

TWIN & TURBINE

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

AUGUST 2019 \$3.95 US

VOLUME 23 NUMBER 8

**Brad
Keselowski**
NASCAR Champ Talks
Aviation and Additive
Technology



Facing Airport
Construction

Great Getaways:
Ox Hunting Ranch

How to Target
Your Training

BOSE

AVIATION



Lighter 4.5 ounce (128 gram) on-head weight provides improved stability and comfort on long flights.

Three modes of noise cancellation, now with improved low mode.

Incorporates more than 30 U.S. design and utility patents.

Improved tap control for talk-through communication.

FAA TSO and E/TSO-C139a certified and compatible with TSO certified systems.

New lighter, thinner, more flexible cable allows improved stability and freedom of movement.

INTRODUCING PROFLIGHT SERIES 2

Engineered by Bose. Refined by pilots.

The ProFlight Series 2 builds upon the advanced technology of the original, and is the most lightweight, compact and comfortable aviation headset Bose has ever produced. The ProFlight Series 2 is engineered and refined for the way professional pilots fly, and now offers numerous updates and enhancements based on pilot input. **Experience the changes for yourself - learn more and order at Bose.com/ProFlight.**



NEW

Connect with us @BoseAviation



©2019 Bose Corporation. All rights reserved.

EDITOR

Rebecca Groom Jacobs
(316) 641-9463

rebecca@twinandturbine.com

EDITORIAL OFFICE

2779 Aero Park Drive
Traverse City, MI 49686
Phone: (316) 641-9463

E-mail: rebecca@twinandturbine.com

PUBLISHER

Dave Moore

PRESIDENT

Dave Moore

CFO

Rebecca Mead

PRODUCTION MANAGER

Mike Revard

PUBLICATIONS DIRECTOR

Jake Smith

GRAPHIC DESIGNER

Marci Moon

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
COORDINATOR & REPRINT SALES**

Betsy Beaudoin

Phone: 1-800-773-7798

betsybeaudoin@villagepress.com

**ADVERTISING ADMINISTRATIVE
ASSISTANT**

Erika Shenk

Phone: 1-800-773-7798

erikashenk@villagepress.com

SUBSCRIBER SERVICES

Rhonda Kelly

Diane Smith

Jamie Wilson

Molly Costilow

Kelly Adamson

P.O. Box 968

Traverse City, MI 49685

1-800-447-7367

To change mailing address,
email rhonda.kelly@vtpdcs.com

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.

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

Contents

AUGUST 2019 • VOL. 23, NO. 8



- 6 Great Getaways:
Ox Hunting Ranch
by Grant Boyd
- 8 Target Your Training
by Thomas P. Turner
- 14 NASCAR Champion
Takes on Manufacturing
by Rebecca Groom Jacobs
- 22 Five on the Fly
with Aircraft Broker
Matt Stringfellow
by Rebecca Groom Jacobs



- From the Flight Deck
- 32 Oshkosh 2019:
Year of the Fighter
by Kevin R. Dingner
- On Final
- 40 Saying Goodbye
to My Mustang
by David Miller

COVER PHOTO:

Brad Keselowski/Lear 45
Photo Courtesy of Brett Schauf

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

Editor's Briefing

- 2 National Aviation Day
by Rebecca Groom Jacobs

Position Report

- 4 Orange is the New
Black (and Yellow)
by Dianne White



Jet Journal

- 24 Broker or No Broker?
by Matt Stringfellow
- 28 The Problem with Juneau
by Kevin Ware



Editor's Briefing

by Rebecca Groom Jacobs



National Aviation Day

Get ready to celebrate! August 19 marks the 80th annual National Aviation Day – a holiday dedicated to honoring aviation's achievements and pioneers of flight.

As readers of this magazine, I think it's safe to assume that aviation has impacted your life in some way. The majority of you are owner-pilots and chief pilots who live and breathe this amazing industry every day. But how often do we take a step back to reflect and appreciate aviation's beginnings?

To commemorate the anniversary, I thought it'd be interesting to dive into the origins of the holiday. Join me as we journey back in time.

The History

In 1939, Americans could purchase a house for \$4,000, a car for \$700 and fuel for 10 cents. The Great Depression was wrapping up its decade-long era, while more turmoil was just around the corner with the onset of WWII. "Gone With the Wind" and "The Wizard of Oz" were topping the box office. In the midst of all this, aviation was growing by leaps and bounds.

To honor that triumphant growth and its impact, National Aviation Day was established in 1939 by Franklin Delano Roosevelt (FDR), who issued a presidential proclamation designating Orville Wright's birthday (August 19) as a day to observe and celebrate the developments of aviation. From the Wright brothers first flight in 1903 up to FDR's proclamation, aviation made incredible strides in a relatively short period of time. Below is a just an abbreviated list of the milestones during that period.

- 1903 – First powered flight
- 1908 – First passenger flight
- 1910 – First commercial flight school opened

- 1917 – First airline founded
- 1918 – National air mail service begins
- 1923 – First transcontinental nonstop flight
- 1924 – First aerial circumnavigation
- 1927 – First solo nonstop trans-Atlantic flight
- 1932 – First woman flies across Atlantic
- 1933 – A modern airliner (Boeing 247) flies
- 1935 – Boeing designs first pressurized airliner
- 1939 – Pan American begins transatlantic passenger service

It is also interesting to note that total aircraft production in 1939 for the U.S. military was less than 3,000 planes. By the end of WWII, America produced 300,000 planes (96,318 were produced in 1944 alone). Aircraft manufacturing swept the nation, going from 41st place among American industries to first place in less than five years.

Fast forward to today and there are currently 220,000 registered civilian aircraft registered in the U.S. Here are the latest numbers provided by the FAA regarding air traffic:

- Average daily flights handled by FAA – 44,000
- Total aircraft in the sky at peak times – 5,000
- Number of air traffic control towers – 518
- General aviation flight hours per year – 25,212,000
- U.S. airports – 19,622 (5,092 public, 14,530 private)
- Number of passengers flown yearly in the U.S. – 1 billion
- U.S. jobs generated from aviation – 10,600,000

Ways to Celebrate

Needless to say, it is worth celebrating how far we have come, so let's do it: Go on a trip; share the joy of flight by taking someone flying; read an aviation book (I enjoyed "The Wright Brothers"); share a post on social media with hashtag #NationalAviationDay; volunteer with an aviation organization; visit your local airport or aviation museum.

Let us never forget how lucky we are for others' contributions to flight. Happy National Aviation Day.

A handwritten signature in black ink that reads "Rebecca Groom Jacobs".



Airmail

In Response to Kevin Ware's "Check Ride" (June)

The first place I go in Twin & Turbine is to Kevin Ware's stories. It is uncanny how the life of pilots can parallel each other. There are many common threads. What brings me to comment this time is not the check ride (as a Part 135 pilot and check airman for 20 years, I know how those go), but his airport restaurant story. I used to live in the San Juan Islands, close to BVS. My wife and I used to take the Navion over to BVS where we kept a car and did our grocery shopping or whatever was needed on the mainland. Once, we had a little extra time and it was early afternoon so we went in to the airport restaurant for a bite. My wife had a club sandwich. She was ill for days after that...a coincidence?

Love the stories though – brings back the many destinations, passengers and weather that one gets to experience. His descriptions mirror those great experiences. After 54 years of civil and military flying (got my Master Pilot Award), I've had to take a break due to a stroke. At 74 years, it probably means the end but reading stories by Kevin Ware and Kevin Dingman keep me up as if I were in the cockpit with them. Please keep it up.

Mark W. Smith

In Response to Dianne White's "Knowing When to Say No" (July)

Saw your recent Position Report on wx decision-making. The content regarding the NC JetPROP event was especially chilling to me. Kathryn's Report also had a write up on the event. As is often the case, the comments following the KR entry provide much food for thought, and there's even a mention of MMOPA. When I read one of these entries, I'm reminded of the stark reality that every time an event results in a fatality, somebody's (spouse, relative, coworker, friend, etc.) life has now been drastically altered forever. As an aviation safety person, I never lose sight of that awful fact.

Your elegant and purposeful work is perhaps one of the better examples of us, at a minimum, not allowing these tragedies to be in vain. Thanks for that. I've often wondered how such great aviators as Scott Crossfield, Steve Fossett and others ultimately made decisions that resulted in them paying the ultimate price for their cognitive processes. Keep up the good work.

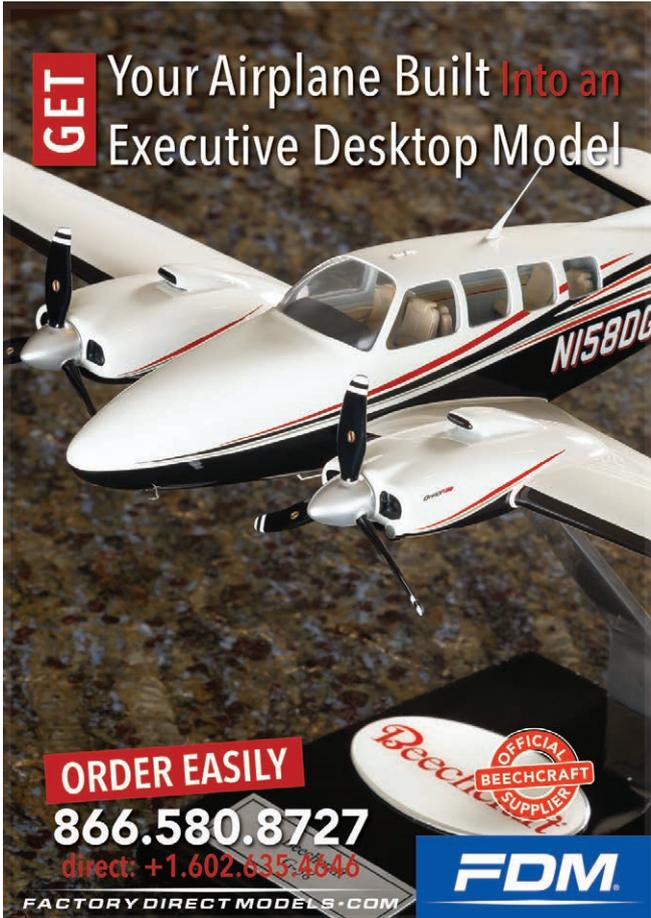
Steven Lasday

In Response to Joe Casey's "Adding King Air Capacity" (July)

On behalf of CenTex Aerospace, I would like to thank you for the informative article highlighting the CenTex conversions available for the 90, 200, 250, 300 and 350 series of King Airs. Anyone requiring additional information may contact me by email at d.rogers@centex.aero, or by phone at 254-537-9462.

I would like to also clarify some details concerning the Halo 350 IGW conversion for the King Air 350. This conversion will provide a 950-pound weight increase for a MTOW of 15,950 pounds. We are currently working through FAA STC certification.

David Rogers



GET Your Airplane Built Into an Executive Desktop Model

ORDER EASILY
866.580.8727
direct: +1.602.635.4646

FACTORY DIRECT MODELS.COM

OFFICIAL BEECHCRAFT SUPPLIER

FDM



Your Beechcraft Parts Source

www.selectairparts.com

SELECT airparts

New • Overhauled • Used

"Call Us. We Speak Beechcraft!"
1-800-318-0010

Int'l: 540-564-0010
Email: sales@selectairparts.com

P.O. Box 219
Weyers Cave, VA 24486

Position Report

by Dianne White



Orange is the New Black (and Yellow)

If you haven't noticed, it's construction season. And I'm not just talking about those annoying orange barrels that lead to blood-pressure-raising traffic backups on your local highway. I'm talking about the *other* annoying construction that has invaded more than 5 dozen airports across the United States.

I'm personally feeling the pain. My home airport, Johnson County Executive (KOJC) is undergoing a complete rebuild on its sole slab of a runway. Construction is slated to last 120 days, and we all know that is probably optimistic considering the local government is in charge of the project. According to the County, the substructure of the 4,000-foot runway is failing, which requires complete demolition and reconstruction.



With the runway out of commission, the east-side taxiway, which runs 2,900-by-60 feet, is currently being used for VFR day-only operations. In addition, there are multiple taxiway closures, making the ramp and runway environment resemble an orange-tinted mouse maze. The local FBO's are also feeling the pinch during construction, as the considerable jet traffic that transits KOJC has now moved to another regional airport.

Feel free to send me your condolences, or if you're suffering the same fate, your commiserations.

The FAA wants to help. (I'm being serious now.) It has created graphical airport construction notice diagrams that make it easier for pilots to understand where airport construction is occurring. The diagrams use graphically annotated airport maps to highlight construction areas to help you visualize runway and taxiways that have restrictions or should be avoided. Previously, the information was in text form, which wasn't that helpful at all.

Diagrams for all airports with construction projects ongoing can be found on the FAA's website and are updated regularly as construction NOTAMs are posted. Type "FAA airport construction notices" into your browser search bar to pull up a listing

of the airports. Although these diagrams have been available for years, not many pilots are aware of them.

Also, ForeFlight has made it easier to view these diagrams within its app, which to me is pure gold. Or should I say orange?

Another Helpful FAA Change

We've all been there: Attempting to pick up an IFR clearance at an uncontrolled airport, you dial up flight service, pick your way through the menu tree and then wait on hold for a briefer to come on the line. Then you wait while the briefer coordinates with center or approach control before issuing your clearance and void time. A seemingly huge waste of time and fuel if you're sitting at the hold short line ready to go. This happened to me last year while conducting an Angel Flight to the uncontrolled airport of Sundance (KHSD) outside of Oklahoma City.

Thankfully, the FAA has done something to streamline the process to make it easier for pilots. Check out the chart supplement, formerly known as the Airport/Facility Directory, for a clearance delivery number that puts you in direct contact with the appropriate approach or center facility for your airport. In ForeFlight, you can find it on the A/FD tab on the airport page. These numbers will ultimately replace the current Leidos Flight Service clearances number for all public and private-use airports with a chart supplement entry.

That's big government working for you in a truly helpful way!

In another common-sense move, the FAA is also discontinuing the Hazardous Inflight Weather Advisory Service (HIWAS) in the contiguous United States by the end of September. The reason? The usefulness of this automated recording system is next to nil compared to all the in-cockpit technologies and ADS-B weather products available for free.

The agency said it asked for comments from the GA community and found that very few still utilized HIWAS. Eliminating this system will allow those resources to be applied in other directions. I bet controllers will also be happy to give up the required HIWAS chant: "*Attention all aircraft. Hazardous weather information convective sigmet (insert number) for Kansas, Nebraska, Iowa and Missouri available on HIWAS, flight watch or flight service frequencies.*"

For those of you who have been flying a long time and heard that announcement thousands of times: I bet you chanted it along with me. Hearing that declaration break the long silence between radio calls is about to become a thing of the past.

Finally – in the "thank you federal government" department – if you were planning that once-in-a-lifetime GA flight

to Cuba, you've missed your chance, for now. A new federal rule took effect this summer that bans the "people-to-people" educational travel exemption, which allowed private aviation flights to the island country. It's part of the Trump administration's effort to limit non-family travel to Cuba.

Anyone who violates the new rule may face a fine as much as \$300,000. What's not affected are commercial, charter and air ambulance operations with authorized travelers on board.

What the FAA Needs is Leadership

As of this writing, the FAA still doesn't have a permanent administrator with the President's nominee facing a number of orange barrels on his way to confirmation. Unfortunately, the process has become politicized, something that has not happened in regard to the confirmation of the FAA and NASA administrators in recent history. If and when an administrator is on board, there will be no shortage of issues to address, especially as it relates to the Boeing 737 MAX grounding. Let's hope our governing agency can find its way through its roadblocks – especially for the sake of GA. **T&T**

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

Sullivan's
HARBOR & SPRINGS
AIRPARK

LIMITLESS ADVENTURE LUXURY ARCHITECTURE

An exclusive Fly-in community situated along the northern shores of Lake Michigan

www.mgn-airpark.com

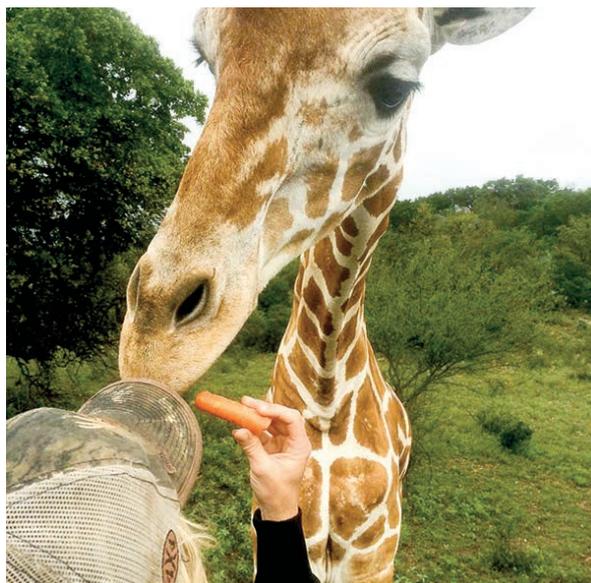
TURBINES INC.

**- 30-Day PT6 Overhaul Turn Time -
CHALLENGE ACCEPTED**

turbinesinc.com | facebook.com/turbinesinc | 812.877.2587 | turbines@turbinesinc.com

Great Getaways: Ox Hunting Ranch • Uvalde, Texas

by Grant Boyd



PHOTOS COURTESY OF OX HUNTING RANCH

Ox Hunting Ranch in Uvalde, Texas sits atop 18,000 acres of Texas Hill Country and is regarded by many as one of the best hunting ranches in the world. Though primarily a mecca for hunting, the ranch also offers dozens of activities for the whole family along with luxurious, rustic-themed accommodations.

Activities and Amenities

Ox Ranch is the “premier luxury hunting and guest ranch in Texas” according to Kathy Rice, office manager at the ranch. Hundreds of guests who have hunted big game in Africa still visit Ox Ranch for an unforgettable experience. The variety of game is diverse, with more than 60 species represented including deer (and exotic deer), antelope, sheep, goat, buffalo, hogs and bird species. The diversity of animal life and beauty of the ranch has attracted the attention of several prominent hunting shows such as Ted Nugent’s “Spirit of the Wild,” “Razor Dobbs Alive” and “L.L. Bean Guide to the Outdoors.”

Hunting celebrity Razor Dobbs sings praises of the ranch. “I like to be free, and that’s the feeling that I get when I hunt at the Ox Ranch. It’s just a wonderful place for the hunter and the photographer. It’s the closest thing to Africa I have seen. It’s freedom.”

Conservation is a primary focus of Ox Ranch, and their efforts ensure that their populations are cared for and sustainable, ensuring a good stock for hunters and viewers alike. In addition to the 60 hunting species, there are an additional 20 species that live on the acreage available for viewing only. To better enjoy all the animals, the ranch offers “Photo Safaris” where guests partake in guided drives and take pictures of the animals – a perk included with all reservations at their accommodations.

The sleeping arrangements include 1800s-era antique cabins relocated from Kentucky and subsequently rebuilt, log by log, to preserve its history but with added modern day amenities. In addition to the lakefront location, rustic interiors and wood burning fireplaces, guests can enjoy an up-close view of meandering wildlife.

The ranch has a large lodge, with a capacity of 250 indoors and even more space outdoors, which is a great place to relax and have fun after a long day. Guests can find 2,300 square feet of porches, massive stone fireplaces, a fully stocked bar, a game loft and a dance floor with DJ equipment. Additionally, construction is in progress for a 12,000-square foot pavilion perfect for weddings and other large outdoor functions. Ox Ranch also provides a

farm-to-table food experience, with Ox Ranch Executive Chef Eric who specializes in French cuisine, exotic game and old-fashioned country cooking.

Aside from hunting, there are several other activities guests commonly rave about such as hand-feeding giraffes, arrowhead hunting, shooting a .50 caliber rifle, sunset yoga near a waterfall, archery, cave spelunking and hiking along natural trails – with rare highlights like dinosaur tracks and the tallest peaks in the county.

Perhaps one of the most unique activities is driving and shooting an authentic World War II tank. The experience, operated by DriveTanks.com, is second to none and the company maintains multiple hangars filled with tanks, artillery, anti-tank guns, mortars, flamethrowers and machine guns viewable by the public. The drivable tank collection includes American models from World War II, German and Russian tanks, as well as a couple more modern models. Ox Ranch guests can opt for a “Drive the Tank Course” for the armored vehicles listed on the website.

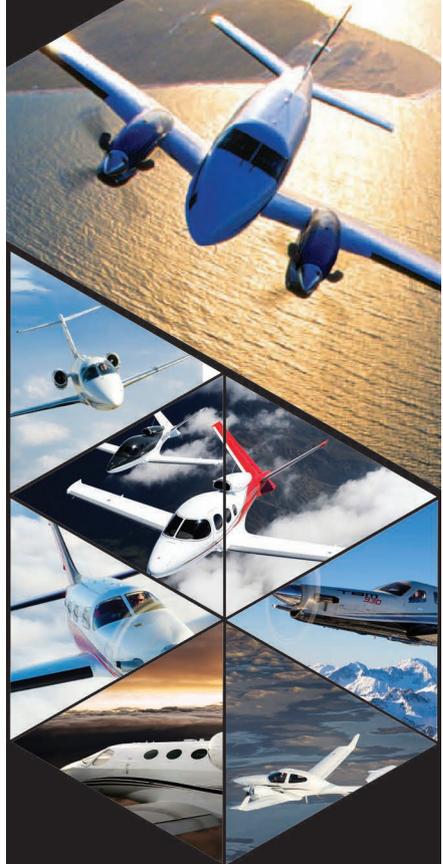
Flying into Ox Ranch

For pilots arriving to Ox Ranch, there is a private-use airstrip (01TX) on-site and available for all guests to use. It’s a 5,800-foot by 70-foot asphalt runway with no instrument approaches surrounded by a high fence (to prevent free-roaming animals from entering). Note, there are no hangars located at the airstrip and parking is at the end of the runway.

For those in need of an instrument approach or FBO services, there are two alternate airports (KUYA and KECU) about 30 nautical miles outside Ox Ranch’s airstrip. Whether you fly into the ranch’s private airstrip, a nearby airport or even drive, one thing is sure – all who visit will leave with unforgettable memories. **T&T**

Grant Boyd is a recent MBA graduate of Wichita State University. A private pilot, Boyd is currently working toward his instrument rating, with the ultimate goal of combining his love of business and aviation with a career at a general aviation manufacturer. You can contact Grant at grantboyd2015@gmail.com.

AIRCRAFT FINANCING



AIRFLEET
CAPITAL INC

The Industry Leader In Rates & Service

- Flexible Loan Programs
- Unmatched Personal Service
- Easy, Fast & Efficient Process
- 100% Focused on Aircraft Lending

800.390.4324
www.airfleetcapital.com

Target Your Training

by Thomas P. Turner



A friend of mine is a successful business owner who flies a number of airplanes, including a single-pilot Cessna Citation. I ran into him at a recent NBAA event, and of course, the conversation focused on flying. At one point, he said, “Someone should tell the FAA that the workload in a single-pilot turbine aircraft is a lot higher than it is for two-pilot flight crews. ATC in the Dallas area has been giving me a lot of unpublished holds when the weather’s bad

or the traffic load is high. It’s a lot of work to figure out a holding pattern, program it into the FMS and couple the autopilot when I’m doing everything else necessary to fly the airplane.”

My first thought was that I agree – controllers indeed should know the workload difference between a corporate or airline crew and a single-pilot operator. On reflection, however, I realized that setting up and entering an unpublished hold is a skill we all had to demonstrate in order to

earn our instrument rating. Instead of a campaign to revise controller procedures, my friend’s statement was really a call for him to practice flying unpublished holds in his next recurrent flight instruction. He had identified a deficiency in his current IFR skill set. This identification creates an opportunity for him to relearn those skills as they apply to a high-speed, turbine airplane – or to target his training to reviewing a specific task, customized for his needs.



Series III kit



Carbon Fiber Model



CESSNA 400 SERIES SPEED COVERS

ACTUAL TESTIMONIAL*

MODELS

402C

414A

421C

425

441

On 3/6/2019 a C414A customer conducted a flight;

“Planned fuel burn without Speed Covers: 169.1 gal. Actual burn with Speed Covers: 153.2 gal. - Savings: 15.9 gal. or 9.4% INCREASE in fuel efficiency. Time to climb reduced by 10%. Climb rate was still 1000 fpm at 10,000 feet. Before the wheel covers, it would drop to 600 fpm; Rate of climb improved by about 50%. Speed increase was 4-6 KTAS.”



Without



With

Aerodynamic Refinement Simplified

REDUCED DRAG - INCREASE IN SAFETY; SE RATE OF CLIMB 25%;
CRUISE 4-12 KTAS; RANGE 5-10%; PAYLOAD UP TO 150 lb.

Hands down, the most cost/effective modification to install for all hyd. gear Twin Cessnas,
Over 300 450 Kits Sold.

All kits are \$2,000 Complete - Installs in 1-2 hrs.

Call Premiere Aviation at (925) 788-9010

www.Premiere-Aviation.net

* Premiere-Aviation has dozens of testimonials from satisfied customers attesting to the effectiveness and quality of our Patented Speed Covers

I believe many pilots feel recurrent training is a waste of time and money because they never get anything new out of it. But if you design your own recurrent training and actually learn something, not only will you be a better pilot for doing so, you may even want to train more frequently because you perceive that recurrent training is valuable.

Many piston-twin and most turbine pilots are required to receive some type of specialized flight or simulator instruction every year. Usually, we go to a training provider or a “personal trainer” type of flight instructor and fly the same mix of normal, IFR, abnormal and emergency procedures every time we train. Some training programs have FAA-approved syllabi that must be followed. Even with Part 142 operators, however, there is normally still some flexibility to target your training to your specific needs in the context of the approved scenarios. But it's up to you to request the specific topics or tasks when you schedule your training.

So, how can you target your training to remove any deficiencies in your skills?

Self-Analysis

The best way to identify your weak areas is to take a few moments after every flight to debrief your performance. No one knows better than you what goes on when you are alone in the cockpit. Was there anything you did particularly well? Was there anything you missed like a radio call or a checklist step? Did you find yourself fumbling with the avionics, or have a hard time dividing your attention between programming the boxes and flying the airplane (including monitoring the autopilot)? Did you ever ask yourself, “What's it doing now?” when flying with the autopilot coupled? Did you make any blatant mistakes?

If you're honest with yourself, you'll probably identify a few tasks you could have done better every time you debrief a flight. If you find any serious gap in your skills – such as the inability to easily do something that was part of

your instrument rating Practical Test or your most recent type rating or check ride – it is a clear indication you need to hone those skills. Have you installed some new avionics or equipment that alters the way you fly (or monitor) the airplane? Do you detect a trend in the type of mistakes or oversights you make on successive flights? These are indications you need some task-targeted flight (or simulator) training.

When the time comes to schedule your next training event, talk to your instructor about the syllabus beforehand. Then, ask to include the practice of any tasks you've identified from your debriefings as needing work. Without a plan you'll likely end up with a standard, abbreviated repeat of the same maneuvers and procedures you covered last time you trained. That's good to an extent – the industry has a pretty good idea of what most pilots need, at least in general. But you have the opportunity to significantly enhance your training experience by targeting your training to your demonstrated need.



Exceptional service for “Plane” people.

Focused on the TPE331 Engine



Services provided for the TPE331

- Complete Overhaul • Hot Section Inspections •
- Gearbox Inspections • Repairs •
- Complete Test Cell Service • 24 Hour AOG Field Service •

FAA Diamond Award Recipient



www.cdaviationservices.com | 417.206.2327






complete interior refurbishment




LNK

One stop solutions with unmatched personal service



(800) 445-2376

www.hillaero.com

- exterior paint
- aeromed conversions
- cabinetry construction

- composite panels
- floorplan changes
- ice shield boot

Designing Your Review

When planning your recurrent training, ask yourself these questions:

- Is there something new I want to know?
- Is there a skill I'd like to improve?
- Is there something I'm afraid of?

Something I Want to Know

One of my single-engine clients had heard a lot about slips to a landing, mainly in the context of correcting for being too high to make an emergency landing field in the event of an engine failure. He demonstrated slips for his private pilot check ride many, many years before, but had not practiced the technique since. My client mentioned this to me during the scheduling of his recurrent training, so I built a few steep slips into his training, both for engine-out landings (his was a single-engine turbine) and for landing in a strong crosswind. Our ground training included his check of the Pilots Operating Handbook (POH) for his airplane to ensure no limitations existed. We then discussed slipping technique as well as engine-failure procedures, then went out and practiced slips in the traffic pattern, engine failures and slips at altitude, and finally a simulated traffic-pattern engine failure including a slip to a designated touchdown point.

In addition to the standard turns, stalls, takeoffs and landings, this was a solid instructional session on a task the pilot wanted to know more about. More importantly, he designed a portion of the training event, leaving it up to me, the instructor, to come up with a way to best present what he wanted to know. He came away far safer as a result.

Something I Want to Improve

Another student flying a piston-twin wanted to learn more about his airplane's single-engine performance and handling. At that time, most of his experience was in a much-less-powerful piston twin. The additional thrust of his current airplane meant better single-engine performance, but it also means things happen much faster and may be more difficult in handling.

Short-N-Numbers.com

We specialize in US aircraft registration numbers with 3-digits or less

Examples: 1K, 3C, 22W, 50G, 8MG, 3CC, 1VM, 4GS, 400, 510

Over 1,000 N-numbers to choose from



It flies in private props,
commercial jets,
and in the face
of convention.

Introducing the next generation DC PRO-X2.

Conventional wisdom says rest-on-ear headsets are just for the quiet flight decks of commercial airliners. But don't tell that to the thousands of private pilots that have purchased the original DC PRO-X Series.

The next generation **DC PRO-X2** offers enhanced audio performance and ANR technology along with the lightweight comfort of a rest-on-ear headset design – for both private *and* commercial pilots.

And that conventional wisdom? Well, that flies out the window.

Purchase online at www.davidclark.com or call **800-298-6235** for more information.

THE NEXT GEN
DC PRO-X2



 **David Clark**
WWW.DAVIDCLARK.COM

© 2019 David Clark Company Incorporated
® Green headset domes are a David Clark registered trademark.


An Employee Owned
American Company



When we talked about his upcoming training, the pilot told me he was confident in his ability to handle most emergencies, but he really wanted a “wringing out” on single-engine handling and performance so he would feel much more confident taking his wife and daughter on trips. So that’s what we did. Again it was the pilot, not the instructor, who designed the targeted

goal of the training event. The instructor’s role (mine) was to help the pilot achieve that goal.

Something I am Afraid Of

I’ve found it’s common for pilots in high-performance airplanes to avoid practicing stalls or approaches to stalls. They may have never practiced stalls in the airplane they now fly at all. One of my clients admitted he was concerned

after reading several accounts of stalls in the traffic pattern and during a go-around. He’d also heard the term “accelerated stall” without really knowing what it means – only that it sounds even more frightening. Wise enough to realize it was fear of the unknown that was preventing him from feeling comfortable in his aircraft, he asked me to focus on stall recognition and recovery, especially accelerated stalls, in his recurrent training. After a thorough review of approved flight manual guidance on stall recognition, including indicating systems and warnings, we practiced some incipient stalls and recoveries in a simulated go-around done at a safe altitude. We followed up with a couple of go-arounds in landing condition from short final and even during the landing flare to remove the mystery. The pilot was able to design his flight training to cover something that, in this case, he was afraid of. Focused training on the requested task removed his fears and reinforced good habits he now uses to recognize and prevent stall-inducing scenarios.

Other Ways

There are many ways to meet regulatory and insurance training requirements. No matter how or where you train, ask your instructor to include scenarios that cover some of the skills you’ve let atrophy, or that you never really had command of in the first place. You are the pilot-in-command, even on a training flight. Work with your instructor to design targeted training that is relevant to the way you fly, but that is also designed to improve your skills and eliminate bad habits. Based on your post-flight debriefings, ask yourself what you’d like to know, what you’d like to improve, and what you are afraid of. Make those things the focus of your next instructional session. **T&T**

New for Cessna 208

Lumatech LED™
 Reliability & Performance
 You Can See



- Laser Crisp
Sunlight Readable Lighting
- LED Reliability with Five-Year Warranty
- Eliminate Lamp Failures, Broken Caps,
and shorted Diodes forever!

LT Luma Technologies LLC
 Partners in Quality & Innovation

Phone: (425) 643-4000, x305
 Info@Lumatech.com

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

VREF Aircraft Value Reference, Appraisal & Litigation Consulting Services

Aviation's Most Trusted Valuations - Since 1994!

Call us at: **1-844-303-VREF**

- VREF Online, our subscription database, has over 450 aircraft which is the largest active database of aircraft in aviation
- VREF values all aircraft types including; experimental, LSA, warbirds, piston, turbine, business jet, regional transport, commercial, helicopters, and engines.
- VREF is managed and updated by a staff of ASA and ISTAT Accredited Appraisers with over 250 years of combined experience



VREF Aircraft Value Reference is trusted by thousands of aircraft owners and is the official valuation and appraisal company of the AOPA.



www.VREF.com

OFFICE LOCATIONS:

Chicago IL | Rockford IL | Buffalo Grove IL | Los Angeles CA | Des Moines IA | Boise ID | Daytona Beach FL
EUROPE | AUSTRALIA | CHINA

“NASCAR looks at private aviation as a necessity. We just could not succeed without it.”





PHOTO COURTESY OF BRETT SCHAUF, VMG

NASCAR Champion Takes on Manufacturing

by **Rebecca Groom Jacobs**

Within just a few minutes of our interview, it is clear NASCAR driver and entrepreneur Brad Keselowski is a big advocate for private aviation. Not for the flash and luxuries his fans might relate to jet ownership – but for the obvious increase in efficiency and capability his Lear 45 allows.

“NASCAR looks at private aviation as a necessity. We just could not succeed without it,” said Keselowski. “We also look at it as a cost savings tool, which is hard for the general public to understand. But because we are able to be more places and do more things, we actually drive down our cost. This week alone, I am in eight or nine different cities over a seven-day stretch. I just could not achieve that flying commercially.”

Each year, Brad's team logs approximately 250 hours of flight time, or 200 trips. While the majority of flights are to races and promotional events, he is also busy building his new company Keselowski Advanced Manufacturing (KAM), which specializes in additive manufacturing and CNC machining.

During a recent stop in Wichita, we caught a moment to sit down with Brad to discuss NASCAR, the launch of his company and how his Lear 45 makes it all possible.

The Perfect Match

After upgrading from a Lear 31 to the Lear 45 in 2011, Brad felt he found the right airplane for his mission.

"This is almost the perfect airplane for what I do," said Keselowski. "We can get outside the weather, fit eight people comfortably, operating costs are relatively inexpensive and I can land on short runways which is critical so I can get close to my final destination. The capability of the Lear 45 changed my life for the better."



Each NASCAR race, Brad requires one or two teams of around 20 people each. To accommodate everyone, team members also fly on aircraft operated by Team Penske – the professional motorsports organization Brad races for.

"In our sport, there is a bit of a disconnect. Fans see you fly in a private airplane and they think you came from a fancy vacation when in reality, we came from another event or test session," said Keselowski. "As I've gotten older, I've embraced the fact people are not going to understand it, and that's okay. But it's nice to have publications like *Twin & Turbine* that do understand the majority of private aviation is not for leisure travel but for business."

Keselowski Advanced Manufacturing

Additive manufacturing, also known as 3D printing, is a process that uses computer-aided design and hardware to build up or add material layer upon layer to create an object. By contrast,

subtractive manufacturing is the traditional means of subtracting material from an object through milling, machining, carving or shaping. While additive manufacturing is not a new concept (it has been around several decades), it continues to evolve and the use of the technology is becoming increasingly common across many manufacturing industries.

Motorsports, for instance, frequently utilizes additive manufacturing in the construction of race car components. After noticing the benefits of



such technology, Brad recognized its potential for widespread use and felt compelled to get involved in what he envisions will be the next industrial revolution. In January, he officially launched Keselowski Advanced Manufacturing (KAM) based in Statesville, North Carolina. His goal: Blaze a new trail for the next generation of American

manufacturers by making additive technology more widely accessible.

"Motorsports tends to operate ahead of other sectors in technology and time because of its competitive nature. When I saw this technology firsthand, I thought to myself this should be available to the mass market," said Keselowski. "It's on the fringe of doing just that, and I want to help lead the way to make sure it does. I think it's got huge opportunities to improve the world we live in."

Currently, KAM is comprised of a team of about 30 engineers and machinists, with plans to scale up to 100 within the year. They have also partnered with companies like ALSCO, BIG KAISER, GE Additive, Mazak Corp. and Pinnacle X-Ray Solutions. With tens of millions of dollars in equipment, KAM specializes in laser powder bed fusion – the process of creating a full component out of a bed of powder and metal by way of laser power. The company expects customers to come from several industries including medical, automotive, defense, oil and gas and aerospace.

"There is a big, big interest in aviation. The response has been very strong, and you are seeing companies like General Electric and Honeywell who

have put a huge emphasis on it," said Keselowski. "Additive manufacturing has opened up doors and opportunities for them in both capabilities and supply chain management that didn't exist before."

KAM is also involved in aviation projects, however, Brad explained it is hard to give examples because most of the

areas are highly confidential or classified such as defense programs. But he foresees growth across the entire aviation spectrum in the coming years.

Adding Up the Benefits

So, what are the benefits of additive versus subtractive manufacturing in general aviation specifically? Brad explains there are many such as lighter, stronger parts with less hardware and tooling required.

“For new aircraft, additive allows for weight reduction and longer performance from the parts,” said Keselowski. “It’s also beneficial for prototyping new designs as you can get parts into a test environment much quicker than traditional manufacturing processes.”

When asked what KAM’s relationship could look like with aircraft OEMs, Brad says KAM is not a competitor but a partner – offering those companies the ability to move faster than they could on their own without sacrificing quality or the need to invest in the expensive equipment and in-depth training themselves.

“At this point in time, I would say aircraft OEMs are already using additive technology, but most of the components are coming from engine suppliers who built an engine using additive parts,” said Keselowski. “In the future, more parts will come from self-driven initiatives and we will be there to help them.”

One example of additive’s entrance into aviation is GE Aviation’s Advanced Turboprop (ATP), which will power the new Cessna Denali single-engine turboprop. With advanced manufacturing techniques like 3D printing, GE engineers were able to reduce 855 subtractive manufactured parts to 12 additive manufactured parts. According to GE, this reduction in complexity speeds production, reduces fuel burn and weight, and increases durability with fewer seams and tighter tolerances.

Additive technology is also growing among maintenance and repair applications. For example, if an aircraft owner requires a rare replacement part – particularly for an aircraft no longer produced – additive methods can re-engineer and construct the part without the costs of traditional tooling and fixturing. This can especially be

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

Fly confidently

NATIONALFLIGHT
SIMULATOR



www.NationalFlightSimulator.com
steve@NationalFlightSimulator.com | 866.505.0077

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!

Purchasing a Turbine Aircraft?

Up to 90% LTV & up to 20-year terms

Credit & Asset based loans,
Fixed & Floating rates and Hybrids

We get “out of the box” deals done!

Call for a quote today!

1.844.501.4360

AOPAFINANCE.ORG/TURBINE



AOPA FINANCE

advantageous on the smaller scale when only one or two pieces are required.

Case studies can already be found of private owners experimenting with additive manufacturing on their personal aircraft. In one example, an owner enlisted the help of an additive company to re-engineer, print and replace the exhaust stack for his P-51 Mustang. The 3D part is stronger, more durable and reduced the part from four pieces to one.

While recent progress and momentum is evident, the question remains to what extent will additive technology be accepted and implemented in the highly conservative, safety-driven aviation industry? Brad predicts it is happening faster than some might think.

“Only a decade ago, having a cell phone was nice but not a necessity. Now, it’s an absolute necessity. It happened incredibly fast,” said Keselowski. “The same thing will happen with the fourth industrial revolution. What exactly will come out of it is hard to predict, but the opportunities are abundant.”

To learn more about KAM’s mission, visit www.KAMsolutions.com. 



BRAD KESELOWSKI Racing Stats*

NASCAR Wins: 70

NASCAR Pole Positions: 37

NASCAR Top 5 Finishes: 247

NASCAR Top 10 Finishes: 364

*As of July 15, 2019

**Pratt & Whitney Canada
Distributor and Designated Overhaul Facility (DDOF)**



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

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

Se Habla Español • FAA Repair Station No. CP2R750K





**ICE SHIELD PRESSURE SENSITIVE
ADHESIVE (PSA) WING BOOTS
HAVE ARRIVED!**



Visit IceShield.com/PSA or contact an Authorized Ice Shield Distributor for more information

Ice Shield is pleased to offer Pressure Sensitive Adhesive (PSA) wing boots. Similar to the FASTboot[®], Ice Shield PSA allows minimal aircraft downtime and easy installation. Contact an authorized distributor to purchase today.

Ice Shield PSA products are not available for sale or shipment to Canada, U.K., Germany, or France. Ice Shield Standard wing boots are available for sale and shipment worldwide.

IceShield.com/PSA • 800-767-6899 • info@iceshield.com

The Worldwide General Aviation owner/operators and chief pilots of these air

100%
TOTAL MARKET COVERAGE

Jets - 15,487

Chief Pilots & Owners

Count	Aircraft
55	AIRBUS ACJ319
25	ASTRA 1125
31	ASTRA 1125SP
51	ASTRA 1125SPX
36	BEECHJET 400
238	BEECHJET 400A
124	BOEING BBJ
371	CHALLENGER 300
55	CHALLENGER 600
38	CHALLENGER 601-1A
109	CHALLENGER 601-3A
51	CHALLENGER 601-3R
289	CHALLENGER 604
9	CHALLENGER 800
166	CITATION 500
285	CITATION 525
266	CITATION BRAVO
153	CITATION CJ1
85	CITATION CJ1+
194	CITATION CJ2
163	CITATION CJ2+
357	CITATION CJ3
92	CITATION CJ3+
240	CITATION CJ4
152	CITATION ENCORE
50	CITATION ENCORE+
297	CITATION EXCEL
18	CITATION I
242	CITATION I/SP
451	CITATION II
58	CITATION II/SP
161	CITATION III
64	CITATION LATITUDE
171	CITATION M2
381	CITATION MUSTANG
125	CITATION S/II
256	CITATION SOVEREIGN
68	CITATION SOVEREIGN+
241	CITATION ULTRA

236	CITATION V
28	CITATION VI
97	CITATION VII
255	CITATION X
25	CITATION X+
212	CITATION XLS
209	CITATION XLS+
1	DIAMOND I
42	DIAMOND IA
3	DORNIER ENVOY 3
232	ECLIPSE EA500
52	EMBRAER LEGACY 500
135	EMBRAER LEGACY 600
58	EMBRAER LEGACY 650
232	EMBRAER PHENOM 100
261	EMBRAER PHENOM 300
75	FALCON 10
21	FALCON 100
19	FALCON 200
186	FALCON 2000
21	FALCON 2000EX
58	FALCON 20C
15	FALCON 20C-5
23	FALCON 20D
2	FALCON 20D-5
31	FALCON 20E
9	FALCON 20E-5
68	FALCON 20F
64	FALCON 20F-5
194	FALCON 50
8	FALCON 50-40
91	FALCON 50EX
153	FALCON 900
23	FALCON 900C
102	FALCON 900EX
180	GLOBAL 5000
127	GLOBAL EXPRESS
19	GULFSTREAM G-100
206	GULFSTREAM G-200
8	GULFSTREAM G-300
22	GULFSTREAM G-400
283	GULFSTREAM G-450
7	GULFSTREAM G-500
471	GULFSTREAM G-550

62	GULFSTREAM G-II
22	GULFSTREAM G-IIB
128	GULFSTREAM G-III
170	GULFSTREAM G-IV
283	GULFSTREAM G-IVSP
170	GULFSTREAM G-V
34	HAWKER 1000A
5	HAWKER 125-1A
7	HAWKER 125-1AS
4	HAWKER 125-3A/RA
11	HAWKER 125-400A
13	HAWKER 125-400AS
12	HAWKER 125-400B
11	HAWKER 125-600A
3	HAWKER 125-600AS
103	HAWKER 125-700A
59	HAWKER 4000
187	HAWKER 400XP
34	HAWKER 750
180	HAWKER 800A
33	HAWKER 800B
353	HAWKER 800XP
40	HAWKER 800XPI
81	HAWKER 850XP
155	HAWKER 900XP
6	JET COMMANDER 1121
4	JET COMMANDER 1121B
1	JETSTAR 6
5	JETSTAR 731
12	JETSTAR II
8	LEARJET 23
17	LEARJET 24
1	LEARJET 24A
11	LEARJET 24B
34	LEARJET 24D
10	LEARJET 24E
7	LEARJET 24F
11	LEARJET 25
36	LEARJET 25B
9	LEARJET 25C
92	LEARJET 25D
3	LEARJET 28
28	LEARJET 31
167	LEARJET 31A

33	LEARJET 35
352	LEARJET 35A
13	LEARJET 36
32	LEARJET 36A
30	LEARJET 40
192	LEARJET 45
166	LEARJET 45XR
100	LEARJET 55
4	LEARJET 55B
12	LEARJET 55C
256	LEARJET 60
467	PILATUS PC-12/45
110	PREMIER I
6	SABRELINER 40
17	SABRELINER 40A
3	SABRELINER 40EL
1	SABRELINER 40R
21	SABRELINER 60
18	SABRELINER 60ELXM
2	SABRELINER 60EX
62	SABRELINER 65
13	SABRELINER 80
6	SABRELINER 80SC
71	WESTWIND 1
5	WESTWIND 1123
29	WESTWIND 1124
62	WESTWIND 2

Turboprops - 11,093

Chief Pilots & Owners

Count	Aircraft
2	PIPER MALIBU
362	CARAVAN 208
1206	CARAVAN 208B
2	CARAVAN II
33	CHEYENNE 400
137	CHEYENNE I
13	CHEYENNE IA
262	CHEYENNE II
57	CHEYENNE III
38	CHEYENNE IIIA
51	CHEYENNE IIXL
22	CHEYENNE IV

Twin & Business Aviation Markets

craft **ALL RECEIVE** Twin & Turbine every month

Do you want your marketing message to reach these key decision makers?

It will when you advertise in Twin & Turbine

PAUL BOWEN PHOTOGRAPHY

179 CONQUEST I
249 CONQUEST II
45 JETSTREAM 31
60 JETSTREAM 32
61 JETSTREAM 41
30 KING AIR 100
514 KING AIR 200
20 KING AIR 200C
17 KING AIR 200T
153 KING AIR 250
177 KING AIR 300
11 KING AIR 300LW
558 KING AIR 350
61 KING AIR 350C
314 KING AIR 350I
19 KING AIR 90
11 KING AIR A/B90
58 KING AIR A100
210 KING AIR A200
54 KING AIR A90
106 KING AIR A90-1
93 KING AIR B100
886 KING AIR B200
100 KING AIR B200C
8 KING AIR B200CT
95 KING AIR B200GT
4 KING AIR B200SE
21 KING AIR B200T
79 KING AIR B90
332 KING AIR C90
34 KING AIR C90-1
188 KING AIR C90A
369 KING AIR C90B
78 KING AIR C90GT
93 KING AIR C90GTI
119 KING AIR C90GTX
13 KING AIR C90SE
242 KING AIR E90
155 KING AIR F90
25 KING AIR F90-1
8 MERLIN 300

25 MERLIN IIB
19 MERLIN III
26 MERLIN IIIA
47 MERLIN IIIB
19 MERLIN IIIC
4 MERLIN IV
9 MERLIN IV-A
8 MERLIN IV-C
63 MITSUBISHI MARQUEE
1 MITSUBISHI MU-2D
23 MITSUBISHI MU-2F
18 MITSUBISHI MU-2J
33 MITSUBISHI MU-2K
11 MITSUBISHI MU-2L
18 MITSUBISHI MU-2M
17 MITSUBISHI MU-2N
24 MITSUBISHI MU-2P
36 MITSUBISHI SOLITAIRE
567 PILATUS PC-12 NG
149 PILATUS PC-12/47
228 PIPER JETPROP
46 PIPER M500
59 PIPER M600
481 PIPER MERIDIAN
3 ROCKWELL 680T TURBO
5 ROCKWELL 680V TURBO II
5 ROCKWELL 680W TURBO II
4 ROCKWELL 681 HAWK
98 SOCATA TBM-700A
68 SOCATA TBM-700B
292 SOCATA TBM-850
102 SOCATA TBM-900
5 STARSHIP 2000A
70 TURBOCOMMANDER 1000
38 TURBO COMMANDER 690
140 TURBOCOMMANDER 690A
139 TURBOCOMMANDER 690B
79 TURBO COMMANDER 840
24 TURBO COMMANDER 900
56 TURBO COMMANDER 980

Twin Piston - 6,507

Owners

Count	Aircraft
37	BARON 56 TC
1433	BARON 58
2	BARON 58 PA
345	BARON 58P
108	BARON 58TC
3	BARON A56TC
321	BARON G58
188	BEECH DUKE B60
162	CESSNA 340
520	CESSNA 340A
70	CESSNA 402B
	BUSINESS LINER
133	CESSNA 402C
24	CESSNA 404 TITAN
247	CESSNA 414
357	CESSNA 414A
	CHANCELLOR
43	CESSNA 421
38	CESSNA 421A
335	CESSNA 421B
607	CESSNA 421C
53	CESSNA T303
106	PIPER 601P AEROSTAR
24	PIPER 602P AEROSTAR
442	PIPER CHIEFTAIN
314	PIPER MERIDIAN
25	PIPER MOJAVE
315	PIPER NAVAJO
13	ROCKWELL 500 SHRIKE
24	ROCKWELL 500A SHRIKE
77	ROCKWELL 500B SHRIKE
44	ROCKWELL 500S SHRIKE
5	ROCKWELL 500U SHRIKE
12	ROCKWELL 520
	COMMANDER
5	ROCKWELL 560

COMMANDER
11 ROCKWELL 560A
COMMANDER
7 ROCKWELL 560E
COMMANDER
7 ROCKWELL 560F
COMMANDER
13 ROCKWELL 680 SUPER
3 ROCKWELL 680E
14 ROCKWELL 680F
COMMANDER
14 ROCKWELL 680FL
GRAND COMMANDER
6 ROCKWELL 680FLP
GRAND LINER

**High Performance
Move-Up Singles -
5,668**

Owners

Count	Aircraft
225	BEECH BONANZA
429	CESSNA 182
54	CESSNA 206
393	CESSNA P210N
21	CESSNA P210R
52	CESSNA T182
1	CESSNA T206
782	CIRRUS SR20
2920	CIRRUS SR22
238	PIPER MALIBU
104	PIPER MATRIX
449	PIPER MIRAGE

**38,755
TOTAL AIRCRAFT**

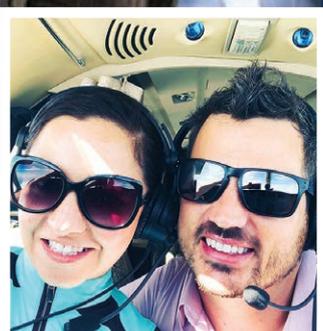
John Shoemaker, Advertising Director

2779 Aero Park Drive • P.O. Box 968 • Traverse City, MI 49685-0968

(800) 773-7798 • (231) 946-3712 • Fax: (231) 946-9588

E-mail: johns@villagepress.com • www.twinandturbine.com

TWIN & TURBINE



WHO:
Matt
Stringfellow

POSITION:
Managing Partner

HOME BASE:
Chicago Executive Airport
(Old Palwaukee, KPWK)

RATINGS:
ATP, CFI, CFII, MEI

1. *Can you describe your introduction to general aviation?*

I took my first flight when I was 13; it was a tour of Boulder, CO, where I grew up. From there, I was hooked and used the money from raising cattle and working as a bellman to pay for flight lessons. Soloing at 15 and receiving my private at 16, I had about 100 hours by the time I started at Purdue University.

I graduated with a Bachelor's in professional flight technology and Associates in aviation management. At the time, the pilot market was upside down which led me to a position selling used piston aircraft for Tom's Aircraft out of Long Beach, CA. This was after quitting my job as a freight dog flying an AC-50 out of Grand Rapids (GRR).

2. *What led you and your partners to form SOLJETS in 2015?*

We each had a passionate vision and saw an opportunity to improve the industry. Our energy, creative marketing and agile strengths set us apart. We are developing some new industry tools that should be rolling out in the next six months, which will set us even further apart, and add another technological level of market intel and communication for our clients.

One other unique factor about David, Greg and myself is we are all pilots. We started our careers in the cockpit, which enables us to take a firsthand approach and speak on some different levels with clients. It's been an exhilarating four years so far, and we are looking forward to the grand opening of our new office headquarters in Park City, Utah this fall.

3. *How has the turbine aircraft market trended in recent years? What do you predict the market will look like ten years from now?*

Each category is cyclical, and each model has its own trends within those categories. The large cabin/long-range market is trading steadily for sub-20-year-old aircraft. Mid-to super-mid values have adjusted down over the last 18 months. Some of these have stabilized, but the older 20-plus-year-old jets are seeing average days on the market close

to a year. Many sellers wish they accepted the offer they received six months ago.

Light jets have seen more consistent activity and less of an adjustment. Everything is pointed towards Garmin. As a pilot who started in a steam-gauge 172 and has more than 1,000 hours in a Pro Line, I don't necessarily agree with the substantial premium being paid for a Garmin 1000/3000 for the identical aircraft in many cases, but there is unquestionably a rising demand for this interface. It's a proven model for OEM deliveries.

Overall, efficiency and operational costs are driving most owner-operator and flight department fleet transition decisions. I see this trend continuing over the next ten years. Technology will continue to revolutionize our cockpits, and as always, will be a balancing act between automation and regulation. We also have a very interesting election coming up next year; I expect things to get more volatile before they improve.

4. What areas of the aircraft buying process do you find are most commonly overlooked?

Quite a few. It's all the tiny steps in between the major phases (LOI, contract, pre-buy, closing). It takes foresight and experience to skillfully navigate the process. Most owner-operators choose not to hire a broker for an

acquisition. I can sympathize with this from a 10,000-foot view as the process doesn't appear too complicated, and like all pilots, we like to be in control.

I think it's mainly dealing with the "problem areas" that inhibit the deal from progressing when something doesn't go as planned. Corrosion or an incident of some kind that isn't qualified as "damage history" or "major repair" that comes up in pre-buy can be very alarming. There are also many elements to consider post-closing that are easily put aside and forgotten such as taxes, maintenance, program transfers and registration issues. Consider your broker's fee more of an insurance policy against stepping in something you don't ever want to deal with.

5. Can you describe one of your all-time favorite flying memories?

That's a tough one, but probably landing at Sondrestrom/Kangerlussuaq Airport in Greenland, where I shot the back course in a 1998 CJ down to minimums. I remember the surface OAT reading -27 degrees Celsius, and for a second, I thought I landed on Mars.

North Atlantic crossings have a special place in my heart; it's one of the reasons I focus on European opportunities. I will try to use any excuse to pick up a jet in Europe. 

Aeromania



TRAIN IN YOUR JET, WHERE YOU FLY
We emphasize Tamarack winglets, Sierra Eagle & Stallion, Clifford, Branson, Avidyne, Garmin, and about 100 other STC's that sim schools simply don't teach under Part 142.

CALL NOW: +1 (307) 388-0026

Broker or No Broker? The Smart and Safe Approach to Purchasing an Aircraft

by **Matt Stringfellow**



The purchase of an aircraft is both an investment and a major financial commitment. An aircraft broker does far more than coordinate loan documents or assemble a purchase contract. From the beginning, your broker is your advocate and your advisor. They will understand your aircraft needs, taking into account how often you travel, who you travel with and where you go. Along with advising you about the best aircraft for your needs, your broker can help you with the decision to buy factory new or purchase a pre-owned aircraft.

Unlike real estate, where the majority of a purchase investment is made up front, aircraft come with costly inspections and maintenance. Buying a business aircraft can easily come with tens or hundreds of thousands of dollars in annual maintenance and inspection expenses on top of aircraft management fees, hangar rent, pilot salaries, and fuel. Skip required maintenance and your aircraft is not airworthy or legal to fly.

Your broker can help you understand the ways you can keep maintenance and aircraft costs down. Some aircraft come with factory “parts programs” that mitigate the risks associated with the

costs of maintaining your aircraft, even providing protection to the hourly rate of mechanics and volatility of parts prices. You may have the option to put your aircraft on a charter certificate to offset your expenses with leaseback revenue. Your broker can help you understand your options after the purchase, and what your decisions will ultimately cost you in the years to come.

Regulatory Differences Between Real Estate Sales, Aircraft Sales and Client Implications

It's easy to make comparisons between real estate and aviation investments. The real estate and aviation markets are different yet similar. Both are federally regulated, with the difference being that the housing industry is regulated in terms of transactions (meaning brokers are required). In the aviation industry, the federal government only regulates how brokers operate, register and take title to airplanes – not how we sell them. For the client, this is both good and bad news. A major downside to this lack of regulation: Any Joe off the street is able to print business cards and call

himself an “aircraft broker” or “aircraft acquisition consultant” that suggests he runs or owns an aircraft sales business.

Some brokers, in attempt to gain buyer clients, will actually use a fake listing to generate calls on an airplane that isn't even for sale. Although aircraft sales websites have tactics in place to prevent this from happening, if the broker does have a client that allows the listing, it may be impossible to prevent. This is a simple and misleading tactic to gain your business. However common it may be, starting a business relationship based on deception, is at the very least disrespectful of your time. It may be unethical. This is why it's even more critical for an aircraft buyer to have a known, reputable and trusted representative on his or her team.

In an industry where regulation is lacking, experience is key. As a buyer, you will not be concerned with the licenses your broker has. You should, however, be concerned with their experience. If you weren't given a direct referral, ask a lot of questions. How many transactions have they completed? Have they only represented buyers, or only represented sellers? How many

factory acquisitions have they completed? Can they put you in touch with some of their clients?

The overall impact of the lack of regulation on the sales side of aviation is negative, especially for buyers representing themselves. Sure, you do have the freedom to represent yourself, and broker fees are negotiable. But in practice, these are not positive things. The pitfalls of representing oneself in an aircraft transaction are all too common – and from the outside looking in, they are extremely easy to identify and anticipate.

But in addition to the obvious, as is true with every large asset purchase or decision in life, we humans like to engage a number of different opinions, whether from friends, partners or family. The chances that any one of those opinions aligns with another is extremely slim, which creates the opposite effect than that which is sought: total confusion. Many aircraft transactions have fallen apart at various stages due to someone the buyer knows throwing out a strong opinion like, “You’re crazy to buy that airplane.” This is why a “sounding board” is always a good idea, especially when provided by an expert whose sole job is to help clients with the same or very similar needs as you.

Common Pitfalls Fueled by Uninformed Opinions and Bad Data

There are certain critical steps involved in any aircraft acquisition, and being on the receiving end of bad information, poor intel or uninformed opinions can quickly derail the experience. Here are some of the potential pitfalls clients encounter.

Expert Advice on Finding the Right Aircraft – Identifying the Real Mission

The first step in an acquisition – before even looking at a single picture – is to understand what you need from an aircraft (i.e., understand your mission). This mission assessment can be more difficult than it sounds. As buyers, we tend to focus on that one coast-to-coast trip that we may take with the grandkids – not the other 80 percent of flights with only one or two people going a total distance of only 270 nm.

A broker can assist with this analysis, identifying all potential missions and

DISCOVER THE DIFFERENCE, WELCOME TO THE NEW RTC!



RTC

BOOK NOW
RECURRENT TRAINING:
KING AIR
TWIN CESSNA
PC-12 LEGACY
TWIN PIPER

833-471-2725

WWW.RTCPILOT.COM/TWINTURBINE

©Aeronautical Systems Engineering, Inc. All Rights Reserved.

FAA APPROVED · EASA* APPROVED · GARMIN TXi EIS APPROVED



Who Said, You Can't Trust Your Fuel Gauge?

With over 23,000 magnetic fuel senders in service, CiES fuel senders exceed 60,000 hrs. mean time to failure (MTTF) - making our fuel quantity senders one of the most reliable aviation systems in existence. Starting at \$435 per sender.

CALL (541) 977-1043
VISIT ciescorp.com



* EASA approval through our partnership with Aerospace Logic.

Rosen
 SUNVISOR SYSTEMS



You should see what you are missing !

New at Rosen Sunvisor for 2019

- **STC'd Robinson Helicopter Visor System**
 - **Crew Plus Shade Systems**
 - **Canopy Retractable Shade Systems**
- **Rosen iPad Mount System, New Improved Design**

WWW.ROSENVISOR.COM
800-284-7677

filtering those down to reach your core needs and selecting the most efficient model. For example, it might make sense to purchase the Phenom 300 then charter the G280 twice a year if you need more cabin room. Sure, nine seats are great, but how often will you really fill them? A quick breakdown of the operating costs of a G280 vs. a Phenom 300 may be all the explanation you need.

Choosing the Correct Model

With proper research, a broker can help you with any number of crucial decisions – identifying the most efficient aircraft model types for the core mission; outlining differences in cost, cabin types, operating costs and future mandate compatibility; and comparing that data against market trends, future liquidity index and values. That sounds like a lot, which is a good thing. With all this data in front of you, the decisions regarding aircraft models are much easier to make. Too much information can never hurt.

Focusing and Maximizing Value Proposition

After identifying the most suitable aircraft model, or at least narrowing it down to a few options, the fun part can begin: shopping for airplanes. But buyers can get distracted during this critical stage and lose track of the most important factors on which to base the offer or buying decision. A broker greatly assists with reeling in on what is most important (pedigree, maintenance, history, features), not the vanity aspects that everyone wants (paint and interior aesthetics).

A broker can also substantially expand the range of available aircraft for you to consider. Sometimes the best opportunities are off-market, meaning you would never see them without a broker. Using market summaries, a broker can identify top opportunities – both on and off the market. Additionally, long-standing relationships and tight industry connections allow reputable brokerage firms to identify available aircraft and secure a deal before the aircraft is ever posted online. Some management firms regularly sell aircraft from one client to another without the aircraft ever hitting the market.

And once you find the right airplane and enter into negotiations, it's always a

good idea to take emotions out of a large asset purchase. Brokers can draft and submit offers on your behalf, handling all communications between you and the seller's team and assuring all your interests are protected and proper terms are being pursued.

“Buying an airplane can be risky and complicated. It is critical to enter that journey with someone who asks you lots of questions to understand your mission and goals.”

- A. Baker, owner of Gulfstream 200, Premier 1, Citation CJ1+, Cheyenne 400 and Piper Meridian

Pre-Buy Inspection and Testing

The pre-purchase inspection is usually the most challenging piece of the transaction and a broker can help you in a number of ways:

- Identify the best facility to use;
- Select those who will look out for your interests as the buyer;
- Recommend a qualified engineer for oversight on the inspections;
- Handle negotiations with the seller or seller's representative;
- Help you understand issues that come up in the inspection such as repairs, corrosion, missing log-book entries, damage history, etc.

Additionally, a broker will offer recommendations on additional inspections to perform based on future upcoming maintenance or known fleet issues for that model aircraft.

Considering Legal and Tax Implications

This is where a broker really earns his or her fee. When the non-functional onboard entertainment system is not deemed “airworthy” by the inspection

facility and fixing it comes with a \$50,000 or higher price tag; when corrosion in the aircraft belly is repairable yet the future effects on aircraft value are uncertain; or when the seller simply stops performing after you accept the airplane due to cost of airworthy repairs. In many cases, a broker can avoid the legal chase simply by leveraging their relationship with the seller's representative or by suggesting alternative ideas for a solution that works for both sides.

Sales and income tax mitigation is another area not often at the forefront of buyers' minds. When buyers represent themselves, once the aircraft is returned to service from pre-buy, decisions are often rushed and these considerations are left out. A broker will ensure all the boxes are checked and proper counsel is sought for all sales and income tax mitigation prior to delivery. Depending on where you live and where you purchase an aircraft, your purchase may have significant tax consequences.

The Best Option is the Broker Option

Read any personal development book and you'll find a common theme – a mentor is a must whether you're buying a house or negotiating your salary. The same is true for your aircraft purchase. Bring experience, knowledge and understanding to a large transaction and you'll be in a much better position. Buying an airplane may seem easy from the outside, but like everything, it is a process that you want to respect and proceed through with care. Having a reputable advocate at your side that lives and breathes aircraft sales and acquisitions and can watch out for your interests, will eliminate a lot of stress and potentially save you a substantial amount of money and headaches. And without the stress and pressure weighing on you, you get to focus on the fun part – buying and flying your new aircraft. **T&T**

Matt Stringfellow is co-founder and partner of SOLJETS – a business-aircraft brokerage firm with offices across the United States in Atlanta, Boulder, Chicago and Park City. To learn more about SOLJETS, you can visit www.soljets.com or email contact@soljets.com.



WINNING COMBINATION.

CITATION CJ3+

By stepping up, you stand to gain everything. The best performance, the lowest DOCs and the most standard features in the light-jet segment.

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

© 2019 Textron Aviation Inc. All rights reserved.



TEXTRON AVIATION

The Problem with Juneau

by Kevin Ware



I am sitting in the left seat of a King Air 300 simulator configured for the Runway 08 departure from the Juneau Airport (PAJN) in low IFR conditions. I have the power up and the airplane rolling only to find the simulator (unlike a real King Air) has more rudder pedal sensitivity than a Pitts Special in a 30-knot direct crosswind. I nearly hit a couple of runway lights (luckily you don't have to pay for them in the simulator) before I get the hang of the thing, and then concentrate on the real task at hand – avoiding terrain on all quadrants by making an immediate right 180-degree turn after liftoff. Sitting to my right is Scott, who is acting as the PNF (pilot not flying) and behind him is

Spence Campbell, our Aviation Training Center sim instructor. We just finished a long morning of ground school and are beginning an afternoon of simulator training. If all goes well, at the end of the day, we will be certified to use the FAA's Special Approach Procedure into Juneau. The simulator cockpit is already as hot as a sauna; it's going to be a long afternoon.

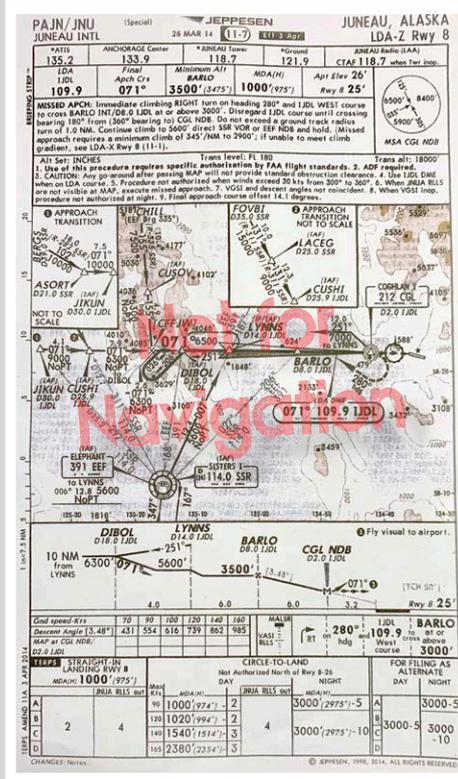
Juneau is a unique airport with some real issues from a pilot's perspective. The city is the capital of Alaska and conducts all kinds of important business. It is the only state capital in the mainland U.S. where you can only arrive by boat or airplane and the boat trip takes a long time. The town is located on a

saltwater inlet with the Gulf of Alaska and the entrance to Glacier Bay sitting off to the west. To the east is a range of mountains that go up to about 10,000 feet and a narrow fjord (Lynn Canal) that terminates in Skagway, the town of gold rush fame. The airport sits on reclaimed land northwest of the city, but due to the surrounding terrain, does not offer a straight-in instrument approach.

To make matters worse, a series of low-pressure systems are constantly being formed nearby in the Gulf of Alaska due to the way the planet turns and tilts during the fall and winter months. One after another, they then move to the east carrying a great deal of moisture. The systems pass over the towns to the

west such as Sitka which sits on the shore of the Gulf, but then gets stuck in the vicinity of PAJN because of the rising terrain to the east. This results in Juneau seeing 236 days of rain per year, whereas the average U.S. city sees 206 days of sunlight (Juneau locals joke that it rains 250 days per year and snows the rest). The city is also located at 58 degrees north – nearly two-thirds of the way to the North Pole, which translates to very short days and long nights in the winter.

If you are a professional pilot flying business jets in the Northwest, it is inevitable you will visit Juneau because of client needs and lack of other access. You also know, at best, the weather is going to be marginal VFR (typically 1,500 and 3) with the surrounding terrain and lack of ground equipment making standard straight in 200 and half-mile ILS type approaches not possible. In spite of the city's importance, there are only two instrument approach procedures into the airport: an LDA X and an RNAV/GPS both to Runway 08. There are no approaches from the east to Runway 26



because mountains are in the way. Of the two normal published approaches, the RNAV has the lowest minimums, which are 1,900 and 2, with the missed approach point 2.2 miles from the run-

way. The final approach course is 069 degrees, but the runway is 080. All of this means that even on a good day, you will break out of the clouds at the missed approach point (MAP) at only 2.2 miles from the runway and not lined up. In a 130-knot jet that is less than one minute from touchdown, yet the airplane is still at 1,900 feet with the runway nearly at sea level.

Given that kind of approach and the prevailing weather for most of the year, it is challenging to get into PAJN in anything but a float plane at 200 feet above the water. So, the FAA has devised a "Special Approach Procedure" that as you may have already guessed, requires specialized training, a simulator check ride and special pilot certification. It is for this reason that following my erratic takeoff, I am now banging around just west of the Barlow intersection heading for the Sisters VOR (SSR) to demonstrate my airborne prowess at making the special LDA-Z approach to Runway 08.

The IFR minimums for this "special" approach are 1,020 feet and 2 miles if the airplanes final approach speed is 120

SPEED & RELIABILITY
JUST LIKE YOUR AIRCRAFT

Aviation Insurance Resources®

877-247-7767
www.AIR-PROS.com

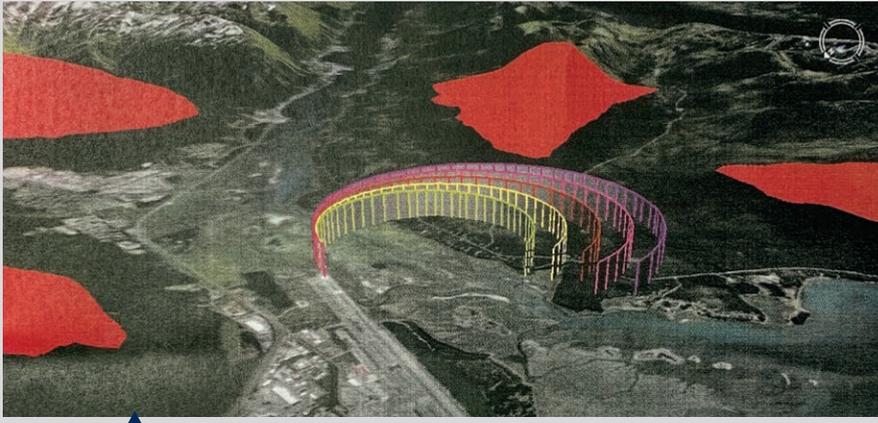
PILOTS PROTECTING PILOTS

THE INNOVATIVE SOLUTION TO UV, HEAT & GLARE IN THE COCKPIT

- ✓ Protects pilots 99.9% from UV and solar radiation while flying!
- ✓ Reduces pilot fatigue & eye strain caused by sun exposure in cockpits
- ✓ No STC needed - installs/removes in seconds

DEALERS WANTED

JETSHADES.COM | info@jetshades.com
401.649.0443



A depiction provided in ground school of the terrain surrounding PAJN, which is shown in red. The red is what you will hit on a Runway 08 IMC departure or missed approach if you do not stay tight to the airport. The desired path is the yellow one. In a Lear 45, this requires a 30-degree bank, flaps at 20 degrees and speed no more than 140 knots.

knots or less, and 1,540 and 3 if between 120 and 140 knots. The missed approach point is Cochlan Island (CGL) which is still 3.2 miles from touchdown. Now, if you have been reading carefully, you will have noted that a 2-mile minimum visibility is required, but the MAP is 3.2 miles from the runway...how does that work? When at CGL, what you are required to see is not the runway per se, but the strobe lights (JNUA RLLS) well to the west of the runways approach end. And to make sure you are not confusing the strobes with someone's house light, you are required to see two of them.

So, back in the simulator now, I have not seen the ground since 100 feet after takeoff. We have arrived at the Sisters VOR (SSR), turned around in the holding pattern at 5,600 feet and are headed 007 on the NoPT (no procedure turn) transition back to the LYNNS intersection. At LYNNS, we turn right 64 degrees to 071, which is the final approach course. From there, we descend to 3,500 feet to the BARLO intersection, then to 1,020 feet until reaching the MAP at CGL. The tricky part is that we have no certainty if the simulator has been set to barely let us see the strobes at CGL or if they will be hidden by weather, in which case we will promptly have to execute a rather unusual missed approach. If doing 120 knots at CGL, we will have less than 5 seconds to make that determination. It is how pilots handle that brief time interval and the maneuver which follows that determines if they get the approval or not. Proceeding further toward the runway places one

in a canyon from which a turnaround in IMC conditions without hitting terrain is nearly impossible. Hitting the nearby mountainside at 120 knots would (and has) kill all onboard.

As we start down on the approach leg on heading 071, I tell Scott sitting to my right that I will be "eyes in" and he is "eyes out." If he does not see the strobes at CGL, I will immediately execute a missed approach with the required 30-degree banked right-hand turn and start a climb. The other requirement is that the airspeed is kept down because if allowed to get too high, it would increase the radius of the turn which would result in crashing into the mountains that are invisible in the clouds just to the southwest. I am paying close attention as the ADF needle set on CGL twitches slightly and cannot help but ask, "See anything, Scott?" His reply is a discouraging, "Nothing, still looking."

A couple of seconds later, the ADF swings through 90 degrees to the left indicating we are passing CGL. Scott calls out "no lights," and I say "missed approach" and immediately roll into the required right-hand turn in a 30-degree bank, pitch up to 15 degrees, push power all the way in, then slowly back it off to stay under 120 knots. I call for gear up, flaps up and ask Scott to set the heading indicator to 280. Given that a 30-degree bank puts you way over a standard rate turn, the airplane quickly arrives to the heading, at which time I change the flight director to NAV, turn on the autopilot and fly direct to Barlow, then SSR.

Once back at SSR and in the holding pattern, Scott and I change seats and it is his turn to play the game. I have flown into PAJN several times and the simulator visuals are quite realistic. As a result, when arriving at CGL, I know where to look, and can just barely see two strobes at about 10 o'clock. I call, "Strobes in sight." Scott says, "Continuing" and starts a descent, being careful to stay above the 400-foot ridgeline to the west of the runway. As he slows down, he begins a slight left-hand turn to widen out our path to the runway. Finally, about 30 seconds from touchdown, the runway lights become visible and we both call out, "Runway in sight." The simulator throttles don't power back like a standard King Air, and as a result, we are buzzing along over the approach zone still doing 120 knots with no hope of a successful flared landing. Scott instead plants the airplane on the runway and calls for immediate reverse. Even though the rudder pedals are twitchy, he manages to get the machine stopped on the white line way down at the far end.

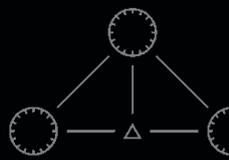
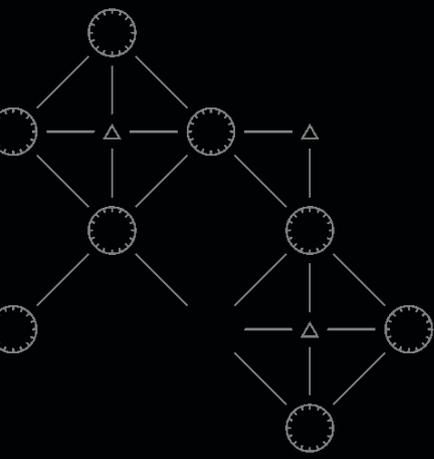
As we wrap up, our simulator instructor says, "You guys did a good job." I take this to mean I did not exceed the one-mile limit from the airport, we did not hit any mountains and as a crew, we managed to make the tight weather-based "missed approach" vs. "continuing" calls successfully, then land without incident. An hour later, we leave the session with "Special Authorization Certificates" in hand.

Even though now fully "certified," I still think that for much of the year getting into Juneau is a problem. Fly up there and try it sometime. **T&T**



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 corporations 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.

He has been flying for a living on and off since he was 20, and currently works as a contract pilot for various corporations 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.



Up-grade:

raise (something) to a higher standard, in particular improve (equipment or machinery) by adding or replacing.

Upgrade, own, and fly the world's newest, safest jet. Jet It is about maximizing the experience of life's journey, not paying an excess to get there.



JET IT BENEFITS

- Ownership tax advantages: Write off 100% of acquisition and business usage
- Red Jet Squadron: Own the skies and pilot your jet with the most exclusive benefit of Jet It ownership
- No reposition or empty leg fees
- 24/7 no-cost luxury concierge
- Fastest jet in its class: 422 kts at 43,000'
- Low cost, low risk, high value

JET IT[™]

PRIVATE. FAST. SMART.

914.292.9888

GoJetIt.com

info@gojetit.com

Greensboro, NC

From the Flight Deck

by Kevin R. Dingman



Oshkosh 2019: Year of the Fighter

There are only two types of aircraft –
fighters and targets.



In 1972, “American Pie” by Don McLean, “Rocket Man” by Elton John, “Saturday in the Park” by Chicago and “Go All the Way” by The Raspberries were hits. My hair was shoulder length, shoes were platform, pants were bell-bottom and I did not yet have 100 hours flying time. I ventured to Oshkosh that year with six flight instructors by resting my scrawny, 110-pound physique on the seventh (jump) seat of a Seneca I. Back then, the first Cessna Citation (delivered to American Airlines) had been around only seven months, Vans Aircraft was only a year old, the convention’s Wisconsin venue was only two years into its 50-year reign, Burt’s VariViggen was brand new and the VariEze didn’t yet exist. You could buy red 80 octane fuel everywhere, get a ride in a Breezy and Bob Hoover was the star of the airshow. Now the largest annual fly-in in the world, last year’s EAA AirVenture Oshkosh officially hosted some 600,000 people from 87 nations, along with over 10,000 aircraft. But it’s much more than a fly-in; it’s a family reunion complete with a flood of memories.

Dream On

Half my life

Is books, written pages

Live and learn from fools and

From sages

You know it's true, oh

All these feelings come back to you

– Aerosmith, 1973

My dream of flying to Oshkosh in an F-16 or as captain on one of my carriers S-80's or a 737 is fading fast. But since my first visit in 1972, I've arrived not only in a Seneca but a Piper Arrow, a Cherokee Six, a 235 (Charger), a Cherokee 140, the Duke (multiple times), a Honda 350 and 550 motorcycle, a station wagon, a Ford Explorer and this year the Jeep. I've attended the show for one day many times and when overnighting, I've slept in a car, an airplane, a tent, an apartment and in hotels. I've attended as a teenage student pilot, a private pilot, a fighter pilot, a Duke owner, an airline pilot, a Wings of Mercy pilot and as a writer for *Twin & Turbine*. We've been rained on (one year was nicknamed "Sloshkosh"), blown over, seen severe thunderstorms, a water spout, been carried off by mosquitos, scorched to the point of heat stroke and cold enough to wear extra layers. I've sported very long hair, an Air Force/airline crew cut and now barely any hair at all. And I wouldn't trade any of it for the world.

It Smells Like Fun

Unlike the structured IFR and VFR arrival procedures into the greatest family reunion at Wittman Regional, and in a departure from the traditional military writing protocol, this month I'm taking my own advice, riding in the back and taking a break from standard procedure. And, in accordance with the fighter pilot motto, a shoot-first and let God sort it out philosophy is my defense. I'm teaching a lesson to myself: Slow down and smell the avgas. I could say slow down and smell the jet fuel, but I burn Jet-A at work and the smell has become more like, well, work. For me, avgas has always been the smell of fun, especially at Oshkosh when it smelled like Mennen aftershave. Thanks, Ed Mahler and your Special AeroSport. I needed that.

Regular readers of this column have likely noticed that I employ a certain format. First, I tell you what I'm about to tell you with a salivating introduction. Next, I actually tell you the information, story or event. And finally, we review what was told with a chest thumping, head-shaking or tear-jerking summary. Well, this article is going to deviate from the USAF format but not far from the level of sarcasm and wit that you've grown to recognize and expect. This month, I'd like to wax poetic about airplanes and Oshkosh – and don't worry, wax poetic was a euphemism, there will be no poetry. While humor, sarcasm, use of Elizabethan tongue, historical quotes, run-on sentences, made up words and even poetry ("Gettin' Hitched," *T & T* February 2019) are not used in official military correspondence, they often find their way into the writings of this ex-fighter pilot – don't tell Tactical Air Command (now Tactical Air Control). But the overriding formula has been one in which there is (eventually) a lesson applicable to aviation. The lessons applicable to aviation are usually summarized in a final hair-raising or tear-jerking Faulkner level of quality paragraph seldom seen in modern published periodicals. Did thouest notice the humor, sarcasm, sentence architecture and fighter pilot arrogance? That was the theme of the show this year after all.

Pilots not only have to learn, memorize, remember and keep track of massive amounts of information, but fly with hand-eye coordination beyond the ability of the average



Rocky Mountain
AIRCRAFT SERVICES
JET · TURBINE · PROP · AVIONICS

Maintenance & Avionics

- Annual Inspections
- Phase Inspections
- Cirrus CAPS repacks
- Warranty work
- Composite / Paint Repairs
- Parts Sales
- Pre-Buy Evaluations
- Repair & Installation
- Custom Panels
- ABS-B Installs
- Pitot static testing
- Garmin, Honeywell, STEC, Avidyne

FAA Repair Station: 7RKR476D





Glacier Park International (KGPI) 4170 US Hwy 2 East, Kalispell, MT 59901
406-752-5810 www.RockyMtnAircraft.com



Preferred Airparts
Chosen for value and service

35% to 85% off!
New Surplus Aircraft Parts

Over 14 million new surplus parts in stock & ready to ship!

- Airframe
- Piston Engine
- Turbine Engine
- Continental
- Lycoming
- Overhauled Rotables
- Exhaust Systems
- Wheels and Brakes
- Overhauled Propellers
- Hardware: AN, MS, NAS
- Pre-sewn Fabric Envelopes
- And More!

Free Online Inventory Search
www.preferredairparts.com

Preferred Airparts, LLC
Div. of JILCO Industries, Inc.
800-433-0814
Toll free, U.S. & Canada
Tel. 330-698-0280 - Fax. 330-698-3164
sales2@preferredairparts.com
We Buy Worldwide!
Sales Hours: 8:15am to 5:30pm EST



non-superhero – all while maintaining an even strain when the poo impacts the rotating impeller. Plus, we do the office job work thing when not in the air. We shovel snow, mow the grass, power wash the deck, fix the toilet and become a social virtuoso with amazing Saturday Night Fever dance moves during social events. Isn't it curious how everyone asks how we can fly those airplane things with trapeze-like skill despite having dance moves like, um, "that?"

We Are Good Looking

We can attribute the aforementioned writing style to the United States Military as well. And yes, we Air Force fighter pilots did more than fly, fight and um, fudge the facts – we had office jobs too. But sometimes we need a break from aviating, writing, shoveling snow and our questionable dance moves. We need to sit in the figurative right seat (or even the back seat) and enjoy the hard work of other superheroes. For me, AirVenture Oshkosh is one of those breaks. And the theme

of the convention this year was from my past: fighters and fighter pilots.

Before I flew prodigious, plodding, people-movers for pay, I flew a single-seat, single-engine, high-g weapon of war. To get a sampling of that F-16 past, read T & T articles "Passing Gas" (about aerial refueling) in January 2011; "Paper Airplanes" (about an F-16 test flight) in May 2011; and "The Van Ride" (about a hippie (me) and a surgeon (Dick Karl) that followed their dream of flight despite the long odds) in March 2014. And it's not just me. All fighter pilots have a similar chest-thumping persona; it's part of our charm. And it's also not that all pilots are unusually smart and good looking – it's just that smart, good-looking people happen to make better pilots.

An Aviator Reunion

Each year at Oshkosh, I start by registering at the media credential check-in station before I head over to get a camping permit. After setting up camp, I go straight to

Pilots N Paws® is an online meeting place for pilots and other volunteers

who help to transport rescue animals by air. The mission of the site is to provide a user-friendly communication venue between those that rescue, shelter, and foster animals; and pilots and plane owners willing to assist with the transportation of these animals.

A general aviation transport requires just one pilot volunteer and is far more efficient and dependable than time-consuming ground transportation for these animals who are often in danger of euthanization. Volunteer pilots retain complete authority of their planning and flights, and can give as much or as little time as they like. Flights are tax deductible 501c3.

SIMPLE AS 1-2-3

No bothersome paperwork required! If you love to fly, and you love animals, please join us now! It's easy, it's fun, and it's extremely rewarding. Joining is easy and takes just a minute of your time.

1. Go to www.pilotsnpaws.org and register
2. Post your information and read other posts
3. Wait for contacts/make contact with others



Pilots N Paws®
www.pilotsnpaws.org

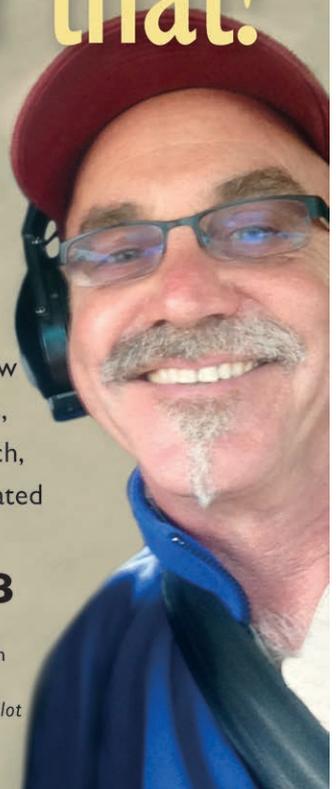


"Roger that!"

He's not a pilot but when you need to talk about aviation marketing, John Shoemaker speaks your language. And more importantly, he listens. Call him today and find how the publications he serves, and the markets they reach, can help your aviation related business grow.

800-773-7798

VP Demand Creation Services – serving your advertising needs with these fine aviation publications:
 ● ABS ● Comanche Flyer ● COPA Pilot
 ● King Air ● MMOPA
 ● Twin & Turbine



john.shoemaker@vpdemandcreation.com

YOU LIKE IT SIMPLE



That's where we come in.

When you need a part for your King Air, you want the process to be simple so you can get back in the air. At **Professional Aviation Associates**, simplicity is a way of life. We have the right part at the right price, and we're ready to ship from our stock soon after your call. We're the largest independent King Air parts supplier in the world – keeping aircraft flying for more than 30 years. We're based near Hartsfield-Jackson International Airport in Atlanta with access to quick, global air service to get critical parts to your technician, when you need them. While others may compromise on speed, quality or price, we don't.

It doesn't get much more simple than that.

Call us, we'll help get you there.
(800) 283-2105 / www.KingAirParts.com

 **Professional Aviation**
ASSOCIATES

the Fly Market. I guess it's the garage sale, hardware store, Tool Time (Tim Allen) guy in me that likes to browse through parts, tools and aircraft hardware. You never know what you may find that you didn't know you needed. Next is a tour of all four of the vendor hangars labeled A, B, C and D. Same rationale as the Fly Market plus a few of the vendor/tenants are friends and acquaintances, so the social bonding begins there. After the hangars, it's time to find some carnival food (that's my description though nowadays there is actually a pretty good selection of grub at the show). The opening night concert, Seaplane base, Wednesday night air show, STOL competition, daily flybys of various aircraft and activities at The Theater in the Woods are all worth attending. And of course, the many forums, speeches, recognition ceremonies and wide variety of parked aircraft all warrant attention. Did I mention there is an air show every day as well? Then, after the daily activities, the nightlife begins.

Oshkosh Caresses the Soul

*You ask me if they'll come a time,
When I grow tired of you. Never My Love.
You wonder if, this heart of mine, will lose
its desire for you? Never, my love.*

– The Association, 1967

I still feel like that long-haired, 110-pound, student-pilot-hippie when at Oshkosh, but now that I'm a balding, professional pilot and writer, I have an image to uphold, right? But the older I get, the more tears of joy and laughter Oshkosh brings to my eyes before and after the show. The avgas-fueled days are topped off with drinks at the campers and tents of fellow aviation aficionados. And after an exciting day and an evening of food, drink, revelry and stories of yesteryear, many folks are filled with plenty of aviation spirit (pun intended). A special thanks to the spirit-filled lady that was yodeling in her best Julia Child voice "hellooooo" from a tent window somewhere. It made me want to break into my Steve Martin Wild and Crazy Guy imitation with both hands alternately pointing skyward while singing "You've Lost That Lovin' Feeling." Well, it almost did. Oshkosh can do that. 

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.





WE'VE STOOD BESIDE THEM SINCE DAY ONE.

Let's go back 60 years, when Beechcraft introduced the original Queen Air - soon followed by the first turbine-powered King Air in 1964. That's how long Stevens has been maintaining, modifying and refurbishing King Airs. Today, no one can match our passion and expertise for one of aviation's true iconic brands. It's not just another airplane at Stevens. It's in our blood.



SEE YOU AT THE KING AIR GATHERING IN TEXAS, SEPTEMBER 26-29!

www.stevensaerospace.com | 1-800-359-7838 | Greenville SC | Macon GA | Nashville TN | Dayton OH

CORPORATE ANGEL NETWORK



Fund an Angel Cocktail Reception

Wednesday, October 23 | 6-8 P.M. | Wynn Las Vegas

The 10th Annual Fund an Angel Cocktail Reception, held on the second day of the NBAA Business Aviation Convention & Exhibition (NBAA-BACE), is an invaluable networking event for business aviation leaders and influencers. The reception will feature an auction to benefit Corporate Angel Network (CAN) who organizes critical flights for cancer patients to treatment centers throughout the country.



"Corporate Angel Network has helped to open up trials and treatment for Ava that we otherwise could not afford. They help to ensure she gets the medical care that she needs."

- Ava's Parents

Learn More and Reserve Tickets: fundanangel.org

A SPECIAL THANKS TO OUR CURRENT SPONSORS

Presenting Sponsor  NBAA

PLATINUM



SCHWEITZER
ENGINEERING
LABORATORIES



GOLD



TEXTRON AVIATION

SILVER



BRONZE



Ad Index

Aeromania.....	23	National Flight Simulator.....	17
Airfleet Capital, Inc.....	7	Partners in Aviation.....	Back Cover
AOPA Finance.....	17	Paul Bowen Photography.....	36
Aviation Insurance Resources.....	29	Pilots N Paws.....	34
Avidyne Corporation.....	Inside Back Cover	Preferred Airparts LLC.....	33
Bose Corporation.....	Inside Front Cover	Premiere Aviation, Inc.....	9
CD Aviation Services.....	10	Professional Aviation Associates.....	35
CIES Corporation.....	25	Recurrent Training Center.....	25
Corporate Angel Network.....	38	Rocky Mountain Aircraft Services.....	33
Covington Aircraft Engines.....	18	Rosen Sun Visor Systems.....	25
David Clark Company.....	11	Select Airparts.....	3
Factory Direct Models.....	3	Short-N-Numbers.....	11
Hillaero Modification Center.....	10	Stevens Aerospace & Defense.....	37
Ice Shield/SMR Technologies.....	19	Sullivan's Harbor Springs Airpark.....	5
Jet It.....	31	Textron Aviation.....	27
Jet Shades.....	29	Turbines Inc.....	5
Lighthawk.....	39	VREF Aviation Value Reference.....	13
Luma Technologies LLC.....	12		

ADVERTISING DIRECTOR, JOHN SHOEMAKER

2779 Aero Park Drive, Traverse City, MI 49686

Phone: 1-800-773-7798 Fax: (231) 946-9588 • E-mail: johns@villagepress.com

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



Unique flight opportunities
available for 1000+ hour pilots.

LIGHT HAWK
CONSERVATION FLYING

Learn more at
[www.lighthawk.org/
volunteer](http://www.lighthawk.org/volunteer)

Chris Crisman/TNC/LightHawk

TWIN & TURBINE **ONLINE!**

View the entire magazine on the site!



**Viewable on
any device!**

- Current Issue
- Issue Archive (2015)
- Purchase Back Issues
- Page Turn Version
- Comment on Articles
- Advertiser Spotlight
- Advertiser Links
- Feature your plane
- Special Jet Journal Section
- Contact Us

www.twinandturbine.com

On Final

by David Miller



Saying Goodbye to My Mustang



I'm still not ready to admit you're gone.
We traveled together from coast to coast.
Sometimes just the two of us.
Streaking through the morning skies.
On our lofty perch at 410.
We could communicate without speaking.
I knew when you had enough.
Like trying to climb heavy and hot.
Others couldn't quite understand why I had to visit
you twice a week.
Just to see if you were okay.
I made sure you were ready to go in a moment's notice.
Even though we went weeks without going anywhere.
You never let me down through all kinds of weather.
You were always there for me.
But my travel needs have changed.
Truth is, I just can't justify your upkeep.
I guess you were just a little extravagant for my checkbook.
Where once I was independently wealthy.
And now, just independent.
Patty says, don't sell her. You won't be happy.
I'll be okay, I say. I can still fly Larry's M2.
Perhaps there's another ownership adventure ahead.
But you deserve to be with someone who can appreciate
your incredible talents.
Who can take you to places you've never been to before.
Goodbye, my old friend.
Stay in touch.

David Miller has owned and flown a variety of aircraft types, from turboprops to midsize jets, for more than 40 years. With 5,000-plus hours in his logbook, David is also Chairman Emeritus of the Citation Jet Pilots Safety & Education Foundation. You can contact David at davidmiller1@sbcglobal.net

The secret is out.



It's simply a better, more affordable way to navigate.

Introducing Avidyne's FMS/ADS-B solution for turbine owners and operators; a full featured, true FMS in an easy-to-use yet powerful design. Each IFD provides SBAS/LPV precision navigation designed to meet the accuracy and integrity requirements for ADS-B. Avidyne's FMS solution is simple to install saving you weeks of downtime and operation costs.



SYNTHETIC VISION WITH INTEGRATED TRAFFIC



ADS-B COMPLIANT GPS SOURCE



APPROVED SBAS/LPV APPROACHES



INCREASED CAPABILITIES, REDUCED COSTS



TOUCHSCREEN WITH KNOBS AND BUTTONS



WIRELESS INTERFACE TO THIRD-PARTY FLIGHT PLANNING AND MAPPING APPLICATIONS INCLUDING FOREFLIGHT*

STC CERTIFIED & AVAILABLE NOW!*

**Citation 500 Series and King Air*

Call: **800.AVIDYNE (284.3963)**
Email: **sales@avidyne.com**
Visit: **avidyne.com/FMS**

AVIDYNE®



Flying has evolved. Now, so has ownership.

PIA MANAGED CO-OWNERSHIP:
AIRCRAFT PARTNERSHIPS, EVOLVED

We match you to the right Co-Owner and the right Aircraft - and provide a structure that eliminates the issues of DIY Partnerships.

YOUR AIRCRAFT. YOUR SCHEDULE.

HALF THE COST.

Find out if you're a good fit today at PartnersInAviation.com/Fit.



PARTNERS
IN AVIATION