

Logbook Records
Digitization

Owner's Corner:
Piper Cheyenne

Aviation Company
Chronicles

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FOR THE PILOTS OF OWNER-FLOWN, CABIN-CLASS AIRCRAFT

JANUARY 2022 \$3.95 US
VOLUME 26 NUMBER 1



TECNAM P2012 FLIGHT REVIEW TRAVELLER



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"Hi, my name is Scott Suchor from Butter Equipment Co. We operate 2 PC-12NG's, Serial numbers 1282 (standard 4-blade prop) and 1756 (standard 5-blade prop). We decided to put the speed cowl on SN1282 to see if we could improve the performance. After a few flights, we immediately noticed the ITT temps were much cooler than before, by almost 15 to 20 degrees.

Being in the Upper Midwest, we deal with icing conditions almost daily. One of our top noticeable items about the cowl is that when we open the separator, we see about a 1.5 - 2.0 psi drop in torque, but the temperature doesn't increase much. This allows us to add the power back to where it was, and it even gives us the room to add more power if needed during an icing event. This gives us comfort knowing we have power available when we're fully loaded flying in and out of the icing conditions.

Every day we gain more appreciation for the cowl."

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Editor's Briefing

by Rebecca Groom



Company Chronicles

For a new series of articles this year, we are diving into the history, inner workings, and leaders behind some of the most well-known service companies in general aviation. Chances are you have taken your airplane to one, if not multiple, of the businesses to be featured. One company will be highlighted per issue and are either an FBO, MRO, or aircraft sales organization – with a few encompassing all of the above.

Epps Aviation falls under the latter category and kicks off this “Company Chronicles” series on page 18. Epps offers a rich and fascinating history dating all the way back to

1909 when Ben T. Epps of Athens, Georgia, designed and flew his own aircraft – just a few years after the Wright brothers flew their first controlled flight at Kitty Hawk. Today, Ben's youngest son, Pat Epps, is widely recognized (and awarded) as a living legend of aviation.

Pat has over 10,000 flight hours and a colorful career that began in the military but was primarily spent in general aviation selling airplanes and expanding the Epps Aviation FBO footprint. Also sprinkled in is an epic warbird rescue mission and airshow performances in his rare aerobatic Bonanza – and that's only the tip of the iceberg! But I'll let you find out the rest within the article. His children, Elaine and Marian, now run Epps Aviation in Atlanta, Georgia.

I'll turn it over to the author, Lance Phillips, to further preface the series as a whole. Already I am enjoying learning more about some of GA's household names, and I hope you do, too.

There are a lot of compelling stories out there informing new generations of the early aviation pioneers. Rich tales about the people and machines that formed our industry as we know it. But what about the legends behind the people and companies who built the relationships and helped spread the word about the benefits of owning a unique air transportation machine – the sales teams?

Back in the early days, aircraft manufacturers tended to rely on outside professionals who knew the markets in ways the builders couldn't or didn't care to. Those outside sales teams, aka dealers, still exist and thrive, but to date, most of the domestic manufacturers have opted for internal factory sales teams. Each issue, we're going to delve into the hard work and success stories accomplished by a few of those outside teams who partnered with the revered brand names of Wichita, Kansas' center of aviation manufacturing and are still thriving today.



Rebecca Groom

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“It’s wonderful that organizations like the Corporate Angel Network are able to help connect those most in need of flights to those who are flying.”

-Henry Maier, President and CEO, FedEx Ground



When To Know It's Time (But Not Yet!)

Standing at the doorstep of yet another new year, I can't help but feel like each successive trip around the sun continues to accelerate. As a kid, I always lamented on December 26 that Christmas wouldn't come again for ANOTHER WHOLE, 365 days. It seemed like an eternity. A few decades later (I'm not saying how many), I plead to Father Time, can't you slow down the pace a bit? What's the hurry...a slow shuffle will do.

I have plans for copious amounts of flying in 2022, and hopefully, you do, too. Many of the trips we tabled the last two years are back on the calendar. We've missed people, especially good friends, family and work colleagues. Blessed with good health and a reliable airplane, we don't take either for granted and hope to continue to fly for many more years.

But how do you know it is time to hang it up?

A good pilot friend of mine decided after 35 years to stop flying and sell his plane. Like most of us, being a pilot was an important part of what defined him. But after the long COVID winter, he found that his travel requirements had changed, and he no longer had a calendar full of face-to-face meetings scattered across the country. He started making up excuses to fly in order to stay proficient. Also, as he put it, neither the aircraft nor her pilot were spring chickens. So he made the difficult decision to retire from the left seat. "I will leave on my terms, on top of my game, healthy and fit to fly, knowing that I mastered the world of general aviation, at least to a degree I find satisfying."

I admire this friend for his clarity of purpose, and once he reached this decision, he was at peace and optimistic about the next phase of his life.

For others, the signs may not always be that obvious. There have been many incidents where pilots pushed themselves uncomfortably close to the grey line of no return. I recently heard a story of a highly experienced pilot who

took off from their home airport and soon became disoriented, so much so he needed ATC to help him return to his home airport. The incident was so disconcerting that the pilot immediately put his aircraft up for sale and made the decision to stop flying.

For others, the time to step back is being dictated by the insurance industry. I know several Meridian owners who are being forced out of aviation simply because they turned the magic age of 70. It's an arbitrary age and certainly not a reflection of cognitive performance or pilot skill. I personally know several 80-plus pilots who are incredibly competent in and out of the cockpit, who routinely ace their recurrent training events or CFR 61.59 check.

But the fact remains: Unless you are Benjamin Button, age isn't kind to body or mind. For the vast majority of us, self-assessment is a poor method of detecting when we are cognitively in decline. According to the Flight Safety Foundation:

- Cognitive impairment is like alcohol or drug impairment – the people affected are likely to be less aware of the condition than those around them. When a family member or friend is ready to urge a person to discontinue driving for this reason, it is usually well past the point of incapacitation.
- For many pilots, aviation is as much an avocation as it is a vocation. It is part of their sense of personal identity. The fear of losing that connection may be very strong – strong enough for people to be in denial that they may be putting themselves and others at risk.
- Many pilots are not prepared economically to either retire or change their careers. This puts strong financial pressure on them to continue to fly.

Dr. Quay Snyder, an expert on aero-medical topics including aging, says cognitive deficiencies are insidious,

“Fatigue, stress, dehydration and sickness impact our performance in the left seat regardless of age. But the bad news is that these factors are exacerbated with age. Self-assessing sleep quantity and quality, nutrition, fluid intake and stress levels should be a routine part of the pre-flight.”

have a substantial negative impact on performance and are hardest to identify when a pilot is performing routine activities. One reason symptoms go unnoticed is that with practice and routine, the brain adjusts to mild to moderate cognitive impairment. However, if there is an unexpected situation or an emergency, it may become evident.

Many of us are fortunate to have a flying spouse or aircraft partner who often occupies the right seat. As unpleasant as this topic is, you should agree to discuss any signs that might indicate a degraded cognitive function. Likewise, be willing to speak up when you're not feeling on top of your game or sense you might be getting a tad behind the airplane.

Fatigue, stress, dehydration and sickness impact our performance in the left seat regardless of age. But the bad news is that these factors are exacerbated with age. Self-assessing sleep quantity and quality, nutrition, fluid intake and stress levels should be a routine part of the pre-flight – things we gave little thought about in our 20s. Setting personal minimums for sleep and health will help you make better decisions of whether to put off a flight or take along another pilot, especially if there is challenging weather. And I can't write a column such as this without mentioning the importance of exercise, diet, maintaining a healthy weight, moderating alcohol use, and getting a yearly physical.

I know I'm more susceptible to hypoxia than my spouse and even when the cabin altitude is at 7,000 feet, as I've aged, I find myself less sharp at the end of a 4-hour flight. My mitigation strategy is to have portable oxygen available and use it at the top of the descent point and before reaching the IAP on the approach. It's even in my personalized ForeFlight checklist.

A member wrote recently on the MMOPA forum: "If you ever get that small voice in your head telling you it's time, it is preferable to do so and live to talk about it than to end up an NTSB report. If you see another making errors and you know they can do better, encourage them to rethink. That may be harder than you think. One reliable sign of an alcoholic is the denial that they are an alcoholic. One issue with another pointing out your deficiencies is the denial of such. Let's be careful out there and be sensitive to the small inner voice that is saying 'it's time' to move to the right seat."

Yes, it sucks getting old. As pilots, we like to be winners, and giving up the left seat is akin to white-flag-waving surrender. And although I plan to be flying for many more trips around the sun, I also have a pact with my spouse that when it's time – it's time. Until then, let's kick the tires and light the fires. We've got some flying to do! **T&T**

Dianne White is the executive director of MMOPA and editor of MMOPA Magazine. For a total of 14 years, she was editor of *Twin & Turbine* and has worked in the business aviation industry for nearly 30 years. She also serves on the board of directors for Angel Flight Central. An active multi-engine, instrument-rated pilot, Dianne lives in the Kansas City area and can be reached at editor@diannewhite.com.



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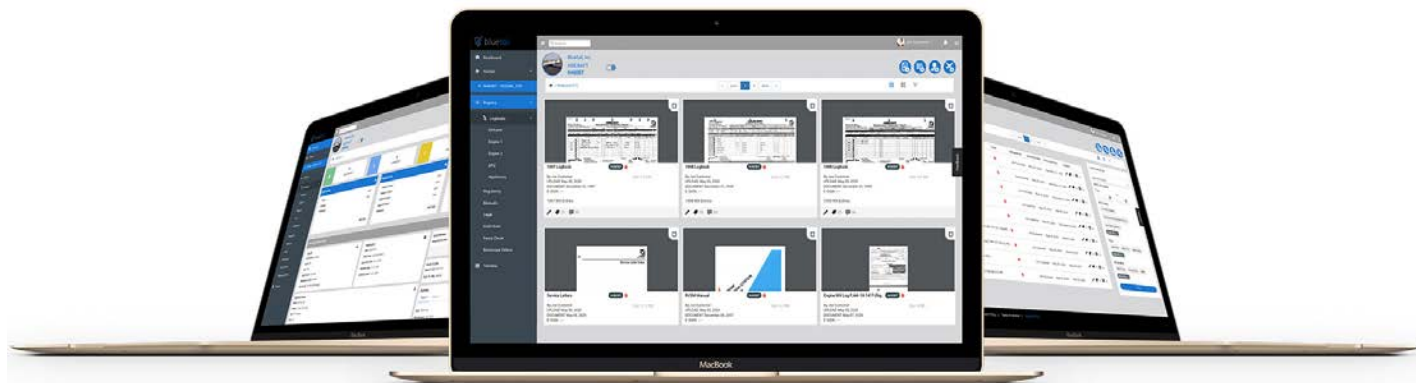
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Aircraft Records Digitization

How logbook digitization services can protect your aircraft's value.

by Dale Smith



Bluetail is using the latest in digital scanning, optical character recognition, machine learning, and Amazon Web Services cloud-native applications to not only digitize and store your valuable aircraft logbooks but make them easily searchable, sharable and secure.

If you've been following our recent series, you've seen how updating avionics, interior, paint, and even enrolling in an engine maintenance program can add to your aircraft's "value."

But, while we've seemingly covered all of the obvious "value adds," we've overlooked one of the most misunderstood: your aircraft's logbooks. Really. There's a lot more riding on those binders and booklets than the typical owner appreciates – until it's too late.

As Stuart Illian, co-founder of Bluetail (a leader in the digitization of paper logs), explained, the typical owners lose sight of the fact the FAA, and most other recognized governing bodies for that matter, require current logbooks for all registered aircraft.

"They're the only proof that all the aircraft's various inspections, maintenance, repairs, and upgrades were

done correctly. That's how you establish its airworthiness," he said. "If you lose the documentation, it's an immediate and significant ding on the aircraft's value (more on that later). And it can also render the aircraft unairworthy until those documents are replaced."

"Of course, the information recorded on FAA 8130-3 tags is equally important. Lose any of them, and it's a huge problem for the owner," Illian added. "They may seem simple, but if you can't prove the parts you installed are legitimate, then you have to go back and reinstall those parts again to maintain airworthiness."

And if you think things like that don't happen, well, they do. Roberto Guerrieri, Bluetail CEO and co-founder, shared a story of a Fortune 100 operator who recently had to write a check for over a half-million dollars to replace some 8130 tags that went missing after one of their A&Ps had been fired.

"We hear stories like this all the time," he added. "Owners don't understand that while you can insure the aircraft itself, you can't buy any coverage for the information in your logbooks."

Better Than Insurance

So, let's say your logs go AWOL; what type of impact will that have on your aircraft's market value? According to the experts, a good average is 20-percent of the retail resale price.

While you can't buy "insurance" on those valuable documents, you can eliminate the risk by having the digitization wizards at Bluetail scan and store all of your paper logs and documents. Once all of your aircraft's records are safely stored in Bluetail's digital cloud, you never have to worry about where your important information is ever again.

When you need to check anything, sign onto Bluetail's network, enter your information, and quicker than you can read this sentence, your aircraft's entire maintenance history is at your fingertips.

And it's not just bizjet operators who are finding peace of mind with Bluetail. Savvy pilot/owners are taking advantage of the many benefits that this innovative service offers. Phil Rosenbaum has owned his 1999 Pilatus PC-12 since it was factory new, and he appreciates the benefits of having all of his records digitized and secured.

"I've owned enough airplanes to know that the logbooks are a very significant part of its value. If they're lost or damaged, you can replace them, but that can still lessen the perception as a whole in that aircraft's history. Was that maintenance actually done?" he said. "With Bluetail, no one can ever contest the validity or accuracy of my records."

"On top of that, the ability for my MRO to quickly and accurately search through over 20-years-worth of maintenance information is another benefit," Rosenbaum added. "Not having to manually look through all those logs and files saves hours and hundreds of dollars when the airplane is in for maintenance."

Going Mobile Without Going Anywhere

Another significant benefit is that the aircraft's records can be easily and securely shared with anyone, anywhere, anytime. Ah, the beauty of our digital world.

"No matter where the aircraft goes for any inspection, repair or upgrade, all of its documents are easily accessed by anyone with the owner's approval," Guerrieri said.

"We recently signed a large aircraft management company for that very reason," Illian added. "One of their Gulfstreams was up in Appleton for an unplanned maintenance event. Well, all of the aircraft's paper logbooks were in Texas. They had to load boxes of books and binders into a Bonanza and fly them to Wisconsin before the shop could complete the work."

"It wasn't only inconvenient; it significantly increased the cost and time it took to get that airplane back in service," he said. "Bluetail completed digitizing the records for their fleet, eliminating that problem for good."

Bluetail's Digital Alchemy

Okay, you're thinking, "digitizing my aircraft's records is a good idea. I'll just skip over to the local office store and have them do it for me." Oh, if it were only that easy. But it's not. To provide the level of searchability and shareability they offer, Bluetail had to "reinvent" how aircraft logs are digitized.

Guerrieri and Illian both have extensive backgrounds in high-tech, so they had an immediate head start on what wasn't available to operators before Bluetail's introduction in 2019.

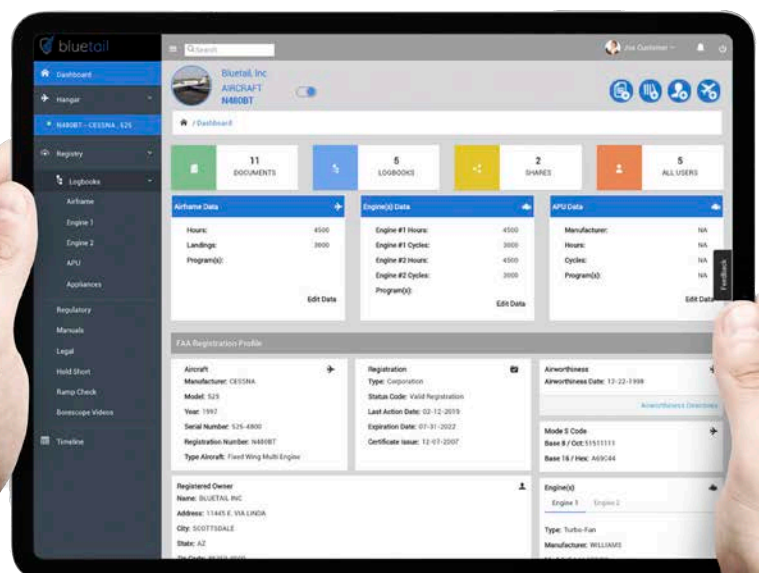
"When we started looking at the current offerings in this space, it quickly became evident that they were tied to old technologies, and we could do something much better," Illian said. "They didn't have access to any of the cloud-based tools we have today. Those allow us to offer many more services including search, auto-organization, character/signature recognition, machine learning – the kinds of capabilities that no one else in the segment has taken advantage of."

"You can scan a bunch of pages, but if you can't organize them or access the data individually, then you basically have nothing more than an electronic filing cabinet," Illian continued. "It's not much use."

No matter your reason for having your logs digitized, the first step is to get them scanned. And that's harder than you may think.

"The first thing we did was put our scanning network in place. We have a scanning partner who understands how the logbooks and documents need to be handled," Illian said. "We provided their technicians with training on how to handle each situation. It's a pain in the butt to do it correctly, but you have to."

Of course, like every other part of Bluetail, the partners concentrated their efforts on finding a scanning



service provider located close to where the fledgling company's customers are.

"We have facilities located near all of the major concentrations of business aircraft so the operator can drive their records over there, or we can do it via a bonded courier," Illian explained. "But, that doesn't cover every owner, so we have our own team of A&Ps who travel to the operator's facility to handle the scanning. We also have clients who have already scanned all of their documents. That works great also."

And while it's almost inconceivable that digital records can be lost during shipping, Illian stressed that Bluetail is the only logbook digitization services provider that conforms to FAA Advisory Circular AC120-78A on digital record keeping.

"Bluetail started with basically one solution, but we've grown to add capabilities like machine learning, optical character recognition (OCR), and other automation capabilities," he continued. "Now an owner can literally take a photo of a document with their iPhone, upload it to us, and then search that document by title, work scope, signature, or whatever."

"People have no idea of what it takes to make this happen. All they know is they push a button, and they can complete detailed records searches in seconds instead

of spending hours or days flipping through paper logs," Guerrieri added. "And all of that data is as secure as it would be locked inside of any bank's vault."

Thar' Be Pirates Out There

Security is something that its customers expect Bluetail to take very seriously. To that end, you can sleep soundly knowing that Bluetail's security protocols don't slack off once the data is in the cloud. If anything, it gets tighter.

"We are extremely proud that a growing number of Fortune 100 corporate flight departments are choosing Bluetail to handle the digital aircraft records management of their fleet's maintenance and operational records," stated Bluetail VP of Application and Delivery, Greg Baynham. "The information in these records is sensitive and extremely valuable."

"From the very beginning, we have taken great pride in the fact that all of Bluetail's digital records are always protected by the most advanced cybersecurity encryption protocols," he added. "Today, our application uses industry-leading 256 AES security for all data while in transit and at rest."

Baynham also explained that because Bluetail is hosted by AWS (Amazon Web Service), arguably the most secure protocol in the commercial world, their protocols follow all the leading global cybersecurity guidelines, including

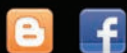
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"We know that our customers put a lot of faith in our ability to keep their information secure," he added. "As long as people are out there trying to hijack data, we will explore every resource to keep it safe."

Putting a Price on Peace of Mind

Just how much does it cost to have your aircraft's records digitally scanned and secured by Bluetail? There is no "set price." It all depends on the age of the aircraft. A 20-year-old Gulfstream will have file boxes with a lot more pages than a two-year-old model. And an airplane that's had a lot of modifications will have more still.

The only way to determine what the package will cost is to contact Bluetail and explain your particular situation. What have you got to lose? **T&T**

Dale Smith has been a commercial, private and business aviation marketing and media communications specialist for nearly 40 years. He is an award-winning aviation journalist and aviation artist. Dale has been a licensed pilot since 1974 and has flown more than 40 different types of aircraft. Contact Dale at dalesmith206@comcast.net.



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FLIGHT REVIEW

TECNAM P2012 TRAVELLER

by **Rich Pickett**

When you first approach the Tecnam P2012 Traveller twin, it is obvious the aircraft is a workhorse with its stout fixed landing gear, high wing, large windows, expansive cabin doors, and two pilot doors. It is also clear that this airplane has style, from its jet-like nose to the slope of the tail, which benefits from its Italian origin. During NBAA, I had the opportunity to fly and evaluate the Tecnam P2012 joined by Francesco Sferra, Tecnam engineering test pilot and development manager of the special missions group.

Preflight

Opening the crew doors, you notice that Tecnam designed the cockpit for both function and pilot comfort in mind, including electrical seat height adjustment. The P2012 is equipped with the latest Garmin G1000 NXi avionics, GFC 700 autopilot, and Mid-Continent's standby instrument cluster. All circuit breakers and most electrical switches are conveniently located on a large overhead panel. The fuel selectors are directly forward of this panel, followed by ignition and

fuel pump switches. All of the panels are within easy access by either pilot if operating in a crew environment.

The P2012 is equipped with four-blade MT propellers driven by the latest Lycoming 540 series model – the TEO-540-C1A engine with 375 horsepower. The engine is unique in that it has both electronic ignition and fuel injection, with a TBO of up to 2,400 hours depending upon flight profiles. Finally, we have a large bore engine with electronic controls. This capability results in higher efficiencies and the virtual elimination of hot start

issues – the bane of pilots. Eliminating hot starts is especially important on the P2012 since one of its largest markets will be short-haul commuters and cargo and scenic-tour operators, with multiple flights each day.

We were flying a fully-equipped commuter version with a useful load of 2,807 pounds. This P2012 is equipped with an optional TKS deice system. One of the unique features is the addition of a visible icing indicator just outside the pilot's window, making ice accretion detection easy, especially at night.

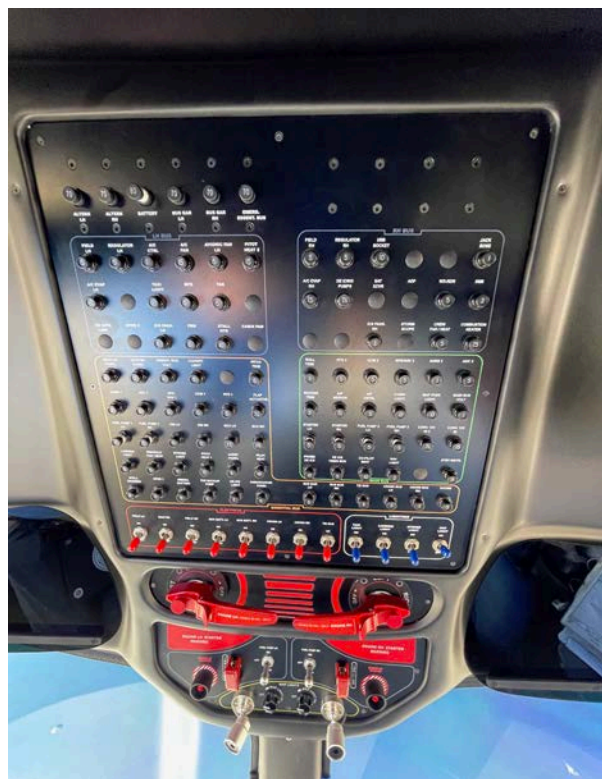
The rear cargo/passenger doors have a unique design. The larger passenger door has a wide, integrated set of steps, making it very easy for passengers to access the cabin. A smaller aft door increases the total width of the access to the cabin and cargo area. TSA requirements for Part 121 and Part 135 operations require a secure baggage area, and since the aft cargo area shares the total cabin volume with passengers, Tecnam designed an innovative feature to meet these requirements. The integrated cargo shield is actually secured simply by closing the aft cargo door – nothing could be easier. The aft cargo area holds a generous 527 lb/239 kg, and combined with the forward baggage capacity of 227 lb/103 kg, it provides good flexibility for any mission.



Tecnam's Francesco Sferra and author Rich Pickett.



The P2012 is equipped with the latest Garmin G1000 NXi avionics, GFC 700 autopilot, and Mid-Continent's standby instrument cluster. All circuit breakers and most electrical switches are conveniently located on a large overhead panel. (Photos by Author)



In keeping with Tecnam's goal to maximize the capability of the P2012, the cabin is offered in many different configurations from executive, commuter and cargo, to medical transport and special missions. With a maximum endurance of almost eight hours, the P2012 offers tremendous potential for extended special mission flights.

Start-Up

After completing the preflight inspection, Francesco and I entered the flight deck through the P2012's crew doors, complete with more cup holders than most SUVs. With a wingspan of 46 feet, length of 39 feet and a tail height of over 14 feet, it is important for the crew to have a good view of the surrounding area while maneuvering on the ramp. The P2012 offers very large windows in the flight deck and in the cabin, which allow the pilots to assess their environment easily.

When you sit in the flight deck and view the power quadrant, upon first glance, you may want to know where the mixture levers are situated. With the Lycoming TEO engines, they are a feature of the past. Utilizing the fully electronic ignition and fuel injection design, the only controls for power management are the throttles and propeller levers. While ROTAX and others have designed this technology in their engines, this is the first Lycoming engine to utilize these capabilities. Not only are the overhead controls clearly marked, but the other panel controls are as well. This is especially evident with the abnormal and emergency control. Tecnam has appropriately termed their flight deck design the Single Pilot Advanced Cockpit Environment (SPACE).

Starting the P2012 is a simple process: Check fuel selectors, fuel pump on to boost pressure – then off, ignition on, press starter button. The Electronic Engine Control System (EECS) takes care of the rest, and through continuous monitoring of ignition and fuel injection timing and mixture, optimizes the start process as well as other phases of aircraft operation. The Before Taxi and Taxi checklists combined only have 11 items – including releasing the parking brake. Before takeoff, the engine performance checks are

Tecnam P2012 - By the Numbers

Base Price	\$2,699,625	
As Flown (Commuter Version - Most Options)	\$3,000,000	
Max Speed (KTAS/ALT)*	192/10,000	
Max Operating Altitude	19,500	
Fuel Flow Max Speed @ 10,000/GPH	87	
<hr/>		
Vr	76	KIAS
Vxse	80	KIAS
Vxse	86	KIAS
Vyse	91	KIAS
Vmc (T/O flaps)	70	KIAS
Vmc (LDG flaps)	68	KIAS
Vref	89	KIAS
Vne	226	KIAS
<hr/>		
Max Ramp Wgt	8,157	lbs
MTOW (SL, ISA)	8,113	lbs
Max Landing Wgt	8,003	lbs
Useful Load	2,866	lbs
Max Zero Fuel Wgt	7,848	lbs
Fuel Capacity	198	gal
Payload with Max Fuel	1,678	lbs
Max Payload with Min Fuel (ZFW)	2,557	lbs

done electronically by the EECS upon pushing the engine Pre-Flight Test buttons. Once that was completed, the props cycled, and the typical checks of flight controls and other items, we were ready for takeoff on Runway 35L.

Takeoff

After applying full power, and a check of the engine gauges, we accelerated quickly to the V_r of 76 KIAS, climbed at the V_y of 96 KIAS and turned to the southwest to stay clear of the Las Vegas Class B airspace. The power management capability of the EECS dramatically reduces pilot load in flight, especially during high workload phases such as departure and climb. With the P2012, all I had

to do was to keep the power levers at maximum and control airspeed with the RPM. While power changes can be made by moving the throttle and propeller levers in any order, the recommended procedure makes it very simple. This process can be utilized in all phases of flight, including descent.

For those familiar with the Las Vegas Class B airspace, you know that keeping clear requires some low-level flight close to the mountains. We had a beautiful VFR day that offered a great opportunity to explore this fun twin and also view some beautiful scenery. The in-flight visibility from the flight deck and large cabin windows illustrates how well-suited the P2012 is for scenic flight operators.



A wide rear cargo and passenger entrance with an integrated cargo shield.

Hand flying the 8,000-pound twin was very easy, with crisp aileron and pitch control. After clearing the Class B airspace, I wanted to put the plane through some handling maneuvers. Francesco is not only the sales and development manager for

the P1012 Special Missions but is also experienced in a number of military jets and turboprops from the C130 to the F-18. I was not surprised when he was more than willing to explore the operating envelope of the airplane. Steep turns at 45 and 60 degrees were

easily accomplished with just slight changes in pitch trim. I then did a stall series, which indicated how well the plane handles at low speeds with effortless stall recovery with virtually no loss of altitude. With low stall speeds, 65 KIAS in landing configuration at 8,113 pounds, and only 76 KIAS with flaps up, it allows for very slow V_{ref} speeds for landing.

Since I've flown and taught in multi-engine aircraft for over 40 years, I'm a firm believer in frequent training in single-engine operations. With so many unnecessary accidents with single-engine failures, I wanted to see how the P2012 handled such situations. Shutting off the engine for our evaluation was easy, and with the EECS, I knew it would also facilitate the restart. The P2012 has a very low V_{mc} . In fact, with flaps up, it is even lower than the stall speed at 70 KIAS. Francesco shut down my left engine while I was distracted looking outside and it was a non-event. Engine shutdown



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involves throttle idle, prop feathered, fuel off, as well as ignition and field. It was slightly quieter inside and our speed dropped, but other than that, the plane was very stable. It was easy to complete turns and climb at the V_{yse} of 92 KIAS. Restarting our feathered engine was also simple, essentially resetting the prop and throttle levers as well as the fuel selector, fuel pump and ignition switches on, then pressing the starter. With the Lycoming EECS, it was a flawless start, with the system controlling all of the starting parameters. Simplifying engine management under normal and abnormal conditions is yet another factor in reducing pilot workload.

After touring the beautiful geography west of Las Vegas, it was time to head to North Las Vegas (KVG T) for landing, where I met up with friends to fly a Citation Mustang back home. With the simplified power management on the descent, you just reduce the RPM to maintain an appropriate speed. A V_{no} of 176 KIAS and a high V_{ne} of 226 KIAS allows high-speed descents when appropriate. The typical descent is 1,950 to 2,000 RPM and reducing the throttles to maintain 137 KIAS and 500 fpm descent. The performance capability of the P2012 also facilitates traffic integration in busy terminal airspaces. The air was smooth, so we didn't have to be too concerned about the V_o speed of 141 KIAS. Slowing down to 140 KIAS on downwind and 120 KIAS on base, it was time to explore another impressive capability of the Traveller.

Approach

You can tell the design roots of this airplane. Considering the numerous mountains and valleys in northern Italy, the P2012 is well-suited for steep approaches into some of the most challenging airports. The P2012 is capable of a 12-degree approach gradient at 110 KIAS. Francesco offered me the opportunity to explore the envelope on our approach to Runway 30L at North Las Vegas (KVG T). While I have conducted steep approaches in other aircraft, my experience with the P2012 was the most impressive. We actually utilized an even steeper descent angle than the 12-degree approach gradient

in the AFM as I pushed our nose down to almost 20 degrees in the early phase of the descent. The twin was easy to control under this configuration, and the round out smooth for landing. We didn't have a crosswind for this landing, however, Tecnam's newest aircraft has an impressive demonstrated crosswind capability of 24 kts. The pneumatic shock absorbers on the landing gear made even my first landing in the Tecnam look good!

Summary

The Tecnam P2012 Traveller is a versatile platform from its capabilities for executive transportation (with a luxury interior) to comfortable airline commuter, to utilitarian air ambulance and special missions. It can fit a number of aviation needs.

The airplane can operate on paved and unpaved runways with a SL takeoff distance of 2,596 ft over the standard 50-foot obstacle at GTOW, increasing to 2,849 ft on dry grass. The P2012 can then cruise at 10,000 ft MSL with a power setting of 82 percent (2,400 RPM – Max Power Levers), resulting in a speed of 180 KTAS, consuming 68 GPH. Reduce the speed to 170 knots and fuel burn is 50 GPH. Lower power settings result in even more fuel savings and for maximum endurance (great for special ops and transatlantic crossings). Slowing down to 45 percent power will result in 25 GPH at 130 KTAS.

The P2012 handles with a nimbleness I would not have expected in a twin of its size. And with Tecnam's SPACE flight deck and environment with room to stretch your legs, even long-range flights would be comfortable. **T&T**

With 12,000 hours piloting more than 110 models of aircraft into nearly 900 airports, **Rich Pickett** 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 RA390S and DA10. His company, Personal Wings, provides training, mentoring and aircraft services. He is also a proud owner of a Cessna 206. You can contact Rich at Rich@personalwings.com.

Short-N-Numbers.com

Aircraft registration numbers with 3-digits or less

1 Number + 1 Letter	2 Numbers + 1 Letter	1 Number + 2 Letters
1K	10H	3AB
1V	10P	5AB
1Y	10T	2AC
2C	10W	6AC
2E	10Z	3AB
2R	11F	9AD
2S	11G	1AE
3C	11P	4AE
3E	11Q	6AE
3Q	12A	3AF
4B	12B	5AF
4H	12E	8AG
4J	12H	9AG
4K	12K	4AJ
4X	12T	7AJ
4Z	12X	6AK
5A	13F	8AK
5T	13G	4AL
5X	13P	8AL
6A	13Q	7AH
6C	13R	3AN
6E	13S	4AN
6H	13V	7AN
6N	13W	8AN
6P	13Y	9AN
7G	14D	4AP
7L	14E	6AP
7N	14F	1AQ
7Q	14G	4AQ
7T	14N	7AQ
7V	14Y	2AR
7Y	14Z	8AR
7Z	15G	9AG
8B	15H	6AT
8C	15Q	8AT
8G	15R	2AU
8J	15Z	3AU
8W	16D	6AU
8P	16H	7AU
9Q	16T	8AU
9R	16X	3AV
9S	16Y	3QZ
9T	16Z	8AV
9V	17A	5BV
9W	17B	2BW
9X	17C	4BW
9Y	17D	8BW
9Z	17E	1RX
	17F	3RY
	17G	1RZ
	17H	2RZ
	17I	4RZ
	17J	3SA
	17K	4SA
	17L	5SA
	17M	8SA
	17N	3SB
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	17U	7JC
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	31U	3JQ
	31V	4JQ
	31W	8JQ
	31X	3JZ
	31Y	8JZ
	31Z	5KJ
	32A	2KW
	32B	4KW
	32C	8KW
	32D	1RX

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30	ASTRA 1125
32	ASTRA 1125SP
57	ASTRA 1125SPX
29	BEECHJET 400
266	BEECHJET 400A
195	BOEING BBJ
503	CHALLENGER 300
40	CHALLENGER 600
26	CHALLENGER 601-1A
121	CHALLENGER 601-3A
54	CHALLENGER 601-3R
325	CHALLENGER 604
7	CHALLENGER 800
148	CITATION 500
340	CITATION 525
318	CITATION BRAVO
187	CITATION CJ1
96	CITATION CJ1+
240	CITATION CJ2
225	CITATION CJ2+
476	CITATION CJ3
174	CITATION CJ3+
368	CITATION CJ4
189	CITATION ENCORE
74	CITATION ENCORE+
392	CITATION EXCEL
14	CITATION I
280	CITATION I/SP
445	CITATION II
54	CITATION II/SP
155	CITATION III
124	CITATION LATITUDE
247	CITATION M2
467	CITATION MUSTANG
130	CITATION S/II
323	CITATION SOVEREIGN
105	CITATION SOVEREIGN+
310	CITATION ULTRA

285	CITATION V
31	CITATION VI
122	CITATION VII
329	CITATION X
38	CITATION X+
253	CITATION XLS
301	CITATION XLS+
1	DIAMOND I
32	DIAMOND IA
16	DORNIER ENVOY 3
304	ECLIPSE EA500
75	EMBRAER LEGACY 500
100	EMBRAER LEGACY 600
53	EMBRAER LEGACY 650
247	EMBRAER PHENOM 100
328	EMBRAER PHENOM 300
80	FALCON 10
22	FALCON 100
16	FALCON 200
242	FALCON 2000
27	FALCON 2000EX
34	FALCON 20C
15	FALCON 20C-5
17	FALCON 20D
1	FALCON 20D-5
10	FALCON 20E
49	FALCON 20F
75	FALCON 20F-5
197	FALCON 50
8	FALCON 50-40
118	FALCON 50EX
178	FALCON 900
24	FALCON 900C
116	FALCON 900EX
156	GLOBAL 5000
123	GLOBAL EXPRESS
25	GULFSTREAM G-100
239	GULFSTREAM G-200
14	GULFSTREAM G-300
24	GULFSTREAM G-400
313	GULFSTREAM G-450
11	GULFSTREAM G-500
602	GULFSTREAM G-550

27	GULFSTREAM G-II
12	GULFSTREAM G-IIB
111	GULFSTREAM G-III
175	GULFSTREAM G-IV
338	GULFSTREAM G-IVSP
204	GULFSTREAM G-V
38	HAWKER 1000A
2	HAWKER 125-1A
2	HAWKER 125-1AS
12	HAWKER 125-400AS
2	HAWKER 125-600A
1	HAWKER 125-600AS
61	HAWKER 125-700A
72	HAWKER 4000
223	HAWKER 400XP
44	HAWKER 750
153	HAWKER 800A
14	HAWKER 800B
398	HAWKER 800XP
42	HAWKER 800XPI
88	HAWKER 850XP
187	HAWKER 900XP
2	JET COMMANDER 1121
2	JET COMMANDER 1121B
2	JETSTAR 731
4	LEARJET 23
12	LEARJET 24
2	LEARJET 24A
7	LEARJET 24B
20	LEARJET 24D
8	LEARJET 24E
6	LEARJET 24F
4	LEARJET 25
19	LEARJET 25B
4	LEARJET 25C
45	LEARJET 25D
4	LEARJET 28
32	LEARJET 31
182	LEARJET 31A
26	LEARJET 35
398	LEARJET 35A
21	LEARJET 36
33	LEARJET 36A

32	LEARJET 40
243	LEARJET 45
225	LEARJET 45XR
92	LEARJET 55
6	LEARJET 55B
8	LEARJET 55C
307	LEARJET 60
623	PILATUS PC-12/45
149	PREMIER I
1	SABRELINER 40
7	SABRELINER 40A
2	SABRELINER 40EL
2	SABRELINER 40R
4	SABRELINER 60
5	SABRELINER 60ELXM
68	SABRELINER 65
7	SABRELINER 80
1	SABRELINER 80SC
67	WESTWIND 1
1	WESTWIND 1123
14	WESTWIND 1124
50	WESTWIND 2

TURBOPROPS - 12,801

CHIEF PILOTS & OWNERS

COUNT AIRCRAFT

403	CARAVAN 208
1,523	CARAVAN 208B
155	CHEYENNE I
16	CHEYENNE IA
206	CHEYENNE II
56	CHEYENNE III
38	CHEYENNE IIIA
57	CHEYENNE IIXL
35	CHEYENNE IV
235	CONQUEST I
291	CONQUEST II
38	JETSTREAM 31
63	JETSTREAM 32
52	JETSTREAM 41
37	KING AIR 100
450	KING AIR 200
17	KING AIR 200C

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62 KING AIR 350C
8 KING AIR 350ER
387 KING AIR 350I
4 KING AIR 350IER
8 KING AIR 90
6 KING AIR A/B90
76 KING AIR A100
184 KING AIR A200
34 KING AIR A90
197 KING AIR A90-1
105 KING AIR B100
1,038 KING AIR B200
107 KING AIR B200C
99 KING AIR B200GT
5 KING AIR B200SE
8 KING AIR B200T
47 KING AIR B90
302 KING AIR C90
38 KING AIR C90-1
186 KING AIR C90A
378 KING AIR C90B
76 KING AIR C90GT
88 KING AIR C90GTI
150 KING AIR C90GTX
13 KING AIR C90SE
258 KING AIR E90
173 KING AIR F90
28 KING AIR F90-1
5 MERLIN 300
13 MERLIN IIB
8 MERLIN III
22 MERLIN IIIA

44 MERLIN IIIB
14 MERLIN IIIC
3 MERLIN IV
11 MERLIN IV-A
101 MITSUBISHI MARQUISE
18 MITSUBISHI MU-2F
1 MITSUBISHI MU-2G
15 MITSUBISHI MU-2J
37 MITSUBISHI MU-2K
12 MITSUBISHI MU-2L
25 MITSUBISHI MU-2M
24 MITSUBISHI MU-2N
29 MITSUBISHI MU-2P
47 MITSUBISHI SOLITAIRE
796 PILATUS PC-12 NG
197 PILATUS PC-12/47
296 PIPER JETPROP
74 PIPER M500
92 PIPER M600
602 PIPER MERIDIAN
198 QUEST KODIAK 100
2 ROCKWELL 680T TURBO
5 ROCKWELL 680V TURBO II
4 ROCKWELL 680W TURBO II
4 ROCKWELL 681 HAWK
85 SOCATA TBM-700A
90 SOCATA TBM-700B
381 SOCATA TBM-850
121 SOCATA TBM-900
38 SOCATA TBM910
136 SOCATA TBM930
6 STARSHIP 2000A
50 TURBOCOMMANDER 1000
22 TURBOCOMMANDER 690
131 TURBOCOMMANDER 690A
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312 CESSNA 414
430 CESSNA 414A
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30 CESSNA 421A
335 CESSNA 421B
713 CESSNA 421C
38 CESSNA T303
100 DIAMOND D42
65 PIPER 600 AEROSTAR
3 PIPER 600A AEROSTAR
44 PIPER 601 AEROSTAR
4 PIPER 601B AEROSTAR
182 PIPER 601P AEROSTAR
21 PIPER 602P AEROSTAR
509 PIPER CHIEFTAIN
20 PIPER MOJAVE
280 PIPER NAVAJO
196 PIPER SENECA

13 ROCKWELL 520
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3 ROCKWELL 560
COMMANDER
11 ROCKWELL 560A
COMMANDER
7 ROCKWELL 560E
COMMANDER
6 ROCKWELL 560F
COMMANDER
12 ROCKWELL 680 SUPER
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525 PIPER MIRAGE

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Epps Aviation

by Lance Phillips



Becoming a household name in any field takes a mixture of fortune, planning and hard work. In the general aviation world, the name Epps is not only ubiquitous for these qualities but is also known for a family legacy of military and civilian aviators who have excelled at services for pilots and at instilling passion in new generations of flyers.

Possibly none have encapsulated this legacy more so than Georgia's first family of aviation. That is the family of Ben T. Epps of Athens. Ben was Georgia's first licensed pilot who designed and flew his own aircraft as far back as 1909 at his little Washington Street shop. Just a few years after the Wright brothers flew their first controlled flight at Kitty Hawk, Ben's first aircraft, powered by a 15-horsepower motorcycle engine and sitting on three bicycle wheels, took flight and flew 100 yards at around 50 feet over the hilly Athens terrain. By the time the calendar turned to 1917, it only made sense that Ben further support his burgeoning aviation industry in Georgia by starting Rolfe-Epps Flying Service, also in Athens, offering flying lessons, aerial photography and passenger flights. But while designing and building planes and founding an industry, Mr. Epps was busy raising a family.

One of nine children, Ben's youngest son, Pat, born February 23, 1934, didn't start with a silver spoon. He had to work to earn everything he accomplished. The work started early, too, especially being the youngest of six boys and



Marian Epps (CFO), Scott Ducker (Sales), Matt Rule (Sales), Amber Osborne (Pilatus Business Manager).

three girls, all most certainly proud and competitive pilots except one sister who stayed land-based. One of his first memories around airplanes occurred when two of his older brothers, quite comically, used him for ballast as their dad was rebuilding one of his planes. Young Pat, kicking and screaming, alerted all around to his unhappiness about the situation. Next memory: He's sitting on his mom's lap in a Ford Tri-Motor – the first recollection of actually flying. But amid these surreal first memories, and around the time of the Tri-Motor ride, Pat's whole life trajectory could have been disrupted by the fatal takeoff crash his dad incurred while piloting one of his aero creations in 1937.



Pat Epps was only three years old on that dreadful day at Athens Airport (KAHN), now named after the family patriarch. But luckily for us all, Pat's mom encouraged him and his siblings to continue with their aviation aspirations. All five brothers and two sisters became pilots. And by the time he was 15, Pat was winning awards and competitions like the Southeastern Free Flight Model Sailplane Contest. He'll tell you with a grin, though, that he was a late bloomer, not soloing until he was 18.

During high school, continuing to learn as much as he could about the inner mechanics of engines and systems, Pat took a job as an automotive maintenance technician. At the same time, he was taking flying lessons from his older brother, Doug, ultimately soloing in a Piper J-3 Cub before attending Georgia Tech. Prior to completing a mechanical engineering degree in 1956, he worked summers in Yakima, Washington, in a machine shop. Through Georgia Tech's Air Force ROTC program, Pat also earned a commission as a second lieutenant, and after graduation, he went to work at Boeing as a flight test engineer on the 707 prototype program. In 1957, Pat signed on for active duty in the Air Force, earning his wings in 1958 in the Beechcraft T-34. He then transitioned to the C-97 Stratofreighter, a military variant of Boeing's 377 Stratocruiser airliner. Pat left active duty in 1963, taking a job with his brother George in Huntsville, Alabama, and was honorably discharged from the Air Force at the rank of captain in 1965.

While in Huntsville, George and Pat answered an ad in Flying Magazine recruiting Mooney dealers. This started Pat's long success at selling airplanes as the brothers became Mooney Aircraft Company's newest dealers for Georgia and Alabama. Concurrently, Epps Air Service started operations with 19 employees, a hangar and some offices at Atlanta's Dekalb-Peachtree Airport. Shortly after, Epps expanded its maintenance capabilities and purchased Hangar 2 in November of that year. During all this, Pat was flying back and forth between Atlanta and Huntsville to support the business in both cities. The next year, the brothers purchased a competitor, Chamblee Aviation, and started their own flight school at PDK. To close out the decade, Epps built 22 new T-hangars on newly leased land at the airport in 1969.

The 1970s at PDK were eventful as well. Pat was laser-focused on serving his customers and facilitating growth



in Atlanta. The beginning of the decade saw Epps start its own Part 135 charter service, and in 1979, the company opened a new customer terminal building, along with Hangar 4 and 10 additional T-hangars. Also that year, Epps hosted the annual NBAA convention at its site. Once a Georgia-centric aviation company, Epps was beginning to be known nationally.

The 1980s were all about expansion at PDK. Hangars 5, 7, and 8 were built along with a new road connecting everything. It was also a decade in which Epps realized a passion for serving the needs of an underserved aviation community by offering flight training for the physically disabled.

Pat Epps was prolific in personal and professional projects. We rewind to 1981 for a moment. Pat is interested in uncovering a WWII Lockheed P-38 Lightning aircraft buried 265 feet beneath the ice of Greenland. He joins and eventually leads the Greenland Expedition Society (GES) in an 11-year, 7-expedition mission to uncover an aircraft from the Lost Squadron, a group consisting of two B-17s and six P-38s. The squadron had been flying for hours in some of the North Atlantic's worst weather and all were low on fuel. The eight aircraft were forced to go down on an icecap in Greenland on July 15, 1942. Having known of the Lost Squadron and being spurred on by a friend looking to own a P-38, Pat Epps helped form and lead the GES with the eventual recovery of P-38 "Glacier Girl" during the summer of 1992.



P-38 "Glacier Girl"

Back in PDK, Epps Air Service was expanding, as was Epps' recognition in the industry of his accomplishments:

- 1990 – Hangar 3 built
- 1991 – New turbine maintenance hangar built
- 1992 – First GPS installed by Epps Avionics
- 1993 – NBAA Convention at PDK, First EAA Young Eagles rally
- 1994 – Pat participates in 50th anniversary of D-Day paratrooper drop in Normandy, France
- 1995 – Epps participates in Special Olympics Airlift

- 1996 – Epps becomes a Pilatus authorized sales and service center
- 1999 – Hangar 6 built

The 90s also included the creation of the Pinnacle Air Network, of which Epps is a founding member. Of the 10 founding companies in the Network, Epps was the only one not specifically a Beechcraft dealer, however, it continued to grow its Beech service and support business. Billy Hulse, a principal at Atlanta-based River Capital, well known in the general aviation industry as the president and CEO of the Hangar One chain of FBOs, which was later sold to Beech Aircraft (later Raytheon) in 1983, encouraged Pat Epps to help found the group of nine dealers. In the process, Epps became the 10th member of Pinnacle in 1994. The Pinnacle Air Network continues to this day, now comprising 20 of the most successful aviation companies in North America. All 10 of the original Network companies are still in existence and thriving, three of which by different names through merger and acquisition.

The 2000s have been no less active. We see Pat now perform in his rare aerobatic Bonanza F33C for large airshow crowds with the intent of bringing enthusiasm for aviation to America's younger generations.

- 2000 – Pat performs for EAA at Oshkosh in his '74 Bonanza N8176R



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- 2002 – Several large accomplishments at Epps:
 - o Appointed Cirrus Authorized Service Center
 - o Formal Non Destructive Inspection programs established for teardown work on P-3, S-3, C-130 and F-22 aircraft
 - o P-38 “Glacier Girl” returns to flight on October 22
- 2005 – Epps’ 40th anniversary
- 2007 – Pat Epps honored as John P “Jack” Doswell Award winner during the NBAA Convention in Atlanta
- 2011 – Pat Epps honored twice:
 - o Harrison Ford Aviation Legacy Award winner at 8th Annual Living Legends of Aviation event in Beverly Hills, CA
 - o Inducted into Georgia’s Aviation Hall of Fame in Warner Robins, GA
- 2013 – Pat Epps mourns the loss of his and his company’s biggest supporter, his wife, Ann Hailey Epps
- 2015 – Epps Aviation 50th Anniversary

In 2019, Epps Aviation hosted the Super Bowl and then in 2020 gave its customer terminal building a substantial facelift. These days, the business is run by Pat’s children. His daughter Elaine is president, while her sister Marian handles finances as CFO. And their continued growth

through customer satisfaction is their top priority, evidenced by Epps Aviation’s accomplishment of the ARGUS platinum rating for its charter business.

We all love the stories of visionary people and companies who through a unique mix of grit, smarts and luck come to be known as household names. And the formula for getting there isn’t always the same. In fact, it’s usually different in every case. For Pat Epps, a man who never envisioned himself as an aviation business owner, much less one who has shaped the industry in myriad ways, the path for success was a long and winding road. Sometimes the stars align, and the coalescence of opportunity and strategy takes form and shapes up to meet a unique need or offer a new way of doing something. That’s called innovation. An appropriate synonym for that buzzword could be “Pat Epps” – a living legend still talking aviation at his growing FBO in Atlanta. **T&T**

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@phillips-aeroservices.com.

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From the Flight Deck

by Kevin R. Dingman



Retire Me Not – Part Deux

Simulator training is part of every professional pilot's life.



"I hated every minute of training, but I said, 'Don't quit.

Suffer now and live the rest of your life as a champion.'"

– Muhammad Ali

The Duke is still in the shop, and my non-current status has not sat well with me. About three years ago, a local family-owned Part 135 outfit that leases me a hangar suggested I talk with them about their charter operation – "Come see us after you retire," they said. This past summer, one of my 737 FOs told me he had worked for the same company and

said they were good people. And David Miller's tales of his Citation(s) in T&T and my friend Dr. Karl's accounts of bizjet flying all helped me to act on their offer. Flying a Citation might be fun. And since I'd be doing it just for fun, getting the type rating would be little or no stress. Wouldn't that be nice after 31 years of you-bet-your-job Part 121 training?

Business Decision Conundrum

FlightSafety's CE-650 ground school in San Antonio seemed fine, or so I thought. After all, 100 percent on the written is good. The six of us later discovered as we transitioned to the simulator portion of the course, however, that a couple of syllabus items

required for a smooth(er) transition from academia to the simulator were glossed over (or completely deleted) – until we complained that is.

One deleted ground school event, typically conducted in the stationary simulator, is called “systems integration.” It basically means using the knowledge gained from ground school and accomplishing the entire normal procedures checklist in a functional cockpit in order to become proficient at (or at least familiar with) finding switches and completing checklists – including the “expanded” items and loading/programming the FMS. This allows students to see, hear and feel the response of the switches and controls. Another topic deleted, then re-added near the end of the program, was a two-hour systems review using several dozen interior and exterior walk-around pictures.

FlightSafety is known as the premier training center, right? Lest you think this is not the case, let me make this excuse for them: Combine the worldwide employee shortage of 2021 with high demand for training (bizjet sales are up 15.9 percent, turboprops 40.6 percent, and piston/turbine helicopters combined up 48.3 percent), some simulator downtime for malfunctions, the overscheduling of the simulator, and you have a “business decision conundrum.” There was simply no simulator time (except 2 a.m. to 5 a.m.) available for systems integration, and some instructors were already at their duty-day limits anyway.

Quitter

I called my chief pilot on day eight of the course, which was day two of the sims. I told him that even though my flying ability and crosscheck were fine, I felt completely buried by my lack of proficiency with switchology and the checklist – and that I would be on the 0840 flight home the next morning. Remember, four months ago, I was at a 4,000-hour comfort level in the 737. A recently retired 747 captain and a transitioning King Air pilot in my class had similar discomfort levels. My chief pilot didn't much like the idea of losing his \$19k investment for the airline tickets, 15 hotel nights and the type-rating course – and oh yeah, my

salary. Speaking of which, Captain, your resume certainly doesn't reflect a history of quitting. He didn't really say that, but I imagine he was thinking it.

But like a good chief pilot/coach, he discussed the training issues and had one of our line pilots call me. “Trust me; you'll love the jet,” they both espoused. That evening I reminisced about my New Mexico hunting trip and wondered why I was getting a type rating instead of deer hunting in Michigan. But they had persuaded me to try sim number 3 the next afternoon. So, I spent most of the night and half of the next day in preparation,

learning switchology and the normal procedures checklist. And then I flew the sim. Those familiar with fatigue terminology recognize this as the beginning of a sleep debt that cannot be repaid while in the simulator portion of initial training. Suffice it to say that my training schedule changed five times – all but one of them was not my fault and involuntary. We'll get into what happened next shortly, but in the meantime, long time T&T readers may remember these excerpts from “Flying The Box” (October 2010) and “Scent of a Simulator” (November 2015) in which I recount some of the rigors of simulator training.



An all-nighter caught me up on switchology and the normal procedures checklist.



Scheduling the sim in late hours of the night was needed to relieve the client overload.



My ground school classmates.

You Can't Win, Only Break Even

Pilots going to training are everywhere in this hotel. They scurry around the lobby for the free hot breakfast before their scheduled pickup time to the flight academy. Even in civilian clothing you can tell that they're pilots and not normal guests. We all look alike, even the ladies and even without a kit-bag. It was that way in the military, too. Unless you've worked for a Part 121 operation in which there are thousands of pilots in line for your job, and you've been through the career-threatening ritual of training over and over and over, it may be difficult to relate to the stress and moderately unpredictable nature of the arduous ordeal. It's like a flight physical: You can't win, only break even.

I sat outside as the sun came up, after my free hot breakfast (for which I did not scurry), writing this article and enjoying a coffee. I watched as the pilots in training reluctantly, solemnly and silently boarded the shuttle to the flight academy to be tortured, I mean trained. The day begins with the sound of the cargo and passenger doors slamming closed and the rough driving technique of the hotel's non-CDL drivers. The ride is eerily quiet, as if the pilots are a group of puppies, whimpering softly with darting eyes as they are driven to the vet, trying to not wet the seat. It's that bad. You don't see many of them with tongues hanging out, nervously panting or wetting – but it would not be out of character.

Dial-A-Disaster

The Part 121 simulator schedule begins extremely early. The sun is already rising, and the first six-hour block that began several hours earlier is half-finished. Those pilots left the hotel long ago, well before the hot breakfast or even coffee was available. The crews now boarding the van are the lucky ones with the primo simulator times. Likely with more seniority or based in a western time zone. Like the early shift, they'll be getting two hours of oral review followed by four hours of "Dial-A-Disaster," an accurate designation used to describe the way in which the simulator instructor/evaluator can select some of the most hair-raising scenarios and weather known to mortals. It's always nighttime in the sim, you are always in the weather, always in icing conditions, the RVR's are always 600/400/300, crosswinds are within a few knots of the limit, and something is always on fire, leaking, losing pressure or about to fail – like a motor, flight controls, hydraulics, pressurization or fuel system. A trip to the vet would be better – even with wet pants.

Sims by the Letter

Not many Level A simulators still exist. They have unsophisticated visual systems and very little data for simulating terrain and airports. One aircraft still using Level A simulators is the Lockheed JetStar, one of the first business jets. Level B sims barely exist. Level B can give you 80 percent of initial training for a type rating and 100

percent of recurrent training if the sim has circle-to-land privileges added to its certification. Level C steps a notch higher. There are tighter tolerances on data, and the scenery is more accurate. All instrument currency and type rating requirements, landings and circle-to-land approaches can be met in this simulator. Last is Level D, and you can do everything in it. Daylight scenery is a requirement, and they have better data and tighter performance tolerances. The most obvious benefit of the simulator is the Dial-A-Disaster function. We may hate it, but we can safely experience and practice all instrument procedures and some really bad things that would be difficult or foolish to recreate in the air. Psychologists would tell us that our heightened sense of sight, sound and smell during an event such as simulator training is due to apprehension, anxiety, adrenaline and our over-achiever desire to succeed. Apparently, this is true even if the training is "just for fun."

The Yerkes-Dodson Psychological Concept

Simulator training is a necessary part of every professional pilot's career. But anxiety can hurt our performance if we get past the apogee on the Yerkes-Dodson bell curve. You know, performance up the left axis, anxiety along the bottom. This applies to the real airplane and non-flying events as well. We train in simulators and practice hair-raising scenarios in order to learn and to prepare. And the preparation includes desensitizing ourselves to the initial shock when a malfunction is actually happening. I've had it happen to me and heard it from countless others: "When it happened, I couldn't believe it. For three or four seconds, I was in disbelief." Other than improving our scan, crosscheck and hand/eye coordination, simulators help to make the amount of time in disbelief shorter. Because once we believe it's really happening, we can work the problem.

The Next Adventure

I've spent over 600 hours in the box and four times that amount in unlogged hours instructing and evaluating in it. I used to be the one behind the curtain of Oz creating disasters

for F-16 students and pilots, so I get it. But when in the sim myself, the checkride portion of training can still push me too far on the bell curve – but not this time. Despite the scheduling and training shortfalls, sleep debt and anxiety, day four of the Citation 650 simulator training went great, as did five through seven and the oral and checkride on day eight – the type rating is now on my temporary airman certificate. Looking back, I'm embarrassed that I almost quit. Let the next adventure begin. Happy New Year, my friends. **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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Search and Repo: "OMG!"

by Peter Sloan, Owner-Pilot



Piper Cheyenne N770MG ("OMG")



As we taxied out, I became conscious of a grin on my face. I'd have to go back to junior year of high school to remember the last time I was this giddy about my "new" ride. The object of my affection back then was a two-door 1967 Buick LeSabre passed down four times by older siblings. The white whale of a car arrived just in time for prom.

Today's grin was of a similar vintage: a 1975 Piper Cheyenne that changed hands more times than the ol' Buick. Under that hood was an oil-thirsty V8. Under these cowlings were a pair of PT6's freshly returned to service. Cheyenne trainer Bob Pinto and I were readying for take-off – the airplane's first flight in nine years. Jet A is unavailable at N30,

so Mike Lovelace of TML Aircraft dedicated 55-gallon drums and a pickup truck to the task. Two hundred seventy-five gallons of hand-pumped kerosene later, leaving N30 finally became possible.

We performed the pre-takeoff checklist with a cold, Pennsylvania winter breeze blowing right down the pike and 1,240 horses churning a pair of black, scimitar four-blades. The old car had been nicknamed "Moby Dick," and it had soul. Would N770MG be the same? We were about to find out.

Patience & Reconnaissance

Forty-two years is a long time between grins. No offense to the Navajo or Twinco before "OMG," but getting back to the flight levels and

out from under the avgas sword of Damocles became a priority. Okay, maybe an obsession. There may be another way to cruise 250 knots at FL250 with a useful load of 4,000 pounds for \$350,000, but in 20 years of searching, I've yet to find it. For me, all roads led to the PA-31T. Finding the right one, ah, now there's the rub.

Tracking Controller and Trade-a-Plane was a necessary discipline in scouring for value propositions, but if the numbers are right, they won't stay on the market long. A fair number of airplanes change hands without ever making it to the listing stage. For me, checking the listings nightly gave a therapeutic outlet to my obsessing. It also helped cultivate an organic feel for the fleet, from typical times

and equipage to time on the market and asking price. Time well spent perhaps, but our plane came through a different door in the end.

To say the search was obsessive is not to say it was impulsive. I must have looked at 20 Cheyennes in two years. During that span, I'd drop in on Bob Hunt and company at Friend Air Care in Washington County, Pennsylvania, from time to time. Bob and Dave's tutelage was as essential as it was kind. Bob combed records, checked maintenance histories, offered budgeting numbers. He was a valued interlocutor. It left me to wonder what he wouldn't do for me once I became his customer. If it has to do with a Piper Cheyenne, someone at Friend has the answer. Before I ever made an offer – and I made a few – Bob helped me broad stroke a maintenance plan.

I also pestered Mr. Pinto of Star Aero in New Jersey. I relentlessly picked the brain of "Pay 2" owner-operator, Steve Lefferts. I leaned on the cowl of whatever airplane the sage of Bartow, Bill Turley of Aircraft Engineering, happened to be working on, absorbing as much as I could. Sometimes wisdom is practical. Expounding on the relative merits of the Cheyenne 1 versus the Cheyenne 2, Bill counseled me. "But if you decide to go with the 2, Pete, just make sure you watch out for the SAS vane on her nose," he said as he rubbed his own shoulder. "That god#@! thing will get you every time!"

I never would have made it to engine start were it not for Mike Lovelace, my brother Stephan, Steve "Rug" Riggs of Ardent Jet Group, or Stacey Jordan of Palm Beach Avionics. It takes a village, and they understood the specific gravity. Forget about houses. This was the biggest transaction of my life, one I had to get right for the sake of a happy marriage. One screwup and those call letters on the tail would forever stand mockingly for "Oh My Gaffe!"

Home Field Surprise

Poet T.S. Eliot could well have been writing about my turbine quest when he wrote:

"We shall not
cease from exploration
And the end of
all our exploring
Will be to arrive
where we started
And know the place
for the first time."

Because poetically enough, we ended up right back where we started, under our own roof. The hangar door N770MG was hiding behind was only 200 feet or so from Mike's shop door. TML Aircraft is also home to our nonprofit, Archangel Airborne. I must have passed by the airplane 50 times in the past 10 years. She'd been under my nose the whole time.

OMG's status as a repo might best serve as a cautionary tale. No amount of research fully insulates the buyer of a 40-year-old airplane from jackpots. Hot Section Inspections can run six figures. Don't go spelunking in repossession caves unless you've a yen for that sort of thing. Repos are rarely the deal they first appear to be, and OMG was no exception. Were it not for a home-field advantage wrought by A&P Mike Lovelace and his onsite maintenance facility, I'd have gotten out of the bidding process on OMG while the getting was still good.

Ultimately, I banked on the reliable reputation of her powerplants. As Bob Pinto – speaking of PT6s on the MORE program – put it, "Look at it this way, the FAA certifies those things to 8,000 hours...8,000 hours! The F-A-A!" At 4,000 hours, mine were barely midlife.

Like the Navajo and Twinco before her, our Cheyenne will serve two masters. When she's not a family of five mover, she'll be the flagship for the humanitarian operations of Archangel Airborne, a faith-based nonprofit operating up and down the eastern seaboard and Caribbean (archangelairborne.org). Naturally,

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- Airframe and powerplant fuel filters
- Fuel drains
- Concorde battery and tender
- ELT battery
- Hobbs meter
- Heater pressure switch
- LED landing, taxi, strobe lights
- Garmin 345X
- Garmin 600 TXi
- Midcom 302
- Flightstream 210
- Icom handheld
- USB ports
- USAF star and bar, US flag decals
- Tires

Refurbished

- Right fuel pump
- Right fuel control unit
- Garmin 530W TAWS
- Collins color radar
- Bendix M4D computer and roll servo
- Air conditioning compressor
- O2 bottle
- Prop spinners

Removed

- Engine fire suppression bottles/squibs
- Ramp hailer
- Garmin 430W
- GDL39
- Collins ADI/HSI
- Radar altimeter
- Stormscope
- Stereo system
- 35 lbs of derelict wiring, racks, cannon plugs, etc.



Mike Lovelace and Peter Sloan.

I hope she puts a smile on the faces of my wife, Christine, and our three daughters. But when she's not, OMG will be free to haul medicines and clinicians to Haiti, supplies to disaster sites, and wounded U.S. veterans and their families to their destinations (veteransairlift.org).

Back in the Air

Before any of that good stuff can occur, this machine has to get off the ground. For runway, Bob and I had about 2,800 feet. Any doubts about thrust were dispelled by a call from Mike DeVader of Prime Turbines two days earlier (we'll call him Mike 2.)

Mike 2 was the guy who parachuted into N30 to trim in the engines after installing new containment rings, combustion liners, nozzles and overhauled fuel components in compliance with a 2014 AD. Now, he needed to test out full power. But with only 55 gallons of Jet A weighing her down, Mike 1 and Mike 2 had to tie the airplane to a dump truck just to keep her from jumping brakes.

"Don't worry," Mike 1 shouted over the dump truck's rumble. Mike 1 had been an Air Force F-100 crew chief back in his early days. He knew something about thrifty birds. "We had to tie them by the tail all the time," he said as he wrapped a come-along from truck to tail. "Only ever tore one off."

Later, it was our turn to hold brakes. "Remember, if anything goes wrong, stand on the left rudder pedal," the voice of Cheyenne owner Steve Riggs chided us over the radio. Taking the bait, we replied,

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PRATT & WHITNEY PT6A

FLAT RATE OVERHAUL

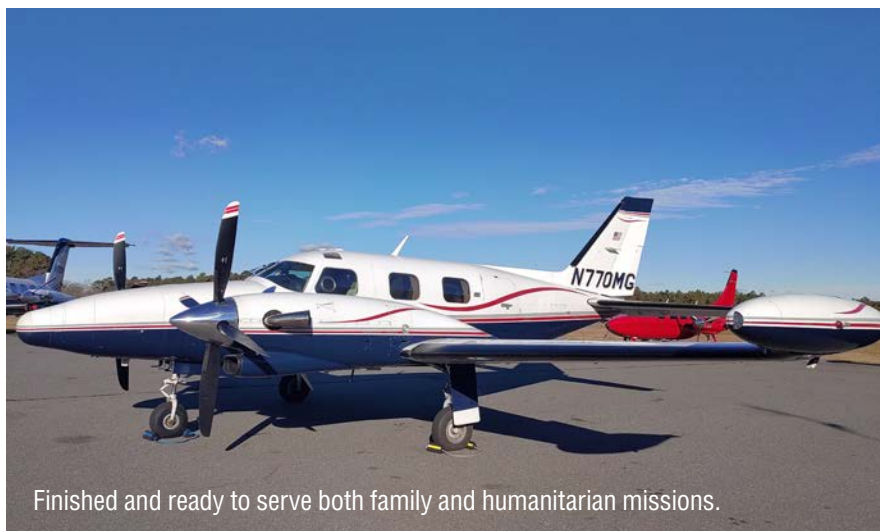
NO B.S. - NO BUREAUCRACY

ENGINE	BASIC	CAPPED PRICE
PT6A-11 / -21	\$ 169,000	\$ 240,000
PT6A-27 / -28	\$ 180,000	\$ 245,000
PT6A-34 / 34AG	\$ 190,000	\$ 255,000
PT6A-112	\$ 169,000	\$ 225,000

Engine must be a normal time expired core with no missing parts. Basic price includes accessory overhaul. Basic price does not include CT Blades or 1st Stage Reduction Gears. Replacement parts may be new PWC, overhauled PWC or PMA. Pricing does not include life limited parts, freight, insurance or taxes.



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"Why the left?"

"Because I'm on your right!" Steve laughed.

Time to pay attention. Throttles up, Bob held them long enough for us to get an encouraging scan down the twin column of dials. "Airspeed's alive," I heard myself say. "Seventy...90...100." And just like that, we were off, trees getting small. "Positive rate, gear tracking." Then, whoops, a red "Gear Unsafe" light. The grin faded.

"Gear doors," Bob said. "They didn't close." He held up the gear handle for a few extra seconds waiting for the reassuring clunk to accompany the light going out. It came. "Gears up and locked. Let's hope not permanently."

Between the all-black instrument panel with its big overhanging glare shield and the late afternoon overcast layer, it was none too bright in the cockpit. "Post lights and dial lights are out, too. The circuit breakers popped. A reset and it pops again."

Prepared for this, we looked like a couple of repo guys ourselves, me with a miner's light over my headset and Bob with a handheld to illuminate the dials. "Make sure you get the new panel painted white or something light," Bob said.

Leveling off at just 5,500 feet for the shakedown run to Bob's shop and initial training at N81, I jotted squawks on my kneeboard. Overall, a few snakes slithered out of the 9-year-old woodpile, but the annunciator lights mostly kept to themselves. When it came time to drop the

wheels, they fell out of the wells, a disconcertingly fast three green. The gear doors were marching to the beat of a different sequence; we'd figure it out on the ground.

Helped along by both popular Cheyenne mods (streamlined exhaust stacks and optimized ram air intakes), 0MG was not slow. The airplane that

sat still for so long zipped along at 215 knots, 1,900 RPM, lots of torque and temp to spare. Fuel flow? Ah well, let's not spoil the moment.

My prom date was home before curfew as my facial muscles started to give out. There is something about these soulful old machines that make a guy grin. **T&T**




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Written By Pilots For Pilots



Hotel Horrors

We are truly blessed to travel in relative safety in our airplanes, especially during a pandemic. But sometimes, the scariest part of the trip happens at the hotel. Three stories come to mind.

The Short Circuit

Once upon a time, in the land before cellphones, we used something called a “landline.” This was a large telephone with a long cord attached to the wall. We spoke into the handle and the sound came out of a similar device many miles away. It worked perfectly – most of the time.

My business trip with several employees in our Sabreliner found us overnighthing at a Kansas City hotel. I called Patty and gave her the hotel number so that she could call me later. Then something very strange happened at the hotel switchboard. Patty placed a call to the number I gave her. A woman answered. A bit shocked, Patty asked, “Is David there?” “No, he is not,” came the reply. Patty hung up. Now, slightly frustrated, Patty called again. Only this time, the call went straight through to the room of my employee John Weaver. “Is David there?” she said more sternly. “No, he is not,” said John. Then, “Is this Patty?”

“Yes,” she yelled. “Who in the heck is this?”

“It’s John Weaver.” “Where is David?” she yelled. “I have no idea,” John said.

About 30 seconds later, John called my room and said I had better call home quickly. Evidently, I had some “splainin” to do.

The Digital Age

In the late 1980s, I was excited about my first business trip to Italy. We checked into the hotel and the first thing

I wanted to do was call back to Dallas and catch up with “voicemail.” You could dial the office and push buttons on your phone to retrieve recorded messages. Very cool. I reached for the phone by the bed and realized that it was a “rotary” style phone, and it would be impossible to get my messages. But I remembered that some phones had a switch on the inside you could toggle to transform it into a digital version. I turned the phone over, took my tiny screwdriver and loosened four screws.

The entire contents of the phone fell out all over the floor...thirty pieces altogether.

Losing my breath while repeating several Italian swear words, I wondered aloud if my attempt to manipulate the phone was a violation of some Italian laws. I worked for two hours to place each part back in the phone. It never worked again, and I asked for another room because of the poor view.

The Wrong Room

Last month, I asked Patty to fly with me in our Mustang to Wichita for a business meeting. Not entirely pleased, I sweetened the deal by promising her a suite at the downtown high-rise hotel. Unfortunately, we checked in during an employee training exercise. Twenty minutes later, we had multiple keys to adjoining rooms. Tired and hungry, Patty stood by me in the hallway as I opened the door.

In the afternoon sunlight sat a very large, totally naked man in a chair.

Now, I have seen my share of totally naked men. Let me rephrase that. I was stunned to see a totally naked man on a chair. So was he. Slamming the door shut and running like hell to catch up with a screaming Patty, we retreated to the elevator.

Thirty minutes later, the management trainee came to our door and said we would get 10,000 points added to our loyalty account. I am not sure what the naked guy got.

Fly safe. 



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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