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### SUBSCRIPTIONS

King Air is distributed at no charge to all registered owners of King Air aircraft. The mailing list is updated bi-monthly. All others may subscribe by writing to: King Air, P.O. Box 1810, Traverse City, MI 49685, or by calling 1-800-447-7367. Rates for one year, 12 issues: United States \$15.00, Canada \$24.00 (U.S. funds), all other foreign \$52.00 (U.S. funds). Single copies: United States \$6.50, Canada/Foreign \$9.00.

### COVER PHOTO

Courtesy of FWAATS  
(credit: Lt. Col. Wade Johnson)

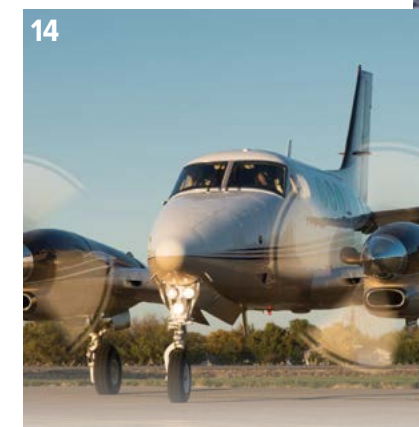
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King Air is wholly owned by Village Press, Inc. and is in no way associated with or a product of Textron Aviation.

King Air (ISSN 1938-9361), USPS 16694 is published monthly by Village Press, Inc., 2779 Aero Park Drive, Traverse City, Michigan 49686. Periodicals Postage Paid at Traverse City, MI. POSTMASTER: Send address changes to King Air, Village Press Inc., P.O. Box 1810, Traverse City, MI 49685. Telephone (231) 946-3712. Printed in the United States of America. All rights reserved. Copyright 2020, Village Publications.

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# Everyone Speaks C-12



Army uses King Air fleet for fixed wing initial and graduate-level qualification trainings

by MeLinda Schnyder

**W**hile most civilians are unaware of a small group of guardsmen flying in a West Virginia training schoolhouse, the Fixed Wing Army National Guard Aviation Training Site – or FWAATS – is well-known and well respected among United States Army aviators.

“What’s great about FWAATS is that you’re actually flying an airplane,” Chief Warrant Officer 3 Anthony Wozniak said in July while in the midst of the Instrument Flight Examiner (IFE) Qualification Course at the training site in Bridgeport, West Virginia. “And these guys are incredible instructors to be able to balance all of the instruction while flying the plane the whole time.”

The FWAATS, based at Northcentral West Virginia Airport, operates a small fleet of three to five C-12 Hurons – the military designation for the Beechcraft King Air 200 – and one twin-engine Fairchild C-26 Metroliner. This is the only Army National Guard training site for fixed wing pilots. They also get students from the Active and Reserve components of the Army for initial qualification and graduate-level qualification training.

Wozniak, an active-duty instructor pilot stationed at Fort Bliss in El Paso, Texas, said he was thankful to not have to wait long to get into this course. He’s been in the Army for 19 years and started flying helicopters in 2012, then switched in 2016 to fixed wing. He flew the Canadian-made De Havilland Dash 7 turboprop aircraft in Korea for two years and now flies the DHC-7 and DHC-8 in El Paso.

The Fixed Wing Army National Guard Aviation Training Site’s (FWAATS) fleet of King Air aircraft is a mix of C-12U and C-12R Huron models. FWAATS typically has three to five King Air aircraft based at the North Central West Virginia Regional Airport in Bridgeport, West Virginia. (Photo by Lt. Col. Wade Johnson)



This C-12R Huron is one of the two military variants of the Beechcraft King Air 200 used at the Fixed Wing Army National Guard Aviation Training Site. The C-12R can be modified with EFIS glass cockpit instrumentation for reconnaissance missions.

(Photo by Lt. Col. Wade Johnson)

He completed the instructor pilot course in 2019 and about a year later, spent much of his five weeks at the FWAATS in a pair of C-12 aircraft. He returned to El Paso able to give checkrides as an instrument examiner pilot.

“We all speak C-12,” Wozniak said of the King Air. “If we ever need to do anything, that’s the one aircraft that we’ve all flown. The ones here at FWAATS seem to be in really great shape and the maintenance support has done a great job of always having the aircraft ready to go in my time here. It’s a smooth aircraft that makes for a good training platform.”

### History of FWAATS

The Army was the first branch of the military to use the King Air variant C-12 Huron, mostly for transport of personnel and cargo. The C-12A – a Super King Air 200 powered by the type’s standard Pratt & Whitney PT6A-42 engines, with a commercial, off-the-shelf cargo floor system installed – entered service with the Army in 1974. It took several years of acquisition to replace the Army’s aging fleet of King Air 90 aircraft designated U-21, which had been in service since 1964.

In the 1980s and 1990s, the Army National Guard set up four accredited regional aviation learning institutions of excellence, called Army Aviation Training Sites (AATS). The FWAATS, formed in 1996, is the only one of four that offers fixed wing training.

The FWAATS provides the U.S Army Aviation Center of Excellence at Fort Rucker in Alabama with a professional and reliable training resource, and surge capacity to meet the Army’s fixed wing training requirements here and abroad, in support of combatant commands engaged in decisive action operations.

“Our mission is to conduct fixed wing initial qualification and graduate-level qualification training, such as instrument examiner, maintenance test pilot and instructor pilot courses, for the Active, National Guard and Reserve components of the U.S. Army,” said Lt. Col. Wade A. Johnson, commander of the Fixed Wing Army National Guard Aviation Training Site. “We train approximately 100 pilots and nonrated aircrew members annually, the majority of which is conducted in our King Air fleet.”

The FWAATS has also historically played a critical role in the Army’s Task Force Observe, Detect, Identify & Neutralize (ODIN) operation overseas, surging its capacity and capabilities to train more than 300 ODIN pilots and back-seaters in the King Air 300 and King Air 350 variants in a two-year time period, in addition to its traditional course offerings.

Johnson worked previously with the Operational Support Airlift Activity (OSA-A) at Fort Belvoir, Virginia, and the FWAATS continues to work hand in hand with OSA-A, serving as their primary fixed wing flight and academic training institution. *King Air* >



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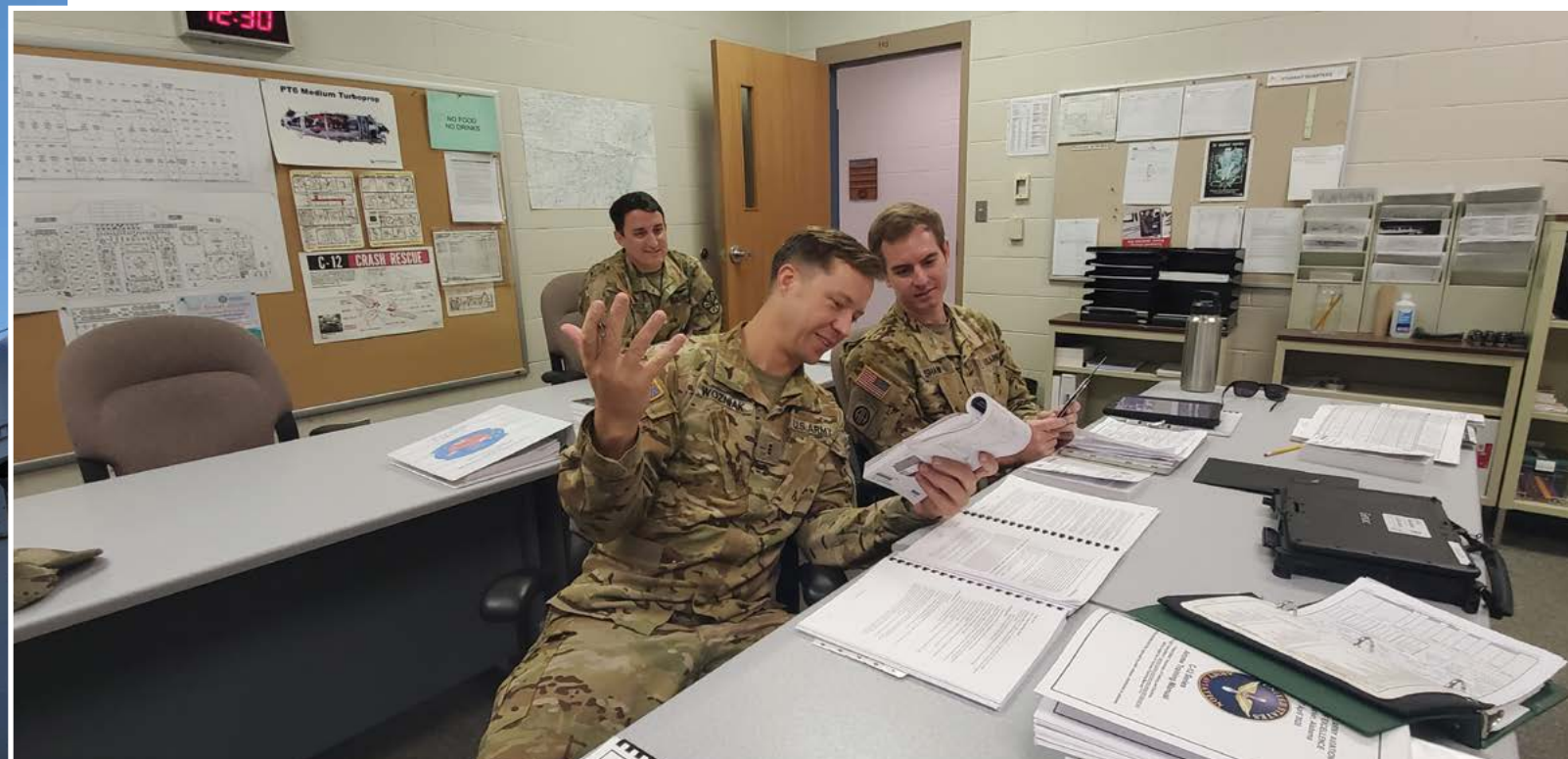


Contact Tom Grunbeck at 484.502.6658 or [tgrunbeck@innovative-ss.com](mailto:tgrunbeck@innovative-ss.com)



The Army National Guard moves its fixed-wing assets regularly. This C-12U Huron moved from the Fixed Wing Army National Guard Aviation Training Site to the Hawaii Army National Guard's Fixed Wing Flight Detachment in August by catching a ride aboard the USS Essex in San Diego.

(Photo by Lt. Col. Wade Johnson)



Alongside Lt. Col. Johnson, Douglass oversees 23 personnel on the aircrew training program. That includes standardization instructors and enlisted instructors (the back-seaters): 12 are full-time Active Guard and Reserve officers, seven are part-time National Guard officers. The four back-seaters are senior noncommissioned officers.

The Army operates its King Airs as a two-pilot aircraft at all times. At the FWAATS, student pilots always fly with an instructor pilot, sometimes two. One of the C-12 pilots is Chief Warrant Officer 4 Joe Weekly, who joined the FWAATS in 2019 after a long stint at Fort Rucker. The prior active duty/reservist works under Douglass as the C-12 Section Leader, and he said he passed up opportunities to finish out his Army career flying jets because of his respect for the King Air.

He called the King Air the most reliable airplane he's flown in his 4,500 hours, which includes about 2,500 hours in the King Air. He praised the platform's mission flexibility, the simplicity of the Pratt & Whitney engine and the integration of Pro Line 21 avionics.

He appreciates flying with other seasoned instructor pilots who share his commitment to sharing his knowledge with the younger pilots coming through the schoolhouse.

"We've all been flying for 16 to 20-something years and a minimum of six to seven years flying the King Air," Weekly said. "Our mission is to train and impart experience on younger guys, which I think is a huge

benefit to the Army in general, whether that's Active Duty, Guard or Reserve. So I think we're in an excellent position to do that."

(Photo by Lt. Col. Wade Johnson)

### FWAATS' King Air Fleet

The King Air 200 is the Army's go-to aircraft for fixed wing qualification training and its durability, dependability and low operation costs help FWAATS meet its goal of delivering high quality, low cost training.

OSA-A manages the National Guard's fixed wing share program of roughly 50 C-12 aircraft and approximately a dozen C-26 aircraft, moving the aviation assets to where they are needed most. That means the aircraft assigned to the FWAATS change often, and the courses offered adjust with aircraft availability.

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C-12 Section Lead and instrument examiner, Chief Warrant Officer 4 Joe Weekly (right), and FWAATS Operations Officer and instructor pilot, Major Kevin Herlihy (left), discuss loading instrument approaches into the Rockwell-Collins FMS-3000 flight management system aboard one of their C-12U Huron aircraft. (Photo by Lt. Col. Wade Johnson)

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There are usually no fewer than three C-12 aircraft on the ramp, most often the C-12U in standard cargo and key leader/strategic level transport configuration, and the C-12R, which can be modified with EFIS glass cockpit instrumentation for reconnaissance missions.

That means an array of models for FWAATS pilots to be familiar with, and Douglass hopes the Army's future utility aircraft will be standardized on one airframe. While the variety of avionics packages make the cockpits look different, Douglass and Weekly said, all the variations fly like a King Air.

Sometimes FWAATS pilots get the chance to fly interesting missions to rehome an aircraft. Douglass recalls once when two C-12s at FWAATS needed to be moved to Afghanistan. The crew flew 100 flight hours over the course of about three weeks to deliver the planes.

"They were what we call slicks, so there was no mission equipment on them until they are in theater and then put into operation," Douglass said. "We took the northern route: Clarksburg, West Virginia, to Canada to Greenland, all the way over to Iceland, to Scotland to Germany and then across the Swiss Alps, down to Italy, down to Kuwait and then up into Afghanistan. The flights were among the most fun I've done."

This past August, the National Guard Bureau opted to move a newer C-12U from FWAATS to Hawaii. Douglass and a fellow standardization pilot instructor prepared for the ferry flight with an overland validation flight. >



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An FWAATS C-12U Huron parked on the ramp at Sawyer International Airport (formerly K.I. Sawyer Air Force Base) in Gwinn, Michigan. (Photo by Lt. Col. Wade Johnson)

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“We flew the King Air 2,000 nautical miles nonstop, starting in Minneapolis, Minnesota, and flying south to Florida and then back up,” Douglass said. “We were checking the airframe, fuel flows, and everything the book said it should do we verified. We flew around thunderstorms and with headwinds. When we landed, we still had fuel left for our reserve.”

In the end, the decision was made that it was too risky of a mission and instead the C-12U was shipped to Hawaii aboard the USS Essex from San Diego.

The Army always pushes the limitations of the King Air because we get charged to take it to 14,090 pounds, we put more equipment and more stuff on it,” he said. “We put more avionics systems into it, put the Common Missile Warning System on it. I mean we load the aircraft to its limitation, and it has always done what we have asked of it. The Beechcraft King Air has been an awesome aircraft.”

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## LETTER TO THE EDITOR

### King Air 360 Comments

In reference to the article announcing the King Air 360 in the September 2020 issue of *King Air* magazine, I started flying King Airs a little over 30 years ago before going into the airline industry. Due to 9/11, I was furloughed in December 2001 from the airlines. During that time, I received my BE-350 type rating and flew the airplane for about 100 hours before being called back by my airline employer. After five more years there, I grew tired of the commute to Minneapolis and left to take a job flying a Beechcraft King Air 350. That was in 2008, and I have been flying the 350 ever since. I have accumulated about 3,600 hours in the aircraft since getting the type rating. It is a marvelous airplane that actually delivers on almost all of its selling points. There is no other turboprop out there that compares to the dispatch reliability and capability of the King Air 350.

When Beechcraft recently introduced the new King Air 360, I was ready to see what they had come up with ... only to be totally disappointed with the reality of what the new airplane actually was. The company could have made a couple of changes that would have enhanced the airplane even more. First of all, in my humble opinion, they should have put the -67 engines on the airplane with



an increased gross weight; second, it should have the new 5-blade props for both efficiency and quietness. And ... auto throttles on a King Air? Really? I don't understand that one at all. Maybe I am just getting older and apply too much practicality to everything.

Please don't get me wrong here; I love the 350 and what it does for our corporate flight department, but if you are going to upgrade an airplane I want to see some real changes made that will increase the performance first of all, and then maybe some other add-ons. The new 360 is not an airplane that I would recommend to my owners to replace our "good 'ole 350."

Respectfully submitted,  
John Bumpers, Chief Pilot  
Saulsbury Aviation LLC  
Odessa, Texas



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# GA Coalition & CARES Act, CBAA Joins SAF, and NextGen Advisory Committee

by Kim Blonigen

## GA Coalition Urges Lawmakers for Additional Relief Through CARES Act

A coalition of general aviation (GA) associations recently sent a letter urging lawmakers to build on the success of the Coronavirus Aid, Relief and Economic Security (CARES) Act by providing additional targeted relief that ensures business aviation and the country's airports can continue to deliver pivotal and essential services during the pandemic and maintain their valuable contribution to the country's economy.

The CARES Act, enacted in late March, was a vital stimulus for general aviation and airports during the early stages of the COVID-19 crisis. Relief from excise taxes and initiatives like the Payroll Support Program and the Paycheck Protection Program provided general aviation businesses the means to mitigate the economic stress of the pandemic and continue their support of thousands of communities across the country, many of which rely on general aviation for essential services.

However, much of the relief granted will expire soon so the coalition is advocating not only for an extension of the support provided, but also for additional targeted relief,

stating the measures are important to the continued success of the GA industry. One that supports 1.2 million jobs, generates more than \$247 billion in economic output and provides essential access to more than 5,000 communities in the U.S. The targeted relief included more funding for the country's general aviation airports, stating they are "home to thousands of independent small businesses providing essential aeronautical services."

The letter was signed by the Aircraft Owners and Pilots Association, the Aeronautical Repair Station, the Association Experimental Aircraft Association, the Helicopter Association International, the National Association of State Aviation Officials, the National Business Aviation Association and the National Air Transportation Association.

## CBAA Joins SAF Coalition

The Canadian Business Aviation Association (CBAA) was recently welcomed as part of the global Business Aviation Sustainable Aviation Fuel Coalition (SAF Coalition), a unified effort behind a forward-looking business aviation sustainability agenda.

Stating the SAF is key to the industry's goal of continued emissions reduction, the CBAA President and CEO Anthony Norejko said, the association is pleased to be part of a group that will "dramatically reduce carbon emissions, and help the industry go further, faster in reducing an already low carbon footprint."

The CBAA joins an alliance of leading international aviation groups that are part of the SAF Coalition, including the Commercial Aviation Alternative Fuels Initiative (CAAIFI), the European Business Aviation Association (EBAA), the General Aviation Manufacturers Association (GAMA), the International Business Aviation Council (IBAC), the National Air Transportation Association (NATA) and the National Business Aviation Association (NBAA). The SAF Coalition's work is supported by a Steering Committee that includes dozens of aviation businesses, representing every point in the SAF development-and-supply chain.

The coalition is now focused on legislative, market-based and infrastructure-focused initiatives that catalyze SAF availability and use. More information about the SAF Coalition is available at [futureofsustainablefuel.com](http://futureofsustainablefuel.com).

## Bolen Reappointed to NextGen Advisory Committee

National Business Aviation Association (NBAA) President and CEO Ed Bolen was recently reappointed to the NextGen Advisory Committee (NAC), where he will continue to represent business aviation. Established by U.S. Department of Transportation (DOT), the NAC focuses on efforts to modernize the national airspace system (NAS).

Established in 2010, the NAC is tasked with exploring solutions to NextGen challenges involving concepts, requirements, operational capabilities and technologies. The NAC examines these considerations in support of the FAA's ongoing modernization of the nation's air traffic management system. Bolen is a longtime member of the government-industry group.

"Business aviation has long played an integral role in fostering the development of NextGen, and our industry remains committed to the implementation of these technologies to further increase the safety and efficiency of our nation's ATC network," Bolen said.

The NAC currently provides input to the FAA and DOT on topics related to data communications, multiple runway operations, surface and data sharing, performance-based navigation and airspace optimization across the Northeast Corridor, among other areas. **KA**

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# Looking Without Seeing

by Tom Clements

Still being an active motorcycle rider at age 75 – I know, I know, I'm crazy! – it is quite disturbing to read nearly on a monthly basis about a motorcycle involved in an accident with a car in which the car driver is reported to have said, "I never saw him! He wasn't there when I looked!" Yet the rider, if still capable of talking, often states, "The driver looked right at me before pulling out in front of me!"

I am convinced that looking without seeing is a very common human shortcoming. In my years as a flight instructor I have observed it hundreds of times. Take this recent example:

I was conducting annual recurrent flight training for a King Air operator's group of four pilots.

Although I never pull sneaky, unbriefed, surprises when conducting *initial* training, "all's fair in love and war" during *recurrent* sessions. Trim runaway, inverter failure, pressurization failure, flap failure, GPS unit failure, engine gauge failures ... are all common malfunctions I present.

As we departed the airport heading out to an Initial Approach Fix (IAF) for an LPV approach involving a course reversal, I pulled the circuit breaker for the right engine's oil pressure gauge. We were climbing through about 500 feet above the airport when I did my dastardly deed, in a climb to 5,000 feet. Passing about 2,500 feet the pilot went through the After Takeoff flow pattern/checklist, including even

running his righthand fingers down the stack of engine instruments, from top to bottom. "Looking good," he commented. I bit my tongue. In fact, he did it again nearing our level off point, still not seeing that the right oil pressure was reading zero.

"Charlie!" I cried. "That's twice now that you have missed the failure I've given you! Scan those engine gauges one more time. Slowly and carefully, this time. What is wrong?!" Finally, he noticed the lack of oil pressure. Poor fellow was very chagrined.

This happens with distressing regularity as I have conducted flight training since 1968. It no longer surprises me in the least. There is a big difference between having an image from your eyes being received

by your brain and yet that same image being totally recognized and understood: *Looking versus Seeing*. I think there are two leading reasons for this failure to observe what can be so readily apparent.

The first reason is going too fast, not taking sufficient time for the eyes to truly lock onto the item of interest and for the brain to process what the eyes see. "Expectation Bias" is the technical term that relates directly to this phenomenon. Your cerebral cortex thinks, "Since that instrument has read normally the last 500 times I've looked at it, can't I expect it to read normal the 501<sup>st</sup> time, too?!"

This points at the second leading reason for looking without seeing. I call it a lack of "Judicious Suspicion." *Suspicion* alone, without the modifying adjective *judicious*, can head one to a psychiatrist's couch or a mental institution. Living in a constant state of concern and fear that "something is out to get

me!" is a state of existence that no one seeks to abide. Yet *judicious* suspicion is a very healthy attitude, perhaps especially for pilots. It leads to thoughts like these:

"Just because there has never been another aircraft flying unannounced formation with me in my 8 o'clock position before I made my left turn, doesn't mean there won't be someone snuggled in there this time." Or, "Just because I never got distracted on a preflight inspection before and left an oil dipstick loose instead of properly secured, doesn't mean that I can assume it's tight this time." How about, "Just because the flaps have always extended to the Approach position whenever I moved the handle down to the first notch, doesn't mean they will be this time." And, "Just because there have always been 'Three green, no red' after I put the landing gear handle in the down position, doesn't mean it will be so this time." Get the idea?

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f in v

We must all accept the sad fact that mechanical, electrical and hydraulic systems can fail, as well as the human species can make a mistake – *at any time*. Even the very best of pilots can, and do at times, make errors. The attitude of Judicious Suspicion plays an absolutely huge role in minimizing these errors in the first place and catching them before they lead to unnecessary danger in the second place!

I'll let you in on a little humorous remark that I have made many, many times during training. As we taxied off the runway to head back for another lap around the pattern, I'd say, "I have some good news and some bad news. The good news is that you made a rather acceptable no flap landing. The bad news is that you didn't *know* it was a no flap landing!"

Yes, many times after I had pulled the Flap Power circuit breaker in cruise, the failure of the flaps to extend to Approach –

and to full Down later – has been completely missed. A few times, the pilot even remarked on the tendency of the airspeed to be a little fast. That should have triggered the Judicious Suspicion step of investigating *why* the airspeed was fast. Better yet, knowing that *controls* are not *indicators*, an ingrained procedure of the pilot with Judicious Suspicion is to never remove the hand from the control – in this case, the flap handle – until the indicator shows the proper flap position. Same with the gear handle ... even more critical. Same with the Windshield Heat switch ... less critical but important, nevertheless. Same with Engine Anti-Ice, same with Autofeather, and on and on and on ...

Have you been taught this oh-so-easy technique? Never let go of a control until the indicator shows what did or did not happen? It makes me angry that many of you are hearing/reading this for the first

time. Your past instructor(s) should have done a better job if this is a new technique for you.

I'll tell you the story of perhaps the worst case of asleep-at-the-switch piloting I have ever personally observed. I was performing on-site ground and in-airplane flight training for a gentleman who was transitioning into a King Air B200. The airplane was to be used in a charter operation so the fellow was facing an FAA 135 PIC ride the day after we finished our training. This fellow was highly experienced in 135 ops, but most of that experience was a type of "bush" flying in piston-powered single and twin, non-pressurized airplanes.

Pressurization was a totally new topic for him so we hit it hard in ground school and tried to demonstrate its use in detail during the flight training. The significance of the Cabin Altitude/Differential Pressure gauge on the center subpanel received lots of attention, especially the importance of observing their readings in the After Takeoff checklist. No  $\Delta P$ , no pressurization taking place means a malfunction; an abnormality; something needs to be addressed.

After about 10 hours of flying, the initial training was complete but I stayed on to conduct additional training to get him set for his 135 checkride. Most of this was "under the hood," practicing various instrument approaches, coupled with some engine failures and other system abnormalities. As we taxied back after one approach to depart for another, I secretly moved the Pressurization Control switch into the forward, Dump, position. I directed him to climb to 8,500 feet for some air work before executing the next approach. As we climbed, of course there was no *P*, the cabin altitude was the same as our altitude, and the cabin rate-of-climb was matching the airplane's. I asked him to repeat the After Takeoff checklist a second time, asking him to be particularly careful since something had been missed. Still the problem was not caught. I then pointed out

the problem to him, again discussed the meaning of the "pressurization performance" gauges, showed him the mispositioned control switch, put it back in its normal, center "Press" position, and we continued the session, now with the cabin descending back to its proper altitude.

The next day I again failed the pressurization and again it went undetected until I discussed it with him.

The final day, the one before the checkride, the weather was severe clear, he was again under the hood, and again the pressurization was failed by me. We climbed out without any recognition of the problem on his part. It was maddening to me. Since my previous training and discussions had obviously failed to get the needed knowledge implanted, I gritted my teeth and vowed that he must discover the problem on his own. I had assigned 8,500 feet but now I amended the clearance and asked him to climb

to 13,500. Passing about 7,000 feet he remarked that the cabin seemed louder than normal. I agreed with his observation and in a feeble attempt to instill some Judicious Suspicion I added, "Wonder why that is?!" My hint fell on deaf ears.

Passing 12,500 I was expecting the Cabin Altitude Warning annunciator to illuminate. That should get his attention! Guess what I found. The annunciator was inoperative! Add that to the squawk list we were creating. Damn! About this time, he again commented on the extra noise in the airplane – primarily due to the vent windows not being pressed out against their seals – and again I concurred and hinted that there must be a reason.

"He's got to figure this out himself, this time!" I screamed to myself. I noticed a couple of chewing gum wrappers in the cup holders on the pedestal. "Let's make the cockpit a little neater," I said as I picked up the wrappers, opened my side's vent window, and threw them out!

No reaction whatsoever! That this action would be impossible with that vent window subject to over 250 pounds of force pushing it closed never registered with him in any way!

Screw it! I'm going to get him so high that he will notice some signs of hypoxia, so I asked him to keep climbing to 17,500 feet. This was so long ago that I believe all statutes of limitations have been met so I am admitting that I was now illegal since we passed 14,000 feet without oxygen masks donned. You can bet I was checking my cuticles regularly and if they started turning purple instead of their normal pink, oxygen masks would have been donned and my little experiment in learning would have been terminated. But, happy to say, we stayed pink for now.

"I know," I thought. "I'll give him some complicated amended clearance and maybe his onset of hypoxia will be noticeable as he struggles with the clearance."

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“Uh, King Air 12345, I have an amended clearance. Advise when ready to copy.” My student made sure the autopilot was flying as he desired, got out a pen from his shirt pocket, poised it above his kneeboard, and announced, “Ready to copy.” Then the pen blew up!

He calmly pulled a handkerchief out of his hip pocket, wiped up what ink he could find, and continued waiting for the clearance. At last, I broke.

“Come on, Elwood! (Not his real name.) Twice you told me the airplane was unusually noisy, I threw gum wrappers out the window, and now your frickin’ pen just blew up! What do these things have in common?! We’re not pressurized!”

As I said, this may have been the most severe, obvious, case of lack of Judicious Suspicion that I have personally ever witnessed. At least it was funny!

In case you’re wondering, he passed his FAA checkride the next day.

My colleague Dean Benedict has written in these pages about the variety of processes he has seen used by pilots when they pick up a King Air that has been in his shop for extensive maintenance, such as a Phase Inspection or two. If there is ever a time that exhibits the need for Judicious Suspicion, this is it! That pilots would do a cursory walkaround, enter the airplane, close the door, start the engines, and taxi immediately for takeoff with no run-up checks ever done is mind-boggling to me. Yes, I freely admit that routine runups are not high on my priority list. Why? Two reasons. First, King Airs do not have a history of finding system problems during these checks. Manual propeller feathering, autofeather, rudder boost, autopilot checks, TAWS tests, etc., usually come through with no discrepancies observed. Second,

no one can guarantee that because a system correctly tested in the run-up area, it cannot fail during the very next takeoff. Judicious Suspicion leads us to realize that this is indeed possible ... not likely, sure, but definitely possible.

But coming out of the shop with a high probability that some of these systems were examined, tweaked and adjusted?! And forgoing your own test of the systems?! To me, it is stunning in its lack of professionalism, in its disregard for the attitude of Judicious Suspicion.

Some readers may think that I am coming on too strong, emphasizing a technique or attitude that rarely produces positive benefits. I disagree. Friends, as pilots we operate in an environment that, as the famous poster of the Jenny in the tree says, “Is terribly unforgiving of any carelessness, incapacity, nor neglect.” We must diligently work to catch problems before they lead to nasty surprises ... including the possibility of the death of ourselves and our passengers.

Y’all be careful out there. See ... don’t just look! 📱

King Air expert Tom Clements has been flying and instructing in King Airs for over 46 years and is the author of “The King Air Book” and “The King Air Book II.” He is a Gold Seal CFI and has over 23,000 total hours with more than 15,000 in King Airs. For information on ordering his books, contact Tom direct at [twcaz@msn.com](mailto:twcaz@msn.com). Tom is actively mentoring the instructors at King Air Academy in Phoenix.

If you have a question you’d like Tom to answer, please send it to Editor Kim Blonigen at [editor@blonigen.net](mailto:editor@blonigen.net).



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# The Scarlet Marvel (Part One)

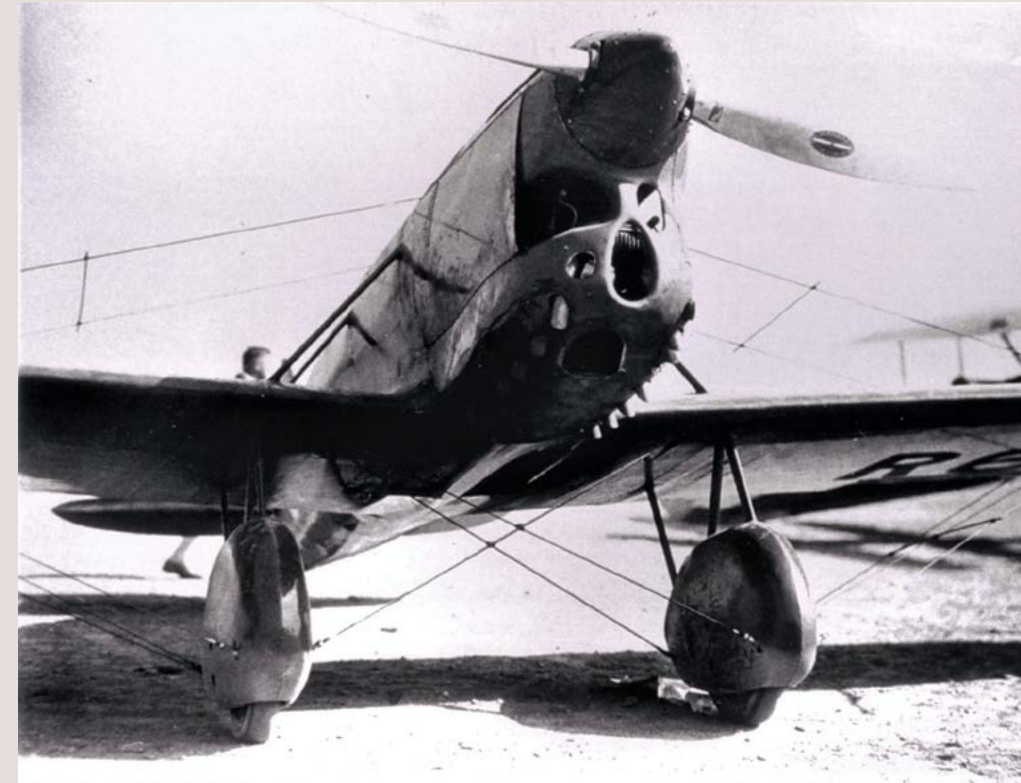
At the 1929 National Air Races in September, Walter H. Beech unleashed the Travel Air Type “R” monoplane that crushed the competition and ended dominance of the military biplane.

by Edward H. Phillips



Rear, quarter-view of R614K parked at Travel Air Field before it was flown to Cleveland for the National Air Races. The windshield had been enlarged from the original design to provide more protection for the pilot. (Kenneth D. Wilson)

The relentless heat of a Kansas summer was in full force during August 1929 in Wichita – the self-proclaimed “Air Capital of the World.” The city’s aircraft industry was thriving thanks to a booming economy and the American people’s obsession with all things aeronautical. That obsession was put on full display every September when the week-long National Air Races (NAR) drew crowds that rivalled those of major league baseball.



Front view of R613K reveals details of the cowling that surrounded the inverted, air-cooled, six-cylinder Chevrolair D-6 engine with its 12 exhaust stacks. The powerplant suffered from oil leaks, high cylinder head temperatures, poor cooling and erratic throttle response. Worse yet, the monoplane proved to be no faster than a Type D4000 biplane. (Kenneth D. Wilson)

In September of that year, the races were held for the first time at the municipal airport near Cleveland, Ohio. The airfield had sufficient acreage on the west side to adequately host the event without interrupting commercial and private air traffic operating at the east end of the airport. To accommodate the anticipated crowds and the arrival of hundreds of aircraft, a new airline terminal had been built along with hangars and support facilities. The city spent about \$450,000 to bring the property up to standards necessary to properly support the races.

In addition to daily racing and exhibition events at the airport, an aeronautical exposition was held at the Public Hall, which cost the city a whopping \$10 million to construct. The spacious interior of 200,000 square feet easily accommodated the large number of airframe and engine manufacturers as well as exhibits promoting service, component and support companies. The NAR also had, for the first time, its own official



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theme song titled, “On Wings of Love.” Lyrics for the song were written by Cliff Henderson, managing director of the NAR from 1928-1939.

One day before the races officially began, more than 300,000 people crowded into downtown Cleveland to see a massive, five-mile long parade of aviation-themed floats and flowers while military and civilian aircraft flew overhead. The 1929 NAR, however, would not be complete without its share of celebrities and dignitaries. These included Charles and Anne Lindbergh, Amelia Earhart and Hugo Eckner (of Graff Zeppelin fame).

Of particular, major importance to the NAR that year was the Women’s Air Derby sponsored by the National Exchange Club. Up to that time women were not permitted to compete in the NAR, but a flood of objections turned the tide and officials welcomed the 20 lady flyers as contestants in a cross-country race. A majority of these women had limited experience as pilots, but a small number, including Earhart, Florence “Pancho” Barnes, Ruth Elder, Bobbi Trout, the Travel Air Company’s Louise McPhetridge von Thaden, and Germany’s Thea Rasche were veteran aviators and held numerous records for female pilots. It is interesting to note that as of September 1929, there were only

slightly more than 100 licensed women pilots in the United States.

The nine-day speed dash began at Clover Field, Santa Monica, California, and traversed the Southwestern and Midwestern United States before terminating at Cleveland. Two divisions were created based on large or small engine displacement. Von Thaden flew a Type D4000 biplane powered by a 300-horsepower Wright J6-9 static, air-cooled radial engine, and won the event at an average speed of 135.9 mph. The great and much-beloved American humorist, Will Rogers, gave the race a new name; he dubbed it the “Powder Puff Derby.”

Three months before the NAR, Walter H. Beech, president of the Travel Air Company, had approved construction of two monoplanes designed specifically to win Event No. 26 – the prestigious “Free-for-All” competition to be held Sept. 2 in Cleveland. The 50-mile race around a course marked by pylons was considered the highlight of the NAR, and the premier event that everyone wanted to see. It pitted specially modified biplanes of the United States Army Air Corps and the U.S. Navy against a field of vastly inferior civilian aircraft.

To commemorate the competition, Charles Edwin Thompson, president of the Thompson Products Inc.,



Another view of the monoplane reveals race No. 32 on the fuselage and original design of the cockpit windshield.

(Peter M. Bowers Collection)



Late in 1928 Walter Herschel Beech enthusiastically supported Herbert Rawdon’s plans to design and build a high-speed monoplane to compete in the 1929 National Air Races.

(Edward H. Phillips Collection)

would award the winner a special trophy known as the Thompson Cup (for the 1930 NAR it was renamed the “Thompson Trophy”). In 1929 the National Aeronautic Association granted Thompson’s request to offer a permanent trophy each year for the Free-for-All event at the NAR. The striking trophy was based on the figure of mythological Icarus and stood 40 inches in height. It was made of pure gold and silver and was mounted on a solid marble base. A small model of each year’s winning airplane would be placed on top of the trophy.

In the previous five years, the military had dominated the NAR’s air races, but Walter Beech was determined to put an end to their winning streak. As time for the Cleveland races drew near, in Wichita the Travel Air factory was buzzing with activity as a small fleet of airplanes and a hand-picked group of pilots and mechanics prepared to depart for Ohio.

It was an exciting time as mechanics made last-minute inspections of each aircraft, filled fuel and oil tanks while pilots reviewed the planned route of flight northeastward. The aerial flotilla included the Type “R” monoplane registered R614K and her sister ship R613K. The former was powered by a specially built Wright J6-9 static, air-cooled radial engine rated at 420 horsepower, while the latter mounted a prototype six-cylinder, inline, inverted *Chevolaire* engine rated at 150 horsepower.

In addition to the two racing ships that had been constructed expressly for competing in the NAR, a Type 6000B cabin monoplane and one of the first four-place Type 10 monoplanes would transport company president Walter H. Beech, engineer Herb Rawdon, mechanic Theodore “Ted” Cochran and other officials to Cleveland.

After arrival both of the cabin ships would be placed on static display during the Aircraft Exposition.

Anxious to be on his way, Travel Air chief pilot Clarence Clark nestled into the cockpit of R613K and prepared to start the *Chevolaire* powerplant. He had hoped to fly R614K, but that privilege had been reserved for Douglas Davis, a Travel Air dealer in Atlanta, Georgia, and a close friend of Mr. Beech. Davis was selected primarily for his experience in pylon racing and to provide the Georgian with publicity for the dealership. Davis had arrived at the factory only a few days before the scheduled departure. After a thorough briefing by Clark, Doug flew R614K for about 1.5 hours to become familiar with the speedy red racer. Although it was significantly faster than any airplane Davis had flown up to that time and demanded more skill than the biplanes he was accustomed to flying, his expressed endless enthusiasm for the monoplane that seemed to infect everyone, even Walter Beech.

The four airplanes arrived at Cleveland without incident. Walter Beech had prearranged hangar space on one side of the airfield, and upon arrival the two racers were quickly rolled inside and kept out of sight until the races began Aug. 24. The only people granted access to the hangar were Walter, Doug Davis, Ted Cochran and



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Herbert Rawdon was chief designer of the Travel Air Type “R” monoplane in concert with fellow engineer Walter Burnham. (Textron Aviation)

Soon after completion in mid-August 1929, the Wright-powered airplane, registered R614K, began a series of flight tests to determine its performance. With the NACA cowling installed, the ship attained a maximum speed of 227 mph in level flight. (Clarence Clark)

grandstands to watch more than 40 racing events unfold throughout the week. In addition to people, one aviation journalist estimated that more than 400 aircraft of all types were on the airfield each day. Pilots from the Air Corps and Navy, which Walter suspected would be the only serious competition against Davis and the Wright-powered Travel Air, were busy attending to their mounts, both modified versions of existing biplane fighters then in service.

The Army’s contender was a Curtiss XP-3A *Hawk* featuring a Pratt & Whitney R-1340 radial engine that developed 450 horsepower, and special fuselage fairings to reduce drag. With an empty weight of 1,955 pounds, the XP-3A was about 500 pounds heavier than the 1,475-pound Travel Air Type “R.” It would be flown by Captain R.G. Breene. The Navy, however, brought a Curtiss F6C-6 *Hawk* to the NAR that was powered by a 12-cylinder Curtiss “Conqueror” rated at 435 horsepower. The landing gear and airframe received minor streamlining that was less exquisite than that of the XP-3A. The F6C-6 was placed under the command of Lieutenant Commander J.J. Clark.


As for Walter Beech, he was keeping his two racers out of the public eye. One day, however, he did allow Davis to take the ship aloft to perform a short but impressive aerobatic routine that raised eyebrows of both the crowds

and the military aviators. One observer noted that, “*The machine had such an enormous reserve of power that it seemed to travel in any attitude and direction, including upside down flight and flights vertically upward, quite normally and under full control.*” Except for that brief exhibition, Mr. Beech was preserving his long-wing warrior for the one race it had been designed and built to win – Event No. 26 scheduled for Labor Day weekend, September 2. As the week went by speculation regarding whether the Travel Air could beat the best the Air Corps and Navy could offer reached a fever pitch.

Before sunrise September 2, Travel Air’s team was already busy preparing for the Free-for-All race. Although earlier that week the Chevrolair-powered Type “R” had already won a race with Doug Davis at the controls, the Wright-powered monoplane had been groomed for the big event since Rawdon and his associate, engineer Walter Burnham, began designing the speedster in 1928.

To assist with the pre-race checks, Walter Beech had made arrangements for a mechanic from the Wright Aeronautical Corporation to thoroughly inspect the J6-9 engine. He perused every aspect of the powerplant, checked the two magnetos, installed 18 new BG spark plugs, and readjusted the propeller blade angle to allow the engine to turn a maximum of 2,700 RPM. Finally, the fuel and oil tanks were filled to proper levels for the race.

Doug Davis was rested and eager to fly the scarlet Type “R,” but he knew that Event No. 26 would push both man and machine to their limits in an effort to claim victory and pocket \$750. Sporting race No. 31 on both sides of the fuselage and the underside of the right wing, the racer was cleaned and polished to a brilliant shine. As time for the race drew closer, Walter Beech arrived at the hangar to meet Davis. After a brief chat between the two men, the Type “R” was rolled out of the hangar. Davis, who always flew wearing a white shirt and tie, climbed into the cockpit and prepared to bring the nine-cylinder “*Whirlwind*” to life. The start of the race was only minutes away.

Stay tuned to Part Two in the next issue. 

Ed Phillips, now retired and living in the South, has researched and written eight books on the unique and rich aviation history that belongs to Wichita, Kan. His writings have focused on the evolution of the airplanes, companies and people that have made Wichita the “Air Capital of the World” for more than 80 years.

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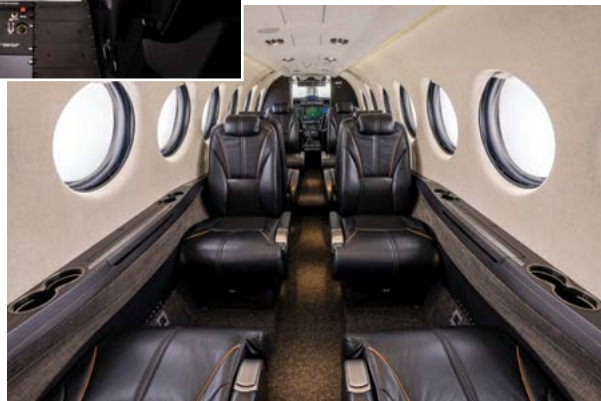
## VALUE ADDED

### King Air 360/360ER Receives Certification

Textron Aviation announced in early October that it had achieved Type Certification by the Federal Aviation Administration (FAA) for its newest flagship twin turboprop Beechcraft King Air 360/360ER aircraft, with customer deliveries to commence in the coming weeks.



The company says the newly upgraded aircraft offers technological advancements in the cockpit, a redesigned cabin and enhancements to passenger comfort. The enhancements to the King Air 360 cockpit will reduce pilot workload. The Innovative Solutions & Support (IS&S) ThrustSense Autothrottle will automatically manage engine power from the takeoff roll through the climb, cruise, descent, and go-around



phases of flight. There is also a new automatic digital pressurization controller integrated in the Collins Aerospace Pro Line Fusion flight deck.

The new redesigned King Air 360 cabin features custom-built cabinetry, partitions and side ledges, upgraded materials and finishes, along with all new interior schemes. Also standard for the entire King Air line include – pull-out work tables, standard power outlets, USB charging stations and a private aft lavatory. An improved cabin altitude level provides greater comfort for passengers, especially during long flights.

### Raisbeck Adds Two Military Distributors to Support International King Air Market

Raisbeck Engineering announced the addition of two military distributors, Dynatech International and

DIMO Corporation (DIMO), in an effort to address the international military King Air market. The move represents a company first and marks a significant step toward strengthening Raisbeck's position in providing performance enhancement systems for military aircraft worldwide.

The company says DIMO and Dynatech bring a wealth of expertise and experience bringing products and innovative solutions to operators of military aircraft around the world. Partnering with these two companies increases Raisbeck's ability to provide performance enhancement solutions to international aerospace and defense customers seeking to improve their operational efficiencies.

Dynatech's worldwide distribution presence and supply chain management expertise has served U.S. military customers, foreign militaries, and MROs with new OEM parts, products, and logistic services. Well known for its successful track record of supporting international military markets, Dynatech has established long-term relationships with military operators and MROs in the Middle East, Europe, Asia and South America. Through the new Agreement, Dynatech can offer Raisbeck aircraft enhancement systems to their customers as an Authorized Raisbeck Distributor, expanding Raisbeck's global footprint beyond the markets it serves today.

The Distribution Agreement with DIMO will help expand Raisbeck's visibility and strategic growth in the Aerospace and Defense industry. The company has established itself as a leading value-added distributor of operationally critical parts and higher-level assemblies for power, electromechanical, life support, and mission-specific aircraft systems. A trusted advisor to leading MROs and OEMs of flight-critical parts and government customers, DIMO provides mission-critical parts availability solutions for military aircraft in the United States, Middle East, Europe, Latin America and Asia.

### Pilot Proficient Releases Pro Line Fusion Pilot Familiarization Course

Pilot Proficient, LLC, an online aviation training site, recently released a Pro Line Fusion Pilot Familiarization Course – a video-based training program designed to help familiarize transitioning pilots with the Fusion system, either prior to flying in a Fusion-equipped airplane or attending a formal training event.

The training focuses on demonstrating the actual techniques and functions used in the airplane and takes a practical approach to getting familiarized with the system, in order to help the pilot quickly become an asset in the cockpit.

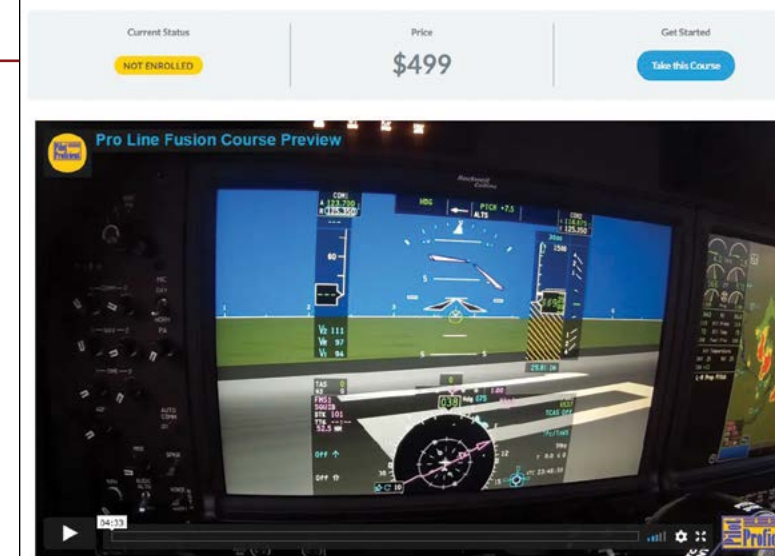
The company says the training is not a replacement for any official training material or model-specific training that a flight crew might receive at FlightSafety or TRU, for example, but is an excellent supplement to that training.

The Familiarization Course features the following segments:

- Introduction and Course/System Overview and Capabilities
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- Departure/Climb Phase
- Cruise Options and Holds
- Descent Planning and Crossing Restrictions
- Visual and Instrument Approaches
- Missed Approach/Go-Arounds
- Abnormal and Emergency Indications
- System Tips, Tricks and Notes

Each segment features a video, with both multimedia presentation and in-cockpit video demonstrating the

#### Pro Line Fusion Familiarization Course



major functions of the Fusion system, and a quiz at the end of the segment. A score of 80% or better on each quiz is required to progress to the next course segment.

The course is offered at \$499, with a 30-day money back guarantee.

Pilot Proficient has been in business since 2015, and also offers domestic RVSM and multi-engine ground school courses, with more in development. For more information, go to [www.PilotProficient.com](http://www.PilotProficient.com).

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## Garmin Announces Virtual Learning Format through June 2021

Garmin® is pleased to announce its pilot training opportunities through June 2021 will be transitioning to an entirely virtual learning format. This new format will allow customers to receive valuable product knowledge without concerns over travel and social distancing. A variety of pilot training opportunities are available ranging from Garmin pilot's guides, PC trainers, eLearning courses, and monthly customer webinars that provide foundational knowledge about the equipment. Using scenario-based training, new instructor-led virtual courses build on that knowledge to best integrate the capabilities of Garmin avionics into the flight experience with the comfort and safety of this new completely virtual learning environment.

### Professional instructor-led virtual training

Experienced instructors focus on scenario-based training through scheduled and on-demand sessions intended for all levels of experience. Classes offered through this method are:

- GTN™ Only
- GTN and Flight Display
- G1000®/G1000 NXi®
- Aviation Weather Radar
- Custom Training Requests

To see the full calendar of Garmin training events and information on purchasing these classes, please visit [www.fly.garmin.com/training](http://www.fly.garmin.com/training).

### eLearning Courses on Garmin avionics features and capabilities

Pilots can receive in-depth instruction to better prepare for flights through eLearning courses that guide them through scenarios intended to build understanding and proficiency with Garmin avionics. Using a computer, tablet or smartphone, pilots can access the courseware immediately through the eLearning platform. Garmin eLearning courses come with a two-year subscription and can be purchased at [www.fly.garmin.com/training](http://www.fly.garmin.com/training).

The following eLearning opportunities are available:

- Garmin GTN Essentials 2.0
- Garmin TXi Essentials
- Garmin G1000 NXi
- Garmin Aviation Weather Radar 2.0

### Monthly one-hour webinars

These no-cost one-hour scenario-based webinars are held monthly for the purpose of exploring various avionics setups, flight planning, navigation and other features with our pilot trainers.

- Garmin G3X Touch Scenario-based Pilot Training
- Garmin GPS Navigator Scenario-based Training
- Garmin GTN & TXi Scenario-based Training

- Garmin GNS™ Scenario-based Pilot Training – Part I
- Garmin GNS Scenario-based Pilot Training – Part II
- Garmin Accident Mitigation Pilot Training
- Garmin GTN Mini-scenarios – Pilot Training

Webinar options are updated monthly, so please be sure to check back frequently for the latest offerings. To register for Aviation Webinars, please visit [Garmin.com/AviationWebinars](http://Garmin.com/AviationWebinars).

### Build a solid foundation with self-study opportunities

Detailed pilot's guides provide extensive information on features, functions, and capabilities related to Garmin avionics that the pilot must know in order to operate the aircraft. Free pilot's guides are available for download for all retrofit installations including the GTN series, GTN Xi series, G500/G600, G500/G600/G700 TXi, and G3X Touch. For integrated flight decks such as the G1000, G3000 and G5000, the pilot's guides are available from the aircraft manufacturer.

### PC and iPad® Trainers

In order to provide a convenient way to learn the basic operation of a system, Garmin offers a limited number of computer (PC) and iPad trainers that simulate the behavior of an avionics system interface. Current PC trainers can be found at [www.Garmin.com](http://www.Garmin.com), and the GTN, GTN Xi, and TXi series trainer apps are available for download from the Apple App Store.

For all of your aviation training needs, including making a reservation for one of these training events, please visit [www.fly.garmin.com/training](http://www.fly.garmin.com/training).

For additional information, please contact [aviation.training@garmin.com](mailto:aviation.training@garmin.com)

## NBAA Announces First Virtual Trade Show, "VBACE"

The National Business Aviation Association (NBAA) announced the first-ever, completely immersive online business aviation trade show, the Virtual Business Aviation Convention & Exhibition (VBACE), scheduled for Dec. 2-3.


The two-day event is free for members to attend and will incorporate many of the traditional elements of NBAA's successful live events, including virtual exhibit booths, keynote speakers, product demonstrations, education sessions and more.

With the event, exhibitors can fully engage with virtual show-goers from around the world, network with visitors at their booths and exchange valuable contact and other information in real time. Attendees will be able to connect strategically with exhibiting companies by product category and other quick-search criteria. Networking opportunities will be plentiful, through direct person-to-person connection among attendees, and dedicated subject-matter lounges. As part of their VBACE experience, attendees will also be able to fill

bottomless "virtual backpacks" with information from exhibitors and other materials.

Each day of the show will include inspirational keynote speakers from the aviation community and beyond. VBACE will also feature a host of forward-looking education sessions on the most pressing industry topics, from issues facing the new entrants coming into the marketplace as a product of this COVID-19 moment, to operational issues and more.

Access to the show will be available following the event's conclusion, so attendees will have ample time to continue to experience the booths and education sessions, and exhibitors will have the opportunity for additional exposure to new and returning customers.

VBACE will be part of the NBAA GO network of virtual conferences the association has produced for other events. Go to [NBAA.org](http://NBAA.org) for more information. 

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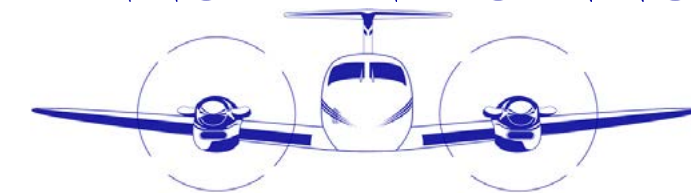


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The Fund an Angel Virtual Auction raised significant funds in support of Corporate Angel Network (CAN). Proceeds from the event will ensure CAN is able to continue helping cancer patients, like Scarlett, in critical need during the pandemic and long after. Thank you to all who generously contributed.



Scarlett, an immune compromised pediatric cancer patient, was in need of transportation to a specialized treatment center. CAN was able to transport the family just before Scarlett's 5th birthday.

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To learn more about Corporate Angel Network and future events, visit [corpangelnetwork.org](http://corpangelnetwork.org).

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