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VOLUME 21 NUMBER 6



## Kirby Chambliss: Speed & Precision

Flying for a Cause: Who We Fly

Kevin Ware: Sitting in Back

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June 2017 • VOL. 21, NO. 6










TWIN & TURBINE

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**COVER PHOTO**
Photo by Mike Shore,
courtesy of Kirby Chambliss.

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

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

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


Periodical Postage Paid at Traverse City, MI.

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

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

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# The End is Near

As you may have read in the April *Editor's Briefing*, my home airport Johnson County Executive Airport (KOJC) was decimated by severe straight-line winds that destroyed or damaged numerous hangars and the aircraft inside them. With one of my beloved birds caught up in the mess, you could say I have gone through the five stages of grief (maybe not the bargaining stage so much). At first I was in disbelief, then angry, followed by sadness and finally now acceptance. I wrote April's editorial in my "sadness" stage.

In the case of an aircraft loss, I have discovered there's a final stage that I was previously unaware: "insurance dysphoria." This comes about as you work through the long and sometimes painful process of reconciling the loss with your insurance company. While your aircraft has so many special qualities that you admire, to the insurance company, it is just a machine representing dollars and cents. There's nothing wrong with that, nor is it inaccurate. It just is.

By the time you read this, we will have hopefully reached a satisfactory settlement with our aircraft. A friend asked me, what did you learn? Plenty, I replied, it was harder than I imagined. Thus, I thought I'd share a few words of wisdom.

1. Do you really know your policy? Like most aircraft owners, you read over your policy prior to signing, and you think you understand it. But it is difficult to appreciate the carefully worded document until it is applied to a specific loss situation. Have your agent provide a detailed scenario-based explanation of your coverages.

2. Don't start a war on the first day. Among the many aircraft owners who suffered damages in our recent storm, some switched immediately to missiles as soon as the underwriters arrived on site. Cooperation and professionalism were in short supply for a few. Granted, emotions run high when you are faced with unbelievable, catastrophic damage to a beloved aircraft. But remember, in the initial stages, everyone is information-gathering. The time to negotiate and take the offensive may be yet to come, but not the day after the loss.

3. Document extensively. Take detailed photos of the damage, from different angles if possible. Also, take photos of the broader scene so you have documentation of the environment surrounding your aircraft. Take all those photos and notes, and create a PowerPoint (or similar) to share with the underwriter and repair stations. Not only will it help you organize a complicated damage situation, it will help you eloquently describe and discuss the damage and possible repairs.

4. Phone a friend (or several). Get experts and allies involved. When it comes to aircraft damage and losses, this is not your underwriter's first rodeo. If you've been fortunate, this is most likely yours. Rest assured, the underwriter has seen it all and is most likely a few steps ahead of you. Surround yourself with experts who know your aircraft make and model, know the repair process and have worked through complicated claims before.

5. Your agent should take an active role. This is a time when your agent can be of great service. Not only can they explain how your policy applies to your situation, they can help broker conversations with the underwriter and offer insights that you may not have thought of.

6. Your underwriter is not necessarily your friend. As much as you might like the underwriter as a person, don't assume they have your best interests in mind. They report to the shareholders of the insurance company, so they are 100 percent focused on minimizing the amount of money they pay out on your claim. Certainly, you will be communicating with him or her regularly during the claims process; but just don't forget what team he or she is playing for.

7. The repair facility your underwriter picks may not be the best choice. You can't ignore the fact that the underwriters may call certain repair facilities frequently to provide a repair estimate. As you probably guessed, those estimates are probably going to be significantly less that the ones you obtain from a well-known service center specializing in your make and model. The bottom line is that it's your airplane, and it's going to be you and your family flying in it after the repairs are done. Safety of flight is always paramount, so it's important to pursue the best possible repair with the most experienced shop in your aircraft model.

8. Policy renewing soon? Now is the time to examine your policy in detail. One area to carefully consider: don't under-insure… or over-insure. Straying too far to one extreme or the other can come back to haunt you.

In a future issue, I will provide some final thoughts as to the outcome of my situation. In my April column, I quoted Shel Silverstein's poem, "There are no happy endings." Regardless of how "fair" or "equitable" the outcome might be, those words never rang truer.

Dianne


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# "There Are No Happy Endings" Airport Damage at KOJC

Just wanted to drop you a note of thanks for your emotional editorial in the April editorial. (Editor's Briefing, April 2017) Your feelings of loss and joy of having one of your airplanes survive a horrific storm brought a tear to my eye. And your wonderful description about the wonder, amazement, frustration, worry, and achievement when we are back on the ground was spot on! I commend you for such a heartfelt article!

And of course I would be remiss if I didn't say I was "offended" by the "Commander is a Pilot's Airplane" on the next page, as I have been flying a King Air for almost 21 years now. It certainly is a good passenger plane but my King Air has been a heck of a ride for me as an ol' grandpa fortunate enough to own one for as long as I have.

Keep up the good work, you make me smile and occasionally shed a tear!

Neil R. Hise

Belen, N.M.

I read your piece on your local airport being hit by destructive winds. My T-28 was being inspected at KPGD when the town and airport were destroyed by Hurricane Charlie in August of 2004. Dozens of planes were destroyed, a DC-3 "flew" itself over a mile away. A brand new major hangar collapsed. A dozen Porsche Mooneys being converted to IO-540's ceased to exist. Incredibly my plane survived in an older hangar, though the back of the building was torn away. The damage to the town was similar. I performed in the annual airshow the next April and the town was still far from repaired and the blue tarps protecting roofs were everywhere as you flew overhead. But by the next year's show things were largely back to normal. Pilots and Floridians are a hardly bunch and we got through it. I'm glad your mother's plane survived. And I hope your airport is back to normal soon.

Todd Stuart

Key West, FL

I really enjoyed the whole April issue. Kevin Ware and Tom Turner were outstanding as usual, but really on top this issue. I was in the U.S. Coast Guard in Traverse City in the early 60s, and it was my best post in my six years of active duty, but not the winter so much.

One spring day in 1960, a week after Gary Powers was shot down by the Russians in his U-2, the base loudspeaker came on and informed everyone that an Air Force U-3 was landing and to wave him to a parking spot. Well the whole base turned out waiting to see a spy plane of sorts. No one really knew what a U-3 was, but we all thought it must be a spy plane. So this nice blue Cessna 310 taxis by and no one pays any attention to him. The base commander had a little egg on his face over that incident.

Dick Welsh

Seattle, WA and Thermal, CA

# Writer Kevin Ware Inspires

As a *Twin & Turbine* subscriber, Twin Cessna member and C-340 admirer, I wanted to say thanks to Kevin Ware who is perhaps an unintended aviator role model that seems to be "living the dream." Combining two high-pressure careers is challenging at least, and is extremely impressive when accomplished, and is something that I still struggle with.

By the way, I spend time occasionally in the San Juan islands and stopped by at "Skagit International" last year just in case Kevin happened to be there. Regardless, thank you Kevin for all of your articles that inspire some of us to be more than we thought possible.

Bruce Ray

Boulder, CO

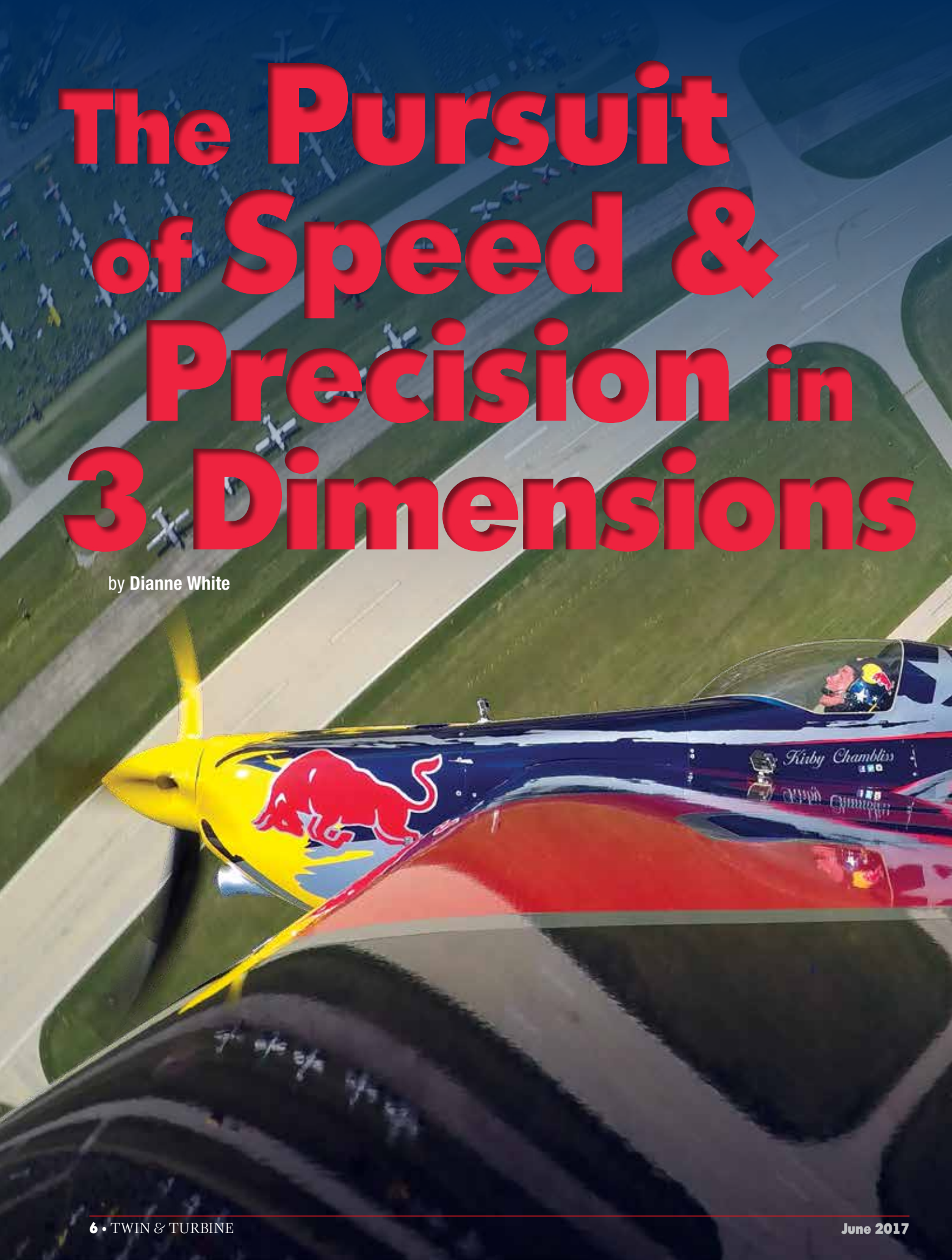
# David Miller's Flying Aussie Style

I have enjoyed your column in *Twin & Turbine* over the years, our flying backgrounds being somewhat similar (owner/pilot). I operated a Citation 550 with an exemption for a decade before reluctantly moving on to Lears and now Challengers, and ultimately moved a sizable real estate business into aviation where I have been well rewarded. I envy you your endeavor to fly a Cessna 182 around Australia. My most pleasurable flying of late has been in said same model. After years of flying jets, I find that flying is flying, and smaller aircraft operating unencumbered with arrivals and departures, ATC, FSDO's has its advantages. I wish you every enjoyment on your adventure.

Dick Schmidt T&T

# The Pursuit of Speed & Precision in 3 Dimensions

by **Dianne White**



With the approach of summer, thousands of pilots and aviation enthusiasts begin to count down the days to the mother of all airshows: AirVenture Oshkosh. One performer whose show is a don't-miss, 10 minutes of aerobatic artistry combined with aggressive, edgy maneuvers is Kirby Chambliss. An aerobatic champion and Red Bull Air Race star, Chambliss will bring his signature flying style back to AirVenture this year, along with a few new jaw-dropping moves.

What airshow fans don't typically see is businessman and owner-pilot Kirby Chambliss. To make those 10 minutes of outrageous flying happen requires a Rube Goldberg-like sequence of events that require organization, logistics and timing. One tool essential to the success of Team Chambliss is his 2005 Piper Meridian.

"When you own a racing team with a group of dedicated team members, you are constantly managing and making decisions. It's a business and my life is much more than simply flying an airplane," he said. "The Meridian allows me to be spend more time at home with my family."


"What I enjoy most about performing at Oshkosh is that it's not an average show. It's an honor to fly in front of so many of my own peers in aviation."

– Kirby Chambliss

## All Consuming Dream

A native Texan, Chambliss grew up with the innate hunger for flying. "My dream of becoming an airline pilot consumed me," he recalled. "While a lot of kids grow up having no idea what they want to do with their lives, I was fortunate in that I knew exactly what I wanted from a very young age."

His father was a private pilot and skydiver, but he was reluctant supporter of his dream. Together they build a Davis Aircraft, an angular-looking, two-place experimental. Beyond that, he was skeptical that his son could reach the upper echelons of the pilot profession.

"To him, (flying for the airlines) was like winning the Olympics – extremely hard to do," Chambliss said. "But I was going to do it no matter what, and I did."

Working odd jobs – everything from hard labor to fueling airplanes at his local airport – he chipped away at his ratings and built time as an instructor, freight pilot and at 21, and a corporate pilot for La Quinta Motor Inns. Three years later, Southwest Airlines hired him as a pilot. He eventually made captain at the ripe age of 28.

## Discovering Aerobatics

Back when he was still working as a corporate pilot, his boss, the chief pilot, was a strong believer in aerobatic training in the event the Citation they were flying ever experienced an upset. The company hired famed aerobatic performer and instructor Duane Cole to give 5 hours of dual to each company pilot in a Super Decathlon.

"This experience changed my whole life. At that point, I was bored with straight and level flying, and couldn't get enough of aerobatics. As soon as I was hired on at Southwest Airlines, I bought a Pitts S2A," he said.

Immediately, he realized two things: He couldn't afford the $38,000 he paid for it, and no one wanted to ride with him anyway. He sold the plane and bought a single-seat Pitts S1S for half the money. "The S1S was a lot of bang for the buck. You couldn't beat it. Monoplanes were just starting to make an appearance, but the Pitts was still an all-around great airplane."

As Chambliss built his aerobatic resume, he worked closely with Zivko Aeronautics in the development of the Edge monoplane, even serving as the test pilot from 1993 to 2005. He owned the prototype and today flies a stock Edge 540 powered by a Lycoming IO-540.

Chambliss went on to earn a spot on the World Aerobatic team, where he was a mainstay competitor from 1997 to 2005. Aerobatic championships fed his competitive spirit and propelled him to podium finishes including the 2000 World Freestyle Championship and five U.S. National aerobatic titles.

"I am a really competitive person. I raced motocross when I was little so maybe it all started there, but my saying has always been 'second place is the first loser.' Whatever I do, I do it to win," he said.

In 2003, the Red Bull Air Race held its inaugural contest, securing its place as the fastest and most challenging motorsport series in the world. In 2004, Chambliss won his first Red Bull Air Race World Championship, a feat that he repeated two years later. Chambliss has competed in every Red Bull Air Race since its launch in 2003.

"At its inception, you had to be one of the top 15 aerobatic pilots in the world to compete. I fell into that category, so I got an invite. I'm an adrenaline junkie and have always had a need for speed. Low-level flight, passing through air gates at 230 mph seemed appealing. There was still some elements of aerobatic flight involved. I think all those elements rolled into one are what really got me involved," Chambliss explained.

The air race took a three-year hiatus starting in 2013 for safety improvements and reorganization. Chambliss returned to the Air Race and has been competing ever since. His race airplane is a modified Edge 540 V3 powered by a Lycoming IO-540 engine and sporting a maximum speed of 265 mph.

"The race plane is always a work in progress. Our team has an aeronautical engineer on staff that designs mods and we are constantly tweaking to gain performance from the plane," he said.

As the races take place at venues around the world, Chambliss' race plane must make the journey to the next location, sometimes halfway around the world. "That's probably the No. 1 question I get: How do you ship a race plane?" he laughed.

For his airshow routine, Kirby is working on several new elements, including the Red Bull Air Force skydivers, a helicopter and some new maneuvers.

After the team takes the plane a part, the wing is placed in a cushioned box that resembles a giant suitcase. The tail goes into its own suitcase and the two fuselages are wrapped in bubble wrap and strapped to what Chambliss calls a steel "cookie sheet." The components are then shipped via air or sea freight to the next locale where the team is waiting to reassemble the plane.

Air show performances are yet another dimension to Chambliss' aerobatic pursuits. While the point is pure entertainment, he said that air shows allows him to tap into his artistic side. "I always say my airplane is like a paintbrush and the sky is my canvas. It allows me to paint a picture for everyone to see," he said. "What keeps me flying air shows is the ability to share my passion with people."

As most performers agree, AirVenture Oshkosh is the pinnacle of the air show circuit. "What I enjoy most about performing at Oshkosh is that it's not an average show. Most of the people there know what they are looking at when I perform. It's an honor to fly in front of so many of my own peers in aviation," he added.

Ever the perfectionist, Chambliss is working on new elements for his air show performance. "The Red Bull Air Force skydivers will be flying with us this year. We've been working on different gyroscopic maneuvers that are going to be super cool. We're also bringing back the helicopter program, bringing all three aspects together in one show. We're hoping that this will be ready for Oshkosh this year, but definitely for 2018," he said.

## Meridian Carries & Connects

With a race calendar that has a very small off-season and a full schedule of airshow performances each year, Team Chambliss is always on the move. The company has traditionally operated a support aircraft in which they carry spare parts, equipment and other support materials. The first aircraft he owned was a Cessna 180. Following that, he owned a 1974 Beechcraft E55 Baron Foxstar with the Colemill engine conversion and winglets. After operating the Baron for 1,000-plus hours, and with maintenance issues mounting, Chambliss made the move to a 2005 Piper Meridian.

"The Meridian is a mini-airliner. It is very weather capable and very reliable. These two characteristics allow me to depart for an airshow later than previous aircraft I own, which means I can spend more time at home with my family," he said. "It's the most economical cabin-class single-engine turboprop available."

Chambliss didn't seriously consider any other airframe before buying the Meridian. He said the Meridian fits into a great niche between piston and twin-turboprop aircraft. Chambliss and his team flies the Meridian anywhere from 200 to 250 hours per year. It is also used for media rides, allowing reporters to observe and video Chambliss performing aerobatics and close formation flight.

"It is probably one of the most tested and researched airframes out there. We operate it out of our 2,000-foot private airstrip in Arizona. It's never hiccupped once on us," he said.

He strongly urges Meridian owners, or those considering the purchase of a PA46, to join the Malibu/Mirage Owners & Pilots Association (MMOPA).

"For a small fee, you get a great support from the membership and the gurus. If you post a problem on the Forum, there's a good chance someone out there has had that problem too and can provide advice. If not, the Meridian gurus who have been maintaining these airplanes from the start will jump on and help. MMOPA also offers a hotline for things like maintenance and avionics," he said. "The knowledge you gain from MMOPA can keep you from making a mistake someone else has already made, and it allows me the opportunity to talk to people that are just as passionate about the Meridian as I am."

The things he wishes were better on his Meridian – endurance and integrated flight deck – are greatly improved on Piper's

Kirby Chambliss has flown every season of the Red Bull Air Race series since its inception in 2003.

new M600, the latest iteration of the airframe. The M600 has better takeoff power, 260 gallons of fuel, and Garmin G3000 integrated flight deck.

"Two more hours of fuel is a huge difference," he said. "And I'd love to have that Garmin suite."

A typical week for Chambliss involves a several practice flights in his airshow plane to keep his skills sharp. "Normally the race plane is on its way to the next race and I have an aerobatic airshow plane here at home that I can practice with. I still practice my airshow routine regularly. When you are cartwheeling an airplane at 800 feet, you better be up to speed with it. I have waivered airspace at my private runway so I can practice maneuvers right here," he said.

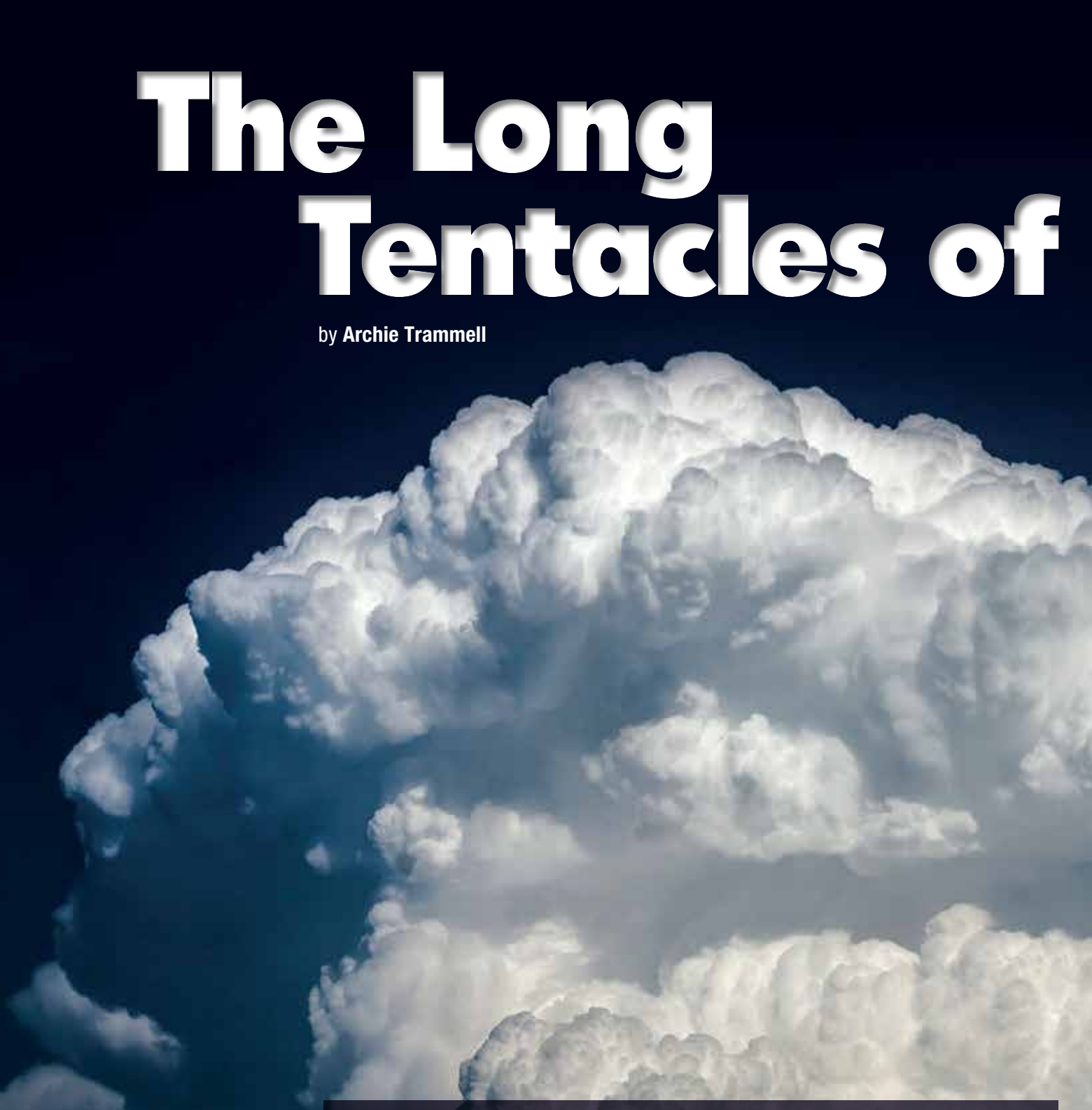
The balance of his week consists of administrative tasks related to managing sponsorships and his race team. He also is hands-on with any issues, modifications, and repairs that are required with his fleet of aircraft. In addition to his Extras and Meridian, he also owns a Piper J3 Cub and a Fieseler Storch, which he calls a dirt bike with wings.

He also finds time to take a few skydiving jumps, a sport that he is just as passionate about. With nearly 1,000 jumps, he enjoys perfecting his skills and trying new tricks. All this fun is only a few steps from Chambliss' home at Flying Crown Ranch airpark where he lives his wife and fellow pilot Kellie and daughter Karly.

"I love making flying 3-D. I am literally the limitation in what I do," Chambliss said. T&T

# The Long Tentacles of

by **Archie Trammell**



The flight was Fort Lauderdale to Reading, Penn., with two passengers. It should have been routine, with just the usual shoreline thunderstorms common to Florida's east coast. The aircraft was a hybrid: a Beech Duke converted to a pair of P&WC PT6A- 21 turbines. The pilot had almost 1,600 total hours with about 270 in the converted Beech.

As the flight proceeded north along the Florida shore, it was CAVU inland, but there was a thunderstorm ahead at Orlando with a small CB about 10 miles to its southwest. This was displayed on the pilot's radar and noted. With a 10-mile gap between the two, the pilot thought there was no reason to deviate west; just shoot the gap and continue.

# a Thunderstorm

## On a radar display, green does not mean go, nor yellow mean caution. Plus, hazards may lurk in the black.

The hazards of a thunderstorm are not necessarily in the colors depicted on airborne radar; they may be encountered out where it is now black due to a rapid growth and change.

You'll find what happed to him incredible, so best to quote the NTSB report:

*According to the pilot, the flight departed FLL, climbed to flight level 270 (FL270), and intercepted "J20" toward the Orlando Executive Airport (ORL), without incident. Air traffic control (ATC) advised the pilot to deviate to the west around ORL, if necessary due to weather.*

*Approximately 30 nautical miles from ORL, the pilot requested a direct clearance to the Craig VORTAC (Jacksonville), which was denied by ATC. At 10 miles from ORL, the airplane was cruising in visual flight rules (VFR) conditions, when the pilot observed a 10-mile wide opening between a large thunderstorm cell and a smaller cumulonimbus (CB) buildup that was developing just to the southwest of the large cell. As the airplane approached the gap between the two cells, the pilot noticed that the CB was developing faster than he had anticipated, with tops that had grown from about FL270, to about FL290. The pilot utilized a Bendix/King RDS-82VP onboard weather radar, which was depicting only light precipitation, while the large thunderstorm cell northeast of the airplane was depicting extreme precipitation. The pilot navigated closer to the (smaller) CB to stay clear of the large thunderstorm cell. As the airplane entered the northeast side of the CB, it encountered light to moderate turbulence, which was followed by an extreme downdraft.*

PHOTO: PAUL BOWEN PHOTOGRAPHY

*The pilot further stated: "The altimeter began to unwind rapidly and I tried to correct the altitude change with up elevator pressure, as well as additional power. This corrected the situation momentarily, but the downdraft continued and I feared that I would compromise the elevators if I continued to apply the pressure necessary to maintain altitude. I relaxed the pressure and pulled the torque on both engines to idle, to try to induce drag to slow the descent. At this point in time we were losing approximately 4,000 to 5,000 feet-per-minute and the aircraft began to roll left.*

*"My memory from that moment forward is blurred, but I'm certain that the aircraft entered a downward spiral to the left with an attitude greater than 100 degrees left, and a near vertical descent. The artificial horizon tumbled at that point. I thought that we would not recover. The AH righted itself briefly and tumbled again. The AH righted itself one more time and l reacted immediately with right aileron and rudder and the aircraft rolled level.*

*"As it began to roll level, I began to apply up elevator and power in an attempt to arrest the decent. The airspeed began to drop and the aircraft remained level."*

*The airplane was recovered at an altitude of about 14,500 feet. Shortly thereafter, the airplane exited the clouds. The pilot noticed what appeared to be wrinkles in the upper skin of the left wing. He further noticed that the right elevator outboard hinge was separated from the stabilizer and that both the elevator and stabilizer were damaged. The right elevator was bent downward approximately 30 degrees, about two-thirds from the root.*

*The pilot elected to divert to the Brunswick Golden lsles Airport, Brunswick, Georgia, where the airplane landed without incident.*

This pilot was educated expensively, near fatally that the hazards of a thunderstorm are not necessary in the colors depicted on airborne radar; they may be encountered out where it is now black due to a rapid growth and change.

## Things an IFR Pilot Must Know

Had this pilot been as knowledgeable about convective storms as every IFR-rated pilot should be, he would have known that the small cell would explode before he got through that 10-milewide gap. This was classic to a phenomenon first identified by Jim Cook, the original "Project Rough Rider" thunderstorm research pilot, 45 years ago. As a large and juicy thunderstorm develops it lifts literally millions of tons of water to 30,000 to 40,000 feet on hurricane-force upward winds. What goes up must come down. When those winds reverse they come screaming down to earth and spread along the surface as outflows. If one outflow encounters a little lift, it turns vertical and shoots upward at a high rate of speed. Then a second thunderstorm begins to grow from it, fed from the dissipating energy of the big storm. The result is the little

CB explodes into a wild, killer storm and the original large storm dries up.

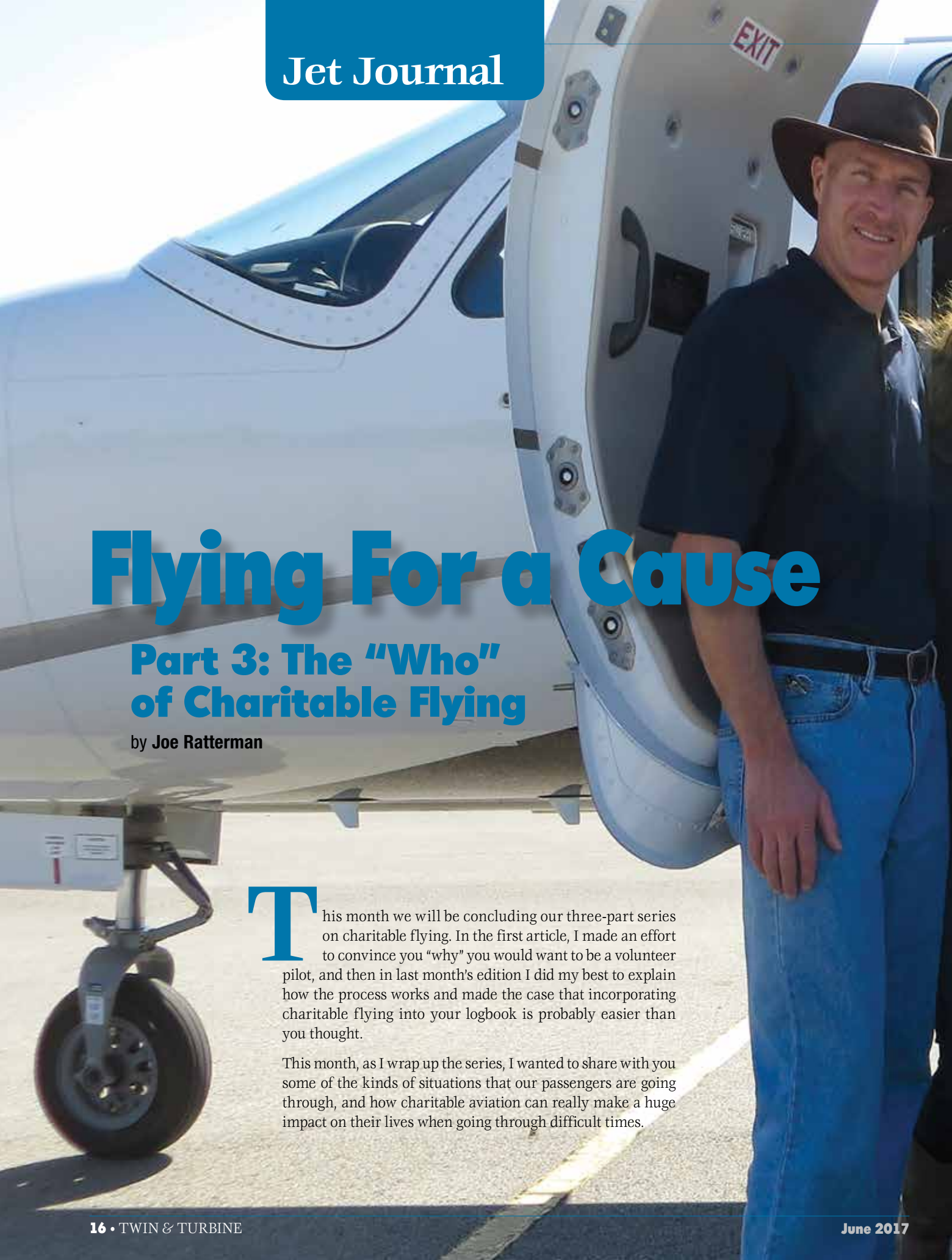
It happens frequently. A classic example is the cause of the Lockheed L-1011 crash at DFW on Aug. 2, 1985. NWS radar detected a large storm north of DFW and a pinpoint echo between it and the runway. Only 16 minutes later the large storm was gone; the pin point echo had exploded into a supercell producing multiple downbursts and that major accident. All that is described in detail in the NTSB Accident Report on the DFW accident and has been detailed in a commercially available radar training course. So there is no excuse or reason why every candidate for a higher pilot rating isn't first made aware of those convective storm facts. FAA, NTSB and pilot training organizations all bear guilt for not creating training requirements, Safety Bulletins and training regimens that ensure pilots receive proper convective storms training and knowledge before certification for an advanced pilot rating.

### Another Thing to Consider

Returning to the subject accident involving the converted Beech, the NTSB report on it contains a statement that must be noted; "The controller did not provide any weather advisories to the pilot prior to the airplane's encounter with the adverse weather."

The message from that is, always keep in mind that the captain actually "controls" the flight and is responsible for its safety; the other guy is only a "traffic coordinator," a "traffic adviser." Pilots with airborne radar must use it and their knowledge of convective weather as primary for avoiding dangerous areas of a thunderstorm, black areas near them as well as the colors. 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.*




# Flying For a Cause

## Part 3: The "Who" of Charitable Flying

by **Joe Ratterman**

This month we will be concluding our three-part series on charitable flying. In the first article, I made an effort to convince you "why" you would want to be a volunteer pilot, and then in last month's edition I did my best to explain how the process works and made the case that incorporating charitable flying into your logbook is probably easier than you thought.

This month, as I wrap up the series, I wanted to share with you some of the kinds of situations that our passengers are going through, and how charitable aviation can really make a huge impact on their lives when going through difficult times.


love
Support
freedom
humanitarian
work
Volunteer
hope
Community
happiness
giving
assistance
unity

In my experience over the last eight years of being a volunteer pilot, I have found that charitable aviation organizations usually fall into one of the following categories:

1. Medical and humanitarian missions
2. Military/veteran benefit
3. Animal rescue, and
4. Disaster relief.

I mostly fly medical-related missions for Angel Flight Central and a few Veteran's Airlift Command missions each year, and I have a close friend that has flown several missions for Pilots & Paws. With so many charitable aviation organizations out there to choose from, you should be able to find one or more that fit your own charitable passions as well.

It would be great if I could introduce you to the actual people my wife and I have flown over the years, but we must be careful to protect their confidential medical information and passenger identities, so instead I'll simply change the names and share with you the essence of a few of those stories from our 100-plus charitable missions. These are representative of the kinds of missions you would likely experience if/when you decide to step into charitable aviation.

## Baby Ethan

Organizations such as Angel Flight, Corporate Angel Network, Veterans Airlift Command and others fly thousands of missions each year with the help of thousands of volunteer pilots across the world.

A young couple in Wichita was blessed with a beautiful baby boy. However, Ethan was born with a few small holes in his heart and he needed surgery at a specialty hospital in Denver. Because both parents and grandma were going with Ethan to Denver for two full weeks for the procedure, and because they had so much luggage and supplies, it wasn't economically feasible for them to fly commercially. Because of Ethan's heart condition, they couldn't drive the 11 hours to Denver, and they couldn't fly in the typical Angel Flight non-pressurized aircraft. The best choice for this mission was a pressurized private aircraft. We took the mission and delivered mom, dad, baby Ethan, and grandma from KICT to KAPA in just under two hours, simplifying their travel situation dramatically.

The joy in their eyes and the relief on their faces after the surgery was completed was priceless! Ethan's operation was successful, and we've had several updates on Ethan's awesome progress from his grandma since the trip, as we've stayed in touch after getting to know them on the mission.

## Joline

This young girl was born with a genetic respiratory disorder that keeps her from being able to breath reliably on her own. As a result, she is "tethered," nearly 24/7, with a long tube to a cumbersome medical device that assists her with breathing. There is a specialist in Chicago that wanted to evaluate Joline for a medical implant that would help regulate her breathing, similar to a pacemaker, but for the lungs instead of the heart. Like Ethan, Joline's traveling posse included mom, dad and grandma, and more luggage and medical equipment than you could imagine. Once again, a pressurized private aircraft was the only real solution to make this journey. We took both the

outbound and the return missions, and as a result of their visit in Chicago, Joline has been confirmed as a strong candidate for the specialized implant surgery later this year.

### Gene

Gene was our first Angel Flight passenger ever, and was such a wonderful gentlemen. He was married with kids and grandkids and mostly retired when we met him and his wife on our first mission together. He was recently diagnosed with pancreatic cancer, but had two things going for him. First, they found it somewhat early, and second, he was referred to a specialist in Houston at MD Anderson who had an experimental regime that Gene qualified for. The prognosis for pancreatic cancer patients usually gives the patients six months to live, but Gene was able to live for more than five years after he was first diagnosed.

He and his wife needed to make regular trips to and from Houston to receive the treatment, at times as often as each week. Driving roundtrip from Kansas City to Houston that frequently would have been too much of a burden on a healthy person, much less someone going through cancer treatments. He also couldn't fly commercially because his immune system was compromised, so his only real practical solution was to fly in a private airplane. He didn't necessarily need a pressurized turbine aircraft, so he made many of his trips in smaller piston aircraft. We took him several times, and were happy to be a part of extending his life for so many years beyond the typical expectation for his cancer.

PHOTO: MAX HAYNES

Through its network of volunteer aircraft owners and pilots, Veterans Airlift Command provides free air transportation to post-9/11 combat wounded military members and their families.

Pilots N Paws brings together pilot volunteers to arrange and fly animal rescue flights, overnight foster care or shelter, and all other related activities.

### Coach Mike

This college golf coach became acutely ill during a tournament in Nevada and was forced to stay behind in a hospital after the team returned home to Kansas City. It took the doctors several days to determine what was going on, and for a good portion of that time didn't think he was going to survive. It was a huge scare for everyone involved. His kidneys and respiratory system began failing, and eventually the doctors determined he had an acute and sudden onset of an autoimmune system condition.

After several more days, the doctors were able to stabilize Mike to a point that he could attempt to travel home to continue his treatment in Kansas City. His doctor wouldn't clear him to fly commercially or even to drive, so his only option was a turbine-powered aircraft that could make the journey nonstop and get him home quickly and checked into the KU Medical Center. Once again, a turbine class airplane was the only viable solution for Mike, and the coach and his family were so grateful to have him home in familiar surroundings on his long road to recovery.

These are but a few of the unique and deeply personal situations that we have had the opportunity of participating in over the years. I hope you've enjoyed this series on charitable aviation, and that you will feel inspired to take the first steps on your own journey as a volunteer pilot. Flying an airplane is an amazing privilege, but flying to help others will prove to be an eternal blessing not just for them, but for you too. T&T

*Joe Ratterman is an ATP pilot, type-rated in the Cessna Citation Mustang C510, with 2,500-plus hours in his logbook. Joe retired from a successful corporate executive career in 2015 and now flies as a professional charter pilot for Kansas City Aviation Company (KCAC) based in Overland Park, Kansas. He is also the current board chairman/president for Angel Flight Central.*

The Gulfstream 280 made easy work of the trip from Manassas to Freeport, Bahamas.

# Sitting in Back

## Three-day trip provides a new perspective on pilot-versus-passenger perceptions.

by **Kevin Ware**

It seemed very strange sitting in the back of the new Gulfstream 280 (G280) at FL430, on a fine leather chair that moves in a dozen different directions, sipping coffee made from a genuine French espresso machine located in its own custom cabinet in the aircraft's galley. I think there must have been some confusion on seat assignment, and maybe the guys up front will soon realize that I am in the wrong place and promptly direct me forward to the much tighter and noisier section at the far front end of the airplane. Not so today. Rather, myself and fellow corporate pilot Scott are deadheading to the Bahamas in the company's new G280 to retrieve a CJ2 and return it to Washington state for maintenance. On the return, our duties will also include making stops in Texas and California to look into some other aviation related business matters for the company.

The G280 can easily cross the country westbound without refueling, and so four hours later after drinking yet more espresso and having a very nice airborne lunch we arrive at Manassas, Virginia (KHEF), where an overnight stop is planned. There is a frontal system passing the airport as we make the approach to runway 16L, and from my new perspective in back, it appears there is a lot more work to this business of flying airplanes than I realized. In the gusty conditions, I can see the pilot flying making continual adjustments to the control wheel, and the co-pilot's left hand seems to never stop messing with the radio control knobs, or the flight director's altitude selector. Then more there is a fair amount of keyboarding on the console between the seats by both pilots, and shortly thereafter the diagrams on the screens on the instrument panel mysteriously turn from white to green. Finally, there is some pulling at various levers which results in a series of alarming mechanical noises from somewhere under my fine leather chair.

Three days, six airports and several wildly different perspectives on flying and culture.

As we come down the ILS, there is a 20 knot, 90-degree crosswind, with the autopilot plugging in a significant crab angle. From where I am sitting in back looking down the fuselage tube through what looks like a very small and distant windshield, it appears we are headed somewhere well off the airport, which itself can be more easily seen from my passenger window than the glass out front. Finally, as the runway numbers flash by my window, the power levers are pulled suddenly back, which is followed by a strange silence and disconcerting sinking sensation. The G280s wing tips are close enough to the ground that care must be taken to not use too much of a slip technique when landing in a cross wind or the wing tip will ding the pavement. As a result, the airplane is deliberately landed in a crab, with things being straightened out once the main gear is on the ground. Even though as a pilot I theoretically know all about this, it still seems very odd to be looking forward from my "first class" passenger seat to see the airplane pointing toward the grass, rather than the runway when the tires touch down. This is followed by a definite sideways lurch and a slewing sensation with some screeching of rubber as the crab angle is taken out by a kick of the rudder and the nosewheel planted on the white line with a definite thump.

With the nose wheel is down, the airplane's autobraking and reversers come on in a very serious fashion, with empty espresso cups rolling down the aisle toward the cockpit we rapidly decelerate. Slight left to right movements are felt as the guys in front keep the airplane on the white and the autobraking cycles on and off. Finally, with one last grinding grunt, the brakes are released, we roll off the runway onto the taxiway and stop. There now follows another whole flurry of hand movements from both pilots as frequencies are changed, flaps pulled up, spoilers disarmed and transponders set on standby mode. At least I know what is going on up there, but to the non-pilot "newbie" business jet passenger, unaccustomed to being able to see the flight deck from their passenger seat, it must seem like very mysterious and urgent business.

The next morning Scott and I again board as passengers, but as pilots we still feel obliged to at least help with some of the preflight ground duties and cockpit set-up. The G280 has a long pre-start checklist on the center MFD (multifunction display) that does not permit any advancement toward engine start until all previous items are taken care of. Luckily, there is an APU, so with that running, Jim (one of the company pilots actually working this trip) and I work our way through the list. Frankly, it seems to be more complicated and drawn out than it

needs to be, taking us a good 30 minutes before we get to the engine start section. When we call for the clearance, we are assigned the GABBE ONE departure, Greensboro (GSO) transition. This will take the airplane well to the west of the direct course to Freeport, which is out over the Atlantic off the Georgia and Florida coasts. Apparently, there is some NASA type activity going on near Cape Canaveral, which keeps us over the central part of the state with its frequent building and bumpy cumulous clouds until in the Miami area. Not my problem I remind myself. I am sitting in back.

With engine start I return to my very comfortable leather seat curious as to how much of the flight plan we laboriously entered into the FMS was going to work out. From where I am sitting, it looks like we get as far as GSO before a completely different and even less favorable routing gets punched into the keyboard, as the airplane at that point makes a slight right turn, and heads somewhere toward southern Louisiana. Seeing that the airplane is heading off for a time-consuming dog leg to the west, I take a walk to the nicely decorated bathroom, wash my hands and face with warm, running water, then leisurely return to my seat and fall asleep – all perfectly safe and acceptable when sitting in back.

An hour later I wake up to hear the engine sound changing, and look over the side and see we are leaving Florida's east coast headed in a southeast direction, and making a slightly bumpy descent through the expected cumulous clouds. In another 20 minutes, we are passing through the broken layer that usually seems to be at about 4,000 feet over the Bahamas, as the whine of the flap motor activates. This is followed by a firm clunk and slight jarring sensation as the landing gear go down. All clues to the folks sitting in back that we are approaching the destination. The airplane enters what appears to be a left base entry to Runway 06 at MYGF, and shortly thereafter crosses the island's shoreline on final. The landing is followed by the now expected flurry of arm and hand movements by the guys in front as we taxi to the customs office. A couple of 90-degree turns, followed by a 180 are required during the taxi over to the customs office, during which I note from my fine leather seat that the view out the front windshield just seems to whip by horizontally. Yet I know the guys up front are very conservative and always their keep their taxi speeds low and turn rates quite modest, so I conclude it is another one of those odd perceptual distortions that occur, when sitting in back.

The next day we are out at the airport and preflighting the CJ2 at 0800 in preparation for our return flight to Seattle. We board and squeeze our way past the center console to the sheepskin covered seats in front. As I tighten the five-point harness, I think this location is clearly not as comfortable as the seat in back I came down on yesterday. The seat movements are quite limited, up, down, forward and back. Seat back angle or firmness not quite right? Sorry, those amenities are reserved for those sitting in back. We run the checklist in what by comparison to my mental images from yesterday is actually a very simple business, and the turns as we taxi out

Life is bit more relaxed and comfortable sitting in back of the G280.

to the runway appear through the windshield now just 2 feet from my eye, are all very gradual.

Following an uneventful takeoff, using our overflight permit we head directly across Florida and then the Gulf of Mexico to land for a customs and lunch stop in Houma, Louisiana. We descend across what seems like endless bayous filled with muddy-looking water, which from the front seat are clearly visible while some 20 miles offshore, and land on runway 18 with a stiff salty breeze blowing from the south. The residents of Louisiana always seem to be a relaxed and congenial bunch and the local U.S. Customs and Immigration officials that meet our airplane are equally polite and friendly. The FBO then lends us a rusty old 1970s-vintage, brown Jaguar sedan with cracked tan leather seats, to go for lunch at the "at the best Cajun restaurant in the state" just 10 minutes away. There we find a chalk board advertising the day's fare, which confines itself to what the local fishermen have just brought in. No reference is made to "gluten-free" or "low calorie" meals on the entire menu.

On approach to Houma, Louisiana to clear U.S. Customs and enjoy some local Cajun fare.

Flying the final leg back to Kevin's home base in Seattle.



We have a sampling of some great spicy seafood dishes while sitting on picnic tables covered with white paper from a long roll, surrounded by oil platform workers drinking American label beer from cans, then return to the CJ2 and depart for Fort Worth, Texas.

An hour-and-a-half later we land in FTW to inspect an APU unit which belongs to one of the company's airplanes and is being repaired. But, given we only have a street address we really don't know where on the airport the repair facility is located. As it turns out, neither does the ground controller, so we wander around in the little jet, while she finds the business on Google, then directs us down a steep ramp on the southeast corner. I cannot help but wonder however, what the perception of that seemingly lost and purposeless wandering would have been, if sitting in back.

APU repair business completed, we depart for Camarillo, California (CMA) where we intend to look at a CJ3 that is for sale. Shortly after landing, we are met by some Hollywood types who represent the non-pilot movie business owner. The contrast in personality and cultural types between our new California acquaintances and those from the Bahamas to Louisiana, then Texas is remarkable. In 10 hours, we have gone from faded cargo shorts, old T-shirts and flip flops in the Bahamas, to oil field worker overalls and steel toed boots in Louisiana, to laid back cowboy boots, Wrangler jeans and old American pickup trucks in Texas, and now in California, we see an impressive display of untucked flowery shirts, laundry pressed jeans, designer sunglasses, garish-looking running shoes and very polished expensive cars of foreign make. It's almost like a different country. The airplane we are there to evaluate is immaculate as is the carefully selected color scheme in the professionally decorated hangar it is stored in. It seems that owners who sit in back, equate a spotless airplane with one that is also very safe and airworthy, an assumption which holds some element of truth. In the morning, we have breakfast with the same Hollywood bunch at a very busy airport restaurant with a large prominent "gluten-free" menu, and "low calorie" section sections, then depart for the 1.5 flight back up the west coast to Seattle. The weather is clear as we descend, and we can see nearly all of Puget Sound from our seats in front.

The contrasts between the trip in back on the way out, and the return sitting in front get me thinking. No French espresso coffee, leisurely trips to the bathroom or pleasant napping when sitting up front, and the CJ2's pilot seat is not nearly as comfortable as that nice leather passenger seat in the back of the Gulfstream. But, my view out the front window was much better, the disconcerting noises from flaps and gear operation seemed much more distant and purposeful, and the amount of hand work with frequency changes and FMS inputs, seemed a lot less when you are the one doing them. All in, the outbound trip out while sitting in back was very nice, but the return trip sitting in front ... much better. T&T

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# Litanies

## *The story of a go-around at one of the nation's most carefully controlled airspaces: DCA*

by **Kevin R. Dingman**

**Litany: *noun,* plural litanies. A prolonged account; a list, catalog, enumeration.**

Its ten-past midnight at the end of a 14-hour day. You're flying an ILS; the weather is 300/1. Winds at 3,000 feet on final show a 40-knot tailwind. It's reported at the surface as a direct cross at 20 knots. The runway is wet, but braking action is good. Runway length required for your jet tonight is 4,750 feet; runway length available, if on glide slope, is 5,862.

On five-mile final, the approach is not working. You're too fast. The spacing on the plane in front of you is insufficient, you're not fully configured, you dropped your pen and a shoe came untied. You're dreading the go-around because the missed follows a critical ground path. You feel the hairs standing up. If you are a musician, this is an unrehearsed time signature and key change at Carnegie Hall. If a CFO, Mr. Potter just stole the Building & Loan's bank deposit. What now? You go around.

Announce the go-around to your partner, press the TOGA (takeoff/go around) button. Verify the motors spool up to the correct power setting. Follow the flight director. Flaps to approach. Positive rate, gear up. Set missed approach altitude. Verify roll mode, LNAV or HDG. Set speed, VNAV or LVL CHG in the FMS. Call tower. Tell them you're goin' around. Answer their question about why.

Switch to departure control. Answer their question about what you want to do next. For now, you tell them vectors for another approach. The flight attendant chime is going off or your pax are calling you, they need to talk. Could be something bad and not simply them wanting to know what happened.

As PIC, you must prioritize the multiple sources of changing, and possibly critical, incoming information. Retract the flaps. Get stabilized on the obstacle avoidance procedure, missed approach, special use airspace avoidance track, or the heading and altitude assigned by departure control. Make sure their instructions don't send you into the rocks. Level off at the missed approach altitude. Run the after-takeoff checklist. If not already done, engage the autopilot or give the airplane to the FO. Check your fuel and decide: try again or divert. Tell the FO your thoughts, get his/her input and then tell ATC your decision. Call the FA's. Tell them what happened and your decision. Make a PA to the folks and explain why we didn't land. Reassure them that all is well as you tell them your decision. Execute your decision, and if it's to divert to an alternate, send a message to the company; tell them your decision. Be grateful this was not a single-engine missed approach. Take another breath. Bow to the applauding Carnegie Hall audience, snatch your deposit back from Potter.

Good work, you just did a missed approach/go around. Maybe it was the first one this year, maybe the first one in this airplane, maybe the first real one, ever. You're on your way around the radar pattern or to the alternate. Look around. You will have missed something not directly addressed by a checklist: landing lights, deice equipment, spilled your coffee, something. Fix it. Look at your fuel again. Re-calculate for the radar pattern or the trip to the alternate. It's been busy so far, but if your fuel-math is wrong and one or two motors cough because of it, that will be what busy really feels like.

But your math was good. Take breath No. 2, ask your partner how your hair looks. The go-around procedure for your jet most likely has similarities to the one above. In the Guppy, you'd better add a step to trim nose-down somewhere very early in the procedure after you TOGA. Unlike the Duke, F-16 or the MD-80, the 737's wing mounted engines will pitch the nose to the moon as they spool up. As that happens, the airspeed will drop like a Cessna 150 in a 30-degree climb. One night last month, at Washington Reagan, that was an issue I encountered and it almost precipitated another. But let's not get ahead of ourselves.

## Like a Nightmare

The go-around litany sounds straightforward. It's not rocket science or brain surgery, but holy cow. Can you say "busy?" And how often do we get that busy, that quickly, at the end of a flight, probably in the weather, perhaps at the end of a long day, and perhaps late at night.

And how often do we perform the maneuver? After 23,000 hours, other than in the sim and for practice, I've flown a go-around in the military, GA and Part 121 combined, maybe a dozen times. And I've learned that it's this infrequency that generates the stories we read about when a go-around doesn't "go around" very well. A windshield full of bad can be in your face if you allow yourself to be caught by surprise.

Memorizing a missed approach/go-around litany, and thinking about it

along with the published missed approach procedure once configured and stable on final, will make the ordeal dreamy instead of nightmarish. And it will help to limit the number of things you must "fix" after you are finished with it. An excellent technique is to tell yourself on every approach (IMC and VMC) at about 5 miles: we are going around, get ready. Whisper the litany to yourself, and then be ready. I also like to add: we have enough gas to do this twice more before we divert. If you get to land instead, well, you've done that a million times. Piece of cake. But remember, you can still go around even after initial touchdown. Maybe because of a runway incursion, for example. The final red line for a go-around decision in most jets is once you deploy the reversers. After you pull that trigger, you are normally committed to the surface.

## SAMs and The Big Kahuna

Washington is a city of Southern efficiency, and Northern charm.

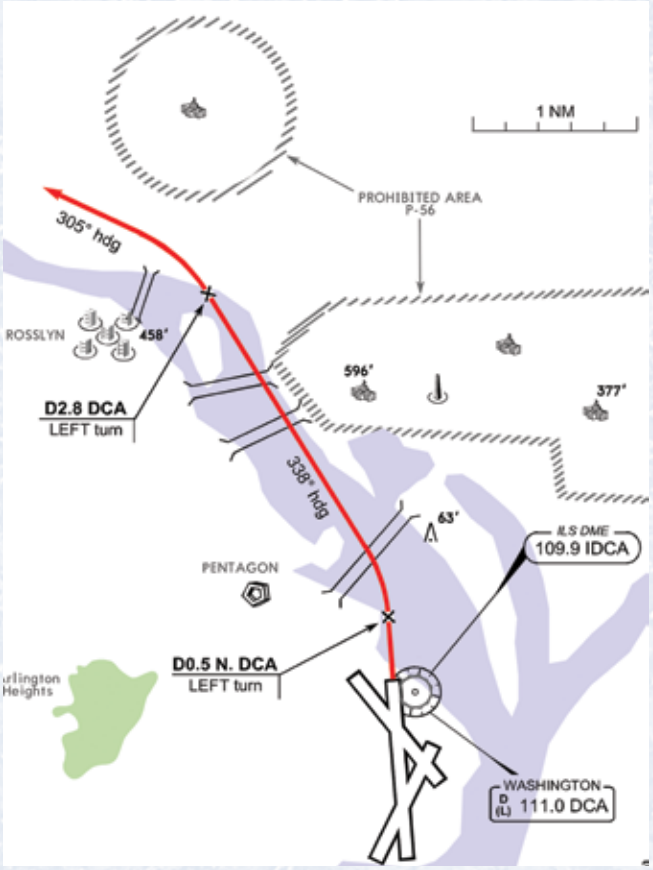
– *John F. Kennedy*

In past articles, we've discussed routing options for takeoff including those for an engine failure on takeoff (SIDs, ODP's and EOSIDs). Some airports also have a special use airspace avoidance procedure for departures and go-arounds. Ronald Reagan (DCA) has a particularly significant routing. There is a ground track for north takeoffs and go-arounds to avoid national landmarks and our leaders working in and around prohibited area P-56. And they're serious about it, including rumors of SAMs (surface-to-air missiles), small-arms fire and all flavors of pilot certificate nastiness. Maybe an engine coughing during the missed isn't the most intense of possible outcomes after all.

And therein lies the difficulty with my go-around at DCA. Our story's opening scenario is what I had, except for the dropped pen and untied shoes. And there was indeed a 40-knot tailwind from about 15-mile final to the marker. I didn't get the jet slowed down in time to be configured by our stable approach decision point and spacing with the aircraft in front of us was also getting tight. When I initiated the go-around, the nose pitched up. While trimming nose-down, distance was passing by on the avoidance procedure. Fortunately, the go-around was initiated four or 5 miles out on final, so all was good by the time we reached the first turn of the avoidance ground track. No SAMS fired or noise complaint from The Big Kahuna. It was embarrassing though. Especially since we heard about the tailwind from other airplanes. I guess I hadn't pre-whispered the litany thoroughly enough.

## Familiarity Breeds, Well, Familiarity

In most jets, in addition to the operating manual, there are operator or training department-developed litanies for both common and uncommon events. In order of likelihood, typical litanies are for normal takeoff, two engine go-around, engine failure on takeoff and single-engine go-around. They're not created as a replacement for operating manual procedures, system malfunctions or abnormal procedures. Although due to infrequency, a missed approach or go-around could easily be classified as such. Similar to a memory mnemonic like GUMP, these litanies serve as a supplemental memory jogger and are by design, succinct yet complete. Consisting of just enough of



Washington Reagan (DCA) special use avoidance airspace.


Washington Monument is the tallest landmark in Washington, D.C.

the essentials to avoid a Carnegie Hall, lost bank deposit brain freeze. For example, the litany in the Guppy for the two-engine go-around above is boiled down to seven steps: TOGA, Flaps 15, positive rate, gear up. Set missed approach altitude, select/verify roll mode, set speed, VNAV or LVL CHG. Clean up on schedule. Distractions from radio calls and cabin crew or passenger issues should not be ignored but prioritized and feathered into your litany, as well as your fuel calculations and what to do next.

Flight planning and reviewing upcoming events during the flight are ways to minimize errors, increase safety and to save brain cells for more, possibly critical, decisions later. We've always called it staying ahead of the airplane. In flight, a big surprise can turn out poorly and there's no need to make it difficult on ourselves by trying a seat-of-the-pants maneuver or trying to come up with a litany at the last second. Ask around, find some of the litanies for your jet and if you like them, give them a try. They should help you avoid Mr. Potter, SAMs and tweets from The Big Kahuna. 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.

# FIVE on the FLY

by **Rebecca Groom Jacobs**

Martin Ingram has sold airplanes at Muncie Aviation since 1983, becoming president in 2004.

**WHO:**
**Martin Ingram**

**COMPANY:**
**President and CEO of Muncie Aviation**

**WHERE:**
**Muncie, Indiana**

**QUALIFICATIONS:**
**Aircraft salesman**
**Since 1983**

**Dealer for Piper, Daher and Quest**

**5,000+ hours of flight time**

***1. Congratulations on 85 years. Tell us about Muncie Aviation's beginnings.***

Muncie Aviation was founded by Edmund Ball, one of the sons of the original Ball Brothers (famous for the Ball glass jars). The company started out as a Waco dealer, and over the following years added Beechcraft, Aeronca and Taylor Aircraft. In 1937, when Piper Aircraft made its debut, we were the second dealer to sign up. We still sell new Pipers to this day – making us the world's oldest Piper Aircraft dealer, a fact that we are very proud of. In addition to Piper, we are currently an authorized dealer for Daher and Quest Aircraft. We earned the title of largest sales center for new TBMs last year.

***2. How did you decide to become an aircraft salesman?***

My dad flew a J-model Bonanza growing up, which got me hooked and led me to pursue a professional pilot degree in college. But when I graduated and was hired on as a corporate pilot in Muncie, Indiana, I quickly realized the job was not for me. Loved the flying, but not the sitting. Fortunately, my senior pilot soon pointed me in the direction of sales. I had never even heard about the possibility of selling airplanes, it sounded perfect. So, I walked into Muncie Aviation, right up to the sales manager, and said I want to be a salesman. In June 1983, I was hired and I have been here since.

***3. What would you say sets Muncie Aviation apart from other dealerships?***

The fact that we are an employee-owned company is very unique. Muncie Aviation was in the Ball family for 73 years until they decided to sell the company to the employees in 2004. So, every single person working at Muncie, from the line crew to salespeople to leadership, has a stake in the company. I have no doubt it makes all of our employees work even harder. Our history makes us unique as well. We are a dealership with an 85-year reputation and a very wide breadth of experience.

Ingram stands in front of a Cessna 150 in 1982, the beginning of his sales career.

***4. In your career, what have been some of the biggest shifts in the industry?***

The most dramatic change I've witnessed is the price of what we sell. It's unbelievable. When I started out, I could sell a brand-new airplane for $55,000 – seemed like all the money in the world. A similar airplane today will run more than $400,000. The pool of prospects is shrinking and OEM's are just not selling as many aircraft as they used to. Along with that, the costs associated with flight training have also significantly jumped.

***5. In reference to technological changes in aircraft over the years, what do you think has had the biggest impact on safety?***

I think anybody would say the advancements in avionics and situational awareness have hugely improved safety over the years. The amount of information at your disposal in the modern cockpit is incredible – traffic awareness, terrain alerts, synthetic vision, audible warnings, etc. It's without a doubt the biggest difference in flying compared to when I started. Back then, the guy in his La-Z-Boy at home knew more about the weather than you did when you took off. 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


Muncie Aviation first opened its doors in 1932, starting as a Waco dealer, but soon adding Beechcraft and Piper.

The Muncie Aviation sales team (from left to right): Kris Layson, Steve Thompson, Brittainy Raef and Martin Ingram.

# Shared Ownership

## An old (often bad) idea transformed into an innovative ownership option.

by **Tom Bertels**

Aircraft owners and operators don't usually spend their money on airplanes with the intention of having them mostly sit, underutilized, in a hangar. But the fact is, there are many who want the benefits of ownership, yet they have relatively modest usage requirements. Just take a quick glance at general aviation utilization data, and the depth of the matter becomes obvious: There are a lot of turboprop and jet aircraft flying between 100 and 200 hours per year.

So what's an owner who's not flying all that much to do? Well, some simply pony up, buy whatever they want, and don't fret about it at all. Because for them, the benefits of flying the ideal aircraft far outweigh the costs. But plenty of others do struggle with cost justification based on how little they fly, and they look for ways to contain, offset and mitigate the expense. Some take solace by generating a bit of charter revenue, conceding the additional wear and tear on the airplane. Others elect to fly older, smaller, slower or less-expensive aircraft than they would prefer. A few join forces with one or more partners and divvy up the costs.

## The Partnership Dilemma(s)

There's no denying that splitting fixed costs (acquisition, hangar, crew, insurance, etc.) provides significant financial relief. But even though they may sound good in theory, we've all heard way more partnership-from-hell stories than happily-ever-after ones. They're notorious for usage disputes and scheduling conflicts. Tax, title and financial entanglements are usually built right in. And loosely defined, poorly thought-out exit plans are pretty much the norm.

In DIY partnerships, it's relatively common for the parties to be friends or business acquaintances who have decided that sharing an airplane is a good idea because of the math. These partnerships are often structured in a "We'll figure it out as we go" fashion, increasing the odds for drama and conflict that will ultimately sour the experience for one or all the partners.

A lot of things can go south in a partnership. And they often do. So, most owners would never consider one because the pitfalls far outweigh the financial benefits.

## Out with the Old, in with the Smart

Partners in Aviation (PIA) is a new company offering an innovative path to ownership that delivers everything low- to medium-utilization operators need – including peace of mind. The company, along with its industry partners, has methodically tackled the issues, risks and entanglements that have plagued DIY partnerships. The result is PIA Co-Ownership, a program for owner-pilots and corporate operators flying between 100 and 200 hours per year. PIA Co-Ownership fills the gap between fractional and sole ownership, combining the key benefits of both.

"We're offering a shared-ownership program that's practical, sensible and fundamentally different from partnerships – both legally and structurally," says PIA President Mark Molloy. "Our job is to bring two compatible co-owners together within a given geography and help put them in the new or late-model aircraft that best fits their needs. Think of us as match.com for business aircraft."

Partners in Aviation President Mark Molloy and Chief Marketing Officer Tom Bertels

## Unique Matching Service – an Industry First

PIA specializes in identifying, vetting and matching highly qualified co-owners with compatible mission profiles. "This is the first time anyone in our industry has focused on offering this type of service," says Molloy. "The ideal co-owner has the financial wherewithal to own the whole airplane, but simply doesn't need it. It's not about what they can afford. It's about getting all the airplane they want and need at half the cost."

In addition to geographic matching, PIA also provides aircraft-acquisition consultation and a unique, proprietary co-ownership agreement. The PIA Co-Ownership Agreement is a legal document that is essentially a playbook for the two co-owners. It fully defines the relationship in its entirety – from aircraft acquisition to scheduling and logistics to exit plan.

"We spent a lot of time and resources during the development of the agreement," says Molloy. "It's comprehensive. Everything is defined and agreed upon by both co-owners from day one, leaving no detail to interpretation. The structure makes co-ownership easy for each owner's entire team to support, too – especially the CFO and legal counsel.

"To get our model right, we partnered with an all-star team of best-in-industry experts in aviation tax and law, aircraft maintenance and management," Molloy says. "In addition to cutting the net cost of ownership in half, our structure provides tax and title autonomy. Defining the exit path up front makes entry into the program even more comfortable. And operators who fit our utilization profile will enjoy aircraft access that closely rivals sole ownership."

## Who's on First?

Scheduling is typically the major area of concern expressed by prospective co-owners, who want to understand accessibility. The PIA Co-Ownership Agreement includes a unique scheduling model that allows co-owners to have unparalleled aircraft access. Communication and coordination is centralized with a locally based aircraft management company that handles logistics and scheduling. This eliminates the need for direct communication between co-owners who, because of the structure, don't need to get to know one another, although they likely will.

Here are the basics of how scheduling works:

Each co-owner controls the aircraft schedule every other week – the On-Week. There's no need to check the schedule during your On-Week because the airplane is yours from Monday at 6 a.m. through Sunday at 11:59 p.m. Because of relatively low usage volume and scheduling flexibility, co-owners are typically able to plan 75 percent or more of their trips during their On-Week.

"It works out that the airplane will still be idle and available 70 percent of the time during On-Weeks," Molloy explains. "So each co-owner is incentivized to make the airplane available to the other, via the master schedule, on the days he or she will not be flying during their On-Week. This component is key to maximizing access, and the incentive makes it mutually beneficial to each owner.

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All factors considered, co-owners should expect to have access to their aircraft for 90 to 95 percent of their desired trips. That means making other plans for a handful of trips per year. Molloy says the occasional inconvenience is easy to rationalize. "With half of the cost of the airplane in the bank, finding alternative lift for three or four flights a year is a small price to pay, and that service will be provided by the management company. Fifty percent of the cost with 90-plus-percent access is the single-best value proposition of all ownership options, including sole ownership, ownership with supplemental charter, fractional or DIY partnerships."

## Game Changer

Because the financial advantages of co-ownership are so significant, PIA notes that many of the operators they're meeting are now seriously considering the purchase of new aircraft for the first time. Still others are looking at moving up to a larger class.

Molloy concedes that the program isn't for everyone. "If you need an airplane at your beck and call 24/7/365, it's obvious you should own it yourself. But if you fit our usage profile, 100 to 200 hours per year, and the idea of 90-plus-percent access for 50 percent of the net cost of ownership is appealing to you, PIA Co-Ownership is certainly worth evaluating."

Visit *partnersinaviation.com* for more information. T&T

### Frequently Asked Questions

In addition to scheduling and access, other common questions include:

**Q: Can the PIA program work with more than two owners?**

**A:** Short answer: No.

Longer answer: There are other models out there that bring together multiple owners. They are typically geared toward operators with limited financial resources and require much more compromise.

The PIA model – including exceptional access, exit path and ownership autonomy – is ideal for two well-qualified owners. We concentrate on new and late-model aircraft that offer warranty, guaranteed maintenance, bonus depreciation and the latest in avionics and safety. We subscribe to the theory that the best co-owner is one who is a.) financially capable, and b.) not your tennis partner or poker buddy.

Existing aircraft partners, or those not requiring the matching services of PIA, can acquire the documentation package, exponentially increasing their chances of a successful marriage.

**Q: Is this for owner operators or for professionally flown aircraft?**

**A:** Yes. PIA Co-Ownership works for either.

**Q: Is this available for piston aircraft?**

**A:** Yes. In addition to PIA Co-Ownership, the company also offers a program called Coupled Approach, which is optimized for higher-end piston aircraft.

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by **Thomas P. Turner**

# Recurrent Reality Check

*Twin and Turbine's* editor Dianne White posed an intriguing series of questions to me:

"When working on our multi-engine rating, we spend most our time practicing engine-out technique, which is critical. But is engine failure what kills pilots and their passengers? Or are they more the result of flying into stuff – weather and terrain? When we do recurrent training we once again go through single-engine work, but what other scenario-based training could we be doing based on what is really killing people? If you were designing a recurrent training session for multi-engine pilots, what would it include?"

Take a moment and think about your response to those questions. Then read on, and using real data I'll answer her questions from my viewpoint as a multiengine instructor for nearly 30 years, in simulators and in the airplane itself.

## The Multi-Engine Record

Most authoritative studies of general aviation accident causes rightly quote AOPA Air Safety Institute's annual *Nall Report*. This report, available on the AOPA website, relates and comments upon trends in light plane crashes by careful review of the most recent NTSB Probable Cause findings. The *Nall Report*, however, does not break accident causation down by airplane class. It does have some statistical breakdowns of single- and multi-engine crash scenarios, but it does not provide separate studies for single-engine and multi-engine airplanes. As one researcher put it, AOPA "chose[s] to focus on accident types rather than aircraft types."

To answer the first of our questions – is engine failure what kills pilots and their passengers? Or are more the result of flying into stuff such as weather and terrain? – we need to go deeper into the data. Further analysis of 10 years of NTSB data (2005-2014) reveals there were 365 fatal multi-engine piston and light turboprop crashes during that period (averaging 36.5 per year or one every 10 days for a decade). The top five cause scenarios are listed in rank order below.

| Rank Order | Cause/Scenario | Total Crashes | % of Total Fatal Crashes |
|---|---|---|---|
| 1 | Loss of control: Unexplained power loss | 41 | 11.2% |
| 2 | Loss of control during/immediately after takeoff | 36 | 9.6% |
| 3 | Loss of Control or CFIT: IFR in IMC | 30 | 8.2% |
| 4 | Attempted visual flight in IMC | 29 | 7.9% |
| 5 (tie) | Fuel mismanagement | 23 | 6.3% |
| 5 (tie) | Stall during approach/traffic pattern | 22 | 6.3% |

These top five causes account for 49.5 percent of the fatal events, meaning that fatal accidents are distributed across a small number each of a wide variety of individual scenarios.

Looking at these numbers, it appears that if anything we need to be focusing more on engine-failure scenarios in recurrent multi-engine training. The trouble is, *it is not safe to accurately practice the most critical engine failure in an airplane, and it is not accurate to safely practice them*. The most critical

event is an engine failure immediately after takeoff. Move an unseen hand to the fuel selector value and shut off the gas right after the pilot retracts the landing gear – the most accurate way to surprise the pilot with a power loss at a low airspeed/high angle of attack/close proximity to the earth scenario – and you've done several things that put the flight in serious risk. It may be realistic, but it's extremely risky.

Follow accepted technique to simulate engine failure with a throttle reduction done at least 3,000 feet above ground from a speed somewhat higher than initial climb speed is far safer, but the level of pilot-perceived stress is much lower (collision with the earth does not appear imminent), the throttle reduction is a clear marker of the "failed" engine, and in non-turbocharged airplanes the reduced maximum available power on the "good" engine means the airplane is not as quick to diverge from desired yaw, roll and pitch targets as it would be in a real-world engine failure at a lower, more powerful altitude.

We have no choice but to present engine failures extremely conservatively. It's safer, but it's also much less realistic.

I'm a big proponent of simulation at least annually to give multi-engine pilots more accurate engine-failure scenarios. But flight training devices and true simulators have a "realism gap" as well. Simply put, the first time you have an engine failure right after takeoff is the first time you will have seen and felt what it's like. That said, we need to continue to focus on this deadliest multi-engine scenario as often as we get to training.

The remainder of the Top Five fatal scenarios can be grouped into three areas:

- **Basic aircraft control** – visual (avoiding loss of control during/immediately after takeoff and stall during approach/traffic pattern).
- **Basic aircraft control** – instrument (avoiding loss of control/controlled flight into terrain: IFR in IMC)
- **Flight planning and decision-making** (avoiding attempted visual flight in IMC and fuel mismanagement)

## Direct Comparison

Many readers know that I spend most of my time in the piston Beechcraft world. As part of that focus, I publish what I call the Beech Weekly Accident Update, a compendium of known accidents in Beech piston airplanes. It's free at *www.mastery-flight-training.com* if you're interested. Looking back through five years of my reports (2012-2016) we can take a look at the comparative data on two groups of airplanes that are almost identical in systemic design, numbers in the fleet and typical use, and which differ only by the number of engines: the Model 33 and 36 ("straight tail") Bonanzas, and Beechcraft Barons. I do not intend to address the "single versus twin" argument here. What I'm looking for, instead, is whether the mishap record supports treating twin-engine recurrent pilot training substantially differently from that of single-engine pilots.

Note these are all reported mishaps, not just fatal crashes. In many cases the information is preliminary or does not meet


PHOTO: TED DuPUIS

The most critical event is an engine failure immediately after takeoff. As accident data reveals, pilots and instructors need to be focusing more on engine-failure scenarios in recurrent multi-engine training.

NTSB reporting threshold and will not be investigated beyond the initial report. But given that those assumptions are the same for both single- and twin-engine airplanes, listed in order of frequency among Barons, we can see some trends.

| Cause/Scenario | Bonanza | Baron |
|---|---|---|
| Gear collapse on runway | 29 | 45 |
| Gear-up landing | 51 | 19 |
| Loss of directional control on runway | 13 | 17 |
| Landed long/runway overrun | 6 | 11 |
| Collision during taxi | 10 | 7 |
| Landing gear mechanical failure | 4 | 5 |
| Engine failure in cruise flight | 46 | 8 |
| Fuel exhaustion | 9 | 3 |
| Hard landing | 0 | 3 |
| Attempted visual flight in IMC | 2 | 3 |
| Loss of control/stall during go-around | 1 | 3 |
| Damage due to thunderstorm/turbulence encounter | 1 | 2 |
| Engine failure immediately after takeoff | 12 | 1 |
| Fuel starvation | 7 | 1 |
| Loss of control in icing conditions | 1 | 1 |
| Baggage compartment fire in flight | 0 | 1 |
| Engine fire after landing | 0 | 1 |

There were several more scenarios affecting only the single-engine Beechcraft. It's interesting to note the situations where a specific cause more frequently occurred in the twins, and in which there was more than one occurrence:

- Landing gear collapse on the runway
- Loss of directional control on the runway
- Landed long/runway overrun
- Landing gear mechanical failure
- Hard landing
- Attempted visual flight in IMC
- Loss of control/stall during go-around
- Damage due to thunderstorm/turbulence encounter

It is of course telling the types of mishaps that occurred more frequently in singles than in the twins, but that's outside the scope of *Twin and Turbine*. Expectedly, the Bonanzas were involved in far more reported crashes due to engine failure than the Barons. But the otherwise virtually identical twin-engine fleet is not immune to loss of thrust during takeoff, and engine failures that begin in cruise flight only to end badly as the pilot maneuvers to land on one engine.

## Multi-engine Recurrent Training

The combination of these two data-dives – NTSB reports and my more informal Bonanza/Baron comparison – suggests that for multi-engine recurrent training:

- **A strong focus on engine failure procedures and techniques** is indeed warranted. We're not benefiting from the capability to fly on one engine in most cases like we should. The benign way we must present practice engine failures during takeoff and in flight (to keep from killing more pilots training than we save in real-world failures) does not accurately portray the rate of departure from controlled flight, "surprise factor" and natural fear resulting from all this happening so close to the ground. Ideally multi-engine pilots should use a combination of simulation and in-airplane training to keep their engine-out skills sharp and train to handle as many of the variable as possible.
- **Basic airplane handling and maneuvering** is vital to accident avoidance. We need to be fluent with the avionics and use autopilots to reduce workload. But eventually you must turn off the autopilot – or it turns itself off – and when that happens we need to be just as able to fly the airplane by hand in the conditions we've chosen to fly. This includes flight at low airspeed and high angle of attack, stall recognition and recovery.
- **Basic attitude flying and maneuvering** by reference to instruments. Hand-flying *in addition to,* not in place of, avionics and autopilot fluency; position and altitude awareness to avoid controlled flight into terrain.
- **Takeoff and landing practice**, including stabilized approaches, insistence on touching down in the runway's landing zone, directional control during the takeoff and landing rolls, avoiding inputs during landing that may result in inadvertent gear retraction, and go-arounds from short final in the full landing configuration, are equally important to avoiding the most common accident scenarios.
- **Flight planning and decision-making** needs to be part of the ground instruction part of flight reviews and other recurrent training, including fuel management and weather strategies.

Very frequently pilots of multi-engine airplanes get regular Instrument Proficiency Checks (IPCs), and have their training provider endorse the IPC flight as a Flight Review as well. Although a multiengine IPC requires maneuvering and an instrument approach in simulated single-engine flight (on the Rating Task Table in the Instrument Practical Test Standards), an IPC does not include most of the tasks and skills that result in the historic causes of most multiengine crashes. It's legal to count properly endorsed IPCs as Flight Reviews. But it does not help you retain and build upon the skills that are most likely to keep you out of the NTSB record.

Keep getting those regular IPCs. Don't stop, the record shows. It's working. But add an additional instructional session covering visual maneuvering, more simulated engine failures, accuracy takeoffs and landings, go-arounds, and a flight planning and decision-making quality control check at least annually. If possible, make every other one of those a trip to a multi-engine simulator. When I help pilots design a personal multi-engine training regimen (and I do), that's the recurrent reality check I recommend. T&T

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

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by **Kevin R. Dingman**

# In The Groove

## Guppy School (Part Deux)

It's taken 150 hours, but I'm getting a handle on the 737 Guppy (see "Guppy School," *Twin & Turbine*, January 2017). It's rewarding to once again hear "Great landing, great flight" compliments from the passengers and FA's, the flight attendants. An observer in the cockpit is well suited to gauge piloting tasks, but an experienced FA can better evaluate the product you deliver to the customers. Senior flight attendants are like an experienced, non-pilot flying partner and are not easily impressed. A career flight attendant will consistently have more time in the back of the plane than a pilot of comparable seniority has in the front. And for those airline frequent flyers proud to have flown a million miles, FA's are like McDonald's hamburgers: their miles are in the billions. Thus, their experience-based critiques have legs. But take heed, they can be silky smooth or harsh and hairy.

Having seen it all, FA's are a good judge of a well-executed flight and are not shy about pointing out the hairy details when it's not. They know what a good flight and appropriate captain/customer interaction should look like. They understand how each phase of a flight should feel, sound and smell. They know about weather, diverts, scheduling and ATC/company procedures. And they know how to deal with customer issues that would make your pilot even-strain meter peg into the red. When you keep the customers informed, the pressurization and temperature controls where they belong, get smoothly from A to B and then also stick the landing, you may earn the flight attendant "Good Captain" label. It's the pinnacle of airline pilot success because you've shown that not only are you a good pilot, but a good leader and boss. Kinda like the "Good Housekeeping Seal" for pilots, only there's no sticker.

### Old School Conflicts

Most consider me to be an old-school airline pilot. I wear the full uniform including the hat. I button the jacket and snug up the tie. But some old-school ways don't fit well with the new-generation airliners. I talk to passengers in the terminal, and I try to talk to them as they board. But the cockpit door of the Guppy is so far from the cabin that I can barely glimpse the boarding passengers. And when someone needs to use the forward lav while boarding, the cockpit door is forced closed by the lav door opening. How am I to acknowledge the admiration of women, children and super models? (see "Retire Me Not," *Twin & Turbine* September 2016).

Also, I still make old school PA's. Well again, I make some PA's. With all the onboard entertainment gadgetry provided in the 737 and those the passengers bring themselves, making a rambling PA to describe our position, route and ETA can be a nuisance to those addicted to all things electronic or internet: social media, movies, games, TV shows, news…I could go on. Unlike the MD-80 which had limited theater beyond my comforting Chuck Yeager voice, I now have an annunciator light on the overhead panel that tells me when the video system in the cabin is engaged: It's the "Captain, shut up" light. And "thou shalt not block with thy Captain prattle" thine King's mandatory, recorded announcements, to wit: Royal boarding proclamations, luggage placement decrees nor seat belt edicts. Nor may ye interrupt, while aloft over the realm: free onboard movies, Netflix, YouTube videos or a selfie in progress. Any such infractions being punishable by removal of any previously bestowed Good Captain knighthood. So my PA's have been caged to a brief welcome aboard greeting, one per hour inflight and then one 30 minutes before landing. My well-honed Ted Baxter delivery, neutered.

### Hold On…Just a little bit tighter now, baby

*(1970, Alive and Kicking)*

The level of turbulence at which I turn on the seat belt signs has also changed from the MD-80. I could go up and down about phugoids, back and forth over center of gravity versus center of pressure, we could get spun around winglets, weighed


In the Boeing 737, I now have an annunciator light on the overhead panel that tells me when the video system in the cabin is engaged: It's the "Captain, shut up" light.

The HUD is helpful for all things that help to make a smooth flight and to grease the touchdown.

down over wing loading and all manner of fluid dynamics gobbly-goop. But the bottom line is this: the stretched Guppy-800 is more sensitive, especially in the aft cabin, to disturbances to smooth air. You know, chop. Bumps that the Mad Dog would have plowed through smoothly with a smirk on its radome causes the Guppy's cabin occupants to wet their pants. So, on comes the seat belt sign. Then off…then on…then off…well, you get it. I haven't quite smoothed out the on-off thing yet. And it's a topic from which I sometimes receive one of those hairy critiques.

And speaking of wetting our pants, not that it matters to the ladies, but there is little room to stand straight-up, guy fashion, in the forward lav, the one us folks at the pointy-end use. And since we're on the topic of size mattering, there is no room for a normal, man-sized kit bag on the flight deck either. Both cockpit seats slide back, then outboard to where the kit bag sits. A standard-size kit bag inhibits the outward portion of the movement and thusly diminishes the room available to the inboard side of the seat needed to stand and exit the cockpit. A new, smaller kitbag was a requirement for my transition to the Guppy. As was the continuous use of an earpiece and the intercom system; the cockpit is louder than the Mad Dog. A positive, however, is that the cockpit has room for a suitcase and my laptop, a spot for my hat and a closet with hangers for jackets. Another plus is that it's great to look out the window at those beautiful winglets. Unlike the 80, I can see the wing tip from the cockpit. This provides both a beautiful view inflight and a welcome ability during taxi to help avoid obstacles (see "Wintertime Blues," *Twin &Turbine*, February 2016).

## A Beautiful Mind

It's rewarding to finally recognize what the wings and the motors like. I'm slowly getting back my "anthropomorphic feel" about altitude and speed versus fuel burn, top of descent planning and deceleration rates for example. Yes, there is all manner of avionics in the Guppy to calculate those things. But they're often late, abrupt, sloppy and sometimes way off the mark. Especially in the descent. Speed control and altitude restrictions seem to be on a "close enough," or "sorry, I tried" basis in the not-so-beautiful mind of the FMS. And knowing why it's doing what it's doing, and how to make it do what I want instead, is a guard against its laissez-faire defiance; enough so to be ahead of the company's planned arrival time and fuel burn predictions on occasion. But more importantly, to fly smoothly and to not make the passengers light in their seats or cause them to blackout at the bottom of descent as the FMC pulls 6 g's. From a pilot's comfort-level perspective, my work load is decreasing as I get more comfortable in the jet. And this allows me to spend more brain cells on the captain stuff, so long as I monitor the VIDEO ON light and don't make intrusive PA's.

What do I enjoy about the Guppy? While others may discuss in detail the airframe, magic avionics and powerplants, I'm not so technically impressed. I'm not so "journalistic" in my feelings about airplanes; I'm more visceral. I like the look of the winglets and the smell of the leather interiors. I like the predictor lines on the N1 gauges when I shove up the throttles. I love the sound of the motors on takeoff and when I throw them into reverse on landing. And the HUD, boy do I love that HUD. Not just the CAT III and single-engine help it provides, but the flight director, the pilot-friendly indications to avoid tail strikes, proper climb and descent angles, when to flare and when to pull the throttles to idle for landing. All things that help to make a smooth flight and to grease the touchdown.

## Silky Smooth

"Whenever you do a thing, act as if all the world were watching."

– *Thomas Jefferson*

My transition to the Guppy was challenging but fun. It was painful to struggle doing what had been so easy. And it's been frustrating to feel behind and task-saturated as compared to the Mad Dog. After thousands of hours in the MD-80, flying was intuitive. Every control pressure, switch position, noise and smell was as familiar to me as any person, machine or place could be. I was a Good Captain. I'm slowly getting there again in the Guppy. It's nice to get a feel for the plane and execute a customer-friendly trip. The passengers and FA's and are starting to say so, and silky smooth compliments are much better than a hairy critique. It's great to be called a good pilot by the passengers. It's even better to be labeled a Good Captain by the crew; even if you don't get a sticker.

It's nice to be back in the groove. 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.

## Duncan Aviation Delivers First CJ3 Pro Line Fusion Flight Deck Upgrade

Duncan Aviation has delivered the first Citation CJ3 aircraft equipped with the Rockwell Collins Pro Line Fusion flight deck upgrade, which transforms the pilot's flight experience and meets upcoming NextGen mandates. The system received Supplement Type Certification from the FAA April 21 and the aircraft was subsequently delivered to the customer yesterday afternoon.

The second CJ3 scheduled to receive the upgrade is currently in work at Duncan Aviation and will be delivered in early June. Duncan Aviation has nearly 20 additional CJ3 aircraft scheduled for the upgrade over the next 18 months with others seriously inquiring, and will be performing the installation at its main facilities in Battle Creek, Michigan; Lincoln, Nebraska; and Provo, Utah; and at select satellite avionics locations in 2018

"We're thrilled to have the certification in hand and the road clear to begin upgrading numerous CJ3 aircraft with the popular option," says Jeff Simmons, Duncan Aviation avionics sales representative. "Committed CJ3 operators are anxiously awaiting their upgrades and look forward to flying in the next-generation flight deck provided with this modification."

Along with being certified WAAS/LPV, the baseline Pro Line Fusion upgrade meets the current 2020 mandate for ADS-B, as well as giving a clearer path for future mandates. The Pro Line Fusion flight deck replaces the factory-installed portrait displays with larger 14.1-inch landscape touchscreen primary flight displays. The new system includes intuitive, touch-interactive maps and easy-to-use icons, giving the pilot the ability to control items on the screen through touch as well as through two new cursor control panels and a new QWERTY keyboard, which replaces the current FMS CDU mounted in the center pedestal

To see more information about the system and to see installation progress of the first CJ3 Pro Line Fusion flight deck upgrade, visit *www.DuncanAviation.aero/cj3prolinefusion.com*. T&T

## Gill Batteries New Gen 7000/LT Series Battery Awarded FAA PMA for Cessna Citations

Gill Batteries have been FAA approved for installation of its new-generation 7000 Series/LT sealed lead acid battery on Cessna Citation aircraft.

"We are extremely excited to now be able to offer this advanced battery to the 6,800 Cessna Citations in operation around the world," Gill Batteries General Manager Armando Chacon said. "These Citation owner-operators now have options to increase the efficiency and performance while reducing the maintenance costs of their aircraft."

The company said its new 7000/LT delivers greater starting power and more residual power after start up. In addition, the 7000LT offers higher capacity, requires less routine maintenance and costs less than any competing battery.

The 7000/LT series is a direct replacement for Ni-Cad & other lead acid batteries and has a longer interval before initial capacity check (18 months or 1,800 hours). Also, it offers easy recovery from deep discharge and an industry leading warranty. T&T

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# Which Airplane is for Me? Part 2

In our last episode, we found young David yearning to fly his own turbine airplane. In this episode, he visits new and exotic locales in search of what may be the perfect steed. But first, a few side trips.

## The MU-2

Reader Ken Sutton emailed me about the process he went through to find and restore his passion, an MU-2. He even produced a bound book detailing each step as he added avionics, props, interior and paint. In the end, he had a 300 knot, one-of-a-kind aircraft. The MU-2 was maligned years ago due to a poor safety record. But with the proper training, it's accident history has improved dramatically. And it continues to receive strong product support. It was certainly worthy of my consideration. But when I looked closely at the throttle quadrant and saw the "jungle" of levers and lights, I was overwhelmed. I struggle to walk and chew gum simultaneously and the thought of managing all those options was too much for me. Additionally, I fly only 100 a year and the MU-2 appears to be an airplane that needs to be flown more frequently to remain on top of your game.

## The Cessna Conquest

Their owners swear by them. A lot of bang for the buck with lots of capability. Many Conquest I's have been upgraded to Pratt and Whitney PT6A-135A engines with more power available at altitude. The Conquest II is a beast with almost 2,000-nm range but more cabin than I need. And both featured autopilot and flight directors of the 1980s, which lacked the integration that I was looking for.

## How about a King Air?

The F90 has held its value well over the years and has a very loyal following. Owners are upgrading their panels with Garmin G600 and 750 packages. It has lots of range, but its shorter wing limits higher cruising altitudes. I operated a 2002 C90B with the Blackhawk engine conversion and really enjoyed it. But the avionics were pre-Garmin G1000. To fly a G1000 equipped airplane, I would likely have to find a B200, more cabin and cost that I wanted. I realized that to get the kind of avionics integration I yearned for, and a big screen PFD and MFD, my wallet was going to have to get bigger. Almost a million dollars bigger. Perhaps a C90GTi with the Collins Pro Line 21 would fit the bill. Beech dramatically improved the airplane in 2007 with the addition of the robust Collins system, which is essentially identical to the one found in the CJ1+, 2+ and CJ3. In addition, a gross weight increase and winglets increased the full fuel payload capacity to almost 1,000 pounds. It's quite an airplane. I found one locally and spent an hour sitting in the cockpit. But I kept asking myself the same questions. "Why so many switches? Why so many power levers? Why do I have to cycle the boots manually every time I need them? Why does the fuel system have seven toggle switches? Isn't there a simpler solution?" I was trying to talk myself out of the airplane. Then, I realized I needed another opinion.

"Patty, should I even be thinking about a turboprop?"

"You are not going to be happy unless you have a jet," she said.

Stay tuned and 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 fly a Citation M2. You can contact David at* davidmiller1@sbcglobal.net.

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