still need clarification on how to log the time in my logbook. Was I really PIC after activation?



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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On Final by David Miller

Are You Really Safe to Land?

Perhaps I am overly sensitive, but it seems like I see a headline in the newspaper or a lead story on the nightly news almost every week.

PLANES NARROWLY MISS FATAL COLLISION

- Learjet takes off without a clearance from KBOS
- Boeings pass within 100 feet at KAUS
- Bizjets collide on runway at KHOU

The above events involved two professional crew members. It's not just a single-pilot issue.

The NTSB reports an increase in runway incursions. Numerous factors are at play. We are flying more, post-Covid. A significant shortage of air traffic controllers exists. Fewer controllers are working longer days. One I know reports a one-year lead time to request any time off. A lot of new hire training is happening at your favorite airport.

Many of us flying for decades have become accustomed to hearing "cleared to land" and assuming that we are indeed safe to land. We have been lulled into feeling a sense of security in those words.

We can no longer assume anything.

The problem is not going to be solved overnight or with any magic wand. In the meantime, what do we do?

1. Slow down

Does it seem to you that our airspace seems really full? Have you tried to transit Florida on a Sunday afternoon? Trying to convince the airlines or the flying public that there might need to be a longer wait for the next flight is no easy task. Unfortunately, it will become much easier after the first mid-air collision.

2. Technology

At a few major airports, the FAA has installed red and green flashing lights at runway hold short points. Granted, it's an extra step for the controller to flip a switch to turn red to green. Perhaps that extra step is needed, especially for crossing runways.

3. Mind Games

Anything we can do as pilots to lessen the risk of a runway incursion is important. I use a verbal reminder such as, "final is clear" as I line up. Having this reminder causes me to look for traffic. Of course, it's hard to see a Cessna 172 several miles out, but you might be startled to see a 737 on

> a quarter-mile final. I also verbalize "runway appears clear" on short final before I touch down. This forces me to verify that the Cessna 172 that was told to exit at a certain taxiway actually did. Others have a ritual of turning on their landing lights when cleared for takeoff and not before. Or turning on the pitot heat only after clearance. Some airplanes will present a warning message that is clearly visible to the pilot and can be used as a subtle message that you have not been cleared to go until you extinguish it.

> Controllers and pilots can do better. Especially working together.

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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We can all agree life is more beautiful in the air, but what happens when you have to put your bird down for maintenance, or worse, unexpected squawks? Whether you've been flying for years or recently purchased and started operating an aircraft, knowing what to expect when routine and unforeseen issues arise will make your life as an owner or operator more satisfying. Having a reliable shop that cares not only about the aircraft but also about you makes the experience go from satisfying to exceptional. We've been doing exactly that for over 70 years. Our teams are just as passionate about the customer service they deliver as this incredible industry we all love.

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