TWING TURBINE.

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

MAY 2017 \$3.95 US

VOLUME 21 NUMBER 5

When Picking Your First Jet

Legacy vs. Late Model

Flying For a Cause: Part 2

Dutch Treat: Flying to "Deadliest Catch" Port

Radome TLC



INNOVATION. PERFORMANCE. LEADERSHIP.



GO WHERE YOUR VISION TAKES YOU

There's a smarter way to move your business and your family. From Chicago to Key Largo or anywhere between, the Cessna Citation CJ Family delivers time-saving mobility and access to thousands of small airports. All three aircraft have a common type rating, making it easier and more efficient than ever to grow with your business.

Learn more at Cessna.com.

U.S. +1.844.44.TXTAV | INTERNATIONAL +1.316.517.8270

©2017 Textron Aviation Inc. All rights reserved. Cessna & Design, Citation, M2, CJ3 and CJ4 are trademarks or service marks of Textron Aviation Inc. or an affiliate and may be registered in the United States.



Contents

May 2017 • VOL. 21, NO. 5



TWIN&TURBINE

EDITOR

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

EDITORIAL OFFICE 2779 Aero Park Drive Traverse City, MI 49686 Phone: (660) 679-5650 E-mail: editor@diannewhite.com

PUBLISHERS

J. Scott Lizenby Dave Moore

PRESIDENT

Dave Moore

CFO

J. Scott Lizenby

PRODUCTION MANAGER Mike Revard

PUBLICATIONS DIRECTOR Jake Smith

GRAPHIC DESIGN

Brett Sanders

TWIN & TURBINE WEBSITE

www.twinandturbine.com

ADVERTISING DIRECTOR

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

ADVERTISING ADMINISTRATIVE

ASSISTANT & REPRINT SALES
Betsy Beaudoin
Phone: 1-800-773-7798 betsybeaudoin@villagepress.com

SUBSCRIBER SERVICES

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

COVER PHOTO

Courtesy of Jessica Ambats Citation Stallion owned by Howard Tobin

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.

2 Editor's Briefing by Dianne White

Legally Speaking The Dreaded 709 Re-Examination by Jerry H. Trachtman

Jet Journal

- Legacy vs. Late Model Which One Makes Sense? by Dianne White
- Why I Love My Legacy Citation by Howard Tobin
- 10 Why I Love My Mustang by Ken Fielding
- 14 Flying For a Cause Part 2: The "How" of Charitable Flying by Joe Ratterman
- **20** Dutch Treat A Visit to "Deadliest Catch" Port by Kevin Ware
- 26 Five on the Fly by Rebecca Groom Jacobs
- 28 Tax Talk: Partners in Flight by Phil Crowther
- 32 Winning the Demo Flight by Rebecca Groom Jacobs

Twin Proficiency

- **36** A Decision of Convenience by Thomas P. Turner
- **42** Radome TLC by Archie Trammel

From the Flight Deck

44 When it Rains by Kevin R. Dingman

En Route

46 SIMCOM Now Offers Concierge Service Embraer Delivers 400th Phenom 300

On Final

47 Flying Aussie Style in a Cessna 182 by David Miller

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. All rights reserved. Copyright 2016, Village Press, Inc. 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.

MANUSCRIPTS: Twin & Turbine assumes no responsibility for unsolicited manuscripts, photographs, or art work. While unsolicited submissions are welcome, it is best to query first and ask for our Writer's Guidelines. All unassigned submissions must be accompanied by return postage. Address queries and requests for Writer's Guidelines to the editor.

TWIN & TURBINE • 1 May 2017

editor's briefing by Dianne White

Aviation Seen Through New Eyes



n early March, the 28th annual Women in Aviation International Conference was held in Orlando. (For the guys reading this, stay with me.) The conference attracted more than 4,500 attendees from 19 countries, 165 exhibiting companies, and featured astronauts, high-ranking, accomplished military aviators, and leaders in the airline and business aviation industry.

To be honest, I hadn't been to a WAI event in many years, and had never attended the international convention. Having attended well north of a 100 air shows, conventions, regional meetings and fly-ins throughout my life and 30-year career, I didn't expect it to be significantly different from other conferences I've attended in the past: There will be an exhibit hall, various speakers, a keynote address, a few awards and a banquet. Been there, done that.

Was I ever wrong.

What changed my perception was due to, in part, by the company I kept during the three-day event. A few weeks prior, I received a call from my daughter, who is a 2/C Midshipman at the U.S. Naval Academy. Abby is a private pilot, an aeronautical engineering major, and a member of the Academy's Intercollegiate Flight Competition Team. She has her sights set on a Naval aviation career after graduating in 2018. Yep, she's our slacker.

On the call, she excitedly told me that four Midshipman had been selected to attend the WAI conference, and she was one of them. Accompanied by two Academy officers (who are also Naval aviators), the group would have the opportunity to spend three days interacting with leaders from throughout the aviation spectrum, as well as mingle with other students interested in military and civilian aviation careers. The purpose, they were told, is to network among the wide swath of accomplished aviators and come home with a greater knowledge and appreciation of the various missions and fields within the broad industry we call aviation.



"Weren't you planning to be there?" she asked. "Of course," I answered as I punched "register now" on the WAI website.

Once we arrived for the first day, it quickly dawned on me that these young women – some of the brightest and most motivated people you'll ever meet – had never in their lives been exposed to an opportunity quite like this. Every which way we turned, there were multiple generations of aviators who have done amazing things and were there to share their experiences and pay it forward. It was also interesting that there were nearly as many men in attendance as women. The conference serves as a job fair with the major airlines, fractional ownership companies and cargo haulers conducting in-person interviews for job openings.

We attended a panel of female Naval aviators who shared fascinating flying stories and life on deployment. We listened to recollections by three WASPs who are among the handful still with us. (One talked of towing targets for troops to practice anti-aircraft fire; sometimes their aim wasn't very accurate.) We interacted with a NASA astronaut working on the mission to Mars; chatted with various military brass - men and women - in every branch of service: and heard from members of the first class of women Naval aviators. We also met executives and representatives from GA companies, such as Piper, Textron, Gulfstream, Bombardier, Bose and other products and services the Mids didn't even know existed. Finally, we attended a flight suit social, where multiple generations of women military pilots - from 90-plus year old WASPs to current astronauts and Navy F/18 fighter pilots - hung out, shared stories, and provided advice and inspiration. Me, being the only one in civvies, could only marvel at this boisterous, upbeat (and sometimes salty) sisterhood of military pilots.

We also heard some disheartening news at the conference: Even with so many new opportunities and renewed focus on attracting women to STEM and aviation career fields, the needle hasn't budged: While the number of women pilots steadily grew through the 1960s, 1970s and 1980s, the number women holding certificates has stayed statistically flat at around 6 percent over the last 30 years. The female military aviator is even more rare. Stats cited from a few years ago revealed women made up 2 percent of the Air Force, 1 percent of the Marine and 4 percent of the Navy pilots. The challenge remains how to encourage young women to explore the opportunities and adventure that awaits when they take the left seat.

Two obvious keys are exposure and mentorship. The WAI conference provided both for this small group of Midshipmen, allowing them to carry back deeper appreciation of the path of women aviation pioneers blazed before them. They also left with the knowledge that many people have their backs as they move forward to pursue their aviation careers.

By the end of the three-day event, I realized I had been missing a lot all these years. Thank you Peggy Chabrain and WAI!

Diame

2 • TWIN & TURBINE



- Sales
- Acquisitions
- Consulting



www.jet-quest.com 800-BUY-A-JET

Legally Speaking by Jerry H. Trachtman

The Dreaded 709 Re-Examination



You have received the current ATIS, and it is reporting wind as 020 at 18, gust 25. The maximum demonstrated crosswind component of your aircraft is 17 knots. You are proficient, and have never had an issue landing in a stiff crosswind. You touch down on the runway centerline and are surprised when your aircraft suddenly and unexpectedly departs the runway despite your efforts to bring it back, and you end up in the grass off the runway. The tower asks if you require assistance, and since the only damage is to your ego you decline and taxi back onto the runway, not quite sure about the cause of what just happened.

A month after your runway excursion you receive a letter from the local FSDO:



Dear Mr. Smith:

The FAA has conducted an investigation of an accident/ incident that occurred at KXYZ on [date]. Based on that investigation, the FAA has reason to believe that your competence as a certificated airman is in question, and that re-examination of your qualification to be the holder of an airman certificate is necessary in the interest of safety. Therefore, under the authority in 49 U.S.C. § 44709, the FAA requests that you call or appear at this office or a Flight Standards District Office more conveniently located to you no later than 10 days after you receive this letter, to make an appointment for a re-examination. The re-examination will consist of crosswind landing technique and include the knowledge and skill necessary to be the holder of [your airman certificate] with emphasis on in-flight decision making and aircraft control. If you make an appointment with a Flight Standards District office in another area, please advise this office. If you do not accept the opportunity for re-examination by the date set forth above, we will begin proceedings to suspend your airman certificate until such time as you demonstrate your competence to exercise its privileges. If, for reasons beyond your control, you are unable to be re-examined at this time, please contact me immediately so that the FAA can determine whether to grant an extension of time to you. Please note that the incident that occurred on [date] is still under investigation to determine whether other enforcement action is appropriate. If additional enforcement action is to be taken, you will be advised in a separate letter. We will be pleased to discuss this matter with you and provide any further information that may assist you. Our office is open from 8 a.m. to 4 p.m., and our telephone number is (555) 555-5555. Your cooperation in this matter will be appreciated.

Title 49 of United States Code, section 44709 provides that the Administrator of the FAA may re-examine anyone holding an airman certificate. No ifs, ands or buts. A request for re-examination is not appealable as long as the FAA has a reasonable basis to question whether an airman is qualified to hold his or her certificate. The bad news is that it is virtually impossible to challenge the reasonableness of a re-examination request, and most incidents or accidents are likely to result in a request for re-examination.

As long as the FAA has a reasonable basis for believing that pilot competence could have been a factor, it does not matter that some other factor may have been responsible in whole or in part for the accident or incident underlying the request for re-examination. In a case involving a DC-3 takeoff, at an altitude of 300 feet the PIC noticed a burning odor and observed that the left engine fire warning light had illuminated. He followed the in-flight fire emergency checklist and determined that the left engine should be shut down. After shutting down the engine, he feathered the propeller, but the aircraft would not climb on one engine. He was forced to make an emergency landing in an open field and none of the aircraft occupants were injured. but the aircraft sustained major damage. The FAA investigation determined that the aircraft was unable to climb on one engine due to one or more possible reasons: crewmember lack of competence; or inadequate power available from the right engine; or incorrect engine or aircraft performance indication. A letter requesting re-examination was sent to the PIC, and the PIC challenged the reasonableness of the request. He argued that if the FAA had performed a more thorough investigation, it would have discovered that his competence had nothing to do with the

accident because the propellers were nonconforming and the ailerons drooped. He lost the argument, since all that matters when a re-examination is requested is that pilot competence could have been a factor.

What happens if you fail to appear for the requested re-examination? Failing to appear for the re-examination will always result in the FAA issuing an emergency order suspending your airman certificate until you successfully complete the re-examination. If you need an extension of time, ask for it.

Does a successful 61.58 PIC proficiency check by a DPE substitute for a requested 709 re-examination? No, it does not. The 709 re-examination must be administered by an FAA inspector. However, it does not have to be done by an inspector at the requesting FSDO. Sometimes it is necessary to go to a different FSDO that has an FAA inspector with a type rating in the aircraft in question.

The good news is that as long as you did not violate any regulations (you were cleared to land, right?) the matter will end with the re-examination, if you complete it timely and satisfactorily. If you have any doubts, it's always a good idea to get some dual instruction in the areas to be tested before appearing for a 709 re-examination. TED

Jerry H. Trachtman is a board-certified aviation attorney who has been practicing law since 1976. He is a Piper Meridian owner-pilot and regularly speaks on aviation legal topics at aviation events.

Looking to purchase a jet aircraft?

Don't go solo, "See the difference" that Hawkeye Aircraft can make.

We just don't find you an aircraft, we find the right aircraft for you.

Visit our website to to download your free copy of 17 questions any serious aircraft buyer needs to know.



Acquisitions

39 years Aviation Experience, 29 years with two major OEM's, ATP Jet typed 6500 hour pilot, ASA Senior Aircraft Appraiser.

<u> Hawkeye Aircraft</u> www.hawkeye-aircraft.com



TWIN & TURBINE • 5 May 2017



by Dianne White

t's time: you're ready for your first jet. After flying around in the lower flight levels, you are prepared to attain your first type rating, see the world from FL410 and find out what it's like to eat time zones for lunch. But where to start?

After clicking on "jets for sale" in *Controller*, you're dazzled by the wide range of options. Early model Citation II's, boasting more than 1,300 nm range, up to seven seats in the cabin and nearly 350 kts cruise speed can be bought for under \$1 million. What a bargain for so much capability!

A CitationJet, with its ubiquitous 525 type rating, has better operating economics, excellent performance, and nice ramp presence. They start in the \$1 million range and up.



Scroll on and you can find a variety of Citation Mustangs for sale. Featuring Garmin G1000, sexy looks but fewer seats than the 525, the least expensive Mustang models are priced in the mid-\$1 million range.

Which represents the best value, fits your budget and will satisfy your mission? Do you go for less acquisition capital but trade-off higher operating expenses or vice versa? How does that equation fit into your budget and tax planning? What will be the residual value value of your investment? Suddenly this project just got a bit more complicated. To provide some insight into the discussion of "legacy" versus "late model," Twin & Turbine talked to a leading industry expert and delved into the numbers as found in Aircraft Cost Calculator.

Although there are other excellent light jet options available, including the Phenom 100, that are worthy of consideration, for simplicity sake, this discussion

of older aircraft versus later model will focus on the Citations. Not only are they the most prevalent light jet in the market, they represent the most light jet transactions that occur each year in the marketplace. However, the market principles and purchase criteria remain the same regardless of make and model.

Citation: The Owner-Flown Standard

Since the early 1970s, the Citation has been the archetype for the ownerflown light jet. The original Citation, certified in 1971, neatly fit the niche between turboprops and existing business jets. It paved the way for the first business jet that could be flown single-pilot, the Citation II/SP, which significantly expanded the market for a new generation of owner-pilots.

Over the following decades, that original concept would be re-invented in two new iterations: the CitationJet (Model 525) and the Citation Mustang (Model 510). Each model represented an affordable, entry-level jet that was prized for its ease of operation, reliability and docile handling characteristics. It was never the fastest in the light jet space, but it gained market appreciation and acceptance as a practical aircraft with excellent short-field performance. In fact, brand marketing in the Citation's early years coined the phrase "the sensible Citation" for its all-around capabilities and operating economics.

Most new jets hinge on advancements in engine technology. In the early 1990s, the Williams FJ44 turbofan engine helped re-invent Cessna's entry-level Citation in the form of the 525, which also featured natural laminar flow wings, wing anti-icing via a heated leading edge, anti-skid brakes and its signature T-tail. The original CJ came standard with Honeywell EFIS and digital autopilot along with a Bendix/King CNI 5000 radio stack. Today, there are any number of avionics retrofit configurations available to add "glass" and WAAS approach capability to the cockpit.

The Citation Mustang continued the tradition as the next entry-level jet that Cessna would reimagine. At the center of the aircraft's design is the highly efficient Pratt & Whitney Canada PW615F engines

Why I Love My Legacy Citation

If well-maintained, legacy Citations offer capability & reliability with plenty of upgrade options.

by Howard Tobin

Twenty-five years ago, I was flying a Cheyenne II. I had owned it five years, having traded up from a Cessna 340. I was on top of the world owning a plane with jet engines. OK, it wasn't really a jet but rather a turboprop. People like me didn't fly jets, did they?



I had heard about the Cessna Citation, or "Slowtation," as they called it, and was vaguely aware that it had been certified for single-pilot flight. To me, 350 knots and flight at FL410 certainly didn't seem slow. In fact, it seemed amazing. Of course, I couldn't resist. Now, 25 years later, I'm still flying the same plane.

Of course, it's not really the same. I've made a lot of changes: RVSM, avionics upgrades to allow WAAS approaches and ADS-B. With the addition of the Stallion upgrade, it's certainly not slow any longer. A less than 30-minute climb to FL430 is nothing short of exciting.

A lot of people have asked me why I have poured so much money into such an old plane. Mine was built in 1978. That's not an easy question to answer. To me, it doesn't seem like an old plane. In fact, it still looks new. My paint is still good and my interior was redone not too long ago. Of course, I didn't upgrade everything at once, so the cost was spread out over many years.

The other question that I get all the time is whether buying such an old plane makes sense for the pilot first transitioning to jets. To me, the answer is yes, but there are a lot of factors to consider. There are loads of Citation I and 1SP's on the market and they can be purchased for a bargain price. The straight I's are certified for two pilots, but single-pilot waivers are readily available. Just remember, they must be renewed each year and you must have a second class medical.

If the plane has been well maintained, I doubt you will have much more trouble than with a newer plane. While the systems are older, Cessna really got it right when they designed this plane. Unscheduled maintenance has been rare over the years I have owned the plane. Grounding problems along with fuel leaks, anti-ice issues and leaking actuators as well as occasional stuck relays seem to be the biggest issues in my experience. Relays tend to fail when they're not used, so it's a good idea to exercise them from time to time. Parts are still readily available, and generally, components can be repaired or overhauled. The Sperry autopilot has proven remarkably reliable. The same is true of the pressurization system, which is a maze of pneumatic components. I've had some problems, but over the years it has been reliable.

Finding mechanics familiar with the older planes can be an issue, but there are enough resources so that I wouldn't consider that a deal breaker. Scheduled inspections can run high, but fortunately there is a low utilization inspection program offered by aviation attorney, Richard Bacon that can stretch out the big phase 1 through 5 inspections. I took advantage of that several years ago and it has saved a lot of money in routine inspections.



TWIN & TURBINE • 7 May 2017

The big question is avionics. If you are used to a G1000 and feel you just couldn't fly without it, then your options are limited. A few older planes have been upgraded, or you could do the upgrade yourself, but that is expensive. Frankly, there are so many less expensive glass options for these planes that you can get everything your heart desires for far less money. A lot of older planes have sophisticated panels, and while it's not a G1000, it gives you the same information.

Another consideration: the G1000 is getting a little old in the tooth. My upgrade to ADS-B was relatively inexpensive. I'm not sure that's the case with the G1000. In fact, as a rule, it is a lot cheaper to upgrade avionics when everything isn't in the same box. I had Garmin GTN625 installed that was coupled to my Sandel glass primary instruments and my existing old reliable Avidyne display and it didn't break the bank.



Of course, if speed is big concern, the 500 or 501 won't cut it. Performance-wise, these planes are close to the Mustang with a couple of important considerations. On the plus side, they can carry a lot more. It's almost impossible to overload them. My plane will carry me, six passengers and over 300 pounds of baggage and remain within limits. I've carried as many as eight passengers on a short flight. The downside is fuel consumption. These older engines do burn a lot of fuel.

If you want more speed, then you need to look to the Williams-converted planes such as the Stallion or Eagle II. I converted mine to a Stallion five years ago. The conversion cost more than I had originally paid for the airplane: a little upward of \$1.5 million. It was a touch decision, but I never regretted it. With top speed approaching 400 knots and initial climb rates of better than 4,000 feet per second, the performance is equivalent to a CJ2. For the new buyer, these planes are a bargain on the used plane market, and there seem to always be several for sale. A large percentage have already had avionics upgrades. While it might not be a G1000, they are generally well equipped.

Buying an airplane is often more of an emotional decision rather that purely economic. However, if price is a big concern, I doubt there is any deal that would match it, whether you go for a classic Citation I or ISP, or if you go for a Stallion or Eagle II. Over 50 planes have been converted. The Eagle II offers extended range through the installation of larger fuel tanks, but suffers a bit in climb and speed.

My flight profile is quite varied. On a recent flight from Abilene to San Diego, a 900-nm flight, I flew at FL430 where my fuel burn is roughly 780 pounds per hour. The flight took three hours with a 60-knot headwind and I burned about 2,800 pounds of fuel, leaving me with a good safety buffer of 1,000 pounds. My true airspeed at that altitude is generally around 360 knots and so a 1,200-nm range is realistic with no wind. Reducing the power can significantly extend range but I rarely find that necessary. I'm ready to stop after 3.5 hours.

On shorter flights, I will still try to climb as high as the controllers will allow. For example, Abilene to Houston is a little under 300 nm, and they really bring you down low on the arrival. I will still file for FL270 and on the return, FL300. Since I get to altitude so quickly, I always try for as high as possible. On any flight over 400 miles, I will usually go to FL410 or 430. The Stallion has a modified type of FADEC in that there is only a single-channel controller. If you reduce the throttles past a detent, the automatic mode is disengaged and you revert to manual control. At that point, the standard synchronizers can be used to keep the engines in sync. The system works well, but is not considered true FADEC because of the lack of a backup controller.

Another big advantage of the Williams conversion is the significantly lower residual thrust at idle. With the Pratt & Whitney JT-15 engines, you were almost always using the brakes on taxiing. Also, landings are significantly shorter with Williams engines, making longer brake life an added benefit. All this is especially advantageous to me since I have neither power brakes or anti-skid, which is somewhat unusual in these planes. I also didn't have thrust reversers, but that's becomes a moot point with the Williams conversion, as they are removed anyhow.

Regarding support, the Citation Service Centers are still a valuable resource and I have used them extensively over the years. In the past, they were reluctant to work on modified Citations, but that no longer seems the case. It is to their credit that they continue to support these older planes. On occasion, I have taken advantage of their Mobil Service Units and have been highly satisfied. I used to depend on the Sierra facility in Uvalde, Texas for a lot of my major work. That is now closed, and I'm not certain if their San Antonio facility provides the same support. Williams seems reluctant to authorize many places to work on their engines and that is a shortcoming. So far, other than a leaking O-ring, I've had no problems with my engines.



producing 1,400 pounds of thrust and equipped with FADEC. Also, the Mustang is the first Citation to feature Garmin G1000 integrated avionics suite.

While each jet represented a significant leap forward in technology, efficiency and safety, all three entry-level Citations remained true to their mission: be the owner-pilot, entry-level jet of choice.

"The purpose of the CJ and the Citation Mustang was similar to the 501: build a business jet that is easy to fly, affordable, with great runway performance and operating economics," said Tim White, president of jetAVIVA, who served in Cessna's Citation sales leadership through the high tides of CitationJet, Mustang and M2 sales. "Cessna essentially created the entry-level jet market with the Citation 501, and as engine and flight deck technology advanced, they incorporated it into their follow-on generations of entry-level offerings."

When considering whether to purchase a "legacy" Citation or a later model Mustang, there are several data points worth noting.

"First, ask yourself what you are hoping to achieve with this step-up. What does this aircraft represent in your personal aviation journey? Do you intend to stay in this aircraft longterm or do you anticipate moving to something else in a few years, thus making residual value and ongoing market viability important? Is it going to be a business tool; what does your business need? Finally, how does it fit into your personal aviation goals?" White added. "Next step, what aircraft choices fit your budget and your goals. Now you can drill down to what aircraft meets your '85 percent of the time' mission. That might not mean the fastest, longest range or the largest out there, but the capabilities and attributes you will leverage the majority of the time for the available budget."

Also, it is key to consider your exit strategy. If you need to sell it sooner than originally planned, or a high likelihood of upgrading in a few years, what are the financial risks, residual





www.winner-aviation.com

KYNG-OHIO



Why I Love the Citation Mustang

Entry-level Model 510 is a simpler and better first jet.

by Ken Fielding



I learned to fly in a Cessna 150 in 1980. What a thrill it was for me to be at the controls of the sporty little aerobatic trainer with the checkered tail markings. I sometimes shared the traffic pattern at my home airport with Cessna's entry level jet of the time, a Citation I operated by the regional telephone company. I had no thought that I might one day move up to the high end of the Cessna product line.

Checking my logbook now, I find 15 other models of Cessna aircraft in which I have flown: as a pilot, instructor or designated examiner. I graduated from single- to multi-engine flying in a Cessna 340 doing Part 135 charter service,

followed by turboprop time in King Airs, Commanders and Cheyennes. Then I moved into jets with the Citation ISP (Model 501) and most recently the Citation Mustang (Model 510). I couldn't have imagined in 1980 that those numbers, 150 and 510, would provide the bookends to my flying career. Or that I would have the good fortune to wrap up my career flying a great aircraft like the Mustang.

In the mid 2000's, after thousands of hours in piston-powered and turboprop aircraft, a friend and longtime client offered me the chance. He had decided to move up into a 501 (there are those numbers again). Insurance would dictate that he need a mentor to help with the transition from his Piper Malibu Mirage into the jet. Because of my other experience, I could qualify to fly with him with just 20 hours of training and a type rating check ride. When he asked if I was interested I said yes.

We flew together in the 501 for almost 200 hours over the span of a couple of years. Lots of trips between Montana where we both live and Los Angeles where his family has business interests and a second home. The plane was fun to fly and served his needs although it was dated having been designed in the late 1960s. He spent a lot of money to upgrade to RVSM capability, as well as avionics. It was a nice ship though it had its share of mechanical issues and the upgrades produced their own set of operational quirks. For example, the Garmin 530W had the capability to do LPV approaches, but the Sperry autopilot would not recognize and track the glide path from the GPS receiver.

At the same time, I began following the development of the 510. It was clearly aimed at the same entry-level market as the 501 but reflected all the technological improvements that the intervening 40 years had produced. When comparing the two aircraft it was apparent that Cessna had addressed a lot of the things that needed to be changed.

Ask any 501 pilot and they will say that the environmental system can be a problem. On a sunny day, the flight deck is toasty at cruising altitude, but the cabin is not warm enough. Turn up the heat for those in back and the pilots roast. In the summer the air conditioning works well enough on the ground if a freon system is installed to assist the air cycle machine. But it shuts down at lift off, just when the engines are putting out maximum bleed air under full power. Now everyone is too warm.

The Mustang solved that with the two environmental zones: Separate temperature controls, separate circulation fans, the left engine bleed air heats the flight deck, the right does the cabin. Freon air conditioning is standard equipment. The only thing missing is a temperature readout so the pilot can monitor cabin temperature. If the folks in back are not comfortable they shout. If they are really uncomfortable, they throw things.

The 501 went though numerous inverters, the unit that converts the DC electrical output of the generators into AC for the radar, autopilot and slaved gyros. New inverters were difficult to find and very expensive, so we always found rebuilt units with very uneven results. Many a time we sat at the end of the runway at Santa Monica waiting to get our IFR release only to have the selected inverter die just as we were cleared to go. Everything operates on DC in the Mustang: no inverters.



value and maintenance needs at the time of resale for the aircraft you are considering? Will there be a viable, and preferably active, market for your plane and what will minimize your potential downside?

The attraction with a legacy aircraft is the low acquisition cost for the capability that a jet provides. To ensure this aircraft remains a "great buy," do a very thorough pre-buy inspection. An older aircraft could have stories to tell through its logbooks that will need to be considered, not just by you but also next purchaser to whom you will be selling one day. It will require that you pour over them and really know what you have. In any of these scenarios it is wise to hire an expert to help as your advocate. Then you can decide if those "stories" are acceptable. In addition, you will need to determine what cosmetic upgrades will be required, and if the existing cockpit technology is a platform that can be upgraded to future regulatory demands, as well as safety advancements.

The original CitationJet, as well as its successors, continue to be an ideal pick for the first-time jet buyer, It represents a straightforward transition from a propeller aircraft, awarding the pilot with a 525 type rating that can be transitioned to other aircraft in the CJ family down the road. With prices for a "straight CJ" currently in the low-\$1 million range, a buyer has many upgrade options, such as the Garmin G600, GTN 750 or even a G1000 retrofit. In addition, investments in interior and paint refreshes must be considered.

"There are many great flight deck upgrades available that not only replace aging equipment, but provides new safety features and ease of singlepilot operation," White said.

Furthermore, a Sierra Industries offers the Stallion modification, which retrofits the 500 or 501 SP with Williams FJ44-2A engines. With better technology power plants, the Stallion provides for more takeoff thrust, higher cruise speeds, a FL430 service ceiling, and lower fuel consumption.



The 501 had dual hydraulic pumps and the associated plumbing to operate the landing gear, speed brakes and thrust reversers. Rather than the more common 5606 fluid, it used Skydrol, which is generally used on larger aircraft. We had few hydraulic issues but servicing was time consuming and could only be done by a shop that had a "mule" using the Skydrol. The 510 has electric flaps and speed brakes and no thrust reversers more about that later). For landing gear operation, it uses a small electrically powered hydraulic power pack similar to the one used on Cessna single-engine models like the later model 210.

The new design is dramatically lighter: maximum takeoff weight for the ISP with Sierra mods was 12,499, for the Mustang it's only 8,645. Part of that difference is a result of more efficient engines that require a much lighter fuel load. Lighter materials, no big hydraulic system and no air cycle machine are all factors that keep the weight down. Being lighter also lowers V speeds. Lower landing speed and better brakes eliminate the need for thrust reversers and all that extra weight they entail.

I mentioned the hodgepodge of avionics that were in the 501. The 510 features the wonderful Garmin G1000 system. It is totally integrated; the airplane was designed around it. Everything works together, and is well suited to the size and speed of the aircraft. Both planes are certified for single-pilot operation but the Mustang is much, much easier to fly and provides the pilot with a lot more help. The autopilot has worked flawlessly for me and flies the airplane much better than I can. For whatever reason, every other plane that I have flown put the autopilot controls between the seats on the center pedestal or at the bottom of the instrument panel. In the 510 it is in the middle of the glare shield, easy to see and reach. And eliminating that long pedestal makes getting into the front seats quite easy.

Cessna equipped the Mustang with electric windshields instead of the bleed air system that was used on all of its jets for years. That system worked well, but it was noisy and the duct work added weight. For the Mustang, they added an automatic cycle for the surface deice systems to reduce pilot workload. The pressurization system is controlled by the G1000 and works automatically after the pilot enters the destination field elevation. The Engine Indicating Crew Alerting System (EICAS) is also part of the G1000 and replaces the troublesome tape gauges in the 501. Dual channel FADEC keeps track of the engines. There was an aft baggage area in the 501 accessible through the cabin that is replaced by a larger external space in the 510. It is not pressurized but stays moderately warm in flight. It also provides pilot access to the convenient manual battery disconnect, fire extinguisher bottle and electrical junction box.

I loved the Mustang on paper but didn't expect to have an opportunity to fly one. But then another friend decided to upgrade from a Cessna 414 piston twin. I encouraged him to look hard at the 510 and ultimately, he bought one. Most of the time he flies it himself, but occasionally another pilot is needed. Guess what? I'm that pilot. So here I am, Cessna 150 to 510. I was thrilled to be at the controls of the 150, and I feel the same way on every flight in the 510.

Don't get me wrong, I liked the 501 and it taught me a lot. Having flown more than 50 different makes and models from many manufacturers, I can also say the Mustang is one of the best aircraft that I've ever encountered. Cessna deserves a lot of credit for getting it right.



Had Enough \$100 Hamburgers? Fly to help land, water and wildlife



Unique flight opportunities available for 1000+ hour pilots.



Learn more at www.lighthawk.org/ volunteer

Chris Crisman/TNC/LightHawk



65 + Years Aircraft Painting Experience. Helicopters, Turbo Prop, Corporate Jets Phase Maintenance, Interiors, & Avionics

Limit your Down Time with One Stop Services!

www.ExecutiveHeliJetMx.com

Ask about our Hotel & Golf Bonus Package



843-481-4354

@ KMYR-Beautiful Myrtle Beach, SC

Citation Mustang

With 474 in operation, the Citation Mustang remains one of the most popular first jets in the entry-level market. With used prices starting in the mid-\$1 million range depending on engine program status, model year and total time, a buyer will get an aircraft that is more than 10 years newer than the original CJ, G1000 as standard equipment, and technological advancements such as workload-reducing FADEC, an electrically heated windshield (versus bleed air), no central hydraulic system, a dual-zone environmental system and sports car-like handling.

The downside of the Mustang is that payload is lower and the cabin is smaller with a single-club seating for four passengers in back. However, as with most entry-level single-pilot jets, one pilot and a couple passengers is typical which the CE510 handles well.

"There's a robust market for the Mustang due to the ease of entry from the price standpoint and piloting qualities. It's simple to operate, won't break the bank, and makes the leap from propeller aircraft very easy," said White.

If you're thinking that a preowned, entry-level jet is in your future, you are in the enviable position to consider many excellent options. It is essential that you do quality soul-searching about your needs and budget, and then study the market carefully to determine the best fit. When in doubt, don't hesitate to involve a knowledgeable market expert to provide real-time guidance and evaluations of your top prospects.

Comparison: Three Entry-Level Citations

	Mustang	Cessna CitationJet 525	Cessna Citation II/IISP
Basic Aircraft Data			
Minimum Crew / Maximum Passengers	1 / 4	1/5	2/7
Baggage Capacity External / Internal (Cubic Feet)	57 / 6	51 / 4	41 / 36
Cabin Height (Feet)	4'6"	4'9"	4'8"
Cabin Width (Feet)	4'7"	4'10"	4'10"
Cabin Length (Feet)	9'10"	11'0"	15'9"
Cabin Volume (Cubic Feet)	202.81	252.54	355
Active Fleet (approximate)	474	353	72
Performance Data			
Full Fuel Range (NM)	1,200	1,200	1,378
Balance Field Length	3,295	3,909	4,465
Landing Distance (Feet)	2,813	3,309	2,737
Average Block Speed (KTS)	331	354	346
Normal Cruise Speed (KTS)	335	355	346
Fuel Usage (GPH)	81	120	163
Service Ceiling (Feet)	41,000	43,000	41,000
Useful Payload with Full Fuel (Lbs)	585	322	663
Maximum Take Off Weight	8,645	10,400	14,100
Basic Variable Cost*			
Airframe Maintenance Per Hour	\$132	\$345	\$475
Engine Maintenance Per Hour	\$266	\$260	\$445
Fuel Cost based on Gallons Per Hour	\$344	\$510	\$692
Total Variable Cost Per Hour	\$742	\$1,115	\$1,612
Cost per NM	\$2.22	\$3.14	\$4.66

Source: Aircraft Cost Calculator *As of April 2017



Finally! The Gulfstream 650 Crew Rest is now available!



Current JetBed Availability

Bombardier

C300, C350, C600 Series, Conference Group, Learjet 40 Series, Learjet 60, Global Express (5000, 6000, 7000, 8000)

Cessna

CJ, CJ1, CJ1+, CJ2, CJ2+, CJ3, CJ4, XL, XLS & XLS+, Ultra, Encore, Encore+, Citation X, Citation Sovereign, Citation Mustang

Dassault

F2000, F900, F7X, Falcon 50, Conference Group

Embraer

Phenom 100 & 300, Legacy 600 Series Legacy 600/650 Conference Group

Gulfstream

G200, G280, Galaxy, GIV, G450, GV, G550, G650, G650, G650 Double Bed, G650 Crew Rest, Conference Group, GV Crew Rest, G550 Crew Rest, Conference Group

Hawker

XP Series

King Air

Pilatus PC-12

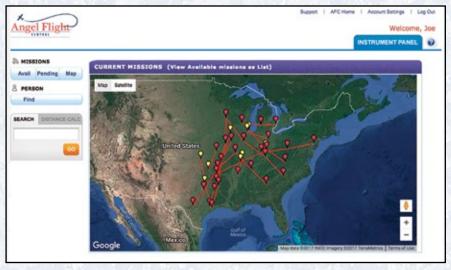


- Custom divan JetBeds for most applications available on request.
- Custom JetBeds for VVIP aircraft such as Boeing, Airbus and Lineage 1000 available on request.
- Meets or exceeds FAR-25-853a standards for flammability and ISO 9000 standards of quality.
- Single models weigh less than 20lbs and setup for use in 1 minute

Order Now!: www.Jet-Bed.com Office 858-530-0032 858-395-6888 sales@jet-bed.com







Once a pilot is signed up and placed in the database of qualified volunteer pilots, it's time to find a mission to fly. On any given day, the Angel Flight Central website has numerous missions available.



Finding time to flying charitable missions is easier if a pilot puts it into his or her schedule well in advance. Oftentimes, a mission will align with a planned business trip, making the trip more rewarding.

CCU™ Turbo Commanders Pressurization & Air Conditioning

- twice the pressurization flow for full differential
- use less bleed air for 10°C engine temp & less maintenance
- gain 60 hp, better climb, higher critical altitude, lower fuel burn
- no toxic bleed air in the cabin
- independent back-up pressurization feature
- the best air conditioning from an extension cord, APU or engine power
- 2 year parts warranty, 6 months labor, 24/7 factory support



4900 Forrest Hill Road Cookeville, TN 38506 phone 931-537-6505 peterschiff@peterschiff.com



I'll do my best to answer as many questions here, and I'll start by addressing one of the more common concerns I've heard from the pilots I've recruited in the past:

"I'm too busy and it would be difficult to fit this into my schedule."

The good news is, charitable missions can typically be fit around your schedule, and it doesn't have to be the other way around! You can specify when you are available to fly missions, either in general or on a case-by-case basis. There are three primary ways that a pilot can look for charitable missions to fly.

First, you can scan the charitable organization's website for passenger requested missions three to six weeks in the future. That's right: these missions are often requested and scheduled many weeks, sometimes months down the road. As an executive, my schedule was usually very full two to three weeks out, but after that my time wasn't always fully spoken for. This made it easy to look for available missions several weeks out that were interesting to me, and then book them on my calendar.

Second, whenever you have business or vacation travel planned, you can scan the same website for missions that happen to be going in the same general direction that you were already planning to go. If you could accommodate a charitable mission objective by combining with a work or vacation mission, it is a win-win.

And finally, most charitable flight organizations will send out email notifications with a list of near-term unfilled missions, and pilots can check those missions against their short-term calendar to see if they might be able to take one of those missions at the last minute.

How to Become a Volunteer Pilot

With that concern hopefully addressed, let's turn to the nuts and bolts of becoming a volunteer pilot and flying charitable missions. The first step is to get signed up with an organization in your region. (Take a

look at the chart included with this article for a listing of several of these organizations across the country.)

Most charitable flight organizations will have minimum logbook requirements for their registered pilots. Since you are flying a high performance or turbine-powered airplane, you probably already meet those requirements. As an example, Angel Flight Central requires at least 250 hours plus a commercial license, or 500-plus hours if you don't have a commercial license. Having your IFR qualification is probably a good idea as well, but not all the organizations require it.

Once you are registered as a volunteer pilot, you will go through a phone call orientation from the organization's flight coordinator, helping you get ready for your first flight. I also recommend finding an experienced pilot in your particular charitable organization to go with you on your first flight, just to make sure things go smooth and to take away some of the pressure of your first charitable flying experience.

Once your flight is scheduled, you will need to coordinate the flight details with any other connecting pilots on each mission, as well as the passengers. Flights are sometimes made up of two or more connecting legs, with each leg typically planned for 250 to 400 miles each. In your case, however, you may elect to take more than one leg of a mission since your airplane can cover more ground, at faster speeds, than the typical planes used for these missions (think Cessna 182).

Next, you'll want to call the FBOs that you plan to use along your route of flight to let them know you are coming so they can be ready to assist your passengers when you arrive. Many FBO's across the country will offer a fuel discount for charitable missions, so make sure to ask the folks behind the counter if they will offer you a discount should you decide to take on fuel.

Contact us today to schedule your Recurrent Training customized for you.



Piston Twin

- Cessna 300/400 series
- · Piper Navajo/Chieftain
- . Beech Duke & P-Baron

Turboprop MEL & SEL

- Cessna 425 & 441
- King Air 90, 100 & 200 Cessna 208
- TBM 700/850

Call us about other aircraft!



New for BeechJet

Lumatech™ 4400 Series LED Master Caution Warning System for BeechJet 400A, XP, XPR, & 400T Aircraft

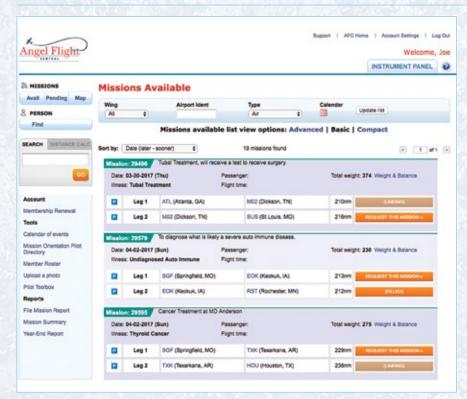


A Match Made in Heaven

Available as Standalone Install or Bundled With Other Avionic/Aircraft Upgrades. Contact Luma or Your Preferred Maintenance Provider for Details.

13226 SE 30th Street (B3), Bellevue, WA 98005 • 425.643.4000, x305 • www.Lumatech.com

TWIN & TURBINE • 17 May 2017



On the Angel Flight Central mission page, a volunteer pilot can review details of upcoming trips to find one that lines up with schedule and aircraft capability.

You will need to watch the weather closely leading up to the day of your flight, especially since other connecting pilots may not have airplanes capable of flying in adverse weather conditions. Most pilots can't fly in known icing conditions, and they probably don't have onboard radar either. On a few occasions, I decided to fly all the connecting legs because the weather kept the other pilots from launching.

Once the planning and coordination is all done, the best part of flying charitable missions is meeting and getting to know your passengers. The wonderful people that request these missions are so grateful to the pilots for the time, energy and money that we contribute. These passengers are going through difficult times in their lives, and as volunteer pilots, we get to come alongside them and make a small part of their lives maybe a little better.

I hope this article gives you a better sense of how the process works and



Charitable Aviation Organizations

Volunteer Pilot Organization	Primary Focus	Website	Phone #
Angel Flight Central, Inc.	Medical & Humanitarian	www.angelflightcentral.org	(816) 421-2300
Angel Flight East	Medical & Humanitarian	www.angelflighteast.org	(215) 358-1900
Angel Flight Northeast	Medical & Humanitarian	www.angelflightne.org	(978) 794-6868
Angel Flight of Oklahoma	Medical & Humanitarian	www.angelflight.com	(918) 749-8992
Angel Flight Soars, Inc.	Medical & Humanitarian	www.angelflightsoars.org	(770) 452-7958
Angel Flight South Central	Medical & Humanitarian	www.angelflightsc.org	(972) 755-0433
Angel Flight West	Medical & Humanitarian	www.angelflightwest.org	(310) 390-2958
Aviation Angels of Hope	Medical & Humanitarian	www.aviationangelsofhope.org	(888) 610-5510
Aviation In Action	Medical & Humanitarian	www.aviationinaction.org	(559) 352-2448
AeroAngel	Medical & Humanitarian	www.aeroangel.org	(303) 817-7355
Kids Wings	Medical & Humanitarian	www.kidswings.org	(810) 599-8765
LifeLine Pilots	Medical & Humanitarian	www.lifelinepilots.org	(800) 822-7972
Mercy Flight Southeast	Medical & Humanitarian	www.mercyflightse.org	(352) 326-0800
Patient Airlift Services	Medical & Humanitarian	www.palservices.org	(631) 694-7257
Pilots for Christ	Medical & Humanitarian	www.pilotsforchrist.org	(251) 575-9425
Pilots for Patients	Medical & Humanitarian	www.pilotsforpatients.org	(318) 322-5112
Veteran's Airlift Command	Medical & Humanitarian	www.veteransairlift.org	(952) 582-2911
Vital Flight, Inc.	Medical & Humanitarian	www.vitalflight.org	(954) 671-0125
Volunteer Pilots Association	Medical & Humanitarian	www.volunteerpilots.org	(412) 221-1374
Wings Flights of Hope	Medical & Humanitarian	www.wingsflight.org	(866) 619-4647
Wings of Hope, Inc.	Medical & Humanitarian	www.wings-of-hope.org	(636) 537-1302
Wings of Mercy East Michigan	Medical & Humanitarian	www.wingseastmi.org/	(866) 326-3729
Wings of Mercy West Michigan	Medical & Humanitarian	www.wingsofmercy.org	(616) 396-1077
Dreams and Wings, Inc.	Special Needs Kids	www.dreamsandwings.us	(810) 688-2284
PILOT.DOG	Animal transportation	www.pilot.dog	(919) 274-4354
Pilots N Paws	Animal transportation	www.pilotsnpaws.org	(864) 895-5234
Pilots to the Rescue	Animal transportation	www.pilotstotherescue.org	(212) 404-6936
Airlift Flyers Aviation Corp	Disaster & Emergency	www.ALFA.aero	(305) 470-1500
Bahamas Habitat	Disaster & Emergency	www.bahamashabitat.org	(919) 280-5510
Emergency Volunteer Air Corps	Disaster & Emergency	www.evac.org	(575) 774-0029
LightHawk	Environmental Projects	www.lighthawk.org	(970) 797-9355

inspires you to take the next step of finding an organization in your region that makes the most sense for you.

Next month, in the final installment in this series, I'll talk about the "who" of charitable flying, and share stories about the folks who are riding in the back during these missions, where they are going, and why they need to get there. You will be able to see, from the passenger's perspective, why volunteer pilots are so important and how you will be able to make an impact on so many lives when you take that next step.

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.



Check out these links, which provide expanded listings: www.aircharitynetwork.org | www.aircarealliance.org/directory-groups

Jet Journal



Flight to retrieve fishing crew provides up-close look at life at "Deadliest Catch" port.

by Kevin Ware

e are over the Bering Sea southwest bound at FL410 in the Lear 40. Off to our right is an ocean of broken ice heaped into odd-shaped forms. To our left is a group of yellow/brown tundra-covered islands with patches of snow visible even though we are well into spring. Except for one container ship heading west, we are alone as far as we can see. And from 8 miles high you can see a long way.

We left Anchorage (PANC) a half-hour ago and are flight-planned to land in Dutch Harbor (PADU), about half way down the Aleutian Island chain, some 400-nm further ahead, in about 50 minutes.

Dutch: Remote Yet Important Fishing Port

There are few places a business jet crew can fly that are more isolated than Dutch Harbor, (known to the locals as just plain Dutch). Located 53.53 degrees North, and 166.32 degrees West, it is about 650 nm southwest from Anchorage, which itself is isolated. Unpredictable, low IFR conditions are common, alternate airports are few and far between, and there is only one ILS along the entire route, and that has the inhospitable but appropriate name of Cold Bay. Once you get to the far end of the chain, if unable to land it would be slightly shorter to just fly further west to Russia rather than return to Anchorage.

Yet, this isolated outpost of modern America purchased from the Russians in 1867, is the most productive fishing port in the world with well over 800 million pounds landed annually. In fact, the fish in just about every McDonalds-type "fishwich" sold nationally at one time came across the docks of Dutch. The fishermen that do this work, realistically stereotyped by "Dangerous Catch" TV

programs, are for the most part family men of Scandinavian heritage from the Seattle area. They rotate back home every two to three months depending upon how quickly their trawler can land its quota of the available fish.

Bring Them Home

There are only two ways for them to leave the island. One is by boat, which back to Seattle is a daunting 1,600 nm journey across the Gulf of Alaska. The other is to fly from the 4,500-foot, World War II-era paved runway wedged into the only area of flat ground available on the island.

After spending months on the Bering Sea, with all its hazards and frozen discomforts, the ability to get quickly back home to relatively tropical Seattle is for fishermen like a gift from heaven. It is for this reason that Jeff and I earlier in the day departed BVS (60 nm north of SEA) on the 2,000-nm trip to Dutch. Flying first about 1,300 nm northwest to Anchorage for refueling, and then another 700 nm southwest to Unalaska Airport (PADU). We will spend the night in Dutch, then the next morning board the crew of the Auriga for the return flight to Seattle. The Auriga is a 200-foot trawler that (co-pilot) Jeff has an ownership interest in, which even with some challenging mechanical breakdowns, still had a very successful season.

We left Skagit Regional (BVS) at 10 a.m., with an empty airplane on a windy, cool day with 1,500 overcast and light rain. Over the next two hours, we run up the west side of British Columbia, then over the middle of Hecate Strait with the very remote Queen Charlotte Islands visible off the airplane's left side. A bit later we are over the Chugach mountain range that lies between the Gulf of Alaska and Anchorage. On joining the PANC YESKA 6 arrival over the Johnstone VOR (JOH), we are told there is a 747 behind us and asked to keep our speed above Mach 0.78. In visual conditions, we find ourselves in trail with a long line of cargo 747s inbound from Asia. We land and quickly make exit Echo to get out of the way of a closely following 747, who we note deploys his reversers well before the nose wheel touches down, something considered very poor form in a Lear.



Author Kevin Ware flew to the remote airport at Dutch Harbor to retrieve the crew of fishing vessel *Auriga* for a much-needed rest.





The 200-foot fishing vessel *Auriga* at port in Dutch Harbor, Alaska. Similar to what is portrayed in Discovery Channel's *Deadliest Catch*, the ship is used to fish the unyielding waters off the Aleutian Islands in the Bering Sea.

Signature Flight Support is located close to our exit point off runway 7L. Knowing that fuel at PADU is more expensive than at PANC, we request the tanks be topped at 6,000 pounds. Our other reason is that it is not uncommon to miss the approach at PADU, and that usually requires a deadhead all the way back to PANC, a location also known for weather at minimums. Leaving Anchorage for Dutch with legally minimum IFR fuel reserves is a very bad idea indeed.

Tanks full, we depart PANC and turn to the southwest. An hour and a half later we start our descent and begin reviewing the special approach procedure we will use at PADU. The standard published approaches do not allow a descent below 2,000 feet, and require visibility of at least 3 miles, conditions that rarely exist. So, we have approval for the special procedure to runway 31 that allows a descent to 500 feet while over salt water at DAWKU, which is still 5 miles from the airport, and then on a path 112 degrees off the runway heading.





Specializing in the Maintenance and Overhaul of the PT6A, R985 & R-1340 Engine Series

www.covingtonaircraft.com • Ph. (918) 756-8320

Se Habla Espanol • FAA Repair Station No. CP2R750K







The requirement is if you do not have the surrounding island terrain in sight at DAWKU and recognize visually the entrance to Iliuliuk Bay, then you must make an immediate right 180-degree climbing turn while remaining safely over the water.

Fortunately for us, it is a pretty nice day with about a 2,000-foot broken ceiling, and nearly unlimited visibility. When we break out, we can clearly see where we are and continue inbound doing a $V_{\rm ref}$ of about 125 knots. The waves on the bay are whipping by 500 feet beneath us and we are less than a minute from touchdown when runway 31 finally comes into sight. We then make a sharp right turn to pass over a small high island just short of the runway, pull the power all the way back and drop like a rock to cross over the numbers at about 40 feet. The landing goes well, and there being no parallel taxiways, we turn around on the runway to exit at our approach end, while a departing King Air is taxing out to the numbers.

The ramp near the terminal is owned by the local commuter airline, and given that it is often icy with poor braking, they take a dim view of other aircraft parking near their space. Knowing this, we park near the grass 200 yards from the terminal, and are promptly met by the airport operations manager, who is very welcoming and ask if she can have her photo taken by the Lear. Shortly thereafter a member of the *Auriga's* crew arrives and invites us out for a short boat trip, while they reposition the vessel. We board to see several bald eagles calmly perched in the rigging, and spend the next few hours looking over the trawler and its machinery.

We then visit the fish processing plant where 600 Philippine guest workers are running a mountain of pollock on conveyor belts through automated cutting knives. All are hygienically dressed in white overalls, rubber boots, hats and face masks, and intently struggling to keep up with the machinery, which is running fish by so fast it blurs the image on my camera. This visit makes me glad I am a pilot, not a fish plant worker.

That evening over dinner with the trawler's crew, we have an interesting discussion about how dense the fish schools are in the Bering Sea, and the fact that the numbers are



An unusually calm, sunny day in Dutch Harbor, Alaska belies the brutal conditions that the port often endures.

-Pacific-Coast-Avionics-

THE WEST COAST LEADER IN AVIONICS PANEL UPGRADES!
CALL US FOR A QUOTE





SALES • SERVICE • INSTALLATIONS



GARMIN ADS-B

GTX-335/GTX-345 ONE BOX ADS-B SOLUTION!



MODE S/ES Transponder with Optional Built-In WAAS GPS & ADS-B "In"

CALL FOR QUOTE IN YOUR AIRCRAFT

ANR HEADSETS



Lightspeed Zulu-3.....\$850 Bose A20.....\$995 Bose A20 w/BT.....\$1,095

FREE SAME DAY SHIPPING

CALL US FOR ALL YOUR COCKPIT ESSENTIALS!



www.PCA.aero 1-800-353-0370

Aurora State Airport • 22783 Airport Road, N.E. • Aurora, OR 97002
Fax: 503.678.6292 • Mon. – Fri. 7:30 – 5:30 PST
PRICE AND AVAILABILITY SUBJECT TO CHANGE.

increasing. Sometimes the schools are so thick the depth sounder cannot detect the bottom. This is great from the crew's perspective, because each vessel has a seasonal quota. Once that is caught, they can all go home.

We then talk about the flight details for the morning. There were six *Auriga* crew members scheduled as passengers, but now it appears there is also an additional fellow, well over 6-foot, 6-inches tall, who they would like to go with us. We decide anyone that can tolerate working on a fishing boat on freezing rough seas can handle being a bit cramped on the airplane's (legal) toilet seat for a couple of hours.

The next morning Jeff and I get arrive at the airport to find most of our trawler crew, now dressed in jeans and pullovers rather than rain gear, already waiting. As a fisherman's gift, they also bring us a large box of freshly caught frozen cod. We make sure the box is safely stashed in the luggage bay, and load up the group.

The winds mandate a departure on runway 13, which shortly after liftoff requires a sharp left turn to stay over the water and avoid terrain directly ahead on the other side of the bay. When releasing the brakes after getting the engines to stabilize at maximum takeoff thrust (MTO),



Fresh pollock being processed near Dutch Harbor.



The Learjet 40 on the frozen ramp at Anchorage during a planned fuel stop en route to Dutch Harbor.

the airplane shoots down the runway like a drag racer accompanied by shouts of enthusiasm from the guys in back. With the Lear climbing at over 4,000 fpm, we make the required sharp left turn pulling an extra one-half G in the process, only to hear more whoops from our now enthusiastic homebound passengers.

We arrive in Anchorage an hour and a half later, do a quick refuel and load a couple of cases of Alaska Amber Ale and lunches for everyone. We depart and hear the caps coming off the beer bottles as we climb to altitude. Jeff and I, of course pass on the beer, and in fact drink little else, wanting to avoid the potentially awkward mix of beer-drinking fishermen, the largest of whom has comfortably adopted the small toilet room as his own.

From FL410 we can see all the way to Vancouver Island as we work our way southeast, and shortly thereafter go IMC over Victoria (YYJ). We remain in moderately bouncy clouds (which doesn't seem to bother our Bering Sea experienced trawler crew at all), until reaching SOCLO the initial approach fix (IAF) for the RNAV approach to runway 11 at BVS. We land in a gusty crosswind, and pull up to a crowded ramp with a light rain falling. As the engines spool down Jeff opens the door and our passengers begin to file out to loud cheers from an excited group of wives and children waiting on the ramp just outside the FBO.

I am standing by the cockpit entry nodding to our guests as they exit, when a little girl yells out "Daddy" and breaks away from her mother's tightly held hand and with long, blond hair streaming. She runs toward the airplane's door with a huge smile on her face, and arms outstretched. Our stoic, fisherman/pax still dressed in his Dutch Harbor best, picks her up, throws her above his head then catches her with a big hug. Her watchful mother starts wiping tears, as the fisherman beams, and his little blond daughter laughs with joy.

Sometimes flying has rewards beyond the activity itself, even if the trip is to Dutch.





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







by Rebecca Groom Jacobs

WHO:

Kirby Ortega – Chief Pilot, Aircraft Management Programs

COMPANY:

Yingling Aviation

WHERE:

Wichita, Kansas

QUALIFICATIONS:

FAA Gold Seal Flight Instructor

FAA Designated
Pilot Examiner

30+ years at Cessna, former chief pilot piston engine operations

25,000 hours

1. What led you to becoming (and remaining) a pilot at Cessna for 30 years?

The versatility. I served in various piloting roles over the years such as training, air-to-air, demo and international flight operations. But flight instruction was my introduction to Cessna and actually remained my primary focus – specifically training newer pilots in the Caravan for international flight ops. Traveling to other countries was a huge interest of mine. I have now flown in more than 90, predominantly in the Caravan. Greatly enjoy seeing other cultures, the way they live, and how they view the role of general aviation. In a lot of places, aviation is the tie to civilization.

2. Can you describe your present role at Yingling Aviation?

I'm currently the chief pilot for Yingling Aviation's aircraft management program. We manage and operate aircraft for local companies. But keeping with the versatility theme, I perform a number of responsibilities around the FBO such as maintenance flights, ferry flights and training. I also do a considerable amount of training and testing on my own – primarily in the Citation Mustang and 525 series. I'll assist individuals looking for flight instruction in their own airplane whether it be a type rating or recurrent training.

3. You've flown nearly every Cessna model - what is your favorite aircraft (or two) to fly?

In the jet line, I'd have to say the Citation XLS+ is one of my favorites. It is just a super well-rounded airplane with great range and speed; extremely easy to fly on top of the impressive performance. The stand-up cabin is also a good feature. The Mustang would be my next pick, mainly for the simplicity of the systems and G1000. I've seen a lot of pilots step out of single-engine pistons right up into the Mustang. It involves some extra mentoring for multi-engine time, but the simplicity and redundancy of the systems allows for a nice transition.

4. What are the top reasons you see pilots stepping up into turbine aircraft?

The reliability is first. They know they are always going to be able to start the engine, whether it be a PT-6 or a jet engine. A pilot stepping up might also be looking at the simplicity of the aircraft operation or the added performance. But usually, the primary goal is finding out the amount of safety-related features their money can buy; two engines, advanced avionics, etc. – especially if they're coming from a single-engine piston or operate out of challenging terrain.

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

Back in 1990, we took the Caravan on a demo tour to Moscow, Russia. We landed at the larger, city airport at first, but then needed to transport to another location around 10 miles away for an airshow. We were required to have a Russian navigator on board, so once he showed up, we were on our way – flying at 1,000 feet, staring at apartment buildings taller than us. He soon points where we need to land and we look down just to see a grass field with a couple of airplanes. Turns out Russia does airshows a bit differently than we do. The focus is the aerial performers, not booths or vendors on the ground – we were the only OEM there. People sure were excited to see a new airplane though!







Partners in Flight

Aircraft joint ownership can take many forms. Which one is right for you?

oint ownership qualifies as the oldest form of aircraft ownership, having originated with the Wright brothers. The primary advantage of joint ownership is one of economics. When an aircraft owner does not need access to an aircraft on a full-time basis, joint ownership arrangements allow the owners to reduce hourly costs by sharing fixed costs (including crew costs) with other owners. The greatest challenge is to make sure that everyone has equal access to the aircraft.

Most joint ownership arrangements are conducted under Part 91. Fortunately, there are many different ways to structure a Part 91 joint ownership arrangement, including:

- 1. A traditional joint ownership arrangement sometimes called co-ownership where the users purchase the aircraft jointly.
- 2. A Part 91.501 joint ownership arrangement where one joint owner can provide the pilot and can transport the other joint owner(s).
- 3. A leasing company arrangement where a jointly-owned company (usually an LLC) purchases the aircraft and leases the aircraft to the members.

Because of the amounts involved, all joint ownership arrangements should have a written "joint owners agreement" or, in the case of a leasing company, a "joint operators agreement." Ideally, the document will ensure that each owner has access to the aircraft in proportion to ownership and will provide for sharing of aircraft costs in proportion to both ownership and usage. The document will also contain provisions relating to the transfer or termination (voluntary or involuntary) of the joint ownership arrangement.



Types of Arrangements

1. Traditional Joint Ownership

A traditional joint ownership is an arrangement whereby two or more participants invest in an aircraft and share access to that aircraft. Some people describe this arrangement as "co-ownership" since the FAA allows joint owners to register as "co-owners."

The joint owners of an aircraft can operate the aircraft under Part 91. The joint owners must exercise operational control over the aircraft on their respective flights and must provide their own flight crew. This does not mean that the joint owners must all find different flight crews. Just as joint owners can share the same aircraft, they can also share the same flight crew. The joint owners can enter into an arrangement where they share access to a single flight crew and share flight crew costs.

2. Part 91.501 Joint Ownership

Many years ago the FAA adopted FAR 91.501, in part, to allow increased aircraft utilization by expanding the kinds of operations allowed under Part 91. One of the operations allowed is a "joint ownership arrangement," defined as "an arrangement whereby one of the registered joint owners of an airplane employs and furnishes the flight crew for that airplane and each of the registered joint owners pays a share of the charge specified in the agreement." This was apparently intended to allow an aircraft operator who employs a flight crew to sell a portion of his aircraft and to avoid the need for a complicated arrangement to share a flight crew.

Furthermore, according to the preamble to FAR 91.501, "It will be presumed that the joint owner employing and furnishing the flight crew is the operator of the airplane" and that "[u] nless otherwise agreed to by the owners, he is responsible for compliance with the safety regulations applicable to that flight."

The FAA recognizes that, because of these advantages, an aircraft owner might be tempted to create a charter operation by selling token interests. For this reason, the FAA amended the regulations to require the owners to be "registered" joint owners. The FAA also requires that the ownership percentage bear a reasonable relationship to actual use.

One disadvantage of a FAR 91.501 joint ownership arrangement is that the definition apparently precludes the

owners from leasing their interests to related parties or others. This effectively prevents joint owners from using a leasing company arrangement.

3. Leasing Company

In a leasing company arrangement, the operators create a jointly-owned leasing company that purchases the aircraft and leases the aircraft to the operators and others. This arrangement arguably provides the owner with additional protection from liability on flights taken by other joint owners. There are also various tax benefits to putting an aircraft in a leasing company, such as the ability to pay sales tax on lease payments rather than the purchase price.

One downside is an IRS tendency to argue that any leasing company is subject to the hobby loss and/or passive loss rules even where the aircraft is used exclusively in an active trade or business. To avoid this problem, some joint owners utilize a multiple leasing company arrangement where the joint owners have their business entities each form a single member LLC leasing subsidiary that jointly purchase the aircraft and lease the aircraft to the business entities. For income tax purposes, the LLCs are disregarded and the business entities are treated as the owners of an aircraft, rather than a leasing company. However, the sales benefits are preserved because the states generally do not disregard the LLCs for sales tax purposes.



The Joint Owners or Operators Agreement ("JOA")

Every joint ownership arrangement is slightly different and each should have a written "joint owners' agreement" or "joint operators' agreement" ("JOA"). Here are some helpful provisions.

1. Administrative Matters

Although joint ownership is not a business, the owners will generally find it helpful to appoint one joint owner to act as "manager" for purposes of scheduling maintenance, computing amounts due from each owner and maintaining the aircraft schedule. The owners will also want to open a joint ownership bank account to facilitate payment of expenses and collection of payments from the owners.

2. Sharing Usage and Access

The Wright brothers used a coin toss to determine who got to fly the aircraft. The rules regarding sharing of use and access should be written in the JOA or a related document. At a minimum, the JOA should guarantee each owner a certain number of hours or days. Some give the owner who has fallen behind in usage the first right to schedule the aircraft. Some contain procedures for sharing use on "high demand" days, such as holidays. Most arrangements contain procedures for reserving the aircraft, including setting a maximum "lead time" and a maximum amount of time the aircraft can be automatically reserved.





3. Sharing Costs

The JOA should describe how the owners will share aircraft costs. Some agreements allocate all costs in proportion to ownership. However, this creates distortions where the percentage of usage is significantly different that the ownership percentage. Consequently, most agreements try to share variable costs based on usage by requiring each joint owner to pay their own fuel costs and to pay an hourly charge for using the aircraft. This hourly charge should cover anticipated maintenance and overhaul costs. The owners can either retain those hourly charges in the joint bank account or can distribute them to the owners in proportion to ownership, with the understanding that the owners will later contribute toward actual maintenance and overhaul costs in proportion to ownership.

4. "Buy Out" Provision

The "Buy Out" provision is one of the most important provisions in the JOA. Since nothing lasts forever, the provision should contain rules governing termination of the arrangement or transfer of an interest. Some agreements provide for automatic termination and sale of the aircraft upon departure of any joint owner. However, most contain a "right of first refusal," that gives remaining owners the right to buy out departing owners or to terminate the arrangement. The Buy-Out provision should also cover the worst case scenarios, such as where there is an involuntary transfer due to death or bankruptcy or where a joint owner refuses to follow the rules.

Conclusion

Joint ownership is an increasingly popular method of reducing aircraft hourly costs and sharing administrative burdens. Using a written agreement that spells out the rights and obligations of the owners will generally help reduce the risk of unpleasant surprises.

Phil Crowther, JD, CPA, MBA, is an attorney whose practice focuses on structuring aviation operations and handling aviation-related tax matters. He has more than 40 years of business and tax experience, including serving as the tax manager at Cessna Aircraft. He is an instrument rated, commercial pilot and can be reached at phil@philcrowther.com

TWEAK YOUR TWIN



The EDM960 is certified as a primary flight instrument. The 960 can open up space in your panel, allow precise engine management, and log performance history. Spot engine trends before they become problems. JPI's EDM 960 is always monitoring your twin's engine performance.

If you buy an instrument without considering JPI that will be too bad for both of us

KNOW BEFORE IT HAPPENS.



SALES: 1-800-345-4574 | 714-557-3805 | FAX: 714-557-9840 www.jpinstruments.com

CHECK WITH OUR DEALERS:

Aircraft Spruce Chief Aircraft Gami Gulf Coast Avionics Pacific Coast Avionics Sarasota Avionics

Winning the Demo Flight

by Rebecca Groom Jacobs

t some point in your flying or aircraft ownership career, the time will likely come that you are considering stepping up to a higher performance aircraft. After researching airframes that fit your needs, mission and wallet, then it may be time to explore setting up a demonstration flight.

But what can you expect in a demo? How can you prepare? What questions might be beneficial? Whether it is new or used, single or multi-engine, piston or turbine, there are steps you can take to gain the most out of this all-important flight.

Setting Expectations

When it comes to demoing an aircraft, the bulk of the effort is often the preparation leading up to the flight. This is where you can work closely with your salesperson, buyer's agent or trusted flight instructor to identify your general intentions and expectations of the flight beforehand.

"My biggest advice is to spend as much time as possible with the planning," said Tyson Teeter, co-owner of Southwind Global Aviation and former OEM demonstration pilot. "It is helpful for both parties if the customer has already determined what they would like to do when they are with the airplane."

To start, you can come up with a list of the specific performance and features of the airplane you assuredly wish to see. Ask yourself questions such as what led to your desire to step up? What characteristic or capability is most important to you?

Often, salespeople and demonstration pilots will inquire, what is the mission you are completing 90 percent of the time? The once-a-year trip to the Bahamas with 10 of your closest family members and friends probably should not make or break the purchase decision. Consider your typical route and load and incorporate those factors into your list.



"If customers are making a big leap, such as a piston to a turbine, training is also a big consideration," said Kirby Oretga, chief pilot at Yingling Aviation and former OEM demonstration pilot. "Your salesperson, demo pilot or instructor will help you work through the different types of scenarios and requirements."

In addition to brochures and spec sheets, inquire if the POH is available. Certainly, do not feel pressure to memorize any data, but reviewing will provide a good overview of the systems, speeds and limitations, prompting potential questions during your time with the demo pilot (who may also be your salesperson). Their job, in addition to functioning as pilot in command, is to be the technical expert, assuring your flight is as informative, safe and constructive as possible.

"More and more, the focus of demo flights today is on the revolution of avionics. An airplane flies like an airplane, regardless if it is a

32 • TWIN & TURBINE

single-engine airplane or a jet," added Ortega. "The avionics and safety features that they provide is what people are usually impressed by."

Depending on the airplane and your familiarity, you may want to schedule an avionics demo on the ground prior to the flight. It is much easier to absorb the capability and complexity of a new technology panel when quietly sitting on the ramp hooked up to ground power, as opposed to trying to do it while operating in active airspace.

Planning the Route

Customarily, you will either be able to select a local demo, trip demo, or possibly both. A local demo at the customer or aircraft's home airport is most common. But a trip demo is advantageous in that it allows for performance data to be more easily compared on a familiar mission.

"I'd recommend planning a flight route that is long enough to experience the aircraft in all phases of flight, preferably at an altitude you would normally fly," said Teeter. "Maybe also reach out to other pilots who already fly the aircraft professionally – find out what the biggest limitations with the model are. Their opinions may or may not influence your preparation, but it can provide real-world experience."

Another source where you can preview real-world experience is online via aircraft owner association forums. Keep in mind, the negative can sometimes outweigh the positive, but comments and conversations from current owners may still be insightful.

As with any flight, be sure to carefully consider the conditions you could experience. Even though the airplane (particularly new) might exhibit cutting-edge technology does not mean you should take a demo flight in challenging environments.

"Ideally, a demo will take place on nice day so we can focus on the airplane and not the weather," said Kris Layson, sales representative and demonstration pilot at Muncie Aviation. "Good flying conditions make it a lot easier to answer questions and allow the customer to really experience the features and handling characteristics of the airplane."

Lastly, determine if you require passengers onboard, such as your CFI, copilot, or significant other. Depending on the situation, it could be useful to include people on the flight along with you. But be cautious: adding a passenger to some flights may mean that you are not allowed to fly in the left seat or conduct certain flight maneuvers. Discuss this matter with the salesperson or demo pilot prior to the flight.

Demo Day

Depending on the aircraft's complexity and your familiarity, the walk-around can take anywhere between 30 to 60 minutes (during a trip demonstration, that estimate may decrease since you will be with the airplane for a longer span).

What tip do demo pilots seem to unanimously agree on? Take notes.

"I am always really impressed when someone takes notes. It is surprisingly rare despite the overflow of information," said Teeter.



In addition to brochures and spec sheets, inquire if the POH is available. Don't feel compelled to memorize data, but reviewing will provide a good overview of the systems, speeds and limitations, prompting potential questions during your time with the demo pilot.

"The demo can quickly turn into a blur for customers and notetaking can be really helpful in retaining key information – especially if they are considering multiple aircraft."

Remember your key performance and features list? Leave space for adding data and impressions by those line items as you go. As an added bonus, snap a few photos along the way, too.

When you circle the aircraft in the walk-around, feel free to manipulate the doors, baggage compartment, etc. If permitted, bring bags you commonly travel with to see how they fit. Are you a golfer, skier, hunter? Try different packing scenarios and don't forget to confirm whether a space needs to be heated or pressurized for a specific cargo.

In the cabin, get a good feel for the legroom and configurations by moving the seats on all their axis. Are there weight-and-balance considerations regulating who sits where? How are the amenities? The storage? What do you require as far as entertainment? Is it already installed or an additional cost? Factor in the costs of WiFi providers if needed.

"I find it is important to run through a weight and balance. A lot of airplanes out there might look great, but you don't really know how you can fill it until you write one up yourself," said Teeter. "Perhaps even two weight and balances, one loaded and one unloaded."

While in the cabin, you'll also want to closely examine the condition and coloring of the interior. Is it to your taste? Is it comfortable? Will it need to be changed or updated? These unexpected costs can add up quickly.

Next, make your way to the cockpit. What are your first impressions? Did you find it easy to enter and get seated? Is it comfortable with good visibility? Does the instrument panel appear logical and organized? In most advanced cockpits, the switches are grouped in common clusters (electrical, lighting, ice protection, etc.). The more features you can familiarize with on the ground, the more informed and productive your time will be in the air.

The "Typical" Demo Flight

Often, a demo flight starts out with a normal start followed by flight plan input and after-start checklists. If you are not pressed for time, ask to be walked through some of the checklists. Note how many items are first-flight-of-the-day checks, and how many must be completed before each flight.

Prior to taking the runway, the demo pilot should take a few moments to brief the plan for the take-off and initial climb, emphasizing what is expected from you and what can be expected from him or her. A normal take-off is standard, but it is helpful to understand the takeoff configuration

and what other configurations are possible. As you take off, observe the climb and handling characteristics.

"I frequently fly customers on a triangular-type flight – three fixes demonstrating the climb, speed and descent," said Layson. "We'll take off and climb to a fix, and from that fix to the next. It's perfect for testing the speed during climb and cruise. Then the next fix is the descent back to the airport. This pattern can be as short or long as needed, but really shows what the airplane is capable of."

Tips during the cruise phase: take a few photos of the engine power settings and speeds for reference, and review the cruise power charts for your altitude and compare with what you actually see. If they are close, you can assume other charts will be accurate and dependable for studying purposes later. This is also a great time to experiment with the avionics. For instance, explore how Vnav or a user-defined hold works.

Once you begin the descent, evaluate the checklists and see how easy or difficult is to slow the aircraft down. You can also plug in an approach and watch how it is sequenced.

"During the descent, pay attention to how things are being accomplished," said Teeter. "What variables are you working with to slow it down? Is any step particularly inconvenient or difficult? Will it take a lot of practice to make a good landing? This is the time where you can compare the book to actual feel and experience."

Now that you understand what a "typical" demonstration flight looks like, feel free to add or subtract. Flight maneuvers such as steep turns, stalls, slow flight and short field takeoffs/landings are commonly requested and allowed.

The Debrief

Following the flight, take the time to sit down and discuss your thoughts on the aircraft's performance while it's fresh in your mind. Does it appear to suit your mission? Do you have any additional technical questions?

Before parting ways, ask for contact information from everyone involved, including the demo pilot, owner and salesperson. Should you have additional questions, which you most likely will, you can contact them directly for information. Demo pilots can provide real-world operational data that will ultimately help you decide which aircraft is right for you.

Demo flights can be an instructive, informative and fun step in getting you into your next airplane. However, what you get out of the experience is directly proportional to what you put in. Like the old adage goes, plan your flight and fly your plan.



Jacobs is a private pilot and aviation marketer. Though raised around general aviation, it would take her learning to fly in a Piper J-3 Cub in 2010 to pursue a career in aviation. She has worked at Piper Aircraft and as an aviation content marketing specialist at Sullivan Higdon & Sink. in Wichita, Kansas. You can contact Rebecca at rebeccagjacobs@gmail.com.



AIRCRAFT FINANCING

and more



1st Source Bank has 30 years of experience as a leading national aircraft lender, and over 150 years as a full-service bank.

The aviation lenders at 1st Source – experts in aircraft financing – give you the right advice and the right financing to get you airborne quickly. Whether you are a first-time buyer, trading up or refinancing your current aircraft, give us a call. Strong, stable and personal, we'll keep your best interests in mind.

Contact us at 574 235-2037, 800 513-2360 or at marketing@1stSource.com.



1STSOURCE COM/SFG

















Twin Proficiency by Thomas P. Turner

A Decision of Convenience



What effect does a tailwind have on your takeoff performance? More than you might think.

he National Transportation Safety Board (NTSB) released an unusually detailed Preliminary Report on the crash of a turbocharged piston airplane:

The aircraft impacted terrain shortly after takeoff from Stevensville Airport (32S), Stevensville, Montana. The private pilot and his passenger received minor injuries. Visual meteorological conditions prevailed. According to the pilot, he based the airplane at 32S, and he and his wife planned a final destination of New Orleans. The takeoff was conducted from Runway 12.

The pilot "accelerated" the airplane to "80" [knots] and then lifted off. Shortly after, the airplane "couldn't climb or accelerate." The pilot stated that he was unaware of the cause of the problem, and that it felt like there was a "rapid decrease in power." He reported that he ensured that the engine controls were in their appropriate positions for full takeoff power, but that the airplane "would not lift" any further. The pilot reported that he had insufficient time to scan the engine power instruments or diagnose the problem, due to the airplane's proximity to the ground. The pilot did not retract the landing gear during the event. He did not report his maximum altitude, but he did report that he had previously experienced problems with the turbocharger system.

The airplane struck level terrain adjoining the south side of the runway. The airplane came to rest upright about 300 feet from the runway centerline, approximately 3,500 feet along the runway from the Runway 12 threshold end, or about 300 feet prior to the Runway 30 threshold end.

A pilot-rated eyewitness who was situated on the northeast side of the runway, about 2,400 feet from the 12 end, reported that the engine sounded normal. The airplane just broke ground as it passed abeam of him, and he then mentioned to a person who was with him to watch the airplane, because its takeoff appeared to be



unusual. The airplane achieved a maximum altitude of about 50 feet above the ground, and then began a "steep right descending turn." The right wingtip struck the ground first; it exhibited a brief flash of fire which quickly disappeared. The witness stated that runway 12 has a "substantial" uphill slope, and the terrain and trees also rise in that direction. He also reported that at the time, there was a "quartering tailwind" from the "northwest" of about 15 knots. The 32S automated weather observations were recorded as being from 340 and 350 degrees, between 9 and 12 knots, with numerous gusts to 16 knots. The observations also reported visibility 10 miles, temperature 2 degrees C, dew point minus 6 degrees C, and an altimeter setting of 29.98 inches of mercury.

I call this event and others like them a "crash of convenience." Of course, there is nothing convenient about crashing an airplane. What I mean is that attempting takeoff uphill with a

substantial tailwind was a significant factor in this mishap. Beginning a trip to the southeast, the pilot chose to take off in that direction regardless of the environmental factors. It's possible also that the owner's hangar or the fuel facility was closer to the approach end of Runway 12 than the reciprocal, downhill runway. Either or both, taking off on Runway 12 was a direction of *convenience*, not of operational necessity.

Very luckily (and it may have been luck), the aircraft's occupants did not suffer serious injuries or death when it went out of control and impacted terrain alongside the runway.

How Much, Actually?

Convention has it that we take off and land into the wind. We learn from very early in our training that taking off into the wind helps get us aloft sooner, and that landing into the wind permits us to stop in a shorter distance. But how much does it matter, actually? Does it hurt to try to take off with the wind at your back, or land with a tailwind? Is there enough of a difference that, if the pattern is otherwise completely empty of traffic that you should still conform to the standard and takeoff or landing into the wind, even if that doesn't make sense for your direction of flight? Well yes, it does.

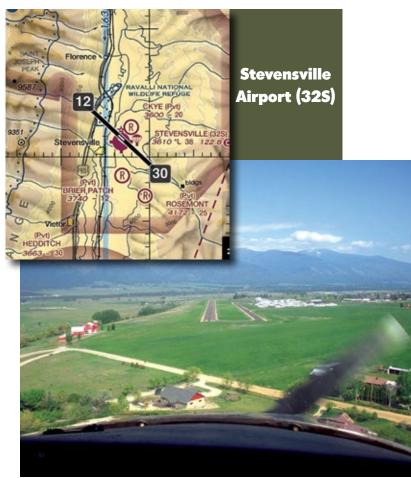
Most Pilot's Operating Handbooks (POHs) carry at least some caution about tailwind takeoffs and landings. We usually must go back to very basic training-type airplanes to get any suggested rules of thumb. Combine the recommendations of a few and you can derive some good rules of thumb about tailwind takeoffs and landings you might apply to flight in your twin or turbine, to decide if it's worth the risk.

For example, the Cessna 172S POH gives some fairly precise guidance on the relative effects of a tailwind versus the "conventional" headwind takeoff. Note 3 from the Takeoff Distance performance chart tells us that we should decrease the takeoff distance we derive from using the chart by 10 percent for every 9 knots of headwind. But it also tells us to increase takeoff distance by 10 percent for every 2 knots of tailwind component.

Put another way, a tailwind component has almost *five times* the performance effect as a comparable headwind component. If we normally take off into the wind to improve takeoff performance, we really want to avoid taking off with a tailwind because the performance will be significantly impaired.

Cessna gives us similar guidance for landings with a tailwind. The Landing Distance chart contains a similar nearly five-to-one difference between landing distance improvement with a headwind component and increased landing distance with a tailwind.

Now let's look at performance information for a light twin with which I'm very familiar, the Beech Baron 58. The folks at Beechcraft don't give us any general rules for adjusting the takeoff distance for head- or tailwind components. They do, however, provide Takeoff and Landing Distance charts to let us determine the effect of head- or tailwinds on computed performance.





On the Baron Takeoff Distance chart I plotted ground roll distance (zero obstacle height) for a 20-degree C day at a 2,000-foot elevation airport. The airplane is at maximum gross weight (5,500 pounds). Note that this calculation assumes the pilot adheres to the Associated Conditions technique at the upper left of the chart, and uses the liftoff and 50-foot speeds tabulated for the airplane's weight.

In this example, a zero-wind takeoff would require approximately 2,800 feet from the beginning of the takeoff roll to clear a 50-foot obstacle. Factor in a 10-knot headwind component and the computed takeoff roll distance is 2400 feet, a roughly 14 percent improvement. Make that 10-knot breeze a tailwind, however, and the computed 50-foot obstacle distance is 32 percent longer than the zero-wind takeoff – the tailwind's detrimental impact is more than twice the amount per knot as the positive effect of a takeoff headwind.

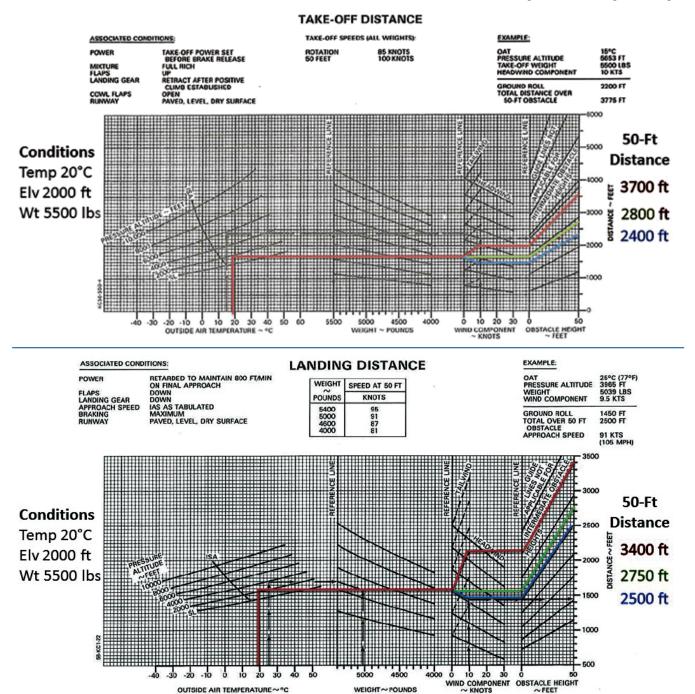
From either the simple Cessna's tailwind warnings or the Beech twin's performance charts, we can confirm the

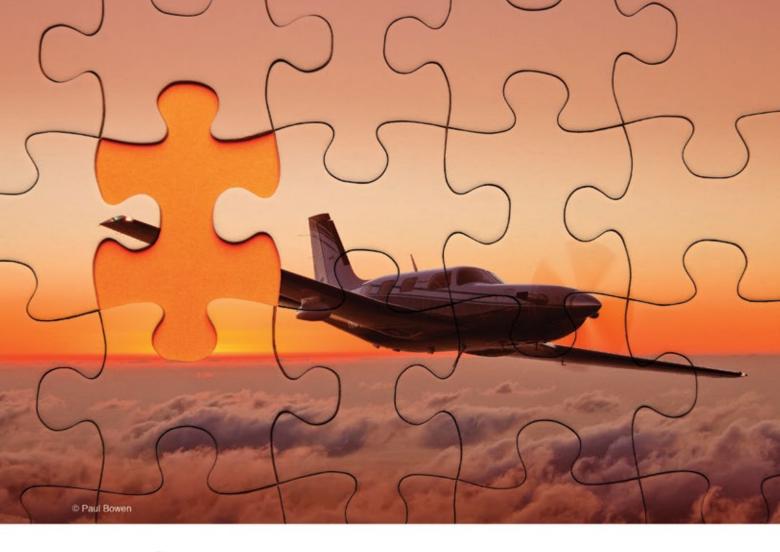
wisdom of taking off into the wind in all but the most unusual cases.

Coming Down

Let's look at the performance change on landing when comparing a headwind component to a tailwind. Cessna's 172S POH has already told us a knot of tailwind is worth nearly 5 knots of headwind. The Beechcraft Baron 58 POH gives us a sample calculation below.

On a 20-degree day at 2,000 feet and assuming a maximum gross weight





Own (or thinking of owning) a PA46? The picture's not complete without MMOPA.

When you join MMOPA, you belong to much more than just a type club. You will be a part of the premier organization dedicated to the safety and interests of owners who fly the Piper Malibu, Mirage, Matrix, Meridian and M-Class aircraft.

As a member, you will have access to leading maintenance experts, unsurpassed training, and the world's greatest PA46 knowledge base through a network of members, mechanics, and CFI's. Plus, you'll receive a subscription to MMOPA Magazine, which is chock-full of PA46 news, information and advice.

MMOPA also hosts an Annual Convention and numerous fly-ins all focused on safety education, operational excellence and friendship. MMOPA gives you the opportunity to you meet other owners who share your passion for the PA46.

By joining, you'll instantly get to take advantage of special discounts on Jeppesen subscriptions and a **FREE** UVAir contract fuel card.

JOIN TODAY! **SPECIAL OFFER:** Twin & Turbine readers receive a FREE 30-day trial membership. Go to mmopa.com to register and enter the promo code: **TTPROMO**



Baron 58, the landing distance over a 50-foot obstacle (i.e., from about over the runway threshold to the point the airplane stops, assuming maximum braking is applied) is 2,750 feet in zero wind. Add a 10-knot headwind component and the total landing distance is 2,500 feet, a roughly 10 percent improvement. Land under those conditions with a 10-knot tailwind, however, and the total obstacle-clearance landing distance is 3,400 feet – a **24 percent increase** in landing distance.



Accelerate/Stop

Multi-engine pilots are correct to be aware of accelerate/stop distance before takeoff as well. What is the effect of a tailwind on accelerate/stop distance? Again, on a 20-dgree day at a 2,000-foot field elevation, computed accelerate/stop distance using "book" (Associated Conditions) technique, the maximum gross weight, zero-wind accelerate/stop distance is 3,400 feet. A 10-knot headwind component shaves 200 feet, or about 6 percent, off the runway requirement. Take off under the same conditions with a 10-knot tailwind component, however, and the accelerate/stop distance is 4,400 feet - a 30 percent increase in runway requirement compared to that for zero wind.

Long-Winded

Here are some general rules of thumb:

- Each knot of headwind component on takeoff improves takeoff performance by roughly 1 percent, while each knot of tailwind component degrades performance by 3 to 5 percent. Tailwinds are three to five times as detrimental to takeoff as headwinds are an improvement.
- While each 1 knot of headwind component improves landing performance by about 1 percent, each knot of tailwind component degrades landing distance by about 3 to 5 percent. Tailwinds are roughly three to five times as effective at altering landing performance thank headwinds...and the alteration is not in your favor.

- In almost all cases, then, there is very good reason for avoiding tailwind takeoffs and landings, even if it makes more sense for the direction of flight on departure or arrival.
- Our discussion has centered on changes in terms of percentages.
 Takeoff, landing and accelerate/stop distances are already long in twins and turbine-powered airplanes.
 Increasing runway requirements by (in some cases) roughly one-third is significant.
- The heavier the airplane, the more dramatic the performance loss when taking off or landing with a tailwind.
- Tailwinds drastically reduce performance and margins for error that make it even more challenging to survive a power loss, total engine failure or other abnormal or emergency condition.

Do some similar performance calculations with the handbook for the airplane you fly to see what impact tailwinds have on your takeoff, landing and accelerate/stop distance.

Some runways are "one-way" because of extreme runway slope or very high obstacles close to one of the runways. In those cases, you'll need to investigate further to determine the best runway for landing and takeoff. Often that means a phone call ahead to talk to local pilots in addition to reading any notes from the FAA Charts Supplement (formerly Airport/Facilities Directory).

Don't fall into the trap of setting yourself up for a crash of convenience. Take the extra minute or two needed to taxi to the appropriate runway, take off in the appropriate direction, and only when airborne turn to proceed on your route.

Thomas P. Turner is an ATP CFII/MEI, holds a Masters 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.



PREMIERE AVIATION

Aerodynamic Refinement Simplified
CESSNA 400 SERIES SPEED COVERS
REDUCE DRAG INCREASE CLIMB
INCREASE SPEED



Most Cost-Effective STC to Increase Safety, Climb, Cruise Speed, Range, and Fuel Economy for Hydraulic Gear Twin Cessnas

Over 300 Kits Sold - All Kits are \$2,000 Complete and Install in 1-2 Hours

25% Increase in SE ROC @ Gross (421C) Over 7 Minutes

Increased Safety - Increased Climb - Increased Speed - Increased Payload

Patented Citation Brake Cooling Covers Tested (in Certification - Inquire)

Call Premiere Aviation at (925) 788-9010 or visit www.Premiere-Aviation.net

TLC For Your Radome

The nose on your airplane does more than keep the wind from blowing through.

by Archie Trammel

s I taxied in to the ramp at the Greenville South Carolina Airport, the flight department manager waved me in and helped tie down. I had arrived to conduct a training session for his pilots on convective meteorology and airborne radar operation. While helping me tote my projectors and slides to the meeting room, he pointed to one of his de Havillands and said, "Maybe while you're here you can tell us why the radar in that airplane is so weak. We've had it checked out but still a faded looking paint and ghost images."

From 50 feet away I could see the problem. The airplane had been flown through light hail, leaving pock marks in the paint on the radome. Instead of stripping all the damage off and refinishing it properly, someone had simply sanded out damaged areas and added a coat of cover-up paint. I suggested the radome be sent off to a certified radome repair facility for a complete refinish. A couple of months later I saw the aircraft on the ramp at Windsor Locks. Its nose was now pearly white, in contrast to the off-white color on the rest of the aircraft.

It's imperative that aircraft operators understand the nose of their aircraft is actually the lens through which radar signals must pass out and extremely faint radar reflections must come back through for the radar to function properly. It's your widow to hazards ahead. For that reason, the radome structure must have a precise thickness – so precise it's critical to the thickness of a single coat of paint. A radome must never be painted with an even number of coats, only an odd number. Why? Because the overall thickness of the completed radome with paint must be exactly an odd number of the frequency of your radar. If you think this is all malarkey, ask your radar tech to let you read the shop's copy of RTCA/DO-213. In it you will find 38 pages on the engineering, proving, manufacturing and repair of radomes. It was assembled by 68 of the world's premier radar scientists, engineers, manufacturing specialists, airline experts, FAA Inspectors and radome testing professionals ever assembled. Included was radar engineers Roy Robertson (Collins), Dick Hayes (Honeywell), Dyral Kuntman (Bendix). None are better qualified.

In the document you will find that radome minimum performance standards are exhaustively spelled out. Even an allowable degradation in transmissivity performance due to age, repairs and general wear and tear is specified by grades. The grades are A down through E. Somewhere in your

radar manual from the manufacturer (or check your avionics shop's "Installation and Repair Manual" for your radar) you'll likely find that the radar manufacturer recommends a Class A radome. To put that in perspective, should transmissivity of your eyes degrade to E level your driver's license will be revoked.

Can you believe there are aircraft flying today – privately owned, corporation operated, in airline fleets – with Class E radomes?

In appendix B of the DOC are five pages of instructions on how to repair and refinish a radome. The short of it is, a radome should go to a proper radome repair and testing facility about once each five years, plus anytime the aircraft is repainted, or following a radome repair. Only those facilities that have a tested and computerized "anechoic" (I prefer to call them "acoustic") chamber should be used. There are only three in the United States:



California Radomes, Santa Clara, California; Nordam in Tulsa, Oklahoma; and Saint-Gobain, formally Norton, in Ravenna, Ohio. It's possible other facilities in the world have personnel and equipment necessary for proper radome manufacturing and repair, but if so they aren't widely known.

Field Tests and Repairs

But suppose you operate out of a jungle strip in darkest Africa, or some remote south sea island? Are field tests and repairs possible? Yes, to a limited degree. You begin tests with a simple coin and a "tap" test. A quarter size silver coin will do. With the coin you tap all over the exterior of the radome. Be certain to tap carefully around any openings in the radome, such as those around openings for landing light installations. You're listening for a musical like "ping". If you hear a dull clunk any place on the dome you'll have to go plead with your banker for a loan. That "plunk" is telling you there's a delamination in the radome layers, or water has soaked into the fiberglass, or whatever the radome is made of.

Incidentally, wise pilots also conduct a ping, ping inspection of the radome on every walk around, in case water got into it on the ramp.

With skill and patience it's sometimes possible to repair a delamination with a fiberglass repair kit; and sometimes possible to dry water out with a hair blower. But without proper testing you can't be certain your fix was a fix. And a too hot hair blower can blow the entire effort with a meltdown.

Assuming you're lucky and the radome passes the "tap" inspection, next you must check it for transmissivity. This one will require a couple of hours. First, remove radome fasteners, leaving just 2 or 3 to hold it in place. Then power the aircraft up and taxi out to a remote area of the airport. Park with the nose pointed at some prominent building on the far side of the airport, at least a mile or more away, or some building or object beyond the airport boundary. That's "the target." Turn your radar on, select the shortest displayed range, full-up tilt. Then carefully decrease tilt until an echo, the target, appears. Adjust tilt to achieve the strongest possible echo from it. Then reduce the CAL control, (probably misnamed "GAIN") slowly until the target echo is just barely visible on the radar. Then, without changing any radar control, shut down, remove the radome, get back in the airplane and see if that echo has changed. If the target echo is now stronger - even the slightest bit - you have a radome transmissivity problem. Reposition the aircraft left and right and check the target out on the left and right sides of the radome. If that target is brighter - left, right or centered - bad news.

What to do? If the difference, radome on or radome off, is very small, you can take a chance and continue to fly behind it safely. If you are a risk-taker, allow for the slight transmissivity lost you know is there. Advice? Assume echoes with yellow in them actually contain red. Assume an echo showing red contains hail of some size.

But suppose the difference with radome on/off is pronounced? Is a correction in Timbuktu possible? No. Problem is, to restore the radome's performance will require the services of technicians

with extensive experience in stripping radomes, plus the correct primers and paint for radomes. In some cases, lightning diverter strips will need to be replaced. And, finally, don't forget about that computerized anechoic chamber for testing.

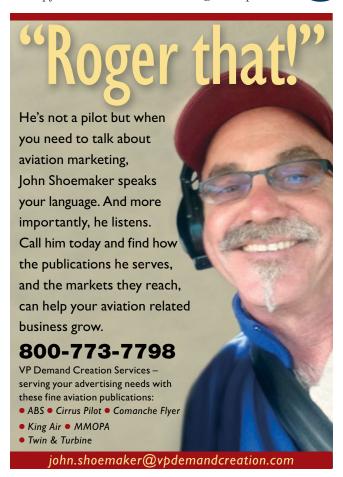
Here, briefly, is what is required. First, a liquid stripper may not be used. The old finish must be carefully, carefully, sanded off without compromising the base structure. Then a special radome undercoat applied, followed by an odd number of finish coats. After the paint is cured, into that chamber it must go for testing by an engineering inspector.

Continuing with an inspection while the radome is off, check it for pin holes. How? On a bright sunny day point it up toward the sun, stick your head inside and turn it this way and that, searching for any tiny, tiny bright holes. If you find any, mark the location so they can be plugged from the outside with a very small dab of fiberglass or other base material. Very, very small dab. (Incidentally, never apply paint or anything such as an anti-static paint, to the inside of a radome.

Hopefully, your radome will pass all the above self-tests. If not, below are phone numbers for you to contact. Ask first about an exchange for a refurbished and tested one.

California Radomes	Nordam	Saint-Gobain
408-562-1919	918-476-8338	330-298-4105

For those curious about what DOC-213 says in reference to radome repairs in Appendix B, I will be pleased to send you a PDF file copy. You can e-mail me at archie@radar4pilots.com.



From the Flight Deck by Kevin R. Dingman



When it Rains

It never rains in California, it pours, man it pours. - Albert Hammond, 1973

roverb: It never rains, but it pours. Misfortunes or difficult situations tend to follow each other in rapid succession or to arrive all at the same time. We sometimes cite proverbs, myths, nursery rhymes, even superstitions in our search for excuses, explanations and sometimes inspiration. Singer songwriter Albert Hammond used the proverb in his hit song.

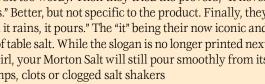
Colloquially, we say that if something bad happens, it's likely that more bad things will happen: it will really "pour" bad things once they start to rain down on us. Bad things come in threes, for example.

> Of course, it's not the proverb coming true. When several bad things have happened consecutively, we're simply reminded of the proverb.

> And so, it has been for me this spring. A run-in with pneumonia caused two consecutive back strains from coughing. That was followed by a bout with the famed Norovirus. And just recently, three critical letters from readers. Judging by health and creativity, you'd think I'm falling apart! Darned proverb.

> Have you ever wondered why the paper canister of Morton Salt shows a girl holding an umbrella? The proverb gained popularity in modern society because of her and a slogan. In the olden days, there was an issue with moisture getting into everything. Metal rusted more easily, clothing would develop a musty smell if not hung on the clothesline promptly and our food stuffs were problematic. Baking materials and spices were subject to clotting in their containers, including salt.

> In 1911, Morton Salt Company started adding magnesium carbonate, an anti-caking agent, to their salt; this allowed it to pour freely. Today, they use calcium silicate. The original pitch was "Even in rainy weather, it flows freely." A bit too wordy. Then they tried the proverb, "It never rains, but it pours." Better, but not specific to the product. Finally, they settled on "When it rains, it pours." The "it" being their now iconic and enduring brand of table salt. While the slogan is no longer printed next to the umbrella girl, your Morton Salt will still pour smoothly from its canister. No clumps, clots or clogged salt shakers



Occasionally, my Twin & Turbine articles fail to flow freely. And calcium carbonate sprinkled on the keypad only makes the computer fix-it guy scowl. Not to get all artsy-fartsy, but writing creative nonfiction often requires inspiration. That's my excuse and I'm sticking to it. Picture me at a small oak desk in a converted warehouse loft, wearing pointy, lavender shoes. And like Papa Hemingway, an ice-cold gin martini at the ready.

Coffee Please



Not really, it's usually a cup of coffee; sometimes at the hangar; and what exactly would be wrong with pointy, lavender shoes? Missteps in writing can be like an embarrassing photo. And because of the internet, the things we print have longevity like the scrolls from the Great Library of Alexandria. Once on the web, it's there forever.

So, accuracy and a thorough review are critical. When I write, did I mean to say it the way I did? Yes. Did I intend for an emotional response? You bet. On the other hand, did I mean to say yolk instead of yoke? Well, no. Or holly instead of holy? Hanger instead of hangar? The publishing process is fraught with multiple airplanes in the pattern at different airspeeds, all vying for the same runway. Even so, I'm grateful for the many people along the way that make my column better. First there is what I write, then a couple of proofreaders, next the editor and finally the graphics and typesetting folks at the publisher. But the buck stops here (President Truman) and I'm the PIC of my writing when it wanders off course.

I usually get very positive comments from readers. Hundreds actually, which tells me that I'm in tune with what you like to read. That's the best article ever, they'll say, one for my aviation scrapbook. Bullseye, I feel the same thing or, I worry about the same things; I read your column every time. And I thank you for your encouragement and praise.

Naturally, on occasion, someone disagrees with something I've said. I'm not sure why a couple of negative emails clog my creative salt shaker so. Maybe it's the contrast from the average letter, an insecure confidence level or just the stubborn, "Type A, pilot-y, captain" personality that wants to be correct every time. Probably some arrogance, too. But constructive criticism is always good. So, lay it on me when you see something askew, and good-on-ya for holding my feet to the fire.

Call ATC After You Land

We've all learned to not dwell on negative things during a check ride or an everyday flight. A good example is when you are told by ATC: Standby to copy a phone number. Or, call us after you land.

That's not good, and can clog your salt shaker quite thoroughly. When we mess up, which we all do, we must move on with a clear head. We need a "when it rains" worry-wiper, an anti-clogging agent and to compartmentalize our tasks to not mess up even more. The critical letters I received were from a couple of my longtime readers, you could even say that they're fans, each having written me several times in the past with very nice comments. My response to one of them was concise, but misinterpreted as defensive because he said he wouldn't "bother" me again.

Your comments are taken to heart, your opinions matter and I've answered every letter. But remember, even after research, proofreading, editing and rewrites, mistakes get by us and you are correct in pointing them out. Sometimes I will incorrectly wordsmith the prose or fail to make my point clear. The most efficient way to improve any skillset is to have resistance: an incline, a workout, a forging. So, with grateful acknowledgment, the critical reviews from our readers are a welcome workout. Like making a mistake in the airplane, they are something from which to learn. I will then continue, after cleaning out the salt shaker.

Proficiency

There's one proverb that needs revision: practice makes better, it doesn't make perfect. And as your broker discloses: past results are no guarantee of future performance. With thousands of hours in the air and many articles written, we are only as good as the current flight in progress or magazine article under construction. My good friend, retired airline captain and Beechcraft Duke Flyers Association president Bob Hoffman and I have discussed total flying time and experience many times. He has more than 40,000 hours while I'm in the 23,000 range. We agree that those totals mean much less than how often you fly and how recent the last flight was in that type of aircraft, such as switching back and forth from a modern jet to a complex general aviation piston, for example. Currency and proficiency are paramount. We also agree that, like owning a house, eventually one of everything that can go wrong or break, will go wrong or break.

As you accumulate flying time, the odds of experiencing an event increase. Not because you become a less capable pilot, but because that's simply the way probability and statistics work. Bob has had more than a dozen engine failures for example, while I'm at four. He had an inflight cabin fire while I had a lightning strike cause an engine compressor to stall. He almost lost the tail of a V-tail Bonanza inflight, and I had an F-16 go out of control during a test flight (Paper Airplanes, T&T May 2011). Of course, we both have had dozens of misbehaving or sick passengers and mechanical issues that caused a diversion, as well as hundreds of approaches to minimums. Though often painful, these experiences have contributed to making us better pilots.

Zero Airspeed

The distractions and trepidations we encounter may be seasonal: dreading wintertime flying, summer thunderstorms or an upcoming flight physical or check ride, for example. Perhaps it's remembering an inflight emergency or poorly flown approach or a bad landing at a particular airport that affects our focus. As a writer, it may be a reader's complaint over a misunderstood premise or an off-topic article that can clog creativity.

In any endeavor, it takes courage to recognize anxieties, accept criticism, recover from mistakes, to learn from them and to move forward. When distractions rain down on us, we need to keep our salt shakers flowing freely. In the air and on the ground.

We can review our airborne mistakes once we are back on the ground at zero airspeed. And with a coffee in hand, or a little help from Papa H's martini, this writer will use artsy-fartsy brain cells and your critiques to improve writing skills and to create stories that are entertaining, instructional and occasionally worthy of a scrapbook. If those types of articles happen more often, maybe I'll get a lucrative book deal and buy that MU-2. I should go measure the hangar, just in case.

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.

En Route

SIMCOM Now Offers Concierge Service

IMCOM Aviation Training is pleased to announce that they have partnered with Hospitality Too to provide concierge travel services for their customers in their Orlando and Scottsdale, Arizona locations. With this partnership, SIMCOM now offers discounted hotel accommodations, rental car and ground transportation. Scott Layman, an account executive with Hospitality Too, and will be located within the Orlando facility to service SIMCOM's customers.

Hospitality Too specializes in securing hotel accommodations throughout the world. Customers include Fortune 500 companies, tour and travel groups, professional sports teams, among others. SIMCOM Now Offers Concierge Service.

Embraer Delivers 400th Phenom 300

ast month, Embraer Executive
Jets delivered its 400th Phenom
300. The milestone jet went to
EliteJets.com, an air charter and taxi
company recently established in
Naples, Florida. The delivery completes
EliteJets.com's all-new Embraer aircraft
fleet, consisting of one Legacy 500 and
four Phenom 300

"We are honored by *EliteJets.com*'s selection of Embraer aircraft and services to build their brand-new fleet. The Phenom 300 and the Legacy 500 deliver premium comfort, outstanding performance and low operating costs, the ideal traits for aircraft in revenue service," said Michael Amalfitano, president and CEO, Embraer Executive Jets. "We are confident that their customers will fully enjoy these aircraft and that the aircraft will, in turn, deliver solid business performance to *EliteJets.com.*"

In just eight years of operation, the Phenom 300 fleet reached this mark, having sustained more than half of the light jet market share since 2012. The aircraft is in operation in 30 countries and has accumulated close to 500,000 flight hours.

st Source Bank35	
Advent Aircraft Systems Inc Back Cover	
Air Capitol Dial9	
Ameican Aviation Inc Inside Back Cover	

Executive HeliJet	11
Gulf Coast Avionics	27
Hawkeve Aircraft Acquisitions	F

Covington22

Hillaero19	9
J P Instruments3	1
Janitrol Aero2	1
Jet Bed13	3

Jet Quest3
Lighthawk11
Luma Technologies LLC17

MMOPA......39

National Flight Simulator
Pacific Coast Avionics23
Paul Bowen29
Performance Aircraft25
Peter Schiff Aero Inc
Preferred Airparts, LLC37
Premiere-Aviation Inc41
Rocky Mountain Propellers Inc40
Select Airparts30
Shaw Aerox40
Specialized Aero25
Survival Products46
Textron Aviation Inside Front Cover
Turbines Inc
Winner Aviation Inc.

BUY or RENT

Ad Index

the World's..... 4-6 MAN
• smallest package 4" x 12" x 14"

lightest weight

12 lbs. **\$1,510**

• least expensive \$1,510

NEW!!! FAA TSO Approved Life Rafts

Emergency Liferaft

9-13 MAN 5" x 12" x 14" 18 lbs. \$1,960

TSO'd & Non TSO'd

Call Survival Products, the manufacturer, for customer/distributor/service info.

PHONE: (954) 966-7329 FAX: (954) 966-3584

5614 SW 25 St., Hollywood, FL 33023



WEB: www.survivalproductsinc.com

PRODUCTS INC. EMAIL: sales@survivalproductsinc.com





On Final by David Miller

Flying Aussie Style in a Cessna 182

ouring Australia in a Cessna 182
Eight days, 22 flight hours, memories for a lifetime

"I have an idea," said friend and Citation owner Kirk Samuelson. "Let's meet in Sydney, rent Cessna 182's, and fly around Australia."

"Sounds interesting, but I fly jets and haven't flown a singleengine anything in over 40 years," I replied.

"Then you better go back to school," said Kirk. Learning to fly again (see On Final, April, 2017) was one of the many things I had to do in preparation for this lifetime adventure.

Our travelling partners, Kirk and Rebecca Samuelson, Joe and Annie Fisher, and J.R. and Jane Spalj all owned Huskies, Cubs or 182's. Patty ordered matching shirts for all. We named our group the "Aero Nomads" to reflect the spirit of the journey. But for me, it was back to the airport and numerous touch-and-go's.



Stateside Prep

Our trip was organized by Clare McEwan of Air Safaris International (www.airsafarisint.com) who leads excursions in Europe and Australia customized for the experience level of the participants.

But first the paperwork.

Likely the result of the Sept. 11, 2001 attack on the United States, world-wide entry requirements for pilots hoping to fly small airplanes in foreign countries have dramatically increased. First, we had to obtain a Civil Aviation Safety Authority (CASA) issued Certificate of Validation (COV) by submitting a multipage notarized application, including a security background check, copies of logbooks and medicals, followed by acquiring

an Aviation Security Identity Card (ASIC) worn at all times while traveling. In addition, we had to be English language proficient (fairly easy for Americans). Finally, we had to have proof of airplane qualification prior to our trip and pass a check ride in the airplane upon entry into Australia. Under Clare's supervision, the faxes, emails, and FedEx envelopes flowed frequently between the United States and Australia.

It was worth the effort.

Aussie Ground School

We found ourselves at Sydney's Bankstown Airport in early February (Australia's summer) in three 182's and a 206 where we met Marilyn Anderson, our classroom instructor. Marilyn provided an eight-hour briefing covering differences in Australian airspace and ATC procedures, and loaded us up with more VFR charts than you can imagine. Rules there are similar to the United States, but enough differences exist to get your attention. As Marilyn said, "You are departing from a Class D, transiting military Class C, (Nowra and Sale), landing at Class C, (Essendon), and Class D (Parafield). The rest are Class G CTAFs apart from Bankstown, plus the Class C transit for the Sydney Scenic.

"Our military airspace is all Class C and requires a clearance to transit, but we don't have MOA's. Clearance may or may not be available, so have a Plan B. Also remember that apart from that Class C, you will be outside of radar assistance, so do not expect vectors or flight following."



On Final

After hearing all that, I decided that hiring an experienced co-pilot was a wise Plan B. Recently retired 747 captain Roger Hendry fit the bill. For the next eight days, Roger, Patty and I flew over, under, and around some of the most spectacular scenery anywhere.

The Trip

Our group decided to avoid many typical tourist spots in favor of experiencing the geography of the country. We travelled clockwise along the coast from Sydney, stopping in such places as Mallacoota, Mount Gambier, Kangaroo Island (koalas and several kinds of kangaroos), an underground hotel in an opal mine at White Cliffs, and late night telescope stargazing at a true Outback post in Arkaroola Village.

Much of our flight time was spent just off the coast at low level wearing life jackets just in case. Each day, we received an early morning briefing from Marilyn covering weather, airport procedures, and possible challenges. I had to learn how to read VFR charts all over again. One morning, Roger pointed to a spot on the chart called Deception Creek. We decided not to go there for fear it was a trap. Passing south of Adelaide, we noticed that the local time there was thirty minutes different. Odd but true. As in any multiple airplane adventure, things happen. In our case, Kirk's 182 refused to start one morning. Within 12 hours, Clare had located a replacement and off we flew. Expect to pay reasonable landing fees at even the most remote airports and a little extra if the field has a tower.



The Weather

We were limited to strictly VFR and 500 feet over non-populated areas. One afternoon, in deteriorating weather, Patty said, "Look at the cute little cows and sheep running along with us." Based on our altitude, I was pretty sure they were running away from us. Indeed, it had been a long time since I had to climb from cruising altitude to enter the pattern.

The People

Expect friendly, unbridled hospitality everywhere. At the airport on Kingscote Island, the Hertz rental attendant also ran the coffee bar. His wife baked the cookies for sale. The guy at the Avis counter seemed very lonely. On a bus tour of the island, our guide realized that the



normal picnic stop location was unavailable. He simply drove us to the tour owner's home where we dined on her gorgeous patio unannounced.

Kangaroos, koalas, emus, seals, lizards, and delightful people. Most memorable for Patty and me, were the 12 Apostles, which are limestone rock stacks jutting out of the water at Port Campbell National Park on Victoria's dramatic coast line.

This was truly an Australian adventure of a lifetime. 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.



American Aviation Cowling Systems deliver increased speed by increasing torque at the same ITT.

They also allow you to attain maximum cruising speeds at higher altitudes, significantly increasing high speed range.

Having more torque means increased climb performance as well.

In addition, these cowlings will significantly improve performance with the ice protection on.*

The addition, of these cowlings, is much like install-ing higher thermodynamically rated engines, at a fraction of the cost!

Speed Stacks complement your aircraft beautifully, because they reduce drag, giving you a cleaner, faster airplane, at all altitudes.

Please call to learn how affordable it is, to increase the performance of your aircraft.

AMERICAN AVIATIONS

Advanced Technology for Proven Aircraft

www.AmericanAviationInc.com 800-423-0476

*performance may vary depending upon aircraft condition, operating proceedures, altitude and atmospheric conditions



Effective, Affordable Anti-Skid Braking for Your Aircraft

Advent ABS

BREAKTHROUGH GPS / DIGITAL ANTI-SKID

CERTIFIED | LIGHTWEIGHT | EASY TO INSTALL Eclipse 500/550 | King Air B200/B300 | Pilatus PC-12/12NG

