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**COVER PHOTO**

Photo courtesy of  
GlobalParts.aero

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# SUM OF ITS



GlobalParts.aero owns this 1996 Beechcraft King Air C90A, as well as a quarter of the 1998 Beechjet 400A (partially shown). Both are based at Stearman Field in Benton, Kansas.

# PARTS

## GlobalParts.aero uses array of bizav tools to expand

by MeLinda Schnyder

**S**ure, the sales team at GlobalParts.aero could drive to the parking lot at a fixed-base operator, walk through the front door and talk to the FBO's management team about buying parts. Or, the sales team could land at the airport, taxi up to the FBO, purchase fuel and start a conversation about spares.



“We’re coming in from the other side of the fence. We’re in the business, we operate aircraft as well and while we’re there we can ask, ‘Do you buy parts from us? If not, why not?’ There’s that opportunity at every stop we make,” said Dylan Lamb, chief pilot and account manager for aviation parts supplier GlobalParts.aero.

The majority of GlobalParts.aero’s daily work is done over the telephone and through email, but much of that work is a result of relationships the company has built with owner-operators, fleet operators, charter and fractional companies, and maintenance providers across the country. Based in Augusta, Kansas, which is just east of Wichita, GlobalParts.aero operates a mix of piston, turboprop and jet aircraft to build those relationships.

“The aviation industry is completely about relationships, and we notice a boost in our business relationship with a customer when we are able to get in front of that customer,” said Malissa Nesmith, vice president and chief operating officer of GlobalParts.aero. “People are looking for someone they can trust will take care of them. The face-to-face interaction helps solidify those types of business relationships, and that’s where the King Air comes into play as a critical business tool.”

Added Lamb, “Some customers want to buy purely based on the price you quote them, but 90 percent that we deal with also factor in the support that we deliver



Malissa Nesmith, shown here with the company’s 2014 Beechcraft Bonanza G36, is vice president and chief operating officer of GlobalParts.aero. She worked at Raytheon Aircraft from 1998-2001, spending most of her time working with the King Air engineering team.



Dylan Lamb is chief pilot and account manager for GlobalParts.aero. He was an instructor with FlightSafety International in Wichita for 11 years before joining the company in 2012.

along with the part. For them, the relationship is just as important as the product we’re providing.”

### From the basement up

Building relationships is how Troy Palmer grew the business from operating out of his basement to one that employs more than 100 people today.

In 2003, Palmer started selling excess parts from Raytheon Aircraft Company’s inventory. Raytheon Aircraft warehoused the parts and shipped, Palmer handled the sales. Nesmith joined him in 2004 and in 2007 they took the leap from being brokers to creating a stocking distribution company.

“People are looking for someone they can trust will take care of them. The face-to-face interaction helps solidify those types of business relationships, and that’s where the King Air comes into play as a critical business tool.”

— Malissa Nesmith, vice president and chief operating officer, GlobalParts.aero

“Raytheon had sold the company so it changed to Hawker Beechcraft, and they put the legacy inventories up for bid,” Nesmith said. “That’s when several Wichita-area investors, including myself, came in with Troy and we bought that division out of Hawker Beechcraft. They sold us nearly 64,000 individual part numbers.”

Many liquidators bid on the inventory, but GlobalParts.aero was planning to stock the inventory. That appealed to Hawker Beechcraft, which would still need some of the parts on its production lines.

“We were able to establish a relationship with Hawker Beechcraft where if there was a requirement for those

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GlobalParts.aero has grown from selling excess airplane parts out of the basement of the founder's home to stocking more than 90,000 parts and employing 110 people from offices and facilities in Kansas, Oklahoma, Florida and Georgia.

parts, they would still be able to access those and buy them back from us. That made supply chain happy and the finance department happy," Nesmith said. "So we built a 100,000-square-foot warehouse out in Augusta, and we brought all the inventory into our stock."

Not only did they need a building, they needed more than the 12 employees they had at the time along with a computer software system and more. Once they built

the infrastructure, though, it allowed them to begin distributing for other manufacturers: B/E Aerospace, GKN Aerospace and Shadin Avionics, among others. They stock more than 90,000 parts, and in late 2015 GlobalParts.aero announced a collaboration with Bombardier Business Aircraft to take over the primary responsibility for all planning, stocking and distribution of parts for the Learjet 20, Learjet 30 and Learjet 50 series aircraft. Nesmith said the company's 2007 experience with taking over the Hawker Beechcraft inventory gave them the ability to handle a project of this size.

GlobalParts.aero now has 110 employees and five buildings in Augusta, which is Palmer's hometown, along with offices in Oklahoma, Florida and Georgia. Over the past few years the company has added capabilities to support the parts distribution business, including a component repair shop and a structural overhaul and repair facility, which allow GlobalParts.aero to control prices and turn-times instead of using a third-party. In 2014, the company added build-to-print part manufacturing to support the production lines at major OEMs like Boeing and Gulfstream.



Last year, GlobalParts.aero purchased a 1996 Beechcraft King Air C90A. Since then, they have flown it on 130 missions to 30 different cities, racking up about 200 hours.

### From provider to operator

GlobalParts.aero's first business aircraft purchase was in 2014 when Palmer took delivery of a new Beechcraft Bonanza G36 at the factory, which is just a few miles down the highway from the business he founded.

Lamb, who grew up in Augusta with Palmer, had already joined the GlobalParts.aero sales team with the anticipation that he would also become the company's chief pilot when they added an airplane. He said he flew the Bonanza about 100 hours the first year they had it, including frequent trips to Kansas City and Oklahoma City, where the structural repair station is located near Wiley Post Airport.

"The Bonanza was our first aircraft and everyone told us, 'Just wait, you're going to be looking for a King Air' ▶

  
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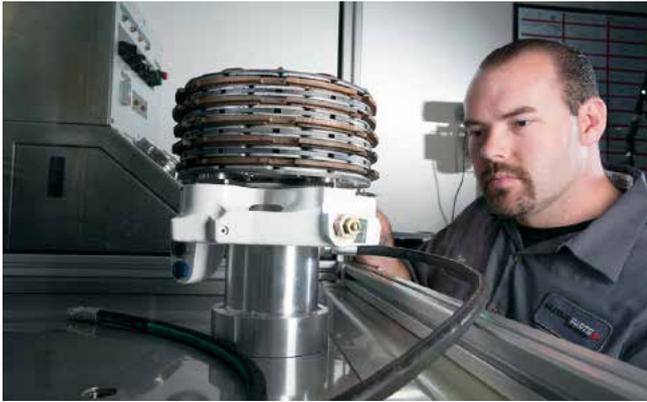
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GlobalParts.aero operates a component repair and overhaul shop to support its parts distribution business. Bringing this work in-house allowed the company to control prices and turn-times.

pretty quick,” said Nesmith, who worked at Raytheon Aircraft from 1998-2001.

They were right. GlobalParts.aero still operates the Bonanza, but last year the company purchased a 1996 Beechcraft King Air C90A from one of their customers.

“The King Air came from Executive AirShare, out of their fractional ownership program,” Nesmith said. “Because we know Executive AirShare, we were confident in the maintenance and how it had been operated. It

came pretty nicely pimped out, too. It had a new interior and new avionics. It was like a brand new aircraft.”

Since acquiring the King Air C90A in February 2015, GlobalParts.aero has flown it on 130 missions to 30 different cities, racking up about 200 hours. Being in the middle of the country makes most of their trips short hauls and allows for same-day travel that commercial flights out of Wichita don’t afford. Management and sales team members use the aircraft to attend trade shows across the United States, visit satellite offices or meet at customers’ locations.

“The King Air really gives us the flexibility we need,” said Lamb, who is typed in the King Air 350, has more than 3,000 flight hours and was an instructor for FlightSafety International for 11 years before joining GlobalParts.aero in 2012. “We’ve flown with every seat filled and we can go into any airport we need to. The King Air is just so dependable and stable and safe. I’ve made several trips that I wouldn’t have made if I wasn’t so confident in the airplane.”

Also in 2015, GlobalParts.aero purchased a quarter of a 1998 Beechjet 400A based at Stearman Field in Benton, about 15 miles from its headquarters. They have flown the Beechjet about 20 hours, mostly on coastal missions or when weather needs to be flown over.



The company bought several assets and formed Global Parts Aero Structures in Oklahoma. This division’s capabilities include repair and overhaul of airframe structures, paint coat matching and manufacturing and engineering.



In 2014, GlobalParts.aero added build-to-print part manufacturing to support the production lines at major OEMs like Boeing, Gulfstream and Spirit AeroSystems.

The company is also a Wheels Up member and has used its membership to transport a group of 10 employees on a King Air 350i.

“Wheels Up is a great supplement to the air transportation we own,” Nesmith said, “and just as important, Wheels Up gives us access to a great network of aviation-related companies to meet and build relationships within the aviation community.”

While parts for the King Air line continue to be GlobalParts.aero’s most distributed products, the company

has expanded well beyond its initial offering with a continuous focus on relationship building.

“With the growth of the company will come growth of the flight department,” Lamb said. “I see maybe a King Air 200 or 350 in the future – the King Air is really the perfect aircraft for the flights we make.” **KA**



Before leaving the GlobalParts Aero Manufacturing shop, each part is verified to the micron and checked multiple times using a 5-axis measurement technology.



Tom Clements has 43 years' experience flying and instructing in **King Air** aircraft and authored *The King Air Book*

# KING AIR

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# Time to COVER UP

## UV Radiation and the Risks Pilots Face

by Dr. Jerrold Seckler

**U**ltraviolet radiation is an electromagnetic wave that occupies a portion of the spectrum between X-rays and visible violet light. This corresponds to wavelengths of between approximately 400 nanometers on the visible light side to about 10 nanometers on the X-ray side. This spectrum is subdivided into several sub regions.

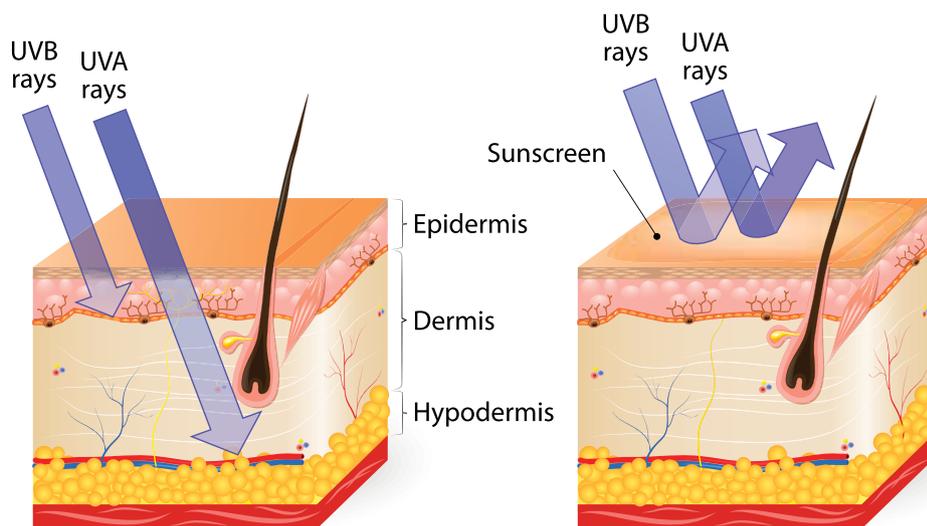
Physicists and biologists look at ultraviolet (UV) radiation differently, and while physicists concern themselves with the entire UV spectrum, biologists and physicians are primarily concerned with ultraviolet light which has a wavelength of over 100 nanometers. Ultraviolet A (UVA) consists of light with a wavelength of 315-400 nanometers; Ultraviolet B (UVB) with a wavelength of 280-315 nanometers; and Ultraviolet C (UVC) which has a wavelength of between 100 and 280 nanometers.

In terms of biological effects, the danger of UV is inversely proportional to the wavelength – the longer wavelength (UVA) is less dangerous than the shorter wavelength of UVC, which is potentially highly toxic to living organisms.

The sun produces UV rays over the entire spectrum and is the source of

ultraviolet radiation. The earth's atmosphere, primarily the ozone layer, absorbs all of the UVC so it is of no biological concern to those of us who remain in the earth's atmosphere. Most UVB is also absorbed prior to reaching earth, but with the thinning of the ozone layer, more is getting through. Furthermore, the higher you go, the more UVB you will be exposed to. UVA easily reaches the earth's surface and accounts for about 99 percent of the UV at the surface.

Both UVA and UVB are unable to penetrate deeply into the body, unlike X-rays, but they do penetrate the surface of the skin and can affect the cells of the



**Skin without protection**

**Filter reflect UV radiation**

The effects of UV rays penetrating the skin and how sunscreen blocks the radiation.

superficial layers of skin. Because UV rays are a form of energy, they have the ability to cause burns of the skin, and they can initiate changes in the cells of the skin that may result in the formation of skin cancers. There is also evidence that UV radiation can play a role in the development of cataracts.

Because UV is absorbed by the atmosphere, as you go to higher elevations, you will be exposed to more ultraviolet radiation because there is less atmosphere between you and the sun to absorb it. Remember, the atmosphere is only half as thick at 18,000 feet as at sea level, so you would expect significantly more UV at altitude, and measurements confirm this. In fact, for every 1,000 feet of elevation, the total amount of UV increases by about five percent.

Due to the increased amount of UV radiation at altitude, pilots are exposed to more UV radiation than the average land-bound person and therefore would be expected to have a higher incidence of skin cancers than a random population – and that seems to be the case. Several epidemiological studies have shown that flight crews have nearly two-times the chance of developing melanoma, the most serious form of skin cancer, than a random population. The incidence of basal and squamous cell tumors in pilots is also about double of what would be expected. While there are problems with these studies, and they are not universally accepted, it still seems prudent for pilots to take active measures to minimize UV exposure while in flight.

Many pilots think they are protected by the windscreen, but that is not necessarily the case. A recent FAA study measured the ability of aircraft windcreens to block UV radiation. The good news is that UVB is almost completely absorbed by the laminate glass used for the windcreens of the tested aircraft. UVA, however, was poorly absorbed leading to potentially higher UVA exposure in flight crews. Interestingly, acrylic windcreens



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used in light GA aircraft (the Bonanza and C-182 were the specific ones tested) block almost 100 percent of UVA below a wavelength of 380 nanometers. Glass was only effective blocking UVA with a wavelength less than 340 nanometers; and remember, the shorter the wavelength, the potentially more hazardous the radiation can be. Crews of jet aircraft therefore are at greater risk because 1) their glass windows do a poorer job of blocking UVA than the acrylics used in light aircraft and 2) because they fly at higher altitudes where there is more UVA.

It is worthwhile for pilots to take protective measures. This includes the use of sunscreens, long sleeved clothing and sunglasses that block UV radiation. There is really no downside to using these protective measures and remember, an ounce of prevention is superior to a pound of care. **KA**

Dr. Jerrold Seckler recently retired after practicing medicine (urology) for over 40 years and as an active AME for 25 years. He has over 6,000 total hours, 2,200 of those in his 2001 Cirrus SR22. He is an ATP, CFII, former COPA Board Member and a ground instructor at CPPPs.

*The items discussed in this column are related to experiences by Dr. Seckler in his many years as an AME, and made hypothetical for the article. Any information given is general in nature and does not constitute medical advice.*

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# Recent Aviation News

by Kim Blonigen

## Senate Passes FAA Reauthorization Bill, While House Still Reviewing

On April 19, 2016, the U.S. Senate passed Bill H.R. 636 to reauthorize funding and programs for the Federal Aviation Administration (FAA). The bill, which passed with significant bipartisan support, includes measures highly supported by the aviation community for streamlining the certification process for aviation technologies, raising the bar on aviation safety, integrating unmanned aircraft systems into the National Airspace System, and accelerating implementation of the NextGen air traffic management system.

On February 3, 2016, the House introduced its Bill H.R. 4441, the Aviation Innovation, Reform, and Reauthorization Act. The bill's most controversial provision is to move the oversight of Air Traffic Control from the Federal Aviation Administration (FAA) to a private not-for-profit organization. A committee has issued a report to the full chamber recommending that the bill be considered further. Only about one in four bills are reported out of committee. There have been no roll call votes related to this bill as of the writing of this article.

In March, legislation was passed to extend the current FAA programs and funding through July 15, which should give the House plenty of time to pass a bill.

## ICAO Releases Guide on Fatigue Management

The International Civil Aviation Organization recently released a Fatigue Management Guide, which includes elements of principles and guidelines for duty and rest scheduling in business aviation that were produced in collaboration with NBAA's Safety Committee, as well as guidelines for business aviation duty and rest developed by the Flight Safety Foundation. A letter accompanying the guide states that the guide "aims to familiarize general aviation operators with contemporary concepts of fatigue management

and provide guidance for their implementation in day to day operations."

The guide can be downloaded by going to <http://www.icao.int/safety/fatiguemanagement>.

## Traffic Flow Changes at LAX for GA/Corporate Arrivals Begin May 9

Due to the closure of Taxiway B on the southwest portion of LAX, general aviation and corporate operations arriving from the north and west will be given the LEENA FIVE arrival in order to route to the south side of the airport.

The change to the LEENA FIVE arrival is due to the significant constraints of moving aircraft from the north complex to the south complex where the fixed-based operators are located.

The standard procedure for aircraft arriving from the north and west is to do the right downwind to

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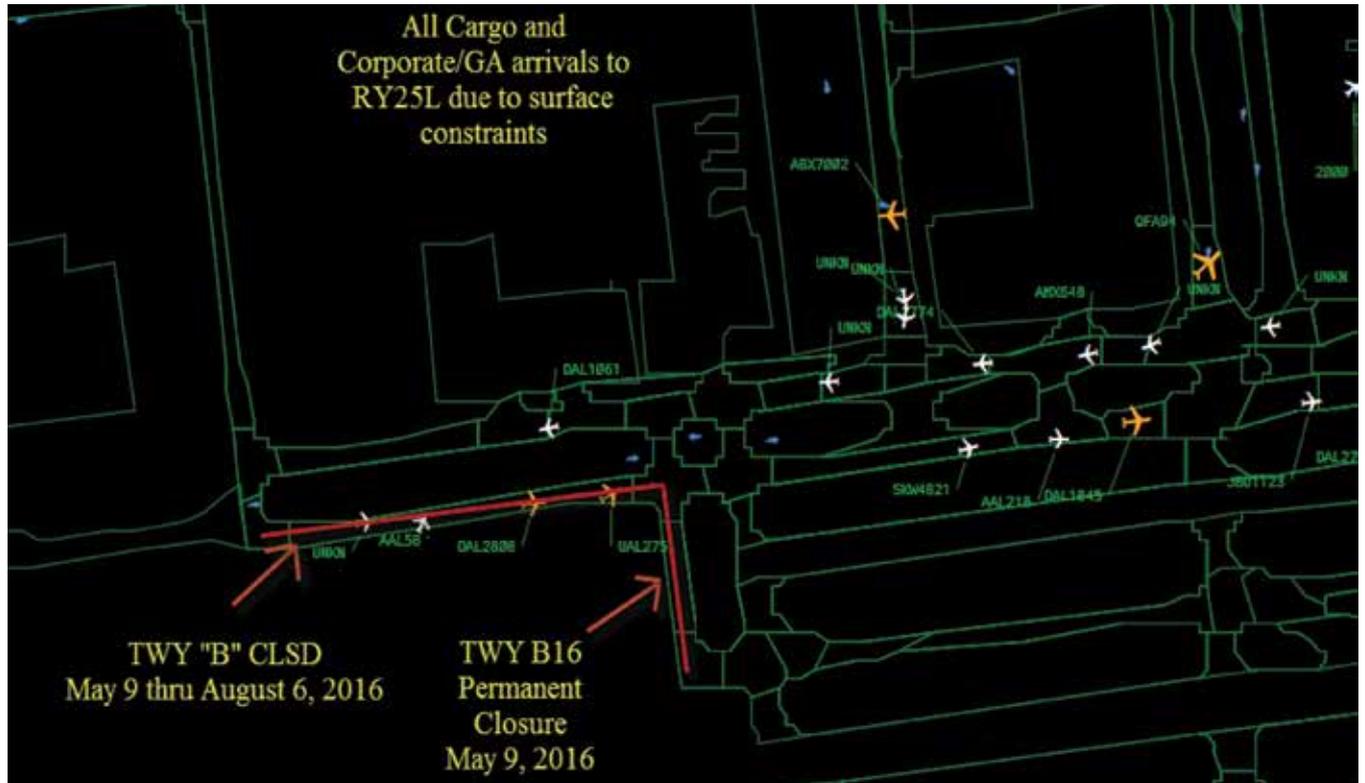
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Runway 24R. The LEENA FIVE arrival will transition aircraft to the south side of the airport for an arrival to Runway 25L.

For general/business aviation operators flying to LAX from an internal Los Angeles-area airport, Southern

California TRACON will tactically manage the route in order to get you to the south side of the airport. The operational plan is to also utilize the LEENA FIVE for general aviation operations next year when Runway 25R is scheduled to be closed between January and May 2017. **KA**



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# Cockpit Flow Patterns

by Tom Clements

I received a recent phone call from a fellow who was preparing to attend initial King Air B200 training at the King Air Academy. This man had no previous King Air experience, although he had flown in both the military and airline worlds. He was requesting a copy of the Normal Procedures checklist so that he could become familiar with it prior to class. Specifically, he wanted to learn the “cockpit flows.”

“Actually,” I told him, “we don’t teach flow patterns during initial training. Because you are so new to the airplane, the checklists, by necessity, are used as ‘DO’ lists. Once familiarity is achieved, we then encourage you to develop and use flow patterns and relegate the ‘DO’ list back to its proper CHECK-list status.”

My reply led me to wonder if I was remiss in not placing more emphasis on *flows*. Yes, the written checklist procedures certainly have a logical flow to them in most cases, but perhaps I should be pointing out that fact more forcefully and hence having the student use the appropriate cockpit flows from an earlier point in the training program.

This article is my attempt to point out the flow patterns that work for me and the patterns that are utilized in most King Air checklist procedures. If you have developed alternate patterns that work satisfactorily for you, great! There is no need to do it exactly the same way ... although, in a larger flight department with numerous pilots sharing cockpit duties, standardization is an excellent goal.

## Cockpit Preflight

For the “first flight of the day” cockpit check, I start at the pilot’s left subpanel and work myself left to right, moving down the power quadrant and pedestal when the flow reaches them, including checking the landing gear manual extension handle(s). After the flow reaches the right sidewall, it jumps back to the fuel panel on the left sidewall to conduct those somewhat elaborate steps. The battery gets switched on as a part of the fuel panel tests, so once those tests are completed, another left-to-right flow is conducted to include those items



for which electric power is required. Once all checks are completed, the battery gets switched off and as I exit the cockpit it’s a good time to check the cabin for neatness, cleanliness, and being stocked with the appropriate supplies. The emergency exit(s) merit a quick inspection, too.

## Before Starting Engines

Again the flow pattern is generally left-to-right. However, the battery switch – far left – is not turned on until the first sweep is finished. Then, with power on, voltage and fuel quantity can be checked, followed by the actual engine starting procedure.

## After Starting

Again (are we forming a pattern here?), the flow is left-to-right, beginning at the fuel panel for those models that require activation of electric transfer pumps (LJ-series). Depending on your model, generator output may be monitored either on the pilot’s left subpanel or in the overhead panel. If it is the latter, then my flow jumps up to that location after the left-to-right sweep and after a bottom-to-top scan of the engine gauges.

## Before Takeoff

Typically, the experienced King Air pilots will conduct much or all of this procedure while taxiing to the active runway. How embarrassing it is, however, to

miss a turn or to deviate off of the pavement if not enough attention is paid to the taxiing task at hand! It's always best to relegate the Before Takeoff procedure to a less-busy time if there is any doubt about successfully handling the divided attention it demands.

This procedure does not lend itself well to the left-to-right flow. Instead, I start on the pedestal and work forward and upward. My attention first goes to the pressurization controller to set it properly and to verify that the nearby switches (typically, pressurization control switch, rudder boost switch, if applicable, and often electric trim switch) are positioned properly. Next, my attention gets directed forward and upward for trim tab wheels and the flap handle, followed by the always critical control freedom check. How did our flow jump from the pedestal to the control wheel? Well, it did; the thought being that trim tabs and flaps are types of aircraft controls, so let's finish up with the "big three" flight controls: Ailerons, Elevators, and Rudder.

Now return to the cockpit center and set up the avionics as you wish, especially programming the GPS unit with proper inputs. As we now direct our attention away from the cockpit center area, a little "jumping" is usually necessary. On the far right, we need to verify that pneumatic pressure and suction are

okay, but then rechecking the fuel quantity on the far left is important enough that I always include it here, as well as in the Before Starting procedure. Obviously, that means a jump from one side to the other.

Carefully making sure that all engine instruments are ready for takeoff, all flight instruments are working properly, and with the proper altimeter setting having been input, may also require a bit of jumping.

Giving a takeoff briefing to the other pilot – or even to yourself, when flying alone – is always needed and desirable. Finally – and I cannot over-emphasize the importance of this – make sure the power lever friction locks are adjusted as you want them, not too loose! Too many King Airs have come to grief when the friction had been loosened by another pilot or mechanic but the current pilot did not tighten it back to the level he expected. As soon as the pilot moves his hand off of the power levers to retract the landing gear, both levers can and will migrate aft! This *power lever migration* also turns off autofeather! Definitely not good!

### Runway Lineup

This procedure lends itself very well to a right-to-left flow. Start on the copilot's left subpanel to turn on the bleed air (on a colder day, it would have been turned on after starting), then sweep to the left to

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turn on exterior lights and ice protection devices. You finish the right-to-left sweep with attention to the ice vanes and auto-ignition.

And what is this “attention”? Well, if departing into a low overcast with temperatures approaching 5°C, you would want the vanes extended and auto-ignition armed. Otherwise, you might as well retract the vanes and leave the auto-ignition alone. I know, I know: Most of you arm auto-ignition for all flights and if that makes you happy, have at it. But there are only two POHs – straight 200s and F90s – that direct you to do that ... and they’re out-of-date. All of the more recent POHs put auto-ignition into its correct “As Required” status.

## After Takeoff

The first four steps of this procedure comprise what I call “The Y Pattern.” Landing gear, up; landing and taxi lights, off; flaps, up; yaw damper, on. In the original King Airs with the landing gear control on the copilot’s left subpanel and the yaw damper control usually on the pedestal, reaching for these items in sequence did somewhat resemble the three tips and the middle point of the letter “Y.” Now, with most King Airs having the gear handle on the pilot’s side, and the yaw damper sometimes on the center subpanel and often up near the glareshield, the Y gets greatly distorted! However, it still serves as a good reminder of the first four steps.

Allow me to interject this: A missed approach or a balked landing can be thought of as the start of another flight ... as it is! So use the Y pattern soon after you’ve started the unexpected climb to get back in the proper procedural groove.

The remaining steps of the After Takeoff procedure do not particularly lend themselves to a single flow. Use what works for you, but don’t close the page on this particular chapter of the flight until the written list has been reviewed – used as it should be, as a CHECK-list – to make sure nothing was overlooked. Although I do not believe it is in the manufacturer’s checklist, please include a peek outside in your After Takeoff flow pattern. It is important to notice the leaking oil streaks from the cowling or the loose fuel cap or unsecured cowling latch early, so that a return can be made to get the problem corrected.

## Cruise, Descent, Before Landing

Again I suggest using whatever flow works well for you and then following up with the written list to CHECK that nothing was overlooked. A little memory aid that I use, after putting the landing gear handle down, is to verify its position with the indicator lights by seeing and stating, “Three Green; no Red.” But the “Three Green” remind me that I now need “Three White” too – the landing and taxi lights. Now there are two more green lights I am

looking for – the ice vane extended annunciators. Yes, the lights don’t exist with the old manual-only ice vane handles, but it’s still a useful reminder: “Three green, three white, two green.”

Of course we have all been taught and have probably used some variation of GUMP as a landing checklist: Gas, Undercarriage, Mixtures, Props. It even works in King Airs. Gas? Usually not much to do there. Undercarriage? Three green; no red! Mixtures? Well, some of us like to make sure the condition levers are set where we want them, especially for a short field landing where using high idle is the norm. Same with props. A NORMAL King Air landing is most commonly done with the prop levers remaining in the cruise setting until the propeller speed decreases ... comes off of the governor. Depending on the model, this may happen early in the flare (300-series) or not until after touchdown (four-blade 90s and 100s). On the other hand, the instant the landing becomes ABNORMAL, I vote for moving the prop levers fully forward much earlier, maybe about the time the gear goes down. What’s abnormal? The two very obvious answers are a no-flap or single-engine landing. Less obvious ones are (1) a precision approach with weather right near minimums; (2) an approach and landing through very gusty, high winds; and (3) a truly short-field situation, where immediate and maximum use of reverse is desired.



Maybe we should change the standard GUMP to a new version: GUMPPY. The extra P and Y? The P is for a check of the pressurization system’s differential pressure ( $\Delta P$ ) gauge to verify that it is very low or at zero on short final. The Y is a reminder to turn off the yaw damper. That is a fantastic aid for passenger ride comfort in flight, but it makes steering control horrible when taxiing. Most of us will admit to forgetting it a time or two and the resultant taxiing problems led us to place the needed emphasis on it in the future!

## After Landing

My flow here is the exact opposite of the right-to-left Runway Lineup procedure. Going now in a left-to-right pattern, we are “undoing” what we did when taking the runway for departure. Turn off the auto-ignition if it is on, kill the ice protection and unnecessary lighting, reset the pitch trim and retract the flaps as we flow across the pedestal, then turn off the bleed air switches and perhaps the cabin temp mode selector as the flow completes to the right.

“What’s that?” you say. “Why do we want to kill the air conditioning now? Shouldn’t we wait until shutdown for better passenger comfort?”

No, not really. Notice I said “perhaps” kill the mode selector at this time. If we have a particularly lengthy taxi ahead of us to the FBO ramp, leave the mode selector in “auto,” so the AC can keep running. But when you estimate you are about a minute away from engine shutdown, then (1) make sure the vent blower switch is in low or high (not auto), and (2) move the mode selector to “off.” With the AC no longer working, the electrical load and RH engine accessory load (200- and 300-series, that have the RH engine-driven compressor) are reduced and ITT drops significantly, maybe 20 degrees or more. Yet, with the vent blower continuing to flow air through the still cool ducts, no passenger can even notice that the AC has ceased. Having your engines at their coolest possible ITT for the last minute before shutdown is a very good thing that Pratt & Whitney directs us to do!

## Shutdown

Ah, at last ... almost done! While still taxiing, I try to kill the things that are no longer needed and that won’t be “hurt” by turning them off while the airplane is still in motion. This includes the transfer fuel pumps on the C90-type series, the oxygen control and the coffee bar heater. Having already reduced the load associated with the air conditioning a minute prior to shutdown and by not jockeying the power levers while maneuvering on the ramp, we’ll be ready to kill the engines as soon as we stop. But first, while stopped, a left-to-right flow kills the avionics master and the inverter, remaining light switches, and the vent blower switch now moves to the “auto” or “off” position.

Here’s a little frustration that arises when we flow left-to-right or right-to-left in the After Starting or

Shutdown procedures. The whole reason for the avionics master switch is to be able to conveniently keep the radios offline while DC and AC power is being created or destroyed. So, when turning the Avionics ON, it important to make sure that the generators (DC power) and inverter (AC power) are *already* operating. Vice versa, at shutdown, make sure the avionics master goes off *before* killing the inverter or the generators. Depending on your exact King Air model, that means your left-to-right or right-to-left flow may need to be interrupted when it comes to the inverter and avionics master switches.

So what’s the “bottom line” that concludes this lengthy article? I think it is this: Realize that when you are a newcomer to the King Air, that the written procedures, by necessity, become DO lists, in which you read and do the steps as presented. But, with experience and confidence, I hope you will utilize flow patterns, commonsense, and previous flying experience to structure flow patterns and procedures that work best for you. However, recognizing that we are human and that humans are prone to making mistakes, never close the page on a particular chapter of your flight without referencing the written list to verify that nothing has been overlooked. **KA**

King Air expert Tom Clements has been flying and instructing in King Airs for over 43 years, and is the author of “The King Air Book.” 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 book, go to [www.flightreview.net](http://www.flightreview.net). 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 [kblonigen@cox.net](mailto:kblonigen@cox.net).*

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# The Air Capital of the World: The Depression

The stock market crash in October 1929 thrust a knife into the heart of America's economy and put Wichita's thriving aviation industry into an unrecoverable tailspin.

by Edward H. Phillips

The ramifications of Wall Street's disaster were both cruel and inevitable. Across the United States, banks began to fail as people rushed to take out their money and borrowers increasingly defaulted on their loans. The people gradually lost whatever ability they had to buy goods and services, and that led to businesses being forced to close their doors. Next, unemployment soared upward.

As the early months of 1930 passed by and the stock market continued its downward slide, the nation's aviation industry was rapidly entering a deep stall. Orders for new airplanes decreased dramatically. Wichita, once hailed as the "Air Capital of the World," witnessed its factories slowly succumb as stacks of cancelled orders threatened to starve them to death. By mid-1930, the flood of orders received a year earlier had slowed to a trickle. In addition, prices for new aircraft took a nose dive, falling almost as fast as the value of company stock. For example, Curtiss-Wright Flying Service, which had a contract with Clyde Cessna's company for fleets of monoplanes, slashed prices for a new Model AW from \$7,200 to \$3,340, but found no buyers. The situation was the same over at Walter Beech's Travel Air factory and Lloyd Stearman's facilities north of town. For a majority of Wichitans, December 25, 1929, proved to be anything but merry.

It is, however, interesting to pause for moment at this point in the story to note that between 1920 and 1931, Wichita was home to more than 30 aviation businesses, including but not limited to:

1. E.M. Laird Airplane Company
2. Swallow Airplane Manufacturing Company
3. Travel Air Manufacturing Company
4. Cessna-Roos Aircraft Company
5. Laird Aircraft Corporation
6. Stearman Aircraft Company
7. Swallow Airplane Company
8. Continental Aircraft Corporation
9. Knoll Aircraft Company
10. Lark Aircraft Company
11. Lear Aircraft Company
12. Metal Aircraft Company
13. Swift Aircraft Company
14. Yellow Air Cab Company
15. Associated Aircraft Corporation
16. Okay Airplane Company
17. Sullivan Aircraft Manufacturing Company



An aerial photograph taken in the summer of 1929 shows the new Cessna factory with Franklin Road to the right. The large, white arrow painted on the roof of the small building pointed toward the north.

(BOB PICKETT COLLECTION/KANSAS AVIATION MUSEUM)



Eldon Cessna and his father Clyde Cessna were photographed in the EC-2 powered by an Aeronca, two-cylinder air-cooled engine that produced a meager 30 horsepower. The EC-2 was the last product of the original Cessna Aircraft Company. Only two were built before the Board of Directors forced Clyde Cessna out of his own company and locked the doors.

(BOB PICKETT COLLECTION/KANSAS AVIATION MUSEUM)

18. Supreme Propeller Company
19. Watkins Aircraft Company
20. Wichita Airplane Manufacturing Company
21. Yunker Aircraft Corporation
22. Buckley Aircraft Company
23. Curtiss-Wright Airplane Company
24. Jayhawk Aircraft Corporation
25. Mooney Aircraft Corporation
26. Poyer Aircraft Motor Company
27. Aircraft Supply Company
28. Schilberg Airplane Company
29. Straughn Aircraft Company<sup>1</sup>

At the end of 1929, there were at least 16 airframe and six engine manufacturers still operating in the city, and investors had poured more than \$10 million into the town's most famous industry (by 1932, only a few of these companies still existed). As it became increasingly clear that demand for new aircraft was evaporating, the Travel Air Company, Stearman Aircraft Company and Cessna Aircraft Company were forced to begin laying off loyal, hard-working employees, not by dozens but by hundreds. Lloyd Stearman was among the first to lay off workers and in January 1930, 97 people were cut from the payroll and further reductions were forthcoming. Walter Beech quickly realized he could not keep 650 skilled laborers busy building nonexistent airplanes, and massive cuts were implemented. As for Clyde Cessna and his once-promising enterprise, just when he was on the cusp of great success, Wall Street clipped his wings. The new factory was slowly ramping up production to meet demand and the future looked bright. By the end of 1929, the company had delivered about 37 Model AW monoplanes, four DC-6 and three DC-6A cabin ships

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to the Curtiss Flying Service, and Cessna was under contract for hundreds more of these aircraft.

Unfortunately for Clyde, in January Curtiss Flying Service cancelled its contract with the pioneer aviator, citing the poor economic situation as its chief reason. Cessna had suddenly lost a strong and effective nationwide sales and marketing operation. Despite selling more than \$700,000 worth of new Cessna airplanes and \$300,000 of stock, the company ended 1929 a whopping \$100,000 in the red. To make matters worse, stock prices tumbled from more than \$100 per share to only

In June 1933, Clyde and Eldon Cessna completed the diminutive CR-3 racer for famed pilot Johnny Livingston. Powered by a seven-cylinder Warner Super Scarab radial engine rated at 145 horsepower. Livingston (with leather helmet) stands at left next to "Tex" LaGrone. Livingston made a series of modifications to the little racer during its brief career.

(TRUMAN C. WEAVER VIA BOB PICKETT COLLECTION/KANSAS AVIATION MUSEUM)

\$12, then dropped to only \$10. Desperate for operating capital, Cessna sold the empty factory at First Street and Glenn Avenue for about \$50,000.

As the new year began, prices for factory-fresh aircraft continued to plummet as Cessna dealers and distributors sought to unload inventory and hoard whatever cash they could muster. Finally, Clyde Cessna found himself the target of his stockholders. They filed a petition in Wichita District Court to place the company into receivership, citing mismanagement. A judge dismissed the petition, but Cessna faced an uphill battle to retain leadership of his own company. As 1930 came to an end, less than 20 airplanes had been sold, and angry stockholders were calling for Cessna's resignation.

The company, however, was building new aircraft. Clyde's son, Eldon, and engineer Frank Dobbe had designed an inexpensive glider dubbed the CG-1 they hoped would sell in a severely depressed market. Priced at only \$398, the CG-1 quickly evolved into the CG-2 and was sold to small flying clubs that had sprung up across the Midwestern United States. Soon production reached one glider per day, but sales



remained soft and company records indicate that only 84 were built. In addition to the CG-2, in March 1930 the company also offered the CS-1 sailplane designed by factory engineers to have a glide ratio of one foot down for every 30 feet of forward flight. The CS-1 boasted a generous wingspan of 47 feet, and an empty weight of only 150 pounds. Only one was built.

During the first six months of 1930, a series of unusual Cessna airplanes designed by Eldon Cessna took to the skies over Kansas, including the CPG-1 (essentially a

Eldon Cessna is shown flying the CGH-2, an improved version of the CG-1 glider that first flew in 1930. Many companies built gliders in a desperate attempt to remain in business and ride out the business recession. The CG-2 sold for about \$395 and at least 80 were built before production was terminated.  
(BOB PICKETT COLLECTION/KANSAS AVIATION MUSEUM)

CG-2 glider modified with a 10-horsepower Cleone, two-cylinder engine), the EC-1 (25-horsepower Cleone) and later the EC-2 (30-horsepower Aeronca, two-cylinder

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The new home of the Stearman Aircraft Company south of the city was completed in October 1930 and cost more than \$330,000 to construct. Administration and engineering offices were located in the small buildings at the front. The facility totaled about 84,000 square feet of floor space. (ARCHIVES OF THE WICHITA AREA CHAMBER OF COMMERCE)

engine). Other one-off aircraft built that year include the FC-1, CG-1 and CG-2 racing ships.

In June 1930, Clyde and his associates took a hard look at how well the company was performing and they did not like what they saw. Only 10 DC-6s had been built and about 25 gliders had been delivered. By comparison, Travel Air's sales organization had managed to sell 119

airplanes, Stearman Aircraft sold 28 and the Swallow company delivered 32.

As 1931 began, angry stockholders in the Cessna Aircraft Company were demanding that the factory be closed. As the situation grew worse the Board of Directors finally took action. After much discussion, members decided that in view of the poor overall sales situation coupled with no hope of generating any profit that year, the factory would be closed. Despite Clyde's strong opposition, the motion carried. C.V. Cessna had made his "last stand" and lost the battle. Suffocated by an economy that stifled sales, attacked from all sides by grumbling stockholders and outgunned by his

The Stearman Model 80 Sportster represented the zenith of biplane development by chief engineer Mac Short and his design team. The two-place ship was custom-built for pilot John L. Vette, Jr. powered by a Pratt & Whitney R-985 supercharged radial engine that produced 420 horsepower. (KANSAS AVIATION MUSEUM)



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A Stearman-Northrop Alpha all-metal monoplane operated by Western Air express was photographed in front of the Wichita Air terminal hangar in 1931.

(WICHITA-SEDGWICK COUNTY HISTORICAL MUSEUM)

fellow board members, the president of Cessna Aircraft Company watched helplessly as the doors of his factory were padlocked. During its relatively brief period of operation from September 1927 until June 1931, the company had manufactured 240 airplanes, with 75 of that number sold to the Curtiss Flying Service.

Anyone visiting Wichita, early in 1931, could see that the once bustling “Air Capital of the World” had been brought to its knees. At least 14 airframe manufacturers in the city had ceased to exist. Stocks that were “sure-fire money-makers” had become nearly worthless scraps of paper. Worst of all, it seemed that America’s love affair with personal and business flying had crashed and burned. Despite that bleak reality, there were unique opportunities if one knew where to look, and Clyde

Cessna soon realized that there was money to be made in air racing.

In September 1931, Clyde and Eldon formed the C.V. Cessna Aircraft Company and leased a small facility on South Oliver Street. Assisted by engineer Garland Peed, the three men designed the first of two diminutive, single-seat, retractable-gear racing monoplanes powered by seven-cylinder Warner *Scarab* static, air-cooled radial engines. By any standard of the day, the CR-1 racer was small. The fuselage measured a mere 12 feet and the full cantilever wing spanned only 16 feet. First flown in January 1932, the CR-1 proved to be unstable longitudinally and was quickly modified into the CR-2 by increasing fuselage length to 14 feet and the wingspan to 18 feet. Flown by Roy Liggett, the CR-2 was capable



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of speeds of 220 mph and won a number of races until it crashed in September 1933, killing Liggett.<sup>2</sup>

The second racer, built in the spring of 1933, resembled the CR-2 but was modified to the requirements of famed air racing pilot Johnny Livingston. His brightly painted red and yellow Monocoupe was almost unbeatable, winning race after race during the summer and autumn of 1933. Clyde and Eldon completed Johnny's racer, dubbed the CR-3, in June. The little monoplane won every race it entered until August, when Livingston was forced to bail out of the ship when the manually-operated landing gear failed to extend (Livingston had decided that risking a belly landing was too dangerous).

By 1932, the Travel Air factory had fallen silent after the Curtiss-Wright organization, which absorbed the company in August 1929, had closed its doors. The few employees still on the payroll had been dismissed by September 1932, except for Roy Edwards, who remained behind to sell manufacturing equipment no longer needed by the company. All airplane manufacturing was relocated to Curtiss-Wright's facilities in St. Louis. Walter Beech took up his responsibilities as Curtiss-Wright's vice president of sales and split his duties between corporate offices in New York City and St. Louis. In its five years of existence, Travel Air had built more than 1,400 biplanes and monoplanes, and in 1929 had claimed that 25 percent of all registered airplanes in the United States bore the Travel Air name.

The nation's ongoing economic tragedy already had claimed two of Wichita's major airframe manufacturers, and as 1933 arrived only the Stearman Aircraft Company remained in operation, albeit by the slimmest of margins. In the past three years a number of key changes had occurred that would make a major impact on Wichita's aeronautical future. First among these was the merger in August 1929 of Lloyd's company with United Aircraft & Transport Corporation (UATC) – a gigantic aviation conglomerate headquartered in Hartford, Connecticut.

The second important change occurred in June 1930 when UATC officials decided to build a new, modern factory complex on South Oliver Street. Six separate buildings were planned, with the largest structure encompassing 84,000 square feet. Costing about \$330,000, the installation would be built by Austin & Company, a major construction company that specialized in designing and building manufacturing facilities. The third significant change was the resignation of Lloyd Stearman in July 1931. His announcement stunned Wichitans. He planned to return to California and after a well-earned rest, would investigate new business opportunities in aviation. In the July 7, edition of the Wichita *Eagle* newspaper, he was quoted as saying, "The growth of aviation may be slow in the next few years, but it will be consistent and steady. I believe there is

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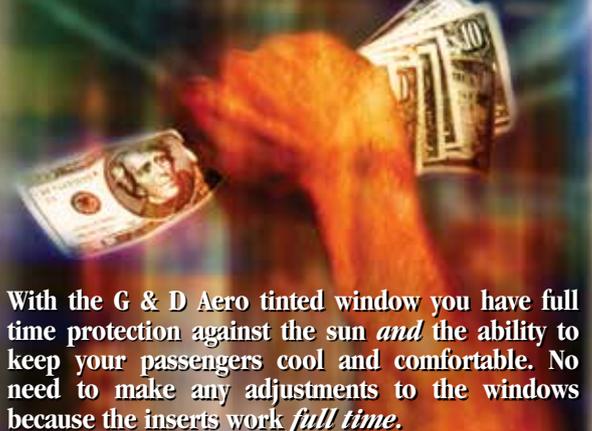
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The Curtiss-Wright Travel Air Model 12 *Sport Trainer* was a two-place ship designed in 1930 by Herbert Rawdon and Theodore “Ted” Wells (later of Beechcraft Model 17R fame). Although the lightweight Model 12 was built in the Travel Air factory, these airplanes were technically Curtiss Wright designs. Various engines were installed, including the Kinner B-5 radial engine, Curtiss-Wright four-cylinder, upright in-line Gipsy” and seven-cylinder Warner Scarab radial powerplants. (KANSAS AVIATION MUSEUM)

no question that it will shortly become one of the great industries of the nation. Because of Wichita’s natural advantages as to climate, and because it is easily reached from the eastern and western airplane markets, this city will always be an important factor in the growth of aviation.” Stearman’s words would prove prophetic.<sup>3</sup>

Although the “Peerless Princess of the Prairie” continued to reel under the weight of the Great Depression, there was a glimmer of hope on the horizon. It would

fall to a few brave and determined entrepreneurs, both men and women, to resurrect Wichita as the “Air Capital of the World.” 

NOTES:

1. Murphy, Daryl E: “*The Planes of Wichita – The People and the Aircraft of the Air Capital;*” iUniverse, Inc., New York, 2008.
2. The accident devastated Clyde Cessna and led to his decision to withdraw permanently from aviation. He returned to farming in Kansas. Cessna died in 1954. His son Eldon died in 1988.
3. Lloyd Stearman and his family bid a final farewell to Wichita in October 1931 and drove west to Piedmont, California. In 1932, Lloyd joined forces with Robert Gross and Walter Varney to acquire assets of the Lockheed Aircraft Company – a division of the defunct Detroit Aircraft Corporation. At age 34, Stearman was elected president of the reborn Lockheed company. He was largely responsible for the inception and preliminary design of its first new product, the Model 10 “*Electra*” twin-engine business/airline transport. During his half-century in aviation, Lloyd Carlton Stearman had witnessed the evolution of airplanes from the elementary “*Swallow*” to the sleek, supersonic “*Concorde*” passenger jet. He is remembered as one of the great statesmen of American aeronautics, whose place in the annals of aviation history is secure.

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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## Textron Aviation Introduces New Factory-Direct Coverage Programs

Textron Aviation Inc. announced it has added new factory-direct coverage programs – Pre-Buy Assurance, Extended Care and King Air Direct. Through these new programs, the company says its customers can increase efficiency, reduce costs and optimize the value of their aircraft.

The Pre-Buy Assurance plan provides peace of mind to customers when considering buying or selling Citation, King Air and Hawker aircraft. With an enhanced pre-buy inspection performed by Textron Aviation, operators selling their aircraft can obtain a six-month plan, giving buyers the added assurance of factory-backed protection.

Extended Care extends the coverage and protection to which customers under warranty have grown accustomed. Eligible Cessna Citation and Beechcraft King Air customers can enroll in the program and receive two years of factory-direct coverage from Textron Aviation company-owned service centers or by mobile service units.

King Air Direct is a factory-direct coverage plan for King Air operators looking to reduce their direct operating

costs. Through this new program, customers gain a comprehensive support program that can significantly reduce parts and labor expenses for both scheduled and unscheduled maintenance events.

Find additional information about Textron Aviation's service programs at <http://txtav.com/en/service>.

## Raisbeck Obtains DGAC Approval for New King Air 350 Propeller

The FAA STC for Raisbeck Engineering's Swept Blade Turbofan Propellers for the King Air 350 has been officially validated by Mexico's Dirección General de Aeronáutica Civil (DGAC). The request for the validation was submitted to the DGAC in mid-February of this year; official approval was received on April 1, 2016.

Raisbeck's Swept Blade Propellers for the King Air 200 Series and 90 Series have been





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certified by the European Aviation Safety Agency (EASA), as well as the DGAC. According to the company, the Swept Blade Propellers enable larger diameter propellers for increased thrust while significantly reducing in-flight cabin noise levels. Takeoff acceleration, single-engine climb, twin-engine climb to altitude and landing performance are all improved and noticeable to the pilot. In addition, there is no floating tendency during landing flare-out.

Raisbeck's Swept Blade Propellers are manufactured by Hartzell Propeller, and are available for purchase and installation on short notice. Constructed of aluminum, the four-blade props can be maintained and overhauled by virtually every prop shop around the world using well-known techniques and procedures.

For more information on the Swept Blade Propellers and all the products they offer for King Airs, go to [www.raisbeck.com](http://www.raisbeck.com).

### West Star Now Authorized Dealer of Advent eABS for King Air 300s

Grand Junction, Colorado-based West Star Aviation has been approved as an authorized dealer and installation facility for Advent Aircraft System's new digital anti-skid

braking system, called eABS. This system offers enhanced tire protection, tactical feedback, smoothness in adverse conditions and low-speed cut-out, and required no change in existing braking system components.

West Star is currently offering the STC for the Beechcraft King Air B300/300C, with certification for the King Air B200 and 250 slated for approval within six months. The STC applies to models equipped with Rockwell Collins Pro Line GPS 4000S or Garmin G1000/430W/530W avionics.

Advent's eABS does not require modification to the existing landing gear or master cylinders. Installation can normally be accomplished during scheduled maintenance inspections or refurbishment.

For more information, visit [www.weststaraviation.com](http://www.weststaraviation.com) or call (800) 922-2421.

### CenTex Aerospace Announces FAA Approval of Halo 250 for King Air 250s with Pro Line Fusion

CenTex Aerospace, Inc. announced it has received FAA approval of the Halo 250 increased gross weight conversion for King Air 250s equipped with the Rockwell Collins Pro Line Fusion flight deck. The

Pro Line Fusion avionics system is now standard equipment on new production King Air 250s, and is available as an upgrade to earlier model King Airs. CenTex has been working closely with Beechcraft engineering and production to ensure a seamless transition with this latest enhancement to the King Air product line. Halo 250 kits are already scheduled for installation on Fusion-equipped King Air 250s, including one in the cargo configuration.

Also included in the Halo 250 supplement is takeoff and landing data up to 14,000 feet to allow operations into high elevation airports. This greatly enhances the Halo 250 capabilities for operators who frequently fly out of mountainous regions.

The Halo 250 conversion, which Textron Aviation is offering as the Enhanced Payload Option on new King Air 250s, increases payload capacity by moving the airplane into commuter category and increases the MTOW to 13,420



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pounds. It also adds safety features which include improved stall warning in icing conditions, aural over-speed and elevator out-of-trim warnings, engine fire extinguisher capability, and emergency lighting in the cabin.

Numerous training options are available. Textron's Tru Simulation + Training is in the process of adding to their curriculum the BE-200 type rating with Halo 250/Enhanced Payload safety systems and performance data, and their King Air 250 simulator is configured with the Fusion flight deck. Flight Safety International now offers FAA approved training for the BE-200 type rating in their Pro Line 21-equipped simulators. The course includes Halo 250 safety systems and performance data. Fly Right, Inc., who has been providing training for the BE-200 type for many years, added the commuter takeoff profile to their simulator and now includes in their course the Halo 250 safety systems and performance data.

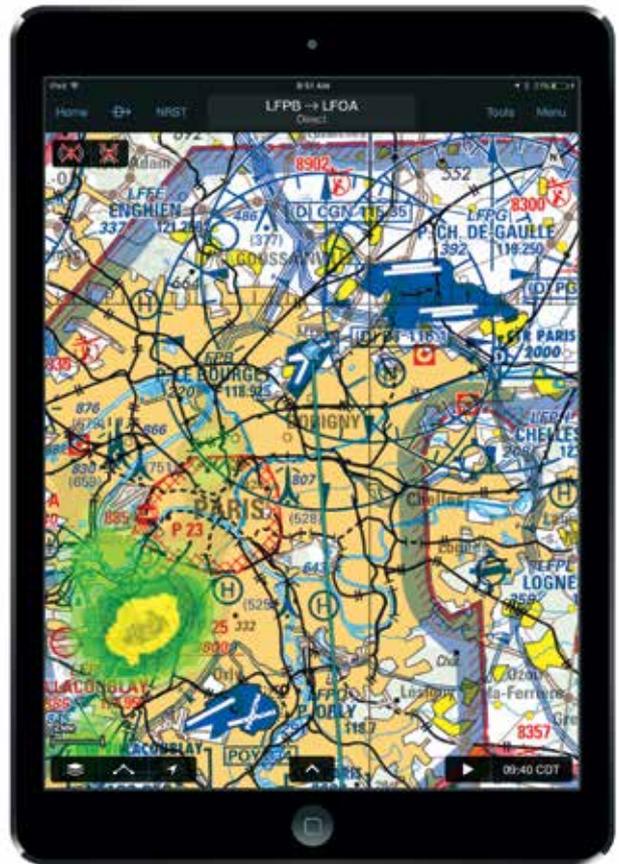
Please contact CenTex Aerospace at (254) 752-4290 or at [www.centex.aero](http://www.centex.aero) for more information.

**Garmin® Introduces Major Enhancements to Garmin Pilot™ for Global Operators**

Garmin International Inc. announced new enhancements made available within the Garmin Pilot app for iOS mobile devices. Pilots flying around the globe, including Europe, are now offered the option of filing VFR flight plans for free directly with the country Aeronautical Information Service (AIS) with a Garmin Pilot subscription. Additional features for iOS include a flight profile view, new VFR charts for the United Kingdom and France, customized personal minimums, preferred runway selection based on favorable winds, aera® 660 integration and new, cost-effective pricing subscriptions.

**Global VFR flight plan filing and expanded European chart coverage**

Garmin Pilot streamlines pre-flight planning and now flight plan filing, allowing pilots to file a VFR flight plan within the application outside of the United States direct with the country Aeronautical Information Service (AIS). According to the company, interactive maps integrated within Garmin Pilot offer comprehensive coverage around the globe, so flight planning is simple. Unique to Garmin Pilot, a radial



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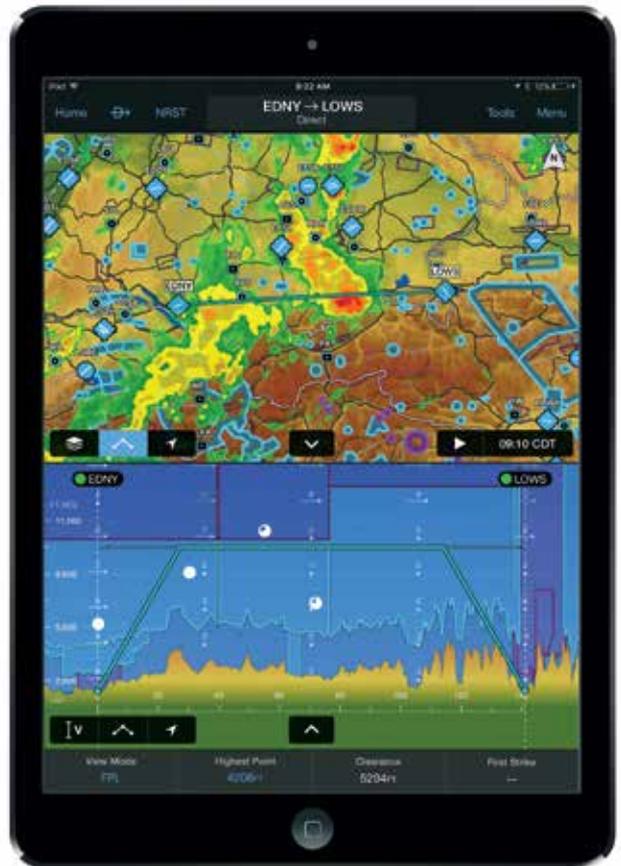


menu provides easy on-screen access to create user waypoints, navigate direct-to, graphically edit flight plans, view weather conditions and airport information at a glance. METARs, TAFs, AIRMETs, SIGMETs, NOTAMs and winds aloft throughout Europe may be displayed graphically as an overlay on the moving map, within the airport information page and as a widget in split-screen mode on an iPad, aiding in the pre-flight planning and VFR flight plan filing processes.

VFR chart coverage within France adds to the list of recent enhancements made within Garmin Pilot. France VFR charts join the recent addition of United Kingdom VFR charts, so pilots can easily reference important information for navigating within these countries under Visual Flight Rules. Garmin Pilot encompasses a library of over 50 VFR and IFR charts throughout Europe, which are geo-referenced so it's easy to determine aircraft location relative to navigation fixes. Additionally, traffic and weather information overlay on these charts to provide optimal situational awareness.

**Flight profile view**

The flight profile view has been expanded to include both iPad and iPhone mobile devices, displaying a



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vertical cross-section of airspace, terrain, obstacles and weather to give pilots a more detailed look at their intended route of flight based on a selected altitude. New display options include the capability to overlay Temporary Flight Restrictions (TFRs) within the United States, aviation routine weather reports (METARs) and bodies of water within the profile view for at a glance interpretation while connected to the internet. When paired with the GTX 345 ADS-B transponder, Flight Stream 210 or the GDL® 39 3D, ADS-B In traffic can be viewed within profile view while in-flight. Back-up attitude information received by these products can also be viewed within the synthetic vision (SVX) page and the split-screen panel page of Garmin Pilot.

**Customized personal minimums**

Pilots can establish personal minimums or flight operations minimums as part of their pilot profile within the Garmin Pilot app, serving as an extra margin of safety during the planning phase of flight. Cloud ceiling and visibility minimums, as well as maximum crosswind components can be tailored to each pilot profile and differentiated between day or night. While flight planning, if weather minimums may be exceeded, pilots will be notified within the trip planning form, on the trip planning icon and within the upcoming trip

sections. Once minimums have been selected, they are stored in the cloud and synced across all mobile devices.

**Preferred runway selection**

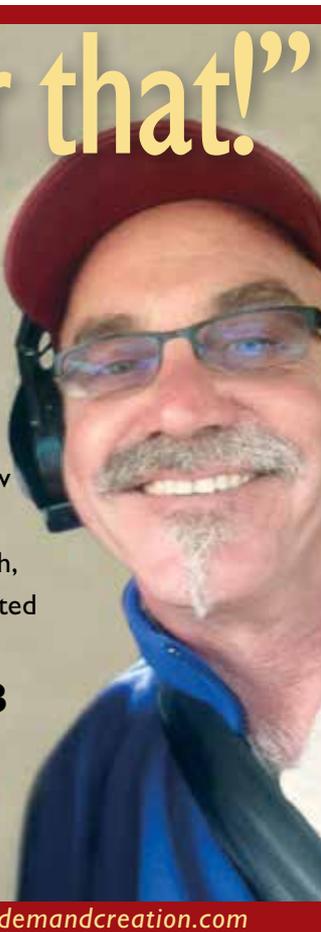
Selecting the most favorable runway based on the current headwind or crosswind components at a departure or destination airport is easier with Garmin Pilot. Wind direction is color-coded red and green to identify the most favorable wind and can be viewed on the airport page, within the radial menu and split screen widget to assist pilots in selecting the best runway at a given airport.

**aera 660 integration**

Wireless flight plan transfer is enabled between Garmin Pilot and the new aera 660 aviation portable. When both products are connected via Bluetooth, pilots can input flight plan information on one product and wirelessly transfer it to the other to ensure flight plans match, minimizing pilot workload.

**New, cost-effective subscription options**

Garmin has announced new, lower pricing of the Garmin Pilot global subscription, which provides worldwide navigation and weather for \$149.99 annually. Additionally, value-added VFR and IFR charts are attractively priced to enhance the functionality of the application.



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Garmin Pilot 8.2 for iOS is available immediately as a free update, providing existing customers access to these latest features. For new customers, Garmin Pilot is available in the Apple App Store as a free download for the first 30 days. After the 30-day trial period, customers may purchase an annual subscription of Garmin Pilot for the United States starting at \$74.99. Annual subscriptions for worldwide navigation and weather coverage now starts at \$149.99, with affordable options to purchase country-specific VFR and IFR charts. Visit the Apple App store to download Garmin Pilot and visit [www.garmin.com/aviation](http://www.garmin.com/aviation) for additional information.

### Gogo Announces Affordable Hourly Rate Pricing Plans for Turboprops

Gogo Inc., the leading provider of in-flight connectivity and wireless entertainment solutions to the global aero market, announced new hourly pricing plans for turboprop and light jet operators, making connectivity affordable and predictable for airframes of all types.

Starting at \$39 per hour, the new service plans provide the convenience of in-flight connectivity with predictable pricing – no overage fees and no surprises. With the new plans there is no need to buy blocks of hours and no minimum monthly fee. After paying for the first hour, customers then pay only for what they use and incur fees only when the service is being utilized.

Gogo Business Aviation's new plans open up connectivity options at rates previously not offered. Two service plans will be available starting July 15: the ATG 1000 at \$39 per hour and the ATG 2000 at \$99 per hour.

Via the Gogo Biz network, the ATG 1000 enables high-performance e-mail with attachments, voice and text for only \$39 per hour. Pilots, passengers and business owners can stay connected to their lives in-flight using their own smartphones and mobile numbers via the included Gogo Text & Talk capability. Up to five personal Wi-Fi devices – including smartphones, tablets and laptops – can be connected simultaneously.

Select cockpit and operational applications can be used with the

ATG 1000 system through Gogo's partnerships with the industry's leading app providers: FlightAware, ForeFlight, Honeywell and WSI Corporation. Pilots connected to the Gogo system are able to receive continuously updated flight information and decision-support tools to help streamline their aeronautical decision-making. The ATG 1000 is also compatible with the Gogo OnePhone cabin handset. A complete ATG 1000 equipment package is available for \$35,000 MSRP, excluding installation and certification costs.

If a customer with an ATG 1000 system wants to add internet connectivity at a later date, the ATG 1000 is software-upgradable, providing the unique ability to add connectivity features, such as web browsing, at any time.

The ATG 2000 delivers internet connectivity to enable in-flight web browsing and email, as well as most apps, for a \$99 per hour rate. Gogo's Text & Talk is available as an additional option. MSRP for a complete ATG 2000 equipment package is \$47,300 excluding installation and certification costs.

To view the side by side comparison of the ATG 1000 and ATG 2000 systems and rate plans, go to <http://connectedskies.gogoair.com/landing/airplane/#equipment>. 

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## From King Air Communiqué 2016-04

Issued: April 2016

### ATA 31 – Fusion Equipped King Air Software and Databases

The Fusion avionics system requires a number of software and database files to function. This information is to clarify the software and database requirements for current production, factory-installed Fusion Avionics in all King Air models. The data in all three Adaptive Flight Displays (AFD) must also match or the system will flag an error upon initialization and present a configuration fault on all screens. The following tables define the items loaded into current production airplanes. Files can be accessed and the target component can be uploaded. If an AFD file becomes corrupted, that individual file or database can be reloaded. If an AFD, Aircraft Personality Module (APM), Audio Storage and Playback Unit (ASPU), or Electronic Standby Instrument System (ESIS) configuration module is replaced, all of the respective files and databases will need to be reloaded into that unit. A replacement ESIS Remote Sensing Unit (RSU) should come from the vendor preloaded with the correct flight software, but can be reloaded if required. Note that the maintenance test box TE79-KA-MAINT or software loading plug presented in King Air Communiqué 2016-01 is required to load software into some components.

To access the Textron Aviation-supplied data, log in to the customer support web page at [www.txtavsupport.com](http://www.txtavsupport.com). If you have not previously registered, click on the Register link and complete the registration process. Once logged in, select the airplane model

on the left side of the page. On the next page in the AVIONICS box, select the Rockwell Collins Pro Line Fusion Support link. Select your airplane model from the drop down menu, enter your airplane serial number and click submit. The available software will be listed. Save the zip file locally and unzip them. Copy the files to the USB drive you will utilize on the airplane. It is recommended that any new USB drive be formatted to FAT 32 before being utilized to eliminate any non-system files. Save that program and the database files to a separate USB device. Note that the ICIT and program folders need to be in the root directory on the USB drive for the displays to locate them. For best results keep the database and program files on separate USB devices. For vendor data, contact the source listed for the current method of access (reference this Communiqué on the Textron Support website at [www.txtavsupport.com](http://www.txtavsupport.com)).

### ATA 32 – Tire Usability Rev 2

King Air Communiqués 99-005 and 2003-01 touched on the subject of tires used on various King Air models. Since the last revision, there have been some models added. The chart below is updated with the new King Air models.

	<b>F90</b>	<b>A90/B90/C90/ C90A/C90GT/ C90GTi/C90GTx</b>	<b>200/B200 B200C</b>	<b>300/B300 350ER/CER</b>
<b>NOSE</b>	6.50 × 10 6 Ply or 8 Ply	6.50 × 10 6 Ply GTx Aircraft 10 Ply and airplanes with Max. Gross Weight Increase STC SA10747SC	22 × 6.75 × 10 8 Ply Prior to BB-165 use 6.50 × 10 6 Ply	22 × 6.75 × 10 8 Ply
<b>MAIN STANDARD</b>	18 × 5.5 type VII 8 Ply or 10 Ply Do Not Mix on the Same Axle Assembly	8.50 × 10 8 Ply or 10 Ply GTx Aircraft 10 Ply and airplanes with Max. Gross Weight Increase STC SA10747SC	18 × 5.5 8 Ply or 10 Ply Do Not Mix on the Same Axle Assembly	19.5 × 6.75 × 8 10 Ply
<b>MAIN HIGH FLOTATION</b>	22 × 6.75-10 8 Ply		22 × 6.75 × 10 8 Ply or 10 Ply Do Not Mix on the Same Axle assembly	22 × 6.75 × 10 10 Ply for ER/CER Aircraft

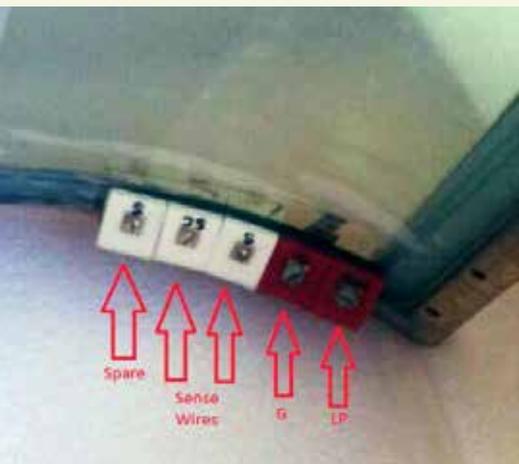
Any tire brand that meets these specifications can be used on King Air airplanes. The links below provide a guide to the most popular brands. There may be others.

<https://www.goodyearaviation.com/resources/tiredatabook.html>

<http://www.airmichelin.com/extendedcontent.php>

### ATA 56 – Windshield Electrical Connections

Owner/operators that replace an original King Air windshield with an overhauled windshield may find a difference in the electrical connector block. This is common in overhauled windshields that have an extra sense element connection. The following photo shows how these windshields should be wired.



### ATA 56 – Windshield Electrical Connections Miswired

The wire terminals to the windshield connector block are the same size. It is possible to connect the wires at an incorrect location. A miswired windshield could be operated continually in high power mode with no significant effects, but it would fail shortly after low power mode is selected. Reference the applicable Wiring Diagram Manual and the wire codes on the wires to make sure that the windshield wires are connected correctly.

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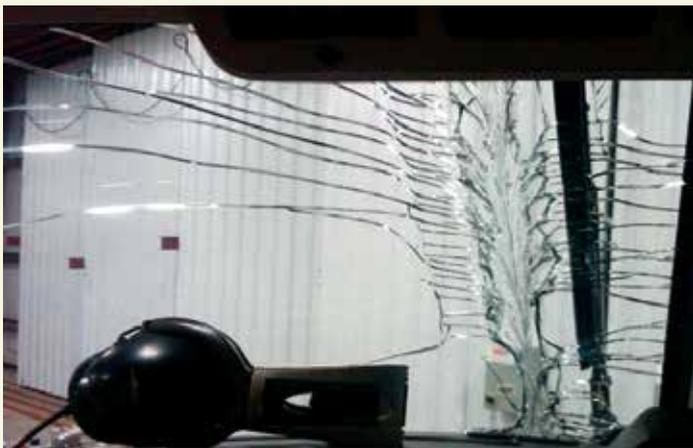
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Chris Crisman/TNC/LightHawk

The following photos show the end result if the windshield is miswired.



*The information in this column is abbreviated for space purposes. For the entire communication, go to [www.txtavsupport.com](http://www.txtavsupport.com).*

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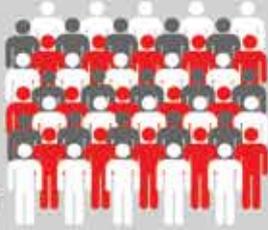
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**SINCE THERE  
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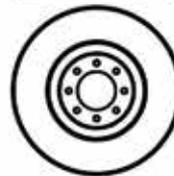


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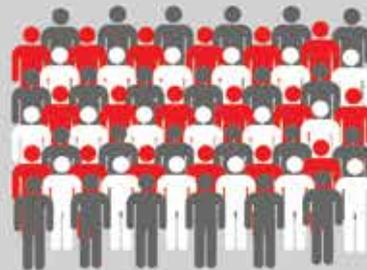
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