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VOLUME 21 NUMBER 9



Quest Kodiak UP THE FUN FACTOR

7 Habits of the Disciplined Single Pilot

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TRU Simulation + Training:
Owner-pilot Focused

David Miller: Hot & Bothered



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TWIN & TURBINE

EDITOR

Dianne White
(316) 213-9626
editor@diannewhite.com

EDITORIAL OFFICE
2779 Aero Park Drive
Traverse City, MI 49686

Phone: (660) 679-5650
E-mail: editor@diannewhite.com

PUBLISHERS

J. Scott Lizenby
Dave Moore

PRESIDENT

Dave Moore

CFO

J. Scott Lizenby

PRODUCTION MANAGER
Mike Revard

PUBLICATIONS DIRECTOR

Jake Smith

GRAPHIC DESIGN

Brett Sanders

TWIN & TURBINE WEBSITE
www.twinandturbine.com

ADVERTISING DIRECTOR

John Shoemaker
Twin & Turbine
2779 Aero Park Drive
Traverse City, MI 49686
Phone: 1-800-773-7798
Fax: (231) 946-9588
johns@villagepress.com

ADVERTISING ADMINISTRATIVE ASSISTANT & REPRINT SALES

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

SUBSCRIBER SERVICES

Rhonda Kelly
Diane Smith
Jamie Wilson
Molly Costilo
Lisa Anderson
Kelly Adamson
P.O. Box 968
Traverse City, MI 49685
1-800-447-7367

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Insurance Epilogue

Fair warning: this column isn't about ATC privatization, although it's a hot topic right now within our community that deserves our attention and action. Instead, it's about another cog in the aviation's economic machine: the insurance industry. With more than a dozen underwriting companies competing for a limited number of aircraft, the market is soft. Good news if you're buying insurance. You can get good coverage at a reasonable premium. However, for the market to be viable, premiums must cover the cost of claims. That means underwriters today are more likely to hold the line when you do have a claim. Fifteen years ago, when the insurance companies were raking in more profit, they took a much more liberal stance on paying claims.

In my April *Editor's Briefing*, I shared the unfortunate result of Mother Nature's fury. Straight-line winds destroyed dozens of hangars and aircraft at Johnson County Executive Airport (KOJC) in suburban Kansas City, including my own bird. Thankfully the plane that really mattered – my pristinely restored C172M that belonged to my mother – was completely undamaged. But my go-fast Monster was shrouded in twisted steel beams and metal from two hangar doors that had collapsed in on it.

In late May, nearly three months after the incident, I finally reached a satisfactory conclusion with my insurance company. The reason it took so long wasn't entirely the underwriter's fault. Because the plane was underneath and behind several tons of debris, it required a construction salvage operation to unbury it. Being your typical bureaucratic government entity, the County (which owns the hangar properties) slowed the process to a painful crawl. Outside engineers were brought in to evaluate. Lawyers were consulted. Finally, after much hand-wringing, the County had me sign a waiver that I wouldn't sue if the plane was further damaged from the debris removal. As if.

The debris was easily removed, giving us our first real look at the aircraft. It wasn't pretty: both forward and rear firewalls bent, propellers curled back, control surfaces crushed, wing structure damaged, nose gear smashed, tail cone flattened and just about every wing and fuselage skin needing replacement. During the violence of the storm, the plane was lifted up – inside the hangar – and slammed on its tail. Time to talk turkey about totaling the aircraft. Or was it?

After getting repair estimates from two reputable authorized service centers, the damage totaled about 80 percent of insured hull value. The underwriter took a look at the aircraft and thought he could do better and sought his own repair estimate from another shop. Many of the structures that we adamantly felt should be replaced due to the critical nature of their function, the underwriter suggested they could be repaired.

Look at your policy as I bet it looks like mine: there is no coverage for diminution of value. Thus, repaired or used parts can be covered by your policy, but not necessarily the cost of new parts. You can argue that a repaired aircraft will take a beating in the marketplace when you go to sell it, but that isn't within the purview of the policy. Who would buy (or even fly) a late-model plane that had 80 percent of its value spent on repairs? Not you, and not me. But in the case of an insurance claim, that doesn't matter.

Fortunately, the underwriter's own estimate was in line with ours, and the underwriter contacted me with the news that he was willing to total the aircraft.

With time to reflect, my final takeaways are this:

- Review your policy each year and understand it;
- If you shop your policy, keep in mind the cheapest option isn't always the best option, especially if you have a claim.
- Your broker should be on your "favorites" list within your contacts. If you don't have a great relationship built on trust, experience and deep knowledge of the insurance landscape, find a different broker. Ours was clutch in a big way;
- Carefully consider your coverage limits and adjust each year at renewal. Discussing with your broker and any aviation advisors you trust;
- If you have a claim, start documenting from day one. Keep every email, make notes about every call, take extensive photos and gather all pertinent data. As the paperwork starts to pile up, keep it organized in a system that works for you;
- Keep track of associated expenses as they may be covered under your policy.

After I hung up with the underwriter that day in late May, relief washed over me. But I had one more task that needed to be done: I packed up a FedEx with the Monster's logbooks, records and our two sets of keys. A lump formed in my throat as I signed the Bill of Sale, turning ownership over to the insurance company. It was no long our dream ship, but just salvage.

To assuage my pain, I decided I needed some shopping therapy. A couple of quick clicks of the mouse, and I'm surfing *Controller* in search of a "new" dream ship. Maybe I should ask David Miller for advice...

Dianne

Radars Feedback

I have to drop a line to say thanks to *Twin & Turbine* and Joe Ratterman for two terrific articles about onboard radar. (“*Look Up Look Down...Look Out!*” July 2017 & *Beam Me Up Scotty!*” August 2017) I’ve been flying with onboard radars for many years, but until now I never understood how to get optimal utility from my radar. Joe’s article makes it easy to understand the geometry and the math. Articles like this are potential life savers. Thanks again.

James (Jim) Kabrajee
Toronto, Ontario

While the information on use of onboard radar is well presented and appreciated, there is more to discuss regarding the two images in “*Beam Me Up Scotty.*” As mentioned last month, one must mentally shift position of NEXRAD images in the direction of movement, about 5 miles, which would, again, properly locate the NEXRAD storm. Of the 14 factors a pilot needs to consider in evaluating thunderstorms, true size and true intensity are most important and most accurate if you are receiving NEXRAD *composite* images, not *base* images. (I will be discussing these 14 factors in the near future.) In this instance, the intensity of the NEXRAD image is uncharacteristically low compared to radar...unless it is a base image. The government mandates labeling of images as either base or composite. There is no such label on this image.

For years, numerous NEXRAD receivers were sold that only received base images. Therefore, it is imperative you know the type of images you are receiving. In most cases, without an operational issue such as a NEXRAD site down for maintenance, datalink composite NEXRAD images identify the correct size and intensity of storms outside and inside the operational range of radar (40-50 miles).

This NEXRAD image identifies the cell as part of a line of storms extending off the top of the screen, not seen on the radar image. *Not* displayed on NEXRAD is the radar’s false image of the city of Wichita. While there are some circumstances in which radar may display the situation better than NEXRAD, I have hundreds of examples the other way around. Of the last 14 fatal thunderstorm related commercial accidents, 13 would not have occurred if the pilots had NEXRAD on board and the 14th one would have given the crew much better odds of survival.

Attaching the terms “strategic versus tactical” to each piece of equipment should be dropped from our vocabulary. I use both for all situations. As I have said before, using only radar for close-in work without the aid of NEXRAD can be a critical mistake.

Dr. David A Strahle
Flint, MI

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Airmail

CAF Red Tail Squadron is Back in the Air

For the record, the U.S. Air Force of Historical Research list the Red Tails as first participating in the air campaign in May of 1943 and started escorting bombers in July of 1944 in the European theater.

Two Tuskegee airmen shot down four to five enemy aircraft and many of the other Red Tails shot down one or two enemy aircraft, but there were also many losses of Tuskegee airmen. Overall, good pilots but not better than anyone else, and certainly not “possibly better than many of the white pilots of the day.” Everyone of every color did their job!

In July of 1944 the Tuskegee airmen began escorting the bombers, and, once again, according to the Air Force office of Historical Research, 22 bombers were lost due to enemy action while being escorted by the Red Tails.

Michael Dacey



Altered States, Altered Minds

Thanks for Kevin Dingman's August article “Altered States.” Because of his ability to synthesize cogent and entertaining articles from eclectic information, *From the Flight Deck* is always my “first read” in *Twin & Turbine*, but his guidance on fatigue hit particularly close to home.

As an engineering consultant who flies his company's plane on business trips, I'm always trying to become a better pilot. Last April I found myself flying home tired late-at-night over the lonely eastern deserts of California, and entering the Owens Valley during strong “Sierra Wave” conditions. I fought the “good

fight” for a few minutes, and then noticed that the STUPID light inside my head had begun to glow. For the first time in my 14 years of flying, I made a “normal procedural decision” to commit an ugly descending 180-degree turn in moderate turbulence, make a brief call to Joshua Approach and a diversion to KIYK to land short and “get a room.”

Murphy's Law makes everything harder when you're fatigued: the best runway for winds was closed for resurfacing, and blowing sand, four-foot tumbleweeds, and a suicidal jackrabbit all crossed the runway in my lights during an uncomfortably firm “caveman” crosswind landing.

Because I had written to Mr. Dingman in 2014, asking him to write about fatigue after some experiences that I had survived, it would have been ironic for me to succumb to a poor decision to continue flight beyond my fatigued “Neanderthal” abilities. But that correspondence kept the subject of fatigue fresh in my mind, so the life that Kevin's writing saved that night was mine – even though he had yet to write “Altered States.”

The work done by *Twin & Turbine*, its editors, and authors, is specifically relevant to our safety as pilots, and can be profound in the lives of those its pages reach. 

Gratefully,

Michael House
Bishop, CA



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THICK AS AN FAA REGULATIONS BOOK.

Rear Admiral Richard E. Byrd didn't know what was coming – heck, he couldn't even see the ground. But his goal was to reach the North Pole. And he found a way to make it happen. That's the attitude we admire at NBAA. It's why we've compiled hundreds of resources for our members. So whether it's higher profits, greater efficiency or more customer visits, we monitor the conditions so you can keep your sights set on your goals. Because business aviation enables people to reach places they otherwise couldn't. And at NBAA, we enable business aviation.

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The Kodiak Makes a Splash

by Rebecca Groom Jacobs





We circle above Lake Travis two times, locating power lines, wake signs and boats. Mark Brown, Quest Aircraft's lead factory demo pilot, informs me the key to water landings is to plan the perfect landing zone then overfly it, allowing plenty of area to face variable winds, currents, debris and traffic.

It's a hot Texas afternoon, with 10 knots of southerly wind and scattered clouds. (Fortunately, the afternoon's predicted thunderstorms never formulated). Perfect weather to hit the lake. The numerous boats and jet skis we observe below confirm this sentiment.

In addition to Mark and myself, we are carrying two passengers and 850 lbs of fuel, sitting around 6,530 lbs total. Just minutes before, the Kodiak showed off its bush plane skills, easily lifting off from Austin Executive in 900 feet at a rotation speed of 55 knots. Mark then displayed a climb of 1,200 feet/min to reach our cruising altitude of 4,000 feet.

As I take the controls from the right seat, I can see why the Kodiak is often referred to as a beefed-up Cessna 172. I am immediately comfortable performing turns and adjusting power settings. Even with the size difference, the handling is similarly responsive. The main difference I am struck with is the stability and power. With 750 horses in front, it's muscle I've never experienced before (and I wouldn't mind experiencing again).

Turns out, simplicity is exactly what the founders and engineers at Quest sought when designing this SUV of the sky.



PHOTO CREDIT: PAUL BOWEN PHOTOGRAPHY

Adhering to the philosophy that “safety should always be standard,” Quest has made it a point to incorporate new cockpit technologies. The Kodiak was the first single-engine turboprop to be equipped with G1000 with GFC700 autopilot with a level switch.

Once the New Comer

Certified 10 years ago, the Quest Kodiak is already cementing its position in the marketplace as the modern-day bush plane with a fleet of over 215 aircraft certified in more than 50 countries. Current production is approximately 40 Kodiaks per year.

The idea for the airplane originated in the late 1990s. Tom Hamilton, aircraft designer and entrepreneur, and David Voetman, veteran humanitarian aviator, joined forces after identifying the need for a new-generation short takeoff and landing (STOL) aircraft. Their mission: the ability to easily operate humanitarian missions throughout the most remote places in the world.

“At that time, everything was either piston driven, or an airplane modified for STOL operations,” explained Brown. “In order to achieve the performance, efficiency and safety they envisioned, a new (turbine) airplane was the only answer.”

So, Hamilton and Voetman, along with an early group of supporters, launched Quest Aircraft in 2001 upon landing investors and the company’s first chairman, Bruce Kennedy, who had previously served as the CEO of Alaska Airlines. Two short years later, the Kodiak made its first flight, followed by certification less than three years later in 2007. An impressive development schedule by modern standards.

Today, Quest – owned by Japanese companies Setouchi Holdings and Mitsui – is headquartered in Sandpoint, Idaho with just under 300 employees. Earlier this year, new Chief Executive Officer Rob Wells was appointed following the retirement of longtime CEO Sam Hill. Wells is a 40-year industry veteran with the majority of his career split between Piedmont Hawthorne (now Landmark Aviation) and Swiss business aviation firm, TAG Aviation where he rose to CEO.



The Kodiak, with its 700-hp Pratt & Whitney PT6-34 engine, exhibits nimble takeoff and climb performance out of short, rugged strips or lakes when equipped with floats.



Single-pilot simplicity, safety and robustness were key design goals of the Kodiak, which is manifested in its cockpit and control layout, as well as its performance in a variety of mission profiles.

The company's core goal is to continue expansion into markets worldwide, growing the Kodiak name. The last six months has shown significant progress in that pursuit. So far in 2017, Quest has added three new authorized sales representatives spanning South and Central America, and achieved EASA certification in April.

Growing Markets

Although the company's founding is rooted in humanitarian aid, it did not take long for the aircraft to find its way into business and general aviation. Brown noted that the Kodiak's popularity is rapidly growing within corporate fleets, charter operations and cargo haulers, as a cost-effective alternative to pricier turbine options.

"Helicopters and jets, though effective for specific missions, are upward of three to four times more expensive to operate," said Brown. "The Kodiak fits somewhere in the middle, making it an economical addition to a corporate fleet."

The slightly larger segment of domestic customers, however, are owner-operators moving up from high-performance piston aircraft such as the Cessna 206 or Piper Matrix.

"The simplicity of the aircraft has been a huge selling point. The average pilot who's outgrown their piston can easily transition into a Kodiak," said John Young, director of aviation sales at Mid-Continent Aviation Services, an authorized Quest Aircraft dealer. "Quest minimized the checklist, and everything is very simply laid out and obvious. For some, flying the Kodiak is a lot less daunting than other turbine aircraft."

Quest also has their sights set on a developing segment within the owner-flown market, what they informally call the travel/adventure lifestyle segment (think "Jeep Life"). Given the airplane's size and ability to get in and out of some of the most remote strips, the Kodiak makes a strong candidate for high net worth buyers seeking the aerial equivalent of a luxury SUV. It's a market the Kodiak is well-suited for, with its impressive power-to-weight ratio; owners can easily load up passengers, golf clubs, dirt bikes, scuba gear or fishing supplies and go.

First Impressions

To get a feel for how the Kodiak performs in this travel/adventure role, I had the opportunity to experience the Kodiak in action on an "off-airport" jaunt. Walking out of the Austin Executive FBO to meet with Mark Brown and John Young, it was impossible not to notice the Kodiak. Towering above its neighbors on the ramp, the Kodiak seaplane on composite floats is undoubtedly a showstopper.



Aerocet 6650 amphibious floats, the largest composite floats available in the marketplace, are lighter, stronger and non-corrodible. The Kodiak was designed to accept floats from the start with no structural upgrades or aerodynamic adjustments required to convert the amphib configuration.

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Quest believes the Kodiak is ideal for a growing lifestyle market segment that is focused on travel/adventure. Given the airplane's size and ability to get in and out of some of the most remote locations, the Kodiak is a strong candidate for high net worth buyers seeking the aerial equivalent of a luxury SUV.

"We commonly have folks walk up to us immediately impressed by the size and ramp appeal," said Young. "Usually, they have heard or read about the Kodiak, but never have seen it up close."

Bolstering that first impression is the Pratt & Whitney PT6A-34 engine, which delivers 750 horsepower and boasts a 4,000 hour TBO. Prior to the Kodiak, the "dash 34" was used primarily in the agricultural market. Quest sought this specific version as it was (and still is) the most widely produced and proven of the PT6 series. Its relatively low operating costs (45 gph average fuel burn) and high rate of reliability are especially important in an aircraft intended to operate in and out of inhospitable terrain, where trained mechanics are rare and far between.

Mounted in front is a Hartzell 4-blade, 96-inch propeller. During the design phase of the Kodiak, one of the biggest criteria was for the propeller's height to achieve at least a 15-inch ground clearance to avoid prop strikes and debris pickup on unimproved landing surfaces that aircraft with less clearance could experience. Quest engineers ultimately exceeded that number with the wheeled Kodiak, achieving a whopping 19-inch clearance. That extra height benefits the seaplane version as well, preventing contact with excessive water spray which can lead to prop erosion.

Contributing to the seaplane's monstrous height is a pair of Aerocet 6650 amphibious floats, the largest composite floats

available in the marketplace. Compared to traditional metal or aluminum models, carbon fiber floats are lighter, stronger and non-corrodible. And since the Kodiak was designed to accept floats from the start, no structural upgrades or aerodynamic adjustments are required to convert a land-version into its sea-faring cousin.

"The Kodiak is the fastest float seaplane in current production, with a cruise speed truing out at 162 knots," said Brown. "And with the composite floats, you have the ability to go long periods of time without having to pump the floats like metal floats require. We haven't pumped the floats in 10 days and we have been landing on water every day."

It's the extra storage capacity within the floats that soon caught my attention though. With six spacious storage lockers, four forward and two stern, pilots can load 150 lbs of equipment in each. An avid camper myself, I can imagine plenty of ways to take advantage of the additional cargo space.

Today, around 15 to 20 percent of the Kodiak fleet are mounted on floats, and that number is growing.

"Obviously, coastal areas in the Northwest and Northeast are heavy with seaplanes, but even flight schools in the Midwest are booked solid with seaplane instruction," said Young. "So, something is definitely happening, and we are working diligently to get the Kodiak in front of that interest."

Throughout our walk around, a theme emerges. I continually hear words like “overbuilt,” “rugged” and “robust.” Mark highlights the design features that make the Kodiak unique in its class, the wing, flap tracks, landing gear, and fuselage to name a few.

“The wing design is what really makes it stand apart from any other airplane,” said Brown. “No other Part 23 airplane has this same patented design.”

To increase safety and controllability during low and slow flight, the designers at Quest patented a “discontinuous leading edge” design, placing a break directly where the aileron begins. So, if the Kodiak were to stall, the pilot still has full aileron control, significantly reducing the chance of a spin. Mark demonstrated this unique feature during our flight (providing fair warning to our passengers prior to). Sure enough, the airplane continued to respond to Mark’s directional control despite stall conditions, a scenario completely new to me.

Jumping Inside

The Kodiak can seat up to 10, with eight in the back and two upfront. Quest offers three interior options, starting with the utilitarian Tundra, and then the increasingly outfitted Timberline and Summit interiors. The aircraft I flew in was equipped with the Timberline interior, configured with five roomy seats in the passenger area. Passengers can also find accessible USB ports, cup holders, reading lights and storage pockets.



“We get numerous comments about the room in the back,” said Young. “For longer trips especially, it’s a huge bonus for families. Kids have plenty of room to spread out and entertain themselves.”

Moving into the cockpit, the standard-equipped Kodiak features a G1000 avionics suite, arranged in a simple and familiar layout to those accustomed to Garmin glass. With a loaded standard panel, the option list is minimal. But customers have the option to order XM WX Satellite weather, weather radar, TCAS, Stormscope and Jeppesen-enabled Chartview. Though the aircraft is a single-pilot airplane, you’ll find a two-PFD suite that can be flown with a crew. A nice feature

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is that the pitot-static and AHRS system is fully redundant. Lose one side, you'll have a backup on the other. Lose both, you have a third backup with the steam gauges.

"One of our mottos as a company is safety should always be standard. Everything with a direct correlation to safety is built into the base price," said Brown. "We were actually the first single-engine turboprop with the G1000, and then also the first to have the full GFC700 autopilot with the level switch and safety enhancements like ESP and synthetic vision. There is a lot of value already added in the Kodiak when it comes off the line."

Back to Lake Travis

We splash down onto the lake with full flaps and 70 knots. A glance outside, I see a tall wall of spray shooting out from below the wing. The floats smoothly glide us across the water as our speed reduces.

After approximately 1,300 feet, we come to idle and check our surroundings before Mark begins the shutdown sequence. We lucked out with there being little wind, the airplane bobs slowly in no hurry to drift. Mark hops out. I eagerly follow suit, unbuckling and making my way back through the cabin to the mammoth cargo door. A couple of seconds later I have joined the others outside on the float, standing just inches above the water and taking in the scenic views. Can't help but think to myself – this is living life big.

For those who have not experienced a seaplane, it is an exhilarating feeling combining aviation and boating at first. The two worlds, both familiar to me, had yet to coexist. Now, I can't wipe a smile off my face as I wave to boaters from a floating turboprop (wishing I had my swimsuit).

Soon, Mark has a camping hammock set up, with one end attached to the fuselage, the other to the wing's bulky flap track. If I weren't already sold, all it takes it one seat in that hammock and I idly start doing the math on when and how I can afford a seaplane of my own. **T&T**



Jacobs is a private pilot and general aviation enthusiast. In 2012, she earned her business degree in marketing from Oklahoma State University. Since then, she has specialized in aviation-specific marketing, working first for Piper Aircraft, and then as an aviation marketing specialist at Sullivan Higdon & Sink. Jacobs is now serving as the Director of Communications at the consulting firm Groom Aviation. You can contact Rebecca at rebecca@groomaviation.com.

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A man in a white polo shirt with the Banyan logo and khaki pants stands with his arms crossed in front of a large white aircraft in a hangar. Other aircraft and hangar equipment are visible in the background. The Banyan logo is also visible on the aircraft's fuselage.

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Seven Habits of a Disciplined Single Pilot

PHOTO CREDIT: GLENN WATSON

by Jacob Tyler

We all hold on to the memory of the first time we soloed – an event that likely took place in a training aircraft flown at a familiar airport. The weather was fair and a flight instructor watchfully stood nearby. Today, many of us are flying larger, faster turbine aircraft and facing far more complex systems and conditions. Yet, one aspect may remain the same: a single pilot at the controls.

It has been said that flying single-pilot IFR is the most challenging type of flying a pilot can undertake. So, how can one person perform the job of two and achieve a safe outcome every flight? Practicing the following seven healthy habits can help:

1. Plan Ahead

The FAA addresses preflight action with a blanket statement in FAR 91.103 stating, “each pilot in command shall, before beginning a flight, become familiar with all available information concerning that flight.”

Airlines and large charter operators accomplish this by enlisting dispatchers to compile release paperwork for each flight containing weather, NOTAMS, aircraft performance and much more. On the other hand, a single pilot operating a turbine aircraft is only one brain and two hands. How can your planning equal the that of larger flying operations? Preparation, practice and discipline.

While many pilots typically only utilize checklists in the cockpit, checklists can also ensure steps are not missed *prior* to the flight. By developing a custom preflight planning checklist, you can safeguard against information slipping through the cracks. If you have an EFB, you can create this checklist in your notes app.

Receiving your IFR clearance prior to startup is another great way to relieve workload. Do you have access to a transceiver in your hangar or FBO? Better yet, does your aircraft have a ground operations switch which allows you to power only a communications radio and/or some selected flight planning avionics? How about a GPU? Picking up your clearance in advance allows you more time to review your departure procedure, plot your route and take note of any weather or delays that you may expect.

2. Establish a Personal SOP

Along with checklists, it can be helpful to develop a personal Standard Operating Procedure (SOP) that includes more than just weather minimums. A personal SOP sets limits and builds margins into any part of your flight operation – and you can be as strict or lenient as you see fit (within the bounds of the FAR's and AFM of course).

Pilots can either find an SOP template online to fill out, or draw one up their own and adjust as they go. Some examples of SOP topics: departure and approach minimums, autopilot usage, maximum winds, takeoff performance requirements, minimum fuel requirements, duty times, currency and training flights.

As your SOP develops and your skills and experience grow, it is acceptable to modify procedures. But try to avoid making such changes or exceptions in the middle of a flight. You chose the listed minimums for a purpose, so it's important to adhere to them while in flight or in making a go/no go decision.

3. Build (and Sustain) Confidence

The FAA and most insurance companies have listed requirements for currency and training in specific aircraft. It is not only important to meet those requirements, but to stay *confident* in your flying skills while doing so. As the sole occupant of the flight deck, single pilots need to be well prepared for anything that could possibly go wrong. Need refreshing? There are a few routes you can take to sharpening those skills back up.

Consider allotting a portion of your regularly scheduled flights to practice, whether it be non-precision or circling approaches, missed approaches, go-arounds, or whatever it is you wish to improve. This takes self-discipline and self-analysis, but is well worth the extra time and effort.

You can also choose to regain proficiency with an instructor/mentor. Be candid with the instructor. Let him or her know what skills and maneuvers need refinement and then review those



PHOTO CREDIT: GLENN WATSON

Receiving your IFR clearance prior to startup is another great way to relieve workload. Picking up your clearance in advance allows you more time to review your departure procedure, plot your route and take note of any weather or delays that you may expect.

procedures and memory items on the ground. Once airborne, continually practice each maneuver until it becomes comfortable again. If you fly the procedure perfectly the first time, feel free to move on to others, but try coming back to it again later in the flight when you are more mentally fatigued. Was your performance still up to par? Remember, you are practicing these procedures because you don't get the chance to fly them frequently in your day-to-day flying, so take advantage of this time.

Both options are effective and fairly easy to organize. However, certain failures and maneuvers cannot safely be performed in the aircraft, and require the use of a simulator. Whether you opt for a few hours or a full-on recurrent training, there is no substitute for the confidence and skill that these training events can provide. (See *"Recurrent Reality Check"* by Tom Turner, *Twin & Turbine*, June 2017)

4. Act Like There Are Two Pilots

Checklists, briefings and call-outs can all be accomplished by a single pilot in the same way that they would be done by a crew: verbally. By verbalizing or talking yourself through a procedure, you reduce the chance that a checklist item will be omitted or completed incorrectly. It helps to imagine yourself listening to your flight transcripts afterward. Is there still active verbal communication? You will also notice that while flying the

aircraft or monitoring the autopilot, if you verbalize what you are seeing and what corrections should be made, it will help prevent fixation or checking out.

An additional tip is to understand and utilize all the resources at your disposal, including the people outside of the cockpit. The controller on the other end of the microphone should be used often. Feel free to request information such as weather ahead, delays, expected arrivals or approaches.

Another technique is to keep an ear out for other pilots on your same frequency. By paying attention to what is happening with aircraft ahead, pilots can get alerts on weather, holding or reroutes – possibly eliminating the need to request such information from the controller.

5. Apply Automation

Though some pilots fear the implementation of advanced technology in the cockpit, when used properly, automation can be a single pilot's best friend. Whether it's an electronic flight bag, an autopilot, or a fully integrated flight deck, there is a lot to be gained from effectively managing the information these tools can provide.

"Trust but verify." "Garbage in, garbage out." Phrases like these are commonly used by pilots of technologically advanced aircraft. The sayings are designed to remind users that computers are logical and can only be as effective as the programmer. When adding a

piece of automation to your routine, it is important to regularly practice on the equipment and become comfortable before relying on it in challenging real-world scenarios. Flawed inputs by the pilot will cause flawed outputs from the automation. Better to iron out these potential wrinkles in practice.

When a single pilot and his automation are in sync, it can greatly increase the efficiency and mental capacity of the pilot, leading to a smoother and safer operation. However, dependence on automation can be even more dangerous than not having it at all. Just as you should practice using automation, also practice scenarios in which it fails you.

6. Stay Ahead of the Game

During lower workload phases of flight, it can become easy to let your mind drift. To prevent this potentially unsafe occurrence, keep yourself engaged throughout the flight by continually asking yourself the question, "What's next?" Look for tasks that you can accomplish well ahead of

when they need to be completed. For instance, program frequencies for the next controller, listen to the ATIS or ASOS, program and brief an approach.

Another way to keep yourself sharp on a solo flight is to play the "what if" game. In your head, play out scenarios where certain items could go wrong based on your current phase of flight – and how you would react. Not only will this tactic keep your mind engaged in the flight, you will be better prepared and practiced to actually handle such situations in real-life.

7. Debrief Yourself

Think back to the student-pilot days. After each flight lesson, there was likely time set afterward to discuss the flight, right? Why should this practice disappear? An honest self-assessment is great way to grow and improve from one flight to the next.

Questions you can ask yourself: Was there something you were not prepared for? Did a cockpit indication

or instrument procedure confuse you? Did you let yourself do something outside of your comfort zone or SOP?

Every flight provides its lesson(s) in one way or another. And remember, critiques do not need to be negative. Did you have a great landing? Did you shoot an expert approach to minimums? Kudos! You deserve credit where credit is due.

Only one solo flight concludes with a ceremonial douse of cold water or the cutting of a t-shirt. But with consistent practice in these seven habits, one additional aspect from that first solo flight will remain constant: a safe landing and taxi to the chocks with a feeling of accomplishment. **T&T**

Jacob Tyler is an ATP-rated turbine pilot, instructor and mentor. He currently flies corporate aircraft both single-pilot and as crew for a Fortune 500 company.

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Those That Will... Trapping Pilot Errors

by Kevin R. Dingman

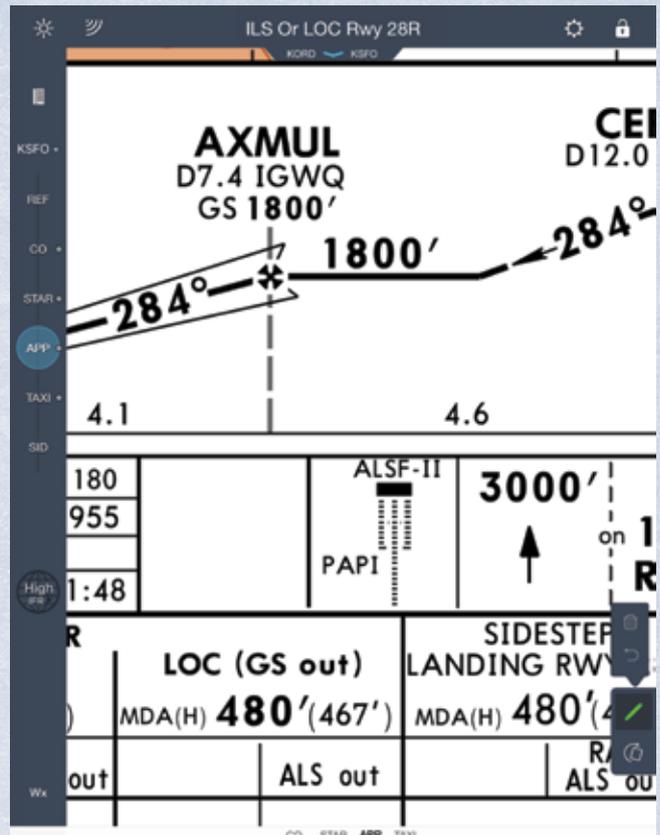
There's an old adage in aviation that says there are two kinds of pilots: "There are those that have, and those that will." It's commonly used to explain why some poor schmuck landed gear up. Roughly translated in ecclesiastical, Renaissance prose as: "Beware thouist of majestic confidence and regal arrogance. Thine time of blunder will cometh as surely as wings maketh ye to soar."

The adage has succeeded in scaring the bejesus out of us into using the GUMP acronym (Gas, Undercarriage, Mixture, Prop), and it's a reminder that there are opportunities a-plenty for us to make mistakes, gaffs, goofs and errors while aviating or when writing in Shakespearian tongue. Rest assured Mon Capitaine, even we pilots are human and will err.

There's a similar adage from the religious discipline: But for the grace of God, go I. Both philosophical statements reflect that we make mistakes. Truthfully, we make tons of them. This is especially true in the dynamic environment of aviation. It's our job to catch, or "trap," the mistakes before bad things happen.

Even with warning systems designed to prevent such errors, in the United States alone, they still happen to the tune of several gear-up landings each week. I've used GUMP on short final my whole life and still use it at the airlines and in the Duke. I really, really don't want to be one of those that have. We can also use the "those that will" warning to remind ourselves of just how many other "gotchas" are out there, as demonstrated by the following tale about the lucky schmucks at SFO.

And so, this article isn't about landing gear up. It's about missing things and how to catch them before we become the one that has.



In the recent incident involving the ACA Airbus 320, the aircraft was cleared to land on 28R in SFO, which has a parallel taxiway, Charlie, to the right (North) of the runway. Runway 28L was dark and unlighted (it did have a lighted “X” at the approach end), which presented the expected appearance of two parallel, lighted runways. Except one was taxiway Charlie.

Depicted here is the lighting system available for Runway 28R at SFO. Always use of all tools, including nav aids such as the localizer or RNAV course, and visual references such as the approach lighting system and PAPI.

We See Some Lights

The event was almost an accident; potentially one with the largest number fatalities in U.S. aviation history: more than 1,000. Most likely related to fatigue and confusion rather than professionalism, it happened in the darkness at SFO this past July. The 20,000-hour captain and 10,000-hour FO both missed the problem and were saved from disaster by a pilot on the ground and the tower controller.

Shortly before midnight, an Airbus 320 was cleared to land on 28R in SFO, which has a parallel taxiway, Charlie, to the right (North) of the runway. Runway 28L was dark and unlighted (it did have a lighted “X” at the approach end), which presented the expected appearance of two parallel, lighted runways. Except this time, one was a taxiway.

There were four airplanes full of passengers on taxiway Charlie waiting

to take off. The pilot on approach, while hand-flying the airplane, lined up on Charlie instead of 28R. Sensing that something was wrong because he saw airplane lights on “the runway,” he queried the controller asking if they were still cleared to land on 28R:

Airbus: “And, tower, just want to confirm, ah, we see some lights on the runway there. Confirm cleared to land on 28R?”

Tower: “OK, 759. Confirmed cleared to land runway 28R. There’s no one on 28R but you.”

The next voice, most likely one of the pilots on taxiway Charlie, chimed in:

“Where’s this guy going? He’s on the taxiway.”

Tower heard the radio call, figured it out after a couple of seconds and directed a go around adding:

“It looks like you were lined up for Charlie there.”

Preliminary NTSB findings indicated a blind spot in the Airport Surface Surveillance Capability (ASSC) system prevented an automated warning horn from sounding in the tower. At their lowest point of 81 feet, as they passed over the second of four planes on the taxiway, the Airbus was just 26 feet above the top of a 787’s tail. According to an analysis of accidents from 2006 to 2015 by Boeing, about 47 percent of fatalities occur during final approach and landing. This was nearly one of those 47 percent and would have been another landing disaster at SFO. The last one also in the month of July.

In the Part 121 world and a good portion of corporate aviation, we operate with two cockpit crew members. Both are fully qualified to operate the airplane by themselves if necessary. The general public’s misconception is that the second pilot is simply a backup for when the old, gray, senile pilot has a heart attack or chokes on his crew meal.

The truth is, of course, that a two-pilot crew operates very much like the dual, or redundant systems, in an airplane. Not only do we provide a secondary backup, but we load share. Like two electrical busses, two hydraulic systems or two pressurization sources. As it turns out, the load-sharing function is the most used and the one that often times saves our bacon. In single-pilot ops, saving bacon, pancakes or our hiney, is up to us.

Set the Tone

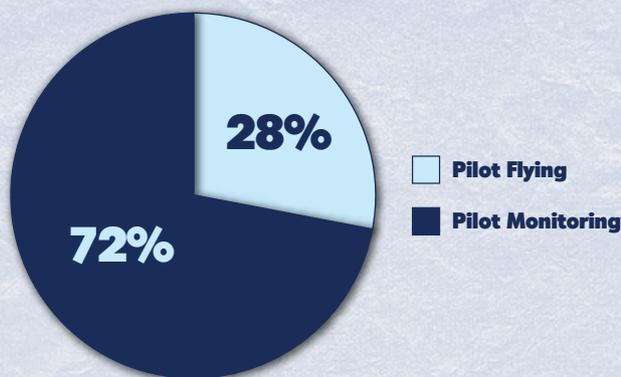
The newest FAA approved terminology for a two-pilot crew is Pilot Flying and Pilot Monitoring (PF and PM). The PF is responsible for the flight path of the aircraft throughout all phases of flight whether accomplished manually or with automation. The PM runs the checklists, the radios, monitors systems, the aircraft flight path and catches things missed by the PF.

Most two-pilot crews trade duties on each leg. Typically, the captain starts the trip and flies the first leg. One rationale for this technique is that the captain

can then “set the tone” for how the flight will be operated, how checklists will be managed and the general level of professionalism expected while flying (i.e., no reading the newspaper or playing games on the cellphone).

A quote from former NTSB member Dr. John K. Lauber describes one rationale for this technique: “There is a fine line separating a relaxed and easy atmosphere in a cockpit from a lax one where distractions can result in critical failures. Professionalism may be described in knowing the difference between the two.”

Who Trapped the Errors?



If flying with two pilots, the PM has a critical role in all phases of flight, but especially during takeoff and landing. Most of the time, from the final approach inbound, we complete our approach and landing visually. At the airlines and in the Duke, 90 percent of all approaches are a vector to intercept the localizer followed by the ILS. At my carrier, company policy dictates that we use all nav aids available for the approach whether day, night, VMC or IMC. It's an excellent policy.

There have been times when I was grateful for the final approach guidance and runway alignment provided by the avionics. We recently completed a trip that included a landing at SFO and MEX (Mexico City). Both airports have closely spaced runways and often poor visibility, which can increase the likelihood of lining up on the wrong runway. With poor visibility, darkness or unfamiliarity with the airport, it's not difficult to make a runway alignment error. Use of all tools, including nav aids such as the localizer or RNAV course, visual references such as the approach lighting system and PAPI, and timely assistance from the PM will help to avoid becoming “one that has” by lining up, and potentially landing (à la Han Solo) on the wrong surface.

I fly with FO's that like to hand-fly the jet, and I understand: It's fun, satisfying and a fine way to keep your crosscheck and hand-eye coordination sharp. But from my left-seat perspective, use of the autopilot allows more diligent monitoring of the aircraft path and systems. And as an airline captain, I have a half-dozen other esoteric “systems” to monitor and manage such as passenger and crew issues as well as the airlines schedule.

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Therefore, in addition to the current state of the airplane and the operation, my PIC brain needs to be looking ahead by more than just a few minutes. While en route, practice shifting your focus from 30 minutes, to 15, to one minute and then to the next five seconds, then back out to 30. Perhaps at the following ratio: 10 percent focus at 30 minutes, 20 percent at 15, 30 percent at one minute and 40 percent on the next five seconds. Naturally, the ratios change as you enter the terminal area. It's similar to an instrument crosscheck except used for big-picture situational awareness. It will help increase your mental bandwidth, keep your head in the game and your rump out of the ringer.

**"To Err With Love."
Sidney Poitier,
1967 (almost)**

We need to keep our workload at a manageable level so as to avoid time pressures and distractions that can lead to errors. Our procedures and checklists should be focused on helping us to catch errors of omission and commission. When flying single-pilot, use every resource available on the approach: the autopilot, the localizer, the ILS, the RNAV course, flight director, approach lighting system, landmarks and if available, the PM. If you feel the hairs standing up, if something doesn't look, feel or sound right, then most likely something is wrong. Perhaps simplistic, but until you find it, keep your speed up and stay away from the ground. And when the airport gets big and your airspeed gets small, verify runway alignment and GUMP. After all Mon Capitaine, to err is human and lest ye take heed, thine time of blunder may cometh on tearful wing. **T&T**

Kevin Dingman has been flying for more than 40 years. He's an ATP typed in the B737 and DC9 with 23,000 hours in his logbook. A retired Air Force major, he flew the F-16 and later performed as an USAF Civil Air Patrol Liaison Officer. He flies volunteer missions for the Christian organization Wings of Mercy, is employed by a major airline, and owns and operates a Beechcraft Duke. Contact Kevin at dinger10d@gmail.com.

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TRU Simulation + Training Poised for Growth

Company plans to stay true to its core strategy of offering custom-tailored training designed for the owner-pilot.

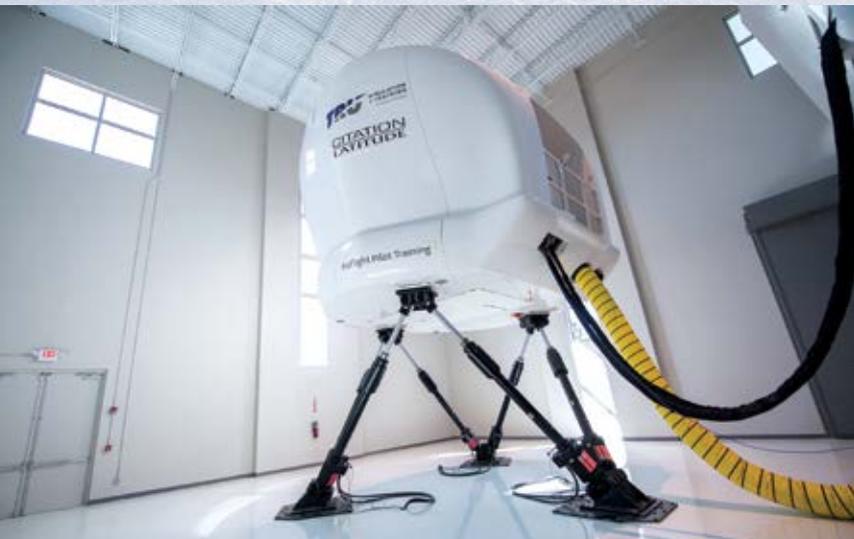
by **Dianne White**

As the newest and fastest growing full-service training organization in the industry, TRU Simulation & Flight Training continues to build its portfolio of aircraft training platforms. Currently the company has three ProFlight facilities serving business aviation customers: Carlsbad, California; Tampa, Florida; and Valencia, Spain. However, the company has hinted that growing their existing footprint domestically and internationally is under consideration.

This year, its ProFlight Cessna Citation CJ3+ and Latitude and Sovereign+ training programs received full certification including an FAA Level D qualification for its full flight simulators. It also received approval for its Citation CJ4 online ground school.

TRU's ProFlight training portfolio covers the Conquest I and II, King Air 90/250/350, Citation 525 family, and the Latitude/Sovereign+.

According to David Smith, vice president of TRU's training centers, investing in a robust training business is a natural and intentional part of its Textron's business aviation strategy. "Textron Aviation really wants to be close to its customers, and training of the industry is one of the more structured and critical part of the ecosystem. By offering these services we saw an opportunity to grow a tighter relationship with customers and tackle an unmet need of a more intimate, tailored training relationship."



TRU ProFlight Training Center in Tampa, Florida recently certified its Citation Latitude and Sovereign+ training programs. The Tampa facility has seven simulator bays and eight high-level flight training device (FTD) bays.

The company's foundation is built upon several predecessor companies including ProFlight, Opinicus, Mechtronix and AAI, which helped TRU quickly get market traction and geographical reach. The original DNA of ProFlight, which prided itself on custom-tailored training for owner-pilots, is evident in TRU's approach. As the training partner for Textron Aviation's Beechcraft King Air and Citation products, about 80 percent of its customers come from one to three aircraft operations, which encompasses small flight departments and owner pilots.

Smith said the key is offering highly individualized instruction that allows the client to choose the learning approach that works best for them. "We don't believe in the cookie-cutter approach. We take the time to understand where our clients are at in terms of skill and experience and shape their program appropriately," he said.

The company has also leveraged distance learning technology to allow the student to complete the ground school at their own pace and schedule before arriving for simulator training.

"About 80 percent of our clients do the online ground school at home. That way they immediately can go into the simulator once they get here," Smith added. "Our on-premises ground school - if a client chooses to go that route - are designed to be flexible and focus on the needs of the students in that particular class. None of our classes are ever the same."

In addition, TRU strives to differentiate itself through the quality of its instructors. "All of our instructors are pilots first and instructors second. We encourage them to spend as much time as possible flying the products they teach in. Being proficient, experienced pilots gives them authentic knowledge of the aircraft," Smith added.

Although the company is eyeing new locations and in "a state of major growth," Smith said it intends to stay true to its roots. "TRU ProFlight was born from the owner-operator market and it's where we will always be closely aligned. As we grow, it's important that we sustain that great core differentiator: always consistently excellent, always engaging and always offering something new to learn." 

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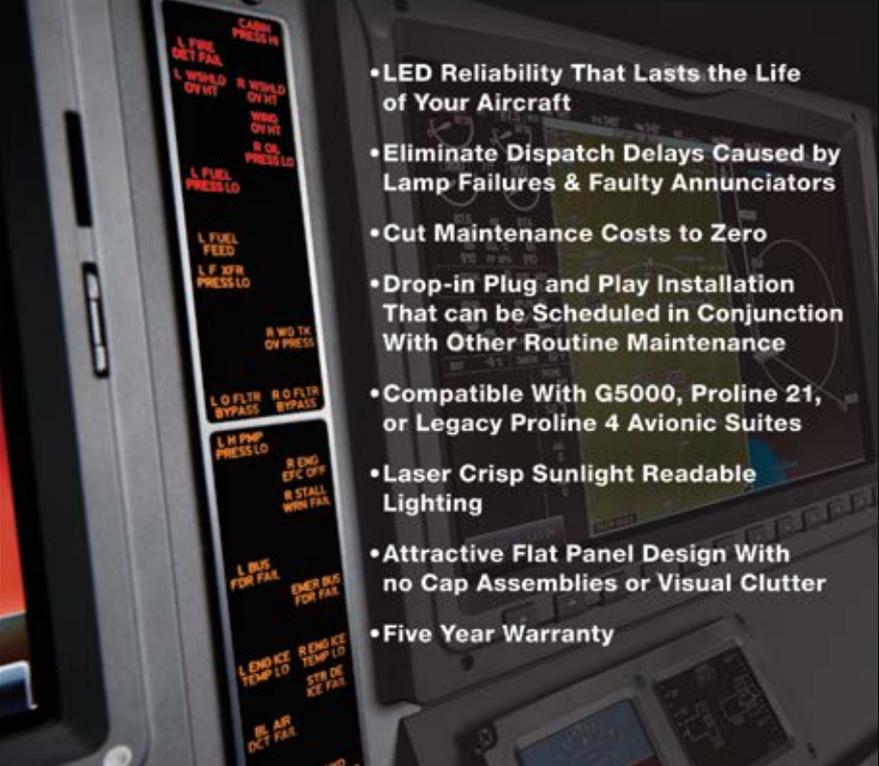




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1 SABRELINER 60A
2 SABRELINER 60AELXM
12 SABRELINER 60ELXM
3 SABRELINER 60EX
1 SABRELINER 60SCEX
85 SABRELINER 65
1 SABRELINER 75
17 SABRELINER 80
3 SABRELINER 80SC
101 WESTWIND 1
4 WESTWIND 1123
45 WESTWIND 1124
76 WESTWIND 2

TURBO PROPS

CHIEF PILOTS & OWNERS

Aircraft Count

275 CARAVAN 208
1087 CARAVAN 208B
3 CARAVAN II
34 CHEYENNE 400
221 CHEYENNE I
14 CHEYENNE IA
303 CHEYENNE II
59 CHEYENNE III
21 CHEYENNE IIIA
59 CHEYENNE IIXL
22 CHEYENNE IV
303 CONQUEST I

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12 KING AIR 200C
12 KING AIR 200T
203 KING AIR 300
3 KING AIR 300LW
588 KING AIR 350
34 KING AIR 350C
17 KING AIR 90
7 KING AIR A/B90
120 KING AIR A100
203 KING AIR A200
58 KING AIR A90
221 KING AIR A90-1
135 KING AIR B100
902 KING AIR B200
78 KING AIR B200C
63 KING AIR B200GT
2 KING AIR B200SE
3 KING AIR B200T
66 KING AIR B90
295 KING AIR C90
32 KING AIR C90-1
160 KING AIR C90A
316 KING AIR C90B
7 KING AIR C90SE
278 KING AIR E90
160 KING AIR F90
17 KING AIR F90-1
1 MERLIN 300
1 MERLIN IIA
29 MERLIN IIB
12 MERLIN III
20 MERLIN IIIA
49 MERLIN IIIB
14 MERLIN IIIC
5 MERLIN IV

13 MERLIN IV-A
13 MERLIN IV-C
105 MITSUBISHI MARQUISE
1 MITSUBISHI MU-2D
29 MITSUBISHI MU-2F
1 MITSUBISHI MU-2G
22 MITSUBISHI MU-2J
32 MITSUBISHI MU-2K
15 MITSUBISHI MU-2L
23 MITSUBISHI MU-2M
30 MITSUBISHI MU-2N
38 MITSUBISHI MU-2P
55 MITSUBISHI SOLITAIRE
673 PILATUS P-12
341 PILATUS PC-12 NG
549 PILATUS PC-12/45
154 PILATUS PC-12/47
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492 PIPER MERIDIAN
10 ROCKWELL 680T TURBO
6 ROCKWELL 680V TURBO II
7 ROCKWELL 680W TURBO II
9 ROCKWELL 681 HAWK
89 SOCATA TBM-700A
91 SOCATA TBM-700B
4 SOCATA TBM-700C1
115 SOCATA TBM-700C2
318 SOCATA TBM-850
22 SOCATA TBM-900
6 STARSHIP 2000A
51 TURBO COMMANDER 1000
27 TURBO COMMANDER 690
129 TURBO COMMANDER 690A
113 TURBO COMMANDER 690B
58 TURBO COMMANDER 840
16 TURBO COMMANDER 900
23 TURBO COMMANDER 980

TWIN PISTON

OWNERS

Aircraft Count

9 ADAM A500
1550 BARON 58
479 BARON 58P
137 BARON 58TC
5 BARON A56TC
142 BARON G58
43 BEECH BARON 56 TC
2 BEECH BARON 58 PA
217 BEECH DUKE B60
193 CESSNA 340
556 CESSNA 340A
120 CESSNA 402B
BUSINESS LINER
64 CESSNA 402C
38 CESSNA 404 TITAN
288 CESSNA 414
374 CESSNA 414A
CHANCELLOR
72 CESSNA 421
61 CESSNA 421A
454 CESSNA 421B
757 CESSNA 421C
66 CESSNA T303
124 PIPER 601P AEROSTAR
29 PIPER 602P AEROSTAR
465 PIPER CHIEFTAIN
28 PIPER MOJAVE
870 PIPER NAVAJO
24 ROCKWELL 500 SHRIKE
33 ROCKWELL 500A SHRIKE
69 ROCKWELL 500B SHRIKE
46 ROCKWELL 500S SHRIKE
8 ROCKWELL 500U SHRIKE

28 ROCKWELL 520
COMMANDER
15 ROCKWELL 560
COMMANDER
21 ROCKWELL 560A
COMMANDER
17 ROCKWELL 560E
COMMANDER
11 ROCKWELL 560F
COMMANDER
36 ROCKWELL 680 SUPER
17 ROCKWELL 680E
19 ROCKWELL 680F
COMMANDER
22 ROCKWELL 680FL GRAND
COMMANDER
14 ROCKWELL 680FLP
GRAND LINER

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Aircraft Count

250 BEECH BONANZA
493 CESSNA 182
71 CESSNA 206
448 CESSNA P210N
26 CESSNA P210R
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1 CESSNA T206
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240 PIPER MALIBU
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TWIN & TURBINE

FIVE *on the* FLY

by **Rebecca Groom Jacobs**

WHO:

Deon Mitton

WHERE:

Los Angeles, California

POSITION:

**Director of service
reliability engineering
at Sony PlayStation**

Aviation photographer

CAREER HIGHLIGHTS:

**Commercial
land / seaplane**

Private pilot helicopter

Tailwheel

1. When did you first enter the aerial photography scene?

I started in 1993 as soon as I earned my pilot's license. Photography has always been a passion of mine and once I got in the air, I immediately wanted to capture the incredible bird's-eye view general aviation offers. I am a conservationist at heart, so it became a goal to share with the world this unique, lesser-known perspective of nature. And though some of my work is now published and found in promotional materials, I still look at it as a hobby, not a business. Most of my jobs are a result of word-of-mouth or social media.

2. How has social media influenced today's photography industry?

Social media has become a powerful communications tool. It enables us as photographers to reach a global audience instantaneously and engage with them in real-time. Personally, my goal with social media is to share my photos to 1) promote the importance of participating in efforts to preserve our natural resources; and 2) inspire the upcoming generation to engage in aviation in any way possible.

Technology enables us to deliver a glimpse of this world, right to their mobile devices, 24x7. If my work achieves either of the above, I did my job.

3. From which aircraft do you prefer to photograph?

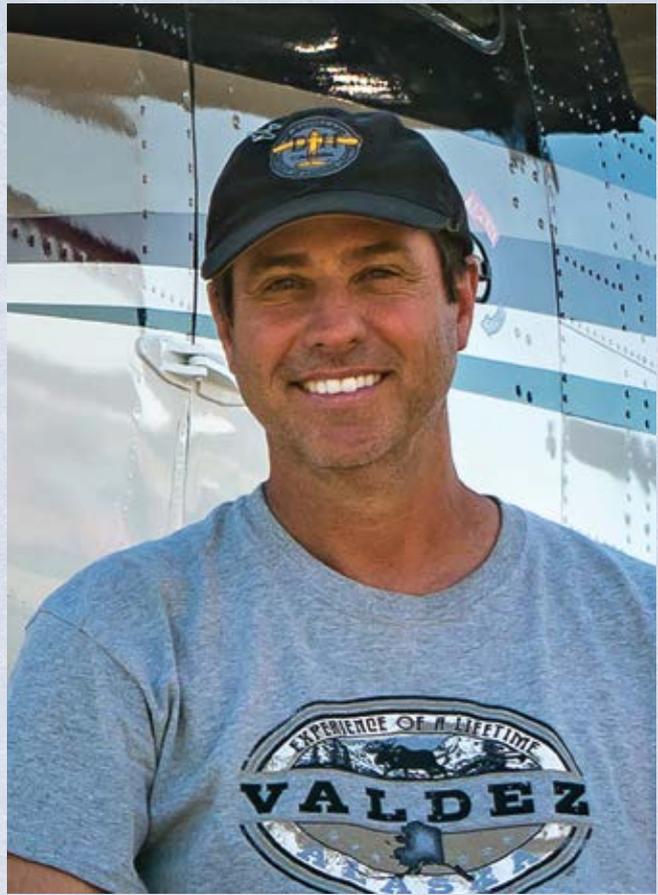
Depends on the airspeed of the subject aircraft and/or the location on the ground. But I have shot from most platforms, including Bell, Robinson and Airbus. For air-to-air work, a high-wing Cessna such as the C170 or C185 is a good platform. The Bonanza is probably one of the most versatile, as it has a broad speed envelope, which is helpful to cover most turbine-powered aircraft as well. I've also used de Havilland Otters, Beavers and Quest Kodiaks. I have a special appreciation for flying in and photographing seaplanes in remote wilderness locations.

4. Where is one of your favorite geographical locations to photograph?

Alaska by far. The Alaskan landscape has to be some of the most diverse and scenic geographical regions on the planet. Specifically, the mountainous regions on the southeast coastline. In one shot, you can capture picturesque ice cap mountains, glaciers and turquoise blue water. It's visually stunning – a sensory overload! And the best time to shoot of course is the golden hour. The air is still, and the low angle of the sunlight creates the most optimal lighting for both air-to-air and air-to-ground work.

5. Can you tell us about one of your most memorable photo shoots?

Two come to mind. One was earlier this year when I photographed a vintage de Havilland Beaver and Quest Kodiak in Florida. The Kodiak is essentially the modern-day Beaver so to see the two STOL planes fly in close formation was really special. The other really memorable trip would have to be my flight in a Cessna 206 amphibian to the Misty Fjords National Monument in Alaska. We landed on a remote lake, accessible only by air. It reminded me the privilege we have as pilots and aviation enthusiasts to access such untouched, natural beauty. Truly priceless. 



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A [True] Transatlantic

**Fifty-one years ago, crossing the pond
in a twin piston Piper with a single ADF
was a pioneering adventure**

by Archie Trammell



Tale

Life was coming up roses for me that spring of 1965. I was successfully established as a freelance aviation journalist; a major aviation magazine had added me to its masthead as a contributing editor and my photos were being published. Life was hectic; life was good.

Fatigued from all the activity, I was sleeping in late one Sunday morning when the phone woke me. It was Herman Miller calling. Herman was president and CEO of Bayside Electronics, a manufacturer of the Bayside 990, a VHF, 90 channel, portable radio for aircraft. The company was located in Stockton, California, where I lived at the time, and I'd written a story about it and its little radio for a magazine several months earlier. He told me he'd just ordered a turbocharged Piper Aztec in which he planned to island hop via Greenland and Iceland over to Europe to exhibit at several aviation trade shows and visit Bayside dealers. A typical businessman flight. Would I like to ride along?

THE BLEAK BUT BEAUTIFUL LANDSCAPE OF GREENLAND. PETER HERR PHOTO

I thought about it maybe all of four seconds then casually told him, "Yeah, I guess so."

My family immediately began begging me to change my mind. Friends thought I was insane. This was in 1965, remember, 51 years ago. Lindbergh's New York/Paris flight was still a subject of current conversation. "Lucky Lindy" he was called, for the extraordinary feat of conquering the wild Atlantic, killer of sailors and aviators. In 1965 the Atlantic still maintained its malevolent reputation as near unconquerable. Airlines, in their four-engine Lockheed Connies and DC-6's had established Atlantic service, but our Coast Guard maintained an ocean station midpoint to report weather and to assist flights in distress. Hardly a week passed without Page 1 headlines about a flight that had limped into Greenland with an engine out or after encountering staggering amounts of ice or fierce headwinds on the east-to-west crossing.

But young journalists in pursuit of a byline are fearless, right? I threw an extra pair of shorts in my kit and was off to Europe. It was just about that fast. Miller wanted to demonstrate his radios at a big aviation event in Hanover, Germany within two weeks, so no time to engineer and install long-range tanks, assemble maritime and arctic survival kits or even discuss it with my life insurance agent. Ten days later, Miller and I were over far north Canada at 19,000 in his new Aztec en route to Goose Bay, Labrador. We were on top of a thin strataform layer. We could see ice crystals skittering across the wing now and then, and sometimes through holes, a view of the world below.

Snow everywhere, nothing but miles and miles of snow in every direction that early spring day.

About a half-hour before Port Menier, the final NDB fix before Goose Bay. without so much as a hiccup, the left engine died.

Miller looked at me; I looked at him. "What do you think?" he asked casually. "Don't know," I answered even more casually.

"Anything you want to do?" Miller asked.

"No," I lied.

For want of anything better to try, Herman pulled the left manual alternate air knob. At which signal the right engine also died. Since we'd already run out of ideas, he pulled the right manual air on, and we waited. After about 60 days (it seemed) the left engine spun up slowly to normal, followed eventually by the right. (Later we discovered that each alternate intake auto door was being jammed by a slightly too long bolt. And that's why pros recommend that you have 50 or 100 hours on an airplane, in all sorts of weather, before starting to Europe in it.)

Goose radar had us 150 nm out and at 130 nm began letting us down without our asking. We broke out on a perfect downwind. (A good thing, since we were down to under an hour on fuel.) During rollout, Goose Tower told us that under no circumstances were we to turn left. "Repeat, do not turn left! Turn around to the right and back-taxi to the terminal." That seemed odd, as we could see that left was the American side and right was Canadian.

As the engines were shut down on the ramp a Canadian soldier ordered us to follow him up to the tower. That was ominous. However, after a dressing down by a Canadian captain for not sending a message we were coming (most early spring arrivals made that mistake he admitted) the captain arranged for our aircraft's servicing, a free oxygen top off and directed us to the Canadian mess where we had the finest T-bone I've ever had. Nice people those Canadians, By the way, while servicing our oxygen the Canadian corporal revealed why the excited instruction to not turn to the left to backtrack on the runway. The left side is U.S. Air Force and back in 1961 when an airplane was pointed at them they either shot it down or impounded it forever.

We were up at 5 a.m. the next morning for the longest over water leg of the trip and one with no alternates. No big send-off. No one was at the airport, except a pair of tower operators. Weather was by phone. Flight plan was filed on a direct line to Gander. We simply drew a straight line on the map, Goose to Narsarsuaq, Greenland; then figured ETAs to 55 deg. W/ 56 deg. 45 min. N, 50 deg. W/59 deg. 15 min. N (compulsory reporting points), to Narsarsuaq, then to the alternate at Sondrestrom (high up on the west coast of Greenland, the closest legal alternate), phoned it in and left. No one got nose. No checks of equipment, or signing of waivers, or anything. We might as well have been checking out of Hoboken en route to Hooterville.

Goose runways were like JFK that morning. Canadian fighters swooshed off the west runway, U.S. F102's off the north and finally we putt-putted off the east one and continued straight out. We went on instruments eight minutes after takeoff; broke out on top two minutes later. With turbo-charging, weather is not what it might be without turbos, at least not at FL210 on that day.

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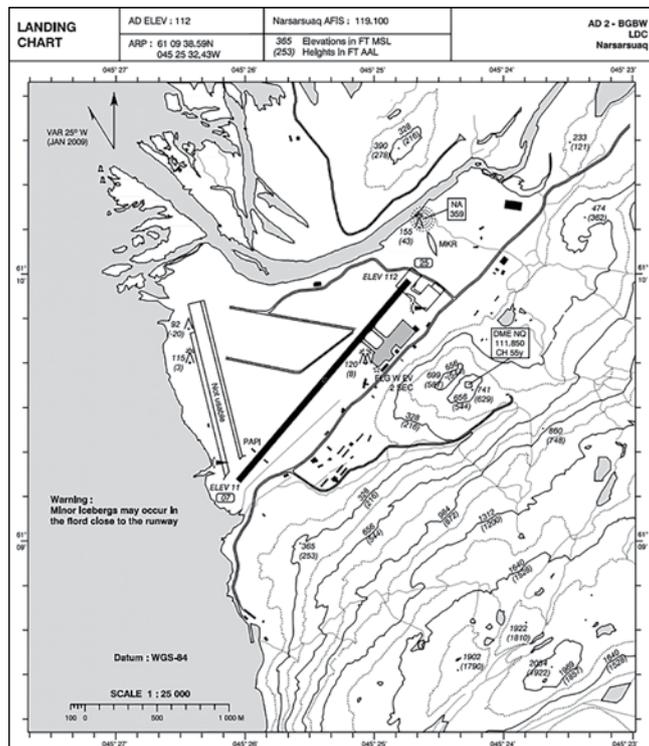
PETER HERR PHOTO

Final approach into Narsarsuaq, Greenland on a VFR day. The one-way-in and one-way-out airport is situated in a fjord.

Our terminals, in every instance, were better than forecast. The critical one was Narsarsuaq, which lies at the head of a notorious one-way fjord. It had been below minimums when we took off; forecast to improve. It is 678 nm out of Goose. And if that fjord is plugged up, your alternate is Sondrestrom, 365 nm northward. As we flew northeastward, an alternate — and a possible landing on the ice cap — was very much on our minds. Narsarsuaq is far up a fjord from the sea. If weather there is down, meaning less than 4,000 and 5, it's necessary to fly up the fjord, easy enough to find because of an NDB at the entrance, which we'd picked up leaving Goose. But finding the entrance was only half the problem. Then you had to snake your way up the winding fjord between tall mountains with no room for a 180. At a critical Y, fortunately identified by a wrecked ship, you had to take a left turn up a canyon (a right turn is to a dead end, — dead, dead, dead). You then hoped to break out over a

small bay with the runway end a hard-right turn immediately ahead. All the time you battle fierce, turbulent winds trying to blow you into a canyon wall. And the airport itself is buffeted by those same wild and rolling winds found so often on the lee side of mountains everywhere.

We needn't have given it a thought. As we came up on the coast we saw that indeed the fjord was a bit plugged. He could have gone in underneath, but instead he flew on over the coastal mountains, and shortly there was this great hole in the clouds, with one end of a runway barely showing. The west wind aloft



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PETER HERR PHOTO

Approach to Reykjavik, Iceland

had blown a hole on the lee side of the mountain peak. He circled down through the hole, dropped the gear, turned right and landed; three hours, 33 minutes out of Goose. Our estimate: 3:40.

Narsarsuaq was an outpost sort of place, peopled by a bunch of fun guys. We were met by Per Christiansen, who said, "I'm the official greeter, gas order taker, customs agent, chauffeur of dignitaries, interpreter, historian and collector of landing fees. Five dollars, please." Willy Plumhoff, meteorologist, said he'd ordered the warm day for us. He claimed the weather at Narsarsuaq in the summer is never bad more than a few hours at a time. "Unless, of course, a pretty girl lands. Then we order some bad to keep her here a while."

In short order they had us fueled, fed and flight-planned. It took a bit longer to get a clearance to Iceland, because of atmospheric conditions that made HF communications all but impossible. We got out at midafternoon (no need to worry about darkness up there) turned left 180 degrees and climbed up the glacier face eastbound in VFR conditions. (Standard procedure out of Narsarsuaq is takeoff southwest toward the fjord and mountain, circle back while climbing to above 8,000, then turn east across the ice cap. Miller did it different. As the gear came up he turned back and climbed between canyon walls up the glaciated valley. The result was spectacular scenery as we went up the slope 6,000 feet then topped out over the solid ice pack to our cruising altitude.)

The scenery across Greenland is magnificent. We had a perfect day for gawking at miles of snow pack and, on the east coast, a glacier dropping icebergs into the sea. It seemed we'd never get away from land. Flight Level 210, you know. Every time all that cold water up ahead got to working on us we'd look back and there, apparently just behind the wing, was the coast of Greenland. It was a relief to finally lose sight of it. Never any apprehension; engines in auto-rough or anything like that.

Navigation? The Bendix ADF locked on to a commercial station in Reykjavik, Iceland (210 kc) while we ran up on the ground at Narsarsuaq. All the way across we could get two or more NDBs. Later it was the same into Prestwick, Scotland. We wished for a second ADF for taking cross-bearings.

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When so much depends on one, you don't like to continually be cranking it around the dial. (Herman's VOR receivers never worked, much to his disgust.)

Once we heard a Seaboard airliner on 121.5 calling Coast Guard Ocean Ship Bravo (which was on station far to the south of our course). Evidently, he wasn't getting an answer. We broke in and called him, but he came back with the cheerful word that our signal was breaking up so badly he couldn't read us. Later we heard Bravo calling us on 121.5, but we couldn't reach him either. Through all this, Miller, whose company manufactured the radios we were using, maintained a rather stoic silence. But from Greenland to Iceland he was all smiles. Since no one seemed to care about the lack of position reporting on that Goose Bay-to-Greenland leg, we didn't plan to sweat it on the Greenland to Iceland leg. After clearing the east shore of Greenland and establishing a heading that kept the ADF centered on an Iceland NDB, we relaxed.

Suddenly an authoritative voice broke into our reverie. "This is Scandinavian 915. Sondrestrom wants your position." Uh Oh! What could we say? We hadn't even been keeping track of time, so consequently, no one got a position report from us between Goose and Greenland. So, when Scandinavian 915 called we didn't have the foggiest idea what our lat/long might be. Herman half-figured and half-made up an answer and sent it up on 121.5. We settled back down into a semi-awake state, thinking problem solved. Then, suddenly, a few minutes later, a second authoritative voice came on with the announcement, "I'm Big Gun!" He wanted to talk with us on 126.1. We supposed it was a smart aleck, Texas-type airline captain. But, son-of-a-gun, sure enough there is a Big Gun Radio, way up on the east coast of Greenland. We measured the distance. He was 150 nm away! He said he was reading us "four by four." Herman's little one-watt Bayside BEI 990 com radios fairly danced in their mounts; Miller nearly choked on his grin.

Big Gun smugly informed us we weren't even near where we said we were, then gave us a fix. For the next hour or so Big Gun came in occasionally to give us a position report. He never would confirm that he had us on radar ("I'm not saying I haven't"), but we got with the navigation bit just the same, so we'd know as well as he when the reporting points came up. He smugly corrected each position report we claimed.

Iceland came up faintly visible only an hour or so after losing site of Greenland behind us. At three hours, 30 minutes out of Narsarsuaq we were there. The big airport at Keflavik was clear, while Reykjavik, only 25 nm distant, had a 1,500-foot ceiling. We could have slipped under, but Miller wanted the LF approach practice. We landed at Reykjavik 3:44 after takeoff.

Miller had business on the airport. S. Thorhallsson ran a dandy radio shop there: Flugverk Aero Sales and Service. There was also an excellent fixed base operation, I asked about flying back across to the airport at Angmagssalik, on the eastern coast of Greenland on an east-to-west crossing against headwinds and was assured that there's nothing to it. A fine airport and fuel is available there. Going to



The coastline of Scotland, a welcome sight after an 11-hour flight.

Angmagssalik on a westerly crossing would take the anxiety out of the prevailing headwinds. From there you could go to Sondrestrom (\$190 landing fees), or across the cap to Narsarsuaq, thence to the mainland.

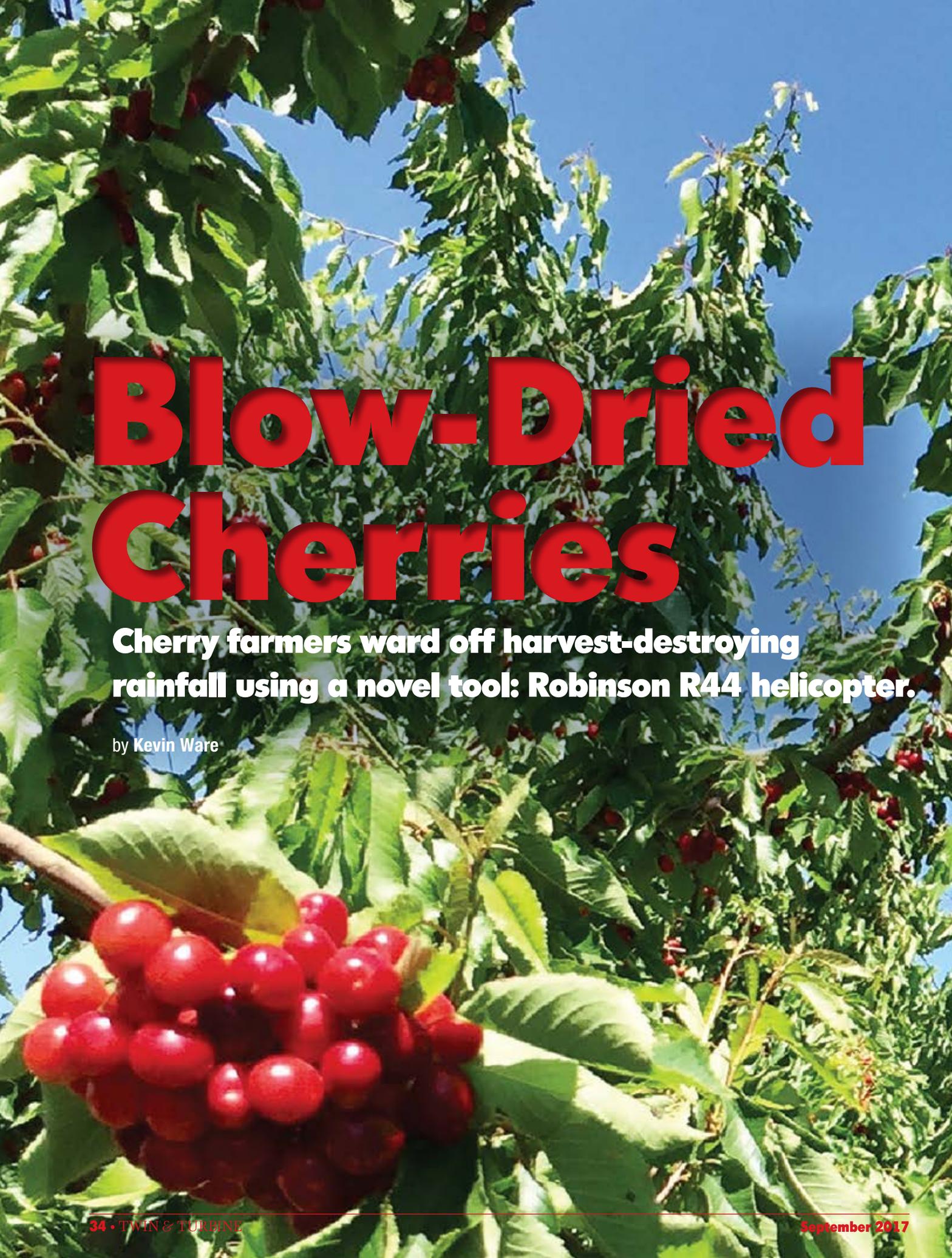
Friday morning Flugfelog Islands Airlines filled our oxygen bottle and we got off for Scotland at noon. As we climbed out, the left fuel flow dropped down to zero. We watched the exhaust gas temp rise. Obviously, the engine was running lean, and the higher we went the leaner it got. At 19,000 feet, the engine began surging and the prop governor couldn't hold it. Back to Reykjavik and the Loftleidir hotel. We called Piper and got some help, but it was Flugthjonustan's mechanic, Bjorn Ingimarsson (who got his A&P at Spartan in Tulsa, incidentally) who found the problem. A pressure air line, turbocharger to the injection nozzles, had worked loose. Piper had used those cheapie wire clamps rather than quality Adel ones. At slow cruise, it hadn't been critical; in a high-power climb, it was and it finally let go after six or so climbs from factory new.

Early Saturday we tried again. This time the 750-nm flight to Prestwick was a snap. We flew most of it in high thin ice crystal cloud, with the alternate airs out. TWA 717 relayed one position report for us; we did it ourselves the second time. Then, quite unexpectedly, there was Scotland, a few little blue islands hiding in cloud shadows. We canceled IFR, dropped down for sightseeing, and landed 4:05 out of Reykjavik.

We'd been 11:26 Goose to Prestwick, only 7:40 of it out of gliding range to land. And that was broken into 2 parts. Big deal.

One more little hop that evening across the narrow English Channel and Miller was demonstrating his radios at the Hanover Air Show. For us, flying to Europe, even way back there in 1965, had been simply a longish business trip. **T&T**

Considered a pioneer in onboard radar and convective weather training, Archie Trammell is a highly respected safety consultant whose lectures, video programs and instruction classes on the proper use of weather radar have been used to train thousands of pilots and more than 4,000 business flight departments.



Blow-Dried Cherries

Cherry farmers ward off harvest-destroying rainfall using a novel tool: Robinson R44 helicopter.

by Kevin Ware



It is an ungodly hour on a soaking wet gray morning, with occasional flashes of lightning still visible on the horizon as the recently passed thunderstorm moves out to the east. I am 150 miles from home, suspended some 15 feet above the tree tops, sitting on an uncomfortable fake blue leather seat, which itself is hanging from a six-foot rotating steel shaft connected through some belts and a transmission to a six-cylinder Lycoming 540 cubic inch engine, loudly roaring away at a steady 2,300 rpm just behind me.

I am making short passes up and down the rows over a roughly 10-acre rectangular patch of ground covered with cherry trees, being careful to keep my altitude low, avoid the power lines on one end, random tall posts holding large propellers that rise above my flight level, and building size blocks of empty cherry boxes stacked around the plot. Beneath me from time to time, I see a middle-aged worker of Mexican heritage, wearing a dusty old white cowboy hat, and riding a muddy, beat-up red Yamaha quad runner, checking my progress and carefully examining the trees I have passed over. He is a friendly fellow, and occasionally looks up, smiles over some tobacco stained teeth, and waves. In between concentrating on what I am doing, my thoughts drift to a nice cup of hot coffee, plus perhaps some scrambled eggs and bacon. But that won't happen for quite a while.



Cherry orchard plots covered by bird netting dot the Columbia River banks in eastern Washington.

The truth be known, most of us buy fancy flying machines more because we “want” them, rather than really “need” them. For similar reasons, we go out of our way to attend aviation events like Oshkosh. Once we give in to the “want” and actually own this expensive equipment, we then “need” to find some use for it that is at least halfway practical. Working on that particular problem is why I am flying a helicopter so early on this gray, wet morning.

As another example, when I initially purchased a Cessna 340 15 years ago, I planned to use it on some leaseback arrangement in which I could fly for hire, plus get use of the airplane

personally. And for the most part that lease idea, in addition to creating a separate LLC that allows me to bill for pilot time, has worked out well. However, I still find myself looking for opportunities to put the airplane to work.

Then about 10 years ago, under the theory that if you own one flying machine, then owning two would clearly be twice as good, we bought a Robinson R44 helicopter. Our idea at the time was we “needed” it for local transportation related to a family-owned construction business we were involved in. But when the 2008 recession brought that business to a halt, we kept the helicopter. Yes, I admit, it was a “want to” thing.

Thus, the helicopter was added to my search for activities with which to employ our (now plural) flying machines. As it happened, a couple of years later while on a Lear trip to Palm Springs, I was complaining over dinner about all this to Terry, a pilot and retired lawyer friend living a leisurely life on a nearby airport. He told me that he had given up his law practice in exchange for the fun (and surprisingly) profitable job of flying his Hughes 269 helicopter. Among the more gainful flying jobs he had devised was using his helicopter on a seasonal basis to dry cherries

Wait, I thought cherries simply grew on trees and, with the exception of occasional pruning, more or less took care of themselves? But as it turns out, cherry growing, particularly for the export market, is a big business near the Columbia River in eastern Washington. There is a whole science to making it very profitable. Among other things, if you can get the fruit ripen early and harvested before your competitors, the price is much higher. To do this, sunlight-reflective white plastic sheets are placed on the ground under the trees covering the entire orchard, causing large blocks of acreage to look from the air like it just snowed. Other plots are entirely covered by white bird netting. It is not only time-to-market and protection from hungry birds that makes a difference, but also the size of the cherries themselves, with big being better. So, a couple of weeks before harvest, a “growth accelerator” is sprayed on the trees, which makes the fruit very hydroscopic, growing quickly and often producing cherries nearly the size of golf balls. These have great value in the Asian market, with the best being flown in refrigerated containers on cargo 747's directly to Japan.

The problem is that the area is infamous for summer thunderstorms that can randomly dump buckets of water onto relatively small patches of ground in a very unpredictable manner. And, if one of those areas happens to be the cherry orchard that was just sprayed with growth accelerator, the cherries quickly absorb that extra water through the stem, which promptly splits them open making the whole crop worthless. A 10-acre orchard of perfect fruit can be worth a high six-figure amount, so should they become wet, getting the fruit quickly dried off becomes of paramount importance.

Various kinds of post fans are tried, but they blow air mostly horizontally, and rarely do an adequate job. The better solution is to have a helicopter parked right in the orchard, with a pilot on 24/7 standby for the six to eight weeks of the harvest season. As soon as it stops raining, the machine is immediately put in the air and slowly flown over the orchard at about 10 knots and a

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height of 15 feet, with the main rotor downwash blowing enough air to dry off the fruit, thereby saving the million-dollar crop.

And so, after looking into all this, several years ago we set up a seasonal business with the R44, which keeps the machine in the orchards and available for immediate use should it rain. The pilot is usually Jared, a nephew of mine with a commercial license who is building helicopter time. My only job is to fly over there from time to time in the Cessna 340 to monitor the business and when needed, fly the helicopter. It is sort of a “win-win” deal, in which we make good money, use all our flying machines in a practical way, and yet still have fun doing it. The orchard owner is also usually delighted that in a just a half-hour or so, we are able to save a crop he had spent an entire year working on. An additional benefit is we get to eat all the cherries we want.

Destination: Desert Aire

The trip over to the cherry orchards, which I make every couple of weeks in the 340, is usually flown at 15,000 feet and 200 knots, crossing the Cascades in a southeasterly direction above of a broken layer 2,000 feet below, then paying careful attention to avoid an area of military airspace just south of Wenatchee. The top of descent (TOD) is the FEBUS intersection some 15 minutes from landing at Desert Aire (M94) a 3,600-foot paved strip near the small town of Mattawa, which is located in the middle of orchard country and right on the Columbia River. Most of the time the surrounding foothills are yellow, the temperature in the 90s, and the winds are from the west.



Author Kevin Ware at the conclusion of a long morning of drying cherry orchards using his R44. Ware discovered this novel use of rotorcraft and developed a profitable side business working the orchards during the six-to-eight-week period leading up to harvest.

Once the airplane is tied down, I then switch over to the helicopter, and that is where the game changes entirely. The helicopter is flown at 0.1 percent of the airplane's altitude or about 15 feet above the tree tops, usually doing no more than 15 knots, in an area of operation confined to a given orchard measured in acres. Military airspace, and FAR minimal height above ground rules, all become no longer relevant, compared to the looming importance of power lines and other obstructions that seem to blossom at this scale.

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The pilot position and control inputs are also entirely different in the helicopter than the twin-engine, pressurized airplane I just flew over in. In a helicopter, the pilot sits on the right side under a hot Plexiglas canopy, with small altitude adjustments being made with the left hand on the collective control, while pitch and turning adjustments are made by the right hand via the cyclic control. The throttle is “motor cycle” style rotary device on the end of the collective. Luckily in an R44 it is governed and usually takes care of itself. Coordinated flight requires some anti-torque adjustments with the foot pedals as the collective goes up or down and the power is adjusted by the governor. It is also not uncommon to bring the helicopter to a complete halt some 15 to 25 feet above the ground, an activity, which for a fixed wing pilot is very disconcerting. Finally, there is no autopilot in the helicopter, so you are actively “flying” the thing the entire time you are airborne.

Air Dried With Care

It takes about 30 minutes to dry a typical 10-acre plot, at which time you move on to another one owned by the company. Each plot has its own often odd and peculiar name. When the guy on the ground tells you to next go to “Rattlesnake” or “Bandit,” you head to that location. You would think that navigating the helicopter from one nearby orchard to another is much easier than flying the twin Cessna over 150 miles of mountainous terrain to a small airport like M94. Not so at all. Operating 15 feet over the trees you do not have the benefit of altitude to provide perspective, and GPS is just not that helpful when operating on a scale confined to 10-acre plots. Actually, I find flying a Citation from Washington to Texas much easier from a navigational point of view, than flying the R44 at low altitude from one 10-acre site to the next. Even though I have 1,500 hours in the R44, when jumping out of the airplane and directly into the helicopter, I give all these differences a lot of careful thought before even starting the engine.

The sun is well above the horizon and the day already getting hot, when after a very fatiguing, sweaty hour of flying back and forth very low over cherry trees, the guy with the white cowboy hat, and tobacco stained teeth, riding the red quad runner around on the ground, calls me via the cellphone hooked to my headset to say in a distinct Spanish accent that he thinks this particular plot is pretty well dried.

It is time to land, make a long overdue visit to the head, refuel the helicopter from the red “Tidy Tank” in the back of the pickup and look into getting the bacon and egg breakfast I have been thinking about since shortly after dawn. Then perhaps get in the 340, turn on the air conditioner, climb to 16,000 feet where the air is cool and smooth, and fly at 200 knots back across the Cascades to home, which on the green side of the state.

But, since I am already in the orchard, maybe I should first pick some cherries. 



An R44 pilot's view of a cherry orchard. To encourage the cherries to ripen faster, sunlight-reflective white plastic sheets are placed on the ground under the trees



During the cherry harvest, Kevin Ware often exchanges the left seat of his Cessna 340 for the right seat of his Robinson R44. Here, both craft enjoy a rare, side-by-side breather at Desert Aire (M94).



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

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Bee Hive Basics

The FAA / ATC Divorce: Who gets custody of GA?

The Part 121 folks claim they are being hobbled by an antiquated system no longer capable of supporting their needs. Why else would they be chronically late if not for a broken, government-run system? Severe weather was approaching as I planned my departure from the EAA convention this year. The options were to wait an hour in order to use an IFR reservation, during which time the weather would arrive, or to get in line and depart VFR ahead of the approaching thunderstorms. I departed VFR and, in accordance with OSH NOTAMS, attempted to obtain an IFR clearance once 70 nm from OSH. Of course, many other aircraft had the same plan and ATC was saturated to the point that very few were able to obtain a clearance. This type of saturation is illustrative of the current saturation-induced delays encountered by the airlines. The traveling public is exasperated and some think the privatization buzz is a honey of a plan.

I'm an airline pilot, so the colony may restrict my ration of honey for saying so, but if airline executives and politicians could look further down the runway, they would preserve and promote the freedoms, efficiencies and the new-pilot supply chain of GA. By ignoring the underlying saturation issue, airlines are attempting to deflect modernization costs to other hives. And in doing so, they aren't worried about GA paying for a clearance, deciphering an unplanned route or even that our freedom of flight may wither into non-existence, thusly destroying the supply chain.

Airline CEOs seek lower expenses, higher revenues and fewer late arrivals. And who could blame them? It's the best way to operate the hive: gather pollen from all sources including the baggage-fee-flower, depart on time and repeat as often as possible. Maintaining a schedule is paramount to the "repeat" portion of the operation and in producing the hive's quota of royal jelly for the Queen and honey for the shareholders.



Traffic Saturation

The U.S. President has said the proposal to privatize ATC will reduce wait times, increase route efficiency and reduce delays, music to the ears of airline CEOs and the traveling public. But it's not only saturation in the air. It's the road to the airport and in the airport parking lot. Then there are long lines at security and in the terminal to buy coffee and food. Once airborne, there are thousands of large and small "airliners" swarming the system and the hubs. As pilots operating in the system, we understand the Part 121 operators are consistently late because of airline hubs and the use of a few (30-40) huge airports, not because of ATC inefficiencies. In other words: traffic saturation.

In promoting privatization and the resultant user fees, the airlines may be defending their balance sheet but are not solving the underlying problem of saturation. The next time you're on an airliner and you are late, ask yourself this: if we were the only airplane on the planet, would we still be late? En route spacing, spacing in the terminal area and on final approach are already optimized for maximum arrival rates. Where does the saturation come from?

Regional Jets

The public wanted frequent departures in order to avoid a three- or four-hour wait at their hometown airport before the next departure. The airlines and manufacturers were happy to oblige by providing more frequent departures and by "right-sizing" the vehicle for the passenger load with the introduction of regional jets. What the passengers got was a flight from their hometown airport on a 50-70 seat RJ going nowhere for an hour or two while the bees lined up to enter the hive. Add weather to any of the airline hubs and the wait increases to three or four hours, or a flight is canceled all together. Ironically, the entire system gets stung by the convenience of increased frequency from hometown airports. Flyers on a tight schedule were forced to seek alternatives and many found them in GA.

Certainly, the general public would enjoy the freedoms and efficiencies of GA, but most don't know the option exists; the commercial airline system is all they know. More public awareness is needed. I was driving to an airport where I had left the Duke for some paint touch-up: A prop boot failed and threw ice into the baggage door. I had never been to this "little" airport except by air. I was temporarily disoriented during the drive and, against male protocol, stopped for directions.

I got a surprised, "we have an airport?" response. We may have convinced the public that our little airplanes are not the cause of their bee stings because corporate, charter and fractional flying has increased. But GA's success as a viable alternative to the airlines has not gone unnoticed by the Big Queen Bees. Privatization as a response, and their solution, may create unexpected collateral damage, with negative to the airlines.

The Controller Shortage

If air traffic controllers undergo a financial metamorphosis during privatization similar to those endured by airline employees, they may anticipate a significant restructuring of pay rates, health and dental benefits, life insurance plans

and accrued vacation time. Privatization would also include a significant modification to their FERS pension.

In past transportation industry restructurings, this type of financial turmoil resulted in low morale and caused spikes in both personal bankruptcies and divorces. At the airlines, the anticipation of these life-altering events also caused an increase in retirements and resignations as employees attempted to capture benefits before they were lost in the transition.



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This phenomenon may exaggerate the existing controller shortage that has already increased pilot workload through traffic management techniques such as ground delay programs and ground stops, RVSM, land-and-hold-short and climb-via/descend-via SIDs and STARS. These procedures were designed to safely allow more airplanes to use the same space while simultaneously requiring less ATC involvement, monitoring and intervention. And according to the

airlines and politicians, fewer delays. Apparently, these are insufficient measures as proven by continued late arrivals and resultant privatization debate.

Here's one possibly stinging scenario: Some version of separating ATC from the FAA will occur even if only an accounting, governance, oversight or funding change to the FAA/ATC marriage. In order to pay for the changes while preserving the soundbite of "no new taxes" on the airline-traveling public, fuel surcharges

for avgas and Jet-A will continue and increase. An annual, airspace use-permit will be required for all things that fly from drones to 787's, regardless of the grass strip, lake, ice cap or metropolis from which they operate. Based on purchasing said airspace permit, on higher fuel taxes and a higher state registration fee, those in GA weighing less than 12,500 pounds will continue to use the VFR and IFR system without "additional" fees. Those 12,500 and up in corporate and Part 121 operations will pay landing fees based on maximum landing weight and will also pay a fee for using the IFR system.

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The IT programs of today, including the international fee collecting systems already in place, will make it simple to track airspace use and landing fees. Flight schools take note: The airlines are quickly running out of pilots and they certainly don't want to choke any source of new worker bees. The answer may be to exempt from user fees, registration fees and any other new regulatory shackles, any GA flying that provides pilot training resulting in a contractually obligated pilot to a Part 121 operator.



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If It Ain't Broke

I saw a T-shirt that said: "The Engineer's Motto: if it ain't broke, take it apart and fix it." Exactly what problem is privatization trying to fix anyway? Over the last 80 years, the U.S. ATC system as operated by the FAA has become the most efficient and the safest anywhere in the world; operating more aircraft in a month than some countries operate in a year. For one week each year in Oshkosh, Wisconsin, the volume of aircraft movements at this single airport exceeds volumes in some countries. There is little evidence suggesting that the privatization of ATC will reduce saturation, enhance modernization or result in fewer delays for the airlines. Speaking in Oshkosh, EAA Chairman Jack Pelton summarized: "If Congress would just provide the FAA with stable, multi-year funding for its modernization programs, we wouldn't even be talking about ATC privatization." The EAA, AOPA, NBAA, GAMA, NATA are asking their readers, members and supporters to take action in order to make GA's "modernize not privatize" position known to our decision makers and the public. These efforts are necessary in order to counter-balance the move of

some Part 121 operators whom, through their ticket purchasing websites, are asking tens of thousands of passengers to do the same on their side of the debate. The tactic could generate a swarm of one-sided letters potentially causing all of GA to suffer the death of a thousand stings. Please participate by going to: www.ATCNOTFORSALE.com and by contacting your representatives.

Authors note:

Although rejected by a Senate panel in late July, privatization supporters continue to promote the concept. The battle will resume this month. **T&T**

Kevin Dingman has been flying for more than 40 years. He's an ATP typed in the B737 and DC9 with 23,000 hours in his logbook. A retired Air Force major, he flew the F-16 and later performed as an USAF Civil Air Patrol Liaison Officer. He flies volunteer missions for the Christian organization Wings of Mercy, is employed by a major airline, and owns and operates a Beechcraft Duke. Contact Kevin at dinger10d@gmail.com.

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En Route

Cutter Aviation Opens New FBO at KCOS

Usually when a company opens a new facility, they hold a ribbon-cutting ceremony, take pictures and serve refreshments. Cutter Aviation took the “grand opening” event to a new level by holding a log-cutting ceremony to celebrate the completion of their new FBO terminal at the Colorado Springs Municipal Airport.

The new executive terminal features a mountain retreat theme. In addition, the company has a 62,000-gallon, state-of-the-art fuel farm and a 23,000-square-foot hangar adjacent to the terminal. Cutter Aviation began its FBO operation at Colorado Springs Municipal Airport in August 2006 with the purchase of the existing FBO, Discount Fuels. Over the past decade, as activity and fuel sales steadily grew, Cutter began plans for expansion and entered into negotiations with Colorado Springs Airport for additional space on the west side of the airport.

Since 2006, Cutter has more than doubled its footprint at the airport including over 9,000 square feet of FBO and office space with VIP lounge areas, a flight planning center, executive conference room, on-site car rental and 132,000 square feet aircraft storage space on 17 acres of leasehold.

“Our new world-class facility at Colorado Springs Municipal Airport is a great enhancement to Cutter Aviation’s southwestern U.S. FBO network and we are thankful for the opportunity to celebrate our grand opening with customers, colleagues and friends,” said Will Cutter. “We look forward to welcoming customers from around the world, and providing them with premium business aviation services. **T&T**”



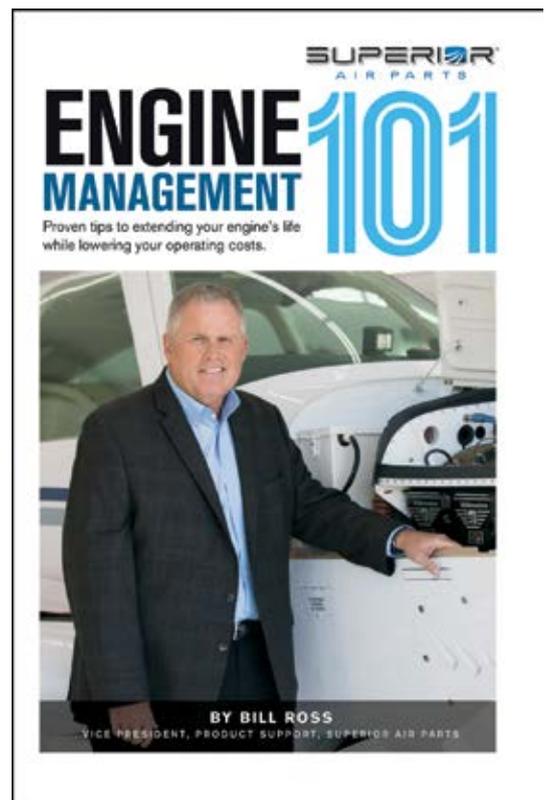
Superior Air Parts Releases “Engine Management 101” as a free Flip-Book Download

Superior Air Parts, Inc., is making its popular book “Engine Management 101” available as a free flip-book download. Written by Superior’s VP of product support Bill Ross, who has been an FAA A&P/IA for 32 years, the book covers all aspects of piston engine maintenance, operation, leaning and preventative procedures.

“I’ve spent my entire career around piston aircraft engines, either as a charter pilot, A&P/IA or working for an aircraft engine manufacturer,” Ross said. “I’ve seen just about everything an owner can throw at their aircraft engine and have learned the right ways to operate and maintain an engine to avoid all the major problems. That’s the insight I’ve put in this book.”

Ross explained that Engine Management 101’s 144 pages packed with valuable information on subjects ranging from choosing the right mechanic, to improving engine operations, to cylinder compression testing, to how PMA parts help owners save money, and much more.

The company received an overwhelming response at AirVenture Oshkosh where they handed out 700 copies to forum attendees. To get your free flip-book copy of Engine Management 101, send your request to: EngineManagement101@SuperiorAirParts.com. **T&T**



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Hot and Bothered

Summertime pre-flights can be a pain. By the time I am finished with all my chores on a 100-degree ramp, I am uncomfortably drenched in sweat. I tend to rush things hoping to get in the air sooner and to cooler temperatures. By contrast, a preflight on any summer morning in Gunnison, Colorado is delightful. I am relaxed in the cool mountain air. My attitude is great and my performance is better.

Interestingly, heat effects my Mustang's performance the same way.

Temperature affects all engines, but jet engines even more so. The Pratt & Whitney PW615F's on the Mustang perform well at standard temperatures (ISA), but start adding some heat and the "little engines that could" can't. My unscientific data indicates that ISA+ temperatures are more prevalent in the lower flight levels especially on the Addison (KADS) to Gunnison (KGUC) trip I make often. I usually see ISA+5 at FL390 decreasing to ISA+0 at FL410. The Mustang performs better (fuel flow versus true airspeed) at FL410, but you have to get there to take advantage of the performance. And getting there is the challenge.

Take Tropical Storm Cindy, for example.

Tropical storms dramatically disturb normal weather patterns with low level, very warm moisture. Our June near gross weight morning departure from Dallas to Pellston, Michigan (KPLN) was going to be a breeze. Our flight plan placed us just west of Cindy's track and projected an initial tailwind of 18 knots increasing to more than 95 knots near the destination. It sounded simple on paper. But in order to get to FL410 you have to climb past all those other flight levels and Cindy was wreaking havoc with the temperatures.

I first realized the situation when I looked at the temperature reading on the G1000 PFD and saw ISA+17 at 10,000 feet. Out of FL240 it was ISA+15 and the Mustang was huffing and puffing. Center was accommodating with our very slow climb because even the airlines were complaining. Finally, after an eternity we leveled at FL410 in ISA+0 temps and rode the wind to Pellston. Two days later, I was more prepared and studied the temps at ALL altitudes, realizing that although a nonstop home was possible, climbing to FL400 in the hot temps would simply not work.

A fuel stop in St. Louis (KSUS) was the prudent decision.

Takeoffs from Gunnison, at 7,680 MSL, require some planning, too. For a summertime nonstop to Dallas, my personal surface temperature limits are 10 degrees Celsius. This normally allows for a 3.3 degree climb after an engine failure. And although this climb performance is not technically required in the normally clear skies of Gunnison, an actual engine failure in any conditions is an eye-opening, seat-staining event. Try it sometime with a qualified mentor or instructor. It's amazing how big those pretty mountains are.

It's nice to know what kind of performance is available. If you haven't done so, run some performance numbers on your airplane at hot/high airports. There are many scenarios where you will have little to no climb performance in case of engine failure. Resist the temptation to depart just because you see others doing so.

In icing conditions, temperature also dramatically effects climb performance in the CJ, CJ1, CJ1+ and M2 Citations. Those airplanes have wing heat derived from diverted engine bleed air. The worst situation is a climb in icing conditions at high ISA+ temperatures. The Williams engines simply don't produce enough extra thrust to warm the wings and climb the airframe very quickly.

Cessna says they have a solution for this dilemma: It's a multi-million-dollar service bulletin they call the CJ3+. For you Embraer fans, the part number is P300.

But all this talk of spending money has me hot and bothered. I need a shower.

Fly safe.

With 6,000-plus hours in his logbook, David Miller has been flying for business and pleasure for more than 40 years. Having owned and flown a variety of aircraft types, from turboprops to midsize jets, Patty and David currently own and fly a Citation Mustang. You can contact David at davidmiller1@sbcglobal.net.



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Beechcraft

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