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Pipeline for Communication

200 equipped with Airtext allows pipeliners to connect with customers, one other

by MeLinda Schnyder

Don't ask Charlie Joyce to pin down one example of when having a Beechcraft King Air 200 has improved communication for Otis Eastern Service LLC, the largest northeast United States-based pipeline construction contractor.

"In our business, it happens daily," said the 67-year-old chairman of the board. "That shows the importance of the communication that happens when we can get to a job site or stand face-to-face with a client."

The 2002 King Air 200 flying near Otis Eastern Service headquarters in Wellsville in southwestern New York.

Three generations of pipeline executives: (left to right) Casey Joyce, Charlie Joyce and the late Charles H. Joyce have all led Otis Eastern Service. (PORTRAIT BY ARTIST DAVID WILLIAM TERRY)

Job sites and client offices have grown in number and in geographic scope, so in 2015 the company based in southwestern New York transitioned from a long-term charter agreement in a Piper Navajo piston twin to owning a 2002 King Air 200 turboprop.

Bidding on jobs, delivering engineers and blueprints, and getting pipeline personnel to each job site on a regular basis is a part of everyday business for the company. And spending 300-400 hours each year in the aircraft also makes in-flight communication as vital as what happens once employees land, so Otis Eastern enthusiastically became the first King Air operator to install Airtext hardware.

"We needed something that was a good option, worked well and was within our cost parameters, so we were happy to try out Airtext," Joyce said. "We've been very satisfied. It's made the King Air an even better tool in our toolbox."

A pipeline of business aircraft

The Joyce family has embraced private aviation for almost seven decades. They are located in Wellsville, New York, which is about a two-hour drive from a major airport with commercial service.

"My uncle, who along with my father was a partner in an earlier pipeline construction firm, owned several planes through the years, from Piper Cubs to a Douglas DC-3," Joyce said. "In the early 1960s, he bought a Piper Aztec and we used it to ferry supplies and people to our projects. At that time, we also had a Bell 47 J-2 helicopter that came in handy on remote jobs. It gives us a strategic advantage and helps us stay in touch with our projects and with our customers."

An aerial view of the Otis Eastern Service LLC headquarters in Wellsville, New York, which is about two hours to the nearest airports with commercial air service (Rochester or Buffalo).

Otis Eastern Service LLC started in Wellsville in the 1930s as an eastern division of Otis Engineering Corporation of Dallas.

"My father worked for this company when I was born and later on we came back to buy it together in 1980," Joyce said.

The family has flown several Beechcraft products over the years, including a Baron to a Queen Air. When their company pilot, Ralph Twombly, died in an accident flying a T-6 Texan at the Reno Air Races in 1994, the family turned to long-term chartering through Luftladder Air Charter. That's the company Twombly had operated, and it was purchased by John Terrasi, who had flown for the company for years. Through charters, they flew several hundred hours each year mostly on Piper Aztecs and Navajos until 2014.

"In 2014, after the death of my father, we took in an equity partner, Argonaut Private Equity, which allowed us to expand and take care of some estate issues," Joyce said. "It's been a great fit and given the pickup in the number of pipelines being built around the country, it was very timely for our growth."

Otis Eastern remains in Wellsville and is still family operated with the third generation of Joyce – Charlie's son Casey – now overseeing day-to-day operations as president.

Changes at the business and in the industry prompted the company to get back into aircraft ownership. Executives would now be traveling regularly to visit with Argonaut Private Equity, which is based in Tulsa, Oklahoma. Also, the development of hydrofracturing technology has created an uptick in the production of crude oil and natural gas.

"We're geographically located right in the middle of one of the top three high-growth areas in the United States," Joyce said. "From the Dakotas to the southwest to Louisiana and Texas to up here in the northeast, these shale developments have triggered a boom in the natural resources industry and made the United States the No. 1 producer of natural gas in the world. We're going to pass the Saudis as far as oil production very soon."

As a result, there's a need to build more pipelines to transport the product. Otis Eastern builds and maintains pipelines that carry oil, petroleum products, natural gas and sometimes other gasses or liquids. They install what are known as transmission lines, which are usually large diameter steel. They work for most of the major transporters that have facilities in the northeast, covering an area bordered in the east from Maine to the Virginias, in the west from Michigan down to Tennessee and all the states in between.

Growing into the King Air 200

For the Argonaut Private Equity partners to visit Otis Eastern's headquarters in Wellsville, they had to take two commercial flights from Tulsa and then make a two-hour drive in a rental car.

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Otis Eastern Service updated the cabin interior of its 2002 King Air 200 by changing out dark leather and carpeting for a lighter color scheme. They also improved seat padding and sound proofing.

"In addition, our project locations were more spread out than ever before," Joyce said. "Our management team needs to be on-site on a regular basis, so we needed a reliable airplane that could get us there."

Joyce consulted with Terrasi, the charter business owner and a pilot with more than 23,000 hours. They quickly settled on the King Air 200 as the right airplane.

"The 200 is a plane that you can afford to operate," Terrasi said. "It has a lot of utility. It'll do a lot of work for you at a reasonable cost. We found a nice low-time plane – less than 2,000 hours – with a good history."

Otis Eastern purchased the airplane in 2015 and employs pilot Scott Davis. Terrasi flies for the Joyces when needed, and he manages the company's King Air.

The 2002 model Otis Eastern purchased had been used in a part 135 operation making regular flights from Florida to the Bahamas. It had wing lockers and jump seats already installed, giving the company the capability of hauling tooling to job sites and transporting as many as nine passengers.

While they started flying the King Air 200 immediately, they've made extensive modifications over the past three years. They hired Stevens Aviation in Dayton, Ohio, to install an all-new, state-of-the-art Garmin glass panel avionics system with synthetic vision and XM satellite radio. Stevens also installed winglets.

"The winglets look nice, and they make the ride a little better, a little more stable," Terrasi said. "It might

Otis Eastern Service upgraded to this glass-panel Garmin avionics system with synthetic vision and XM satellite radio.

save a little on the fuel burn but we haven't noticed a significant difference."

Otis Eastern also updated the cabin interior, changing out the dark leather and carpeting for a lighter color scheme while improving seat padding and sound proofing.

Texting and flying

The upgrade that's made the most difference, Joyce said, is adding texting capability with Airtext.

"The number of hours we spent in the air without any communications was problematic," he said. "We felt that Wi-Fi as it is priced today was more than what we wanted to spend. John and Scott looked into it and came up with the Airtext option."

Here's how it works: a small paperback book-sized, FAA-approved Airtext box weighing about 1 pound is installed on the airplane and connects to an existing iridium phone antenna. Up to 16 passengers on an aircraft can connect to the Airtext using Bluetooth Low Energy on their mobile phones. Passengers download the free Airtext mobile app and it allows them to send and receive text messages while on board.

"An internet add-on can be $150,000 and it has technical problems," Terrasi said. "If someone on board is downloading a movie, nobody else can use the internet.

The 2002 King Air 200 already had wing lockers installed. The firm often uses the lockers to haul small tools and equipment needed at pipeline building sites.

Others might say, technology changes so much so let's wait another year. In the meantime, we've been over here making communications for the past three years that are keeping us in business."

The Joyce family has embraced private aviation for close to seven decades. They purchased this 2002 King Air 200 three years ago to stay in touch with customers and visit job sites for Otis Eastern Service, a pipeline construction business run by the third generation of the pipeliner family.

According to airtext.aero, hardware costs begin at $9,750. There is also the cost of an avionics shop installing it, then an annual data plan of $300 per year for Iridium and Airtext network connection. That includes the first 1,000 text messages; additional messages are five cents each.

"It's a phenomenal value for that price," said Terrasi, who has purchased a portable Airtext unit that he moves among airplanes in his Luftladder charter operation. "It gets used all the time. A deal can be salvaged with a text and you won't miss it because you were on the plane for two hours."

Joyce said he's already recouped the cost of adding Airtext by submitting bids from the air to meet a deadline, finding out midflight that the team needed to add a stop at another job site, redirecting the plane to assist in an emergency situation or staying in touch with sites that aren't being visited in person that day.

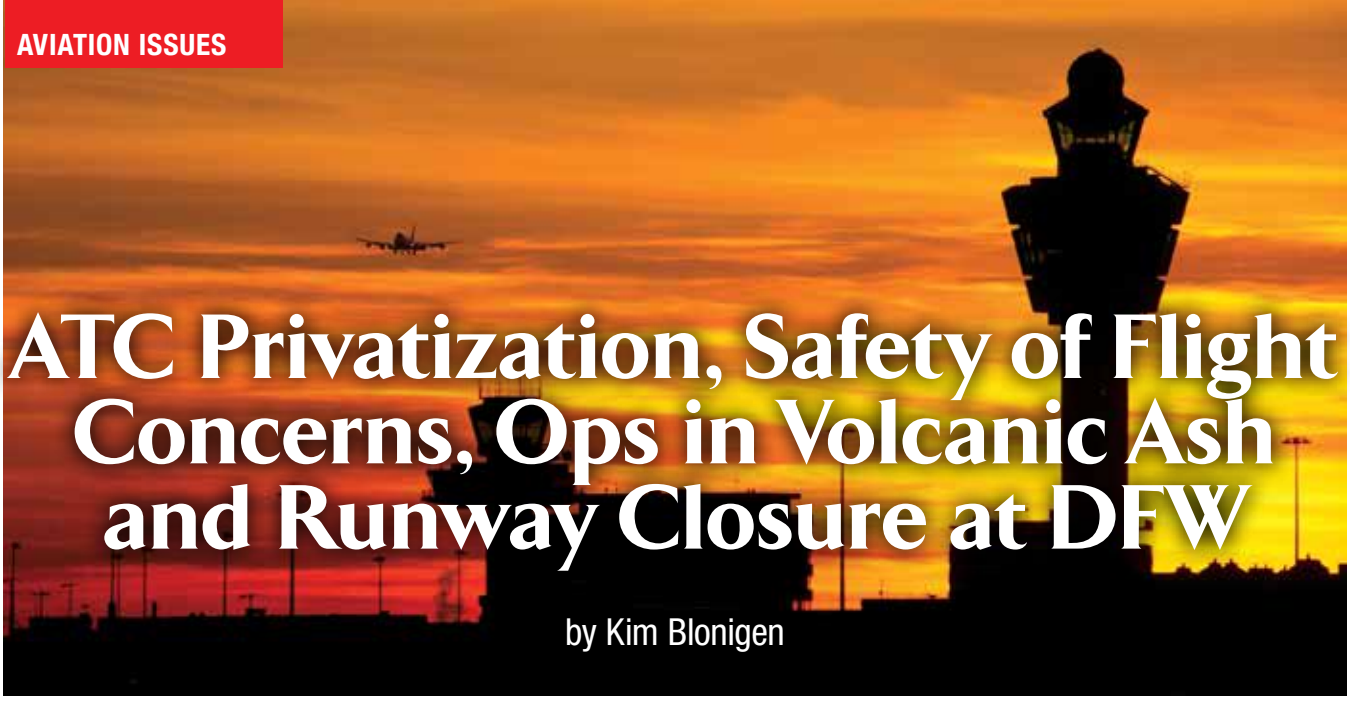
"We're able to talk in real time to all the projects while we're on our way to one project site," Joyce said. "Not only can we reach out, they can reach us while we

Spending 300-400 hours each year in the King Air 200 makes in-flight communication as vital as what happens once employees land, so Otis Eastern Service enthusiastically became the first King Air operator to install Airtext hardware.

Otis Eastern Service's 2002 Beechcraft King Air 200 is based in Wellsville in southwestern New York to support the largest northeast United States-based pipeline construction contractor.

are in the air up to four hours at a time. We can have decisions made in the air that we would previously have had to postpone until we got on the ground." KA

(PHOTOS BY GENESEE VALLEY MEDIA)



ATC Privatization, Safety of Flight Concerns, Ops in Volcanic Ash and Runway Closure at DFW

by Kim Blonigen

ATC Privatization Still an Issue

On June 22, six associations representing the general aviation industry – General Aviation Manufacturers Association (GAMA), Aircraft Owners and Pilots Association (AOPA), Experimental Aircraft Association (EAA), Helicopter Association International (HAI), National Air Transportation Association (NATA) and National Business Aviation Association (NBAA) – issued a statement strongly opposing the Trump Administration for including in its government reorganization proposal a failed idea to privatize the U.S. Federal Aviation Administration's (FAA) air traffic control (ATC) services.

Included in the statement was a listing of those that oppose privatizing the ATC system including, "congressional leaders from both political parties, more than 100 aviation organizations, over 100 business leaders, 100 U.S. mayors, consumer and agricultural groups, conservative think tanks and the majority of Americans." Also included was the point that "this concept has been fully considered in the U.S. Congress and rejected despite years of repeated attempts."

As well as strong contention that stated, "Instead of focusing precious time and resources on what amounts to nothing more than a distraction to the aviation community, the Administration needs to support a long-term FAA bill, like those passed by the House of Representatives and now pending in the Senate. These bills will take practical and significant steps to address many critical issues like aviation safety, modernization, which includes accelerated advancement of the Next Generation Air Transportation System (NextGen) and needed aircraft certification and regulatory reform. Additionally, the Department of Transportation needs to continue with its commitment to the NextGen Advisory Committee, which fosters collaboration in an open and transparent manner and helps advance air traffic control modernization priorities and investments.

We are disappointed that the Administration continues to reintroduce a failed proposal. Instead, it should put its weight behind FAA legislation pending in Congress that will advance the aviation industry, including general aviation, which contributes $219 billion to the U.S. economy and creates over 1 million jobs in the U.S."

Aviation Industry Expresses Safety of Flight Concerns to FAA

Several aviation groups also recently sent a letter to FAA Acting Administrator Daniel K. Elwell expressing their concern of GPS interference in reference to the Ligado Networks Proposal.

Ligado Networks (previously "LightSquared") wishes to establish a terrestrial cellular network within what is a satellite frequency band. Their first proposal in 2011 caused grave concern from the aviation industry and in Ligado's latest proposal, they believe the aviation industry concerns have been addressed due to the interference to GPS navigation and GPS-dependent systems being limited to a 500-foot diameter around their transmission towers. The letter to Elwell states, "The concerns and safety issues of the industry have NOT been addressed, particularly when considering the lack of testing in key areas," and indicates it is highlighted in the "United States Department of Transportation Global Positioning (GPS) Adjacent Band Compatibility Assessment" published in April 2018.

In closing, the aviation groups "urge the FAA to support the testing and evaluation" of the Ligado network system by "an impartial third-party organization that we may fully understand the impacts to GPS-dependent systems and to ensure no degradation of safety within the NAS."

As of press time, no response/updates had been provided.

Flying in Areas of Volcanic Activity

Due to several volcanoes that are currently active, the National Business Aviation Association (NBAA) suggests operators brush up on flying in areas of volcanic ash and offer some tips:

Avoid Volcanic Ash: The first rule of thumb when flying in an area of volcanic ash is … don't. NBAA suggests to, "Plan a route of flight to ensure a wide clearance from volcanic ash clouds. Abrasive volcanic ash can cause substantial damage to engines, pneumatic and hydraulic systems, as well as windscreens, contaminate oxygen systems and block pitot/static systems."

Stay Informed: Pilots have several resources to receive current volcanic ash activity – nine Volcanic Ash Advisory Centers (VAAC), SIGMETs and NOTAMs.

Be Prepared: If planning to fly near areas of volcanic activity, NBAA says to "refresh your knowledge of operations in volcanic ash before you go and develop and document operating procedures." An example provided – if you inadvertently encounter volcanic ash, be prepared to respond appropriately by reducing thrust to idle (altitude permitting) and reversing course out of the ash cloud. Do not attempt to fly through or climb out of the ash cloud, as they can extend for hundreds of miles.

If volcanic ash is encountered outside of areas previously reported, be sure to advise ATC as soon as possible – you may be the first to encounter volcanic ash in that area. PIREPs are an operator's opportunity to share new information, confirm current information or alert ATC and other pilots that the area is clear of ash.

Operators may stay clear of volcanic ash during flight but find ash has impacted their destination or departure airport. When landing at an airport with volcanic ash deposits on the runway, breaking action might be degraded. Pilots taking off from airports with volcanic ash deposits on the runway should wait for ash to settle before departing and might find it appropriate to delay flap extension.

DFW Main Runway Closed

Airport officials at Dallas-Fort Worth International Airport (DFW) announced the first major step in its $135 million ten-year plan to modernize the airport infrastructure has begun on 13,400-foot Runway 17C/35C. There will be a partial closure at first, and then starting in August the runway will be closed entirely until December.

When completed, a 6,000-foot section in the center of the runway will have been replaced to a depth of more than 3 feet and resurfaced with polymer-modified, high-performance black asphalt designed for strength, flexibility and weather resistance. Other improvements include enhanced pavement lighting and a pavement sensor system that measures weather impact and a perimeter taxiway on the northeast side of the airport. KA

"War Stories"

by Tom Clements

The dictionary definition of *War Story* is "… an account or anecdote concerning one's personal experiences, especially in military combat …" The stories presented in this article surely come from my personal experience but I am thankful that they do not originate from military combat. Instead, they come from events in my 46 years of being involved with King Airs. I hope you will find them entertaining and, in some cases, enlightening.

E90 Paint Schemes

In addition to the standard paint designs that usually changed with each new model year, a King Air customer could direct the Beech paint shop to paint in whatever colors and designs that he or she wished. As factory flight instructors, it went without saying that we were told never to cast a disparaging remark on the paint … even though it may be astonishingly ugly.

That was the case one morning when I walked out onto the Beechcraft Delivery Center's parking ramp with the pilot who flew for a California-based E90 buyer. He had finished the ground training portion of our initial E90 course and now was starting the flying phase. Holy moly! What is this my eyes behold?! The airplane's base coat was bright orange and the stripes were green! "Well," I thought to myself, "it surely makes it easy to see for traffic avoidance purposes even though it's as ugly as sin!"

Later that day, probably over lunch, the pilot mentioned the unusual paint scheme and volunteered the information about why his boss ordered it. This gentleman was a grower in California's Central Valley and had made most of his money by growing and selling cantaloupe and lettuce. It was those two commodities that were being honored by the new King Air's paint.

There is another E90 paint story that is even more unusual. I had walked down to the delivery center's parking line on another morning, again with a student picking up a new King Air after his factory training was complete. I casually glanced at the other King Airs we walked past on our way to the one we would be flying. This was the student's first King Air flight so we took the time to conduct a very thorough cockpit and exterior preflight inspection with time to handle all of the necessary instructions, explanations, and answers to the client's questions. An hour or more had elapsed and so, before cranking up the engines, we decided to walk back to the delivery center for a "bio break."

As we again passed the parked King Airs awaiting delivery I thought, "That's strange. Here is a different E90 parked in the line yet I don't recall hearing or seeing a Beech tug move the other one and replace it with this one."

I stopped directly in front of the plane and was shocked to discover that it was the same E90 that I had seen earlier. The right side and the left side had totally different colors and stripe designs! They were standard factory designs, but different, side-to-side. We continued into the delivery center and I asked one of my colleagues there about this strange sight.

The buyer and his wife, as was typical, had visited the factory with their King Air salesperson to select all of the various options, including paint and interior specifications. The couple could not agree on colors and the disagreement escalated into a shouting match that ended with "OK, you can have your side and I'll have mine!" They must never have reached a compromise since the finished product indeed came out with two totally different sides. As we returned to the airplane we were to fly, chuckling, I thought I should have looked inside this strange E90 to see if the interior, too, had "his and her" sides! I am not sure if I merely forgot to do so or was too scared of what I might find.

How *Not* to Feather a Propeller

It was late 1972, my first year as a ground and flight instructor for Beech Aircraft Corporation, and I was conducting transition training for a pilot whose Midwest-based company was moving up from a 1966 A90 into a new 1972 C90. The two airplanes were, of course, very similar but had a few differences. Two of the most significant differences were (1) the C90 flew quite a bit differently than the A90 due to longer wings and balanced flight controls, and (2) the C90 had two bleed air sources for cabin air inflow instead of the single supercharger of the A90. Compared to the A90 – not a bad flying machine in its own right – the C90 felt like it had power steering … much lighter and faster-acting ailerons. (These balanced controls started with the B90 that was produced in the 1968 to 1971 model years.)

I anticipated that the pilot would find the move to the C90 enjoyable and easy, based on his previous A90 experience. That proved to be true; he was a very good pilot.

Part of our initial flight training syllabus included a balked landing with an engine failure just as go-around

Current King Air panels don't have red and white stripes denoting reverse. Instead, a "Ground Fine" stop is located at the end of beta and at the start of reverse.

power was being added. The primary purpose of this unlikely scenario was to have the student see how much altitude had to be sacrificed in order to maintain a safe airspeed as the situation was being handled. From this experience, we hoped that it would be obvious why, near the runway with gear down and full flaps extended, you were committed to land if one engine lost power. Going around was no longer an option.

The Beech Training Center procedures mandated that no real engine shutdowns could be done within 5,000 feet of terrain, so this maneuver was typically begun at 7,000 to 9,000 feet AGL. This day, I think I had the student pretend that we were intercepting a glide slope at 8,500 feet MSL, heading for a make-believe runway at 7,000 feet. Level at 8,500 feet we slowed, extended approach flaps and landing gear, and then started the descent at 120 KIAS and about 600 fpm … a typical ILS profile, requiring about 500 ft-lbs of torque and 1,900 RPM in this PT6A-20-powered C90. The pilot had been well-briefed that a go-around would begin at 200 feet above the phantom runway and that I, the instructor, would pull one of the condition levers into fuel cutoff just as the pilot was adding power. To prevent the speed from decaying to near VMCA, the nose would have to be kept down and altitude would have to be lost until the airplane was clean and with the dead engine's propeller feathered. We were in clear skies and the student was not wearing a view-limiting device. This C90 had no autofeather, an option that was rather rare to find installed back in the early 1970s.

"One thousand to go," I called as we passed 8,200 feet. "Five hundred to minimums," was the call at 7,700 feet. "Minimums. No runway in sight. Go Around," was the call at 7,200 feet.

POWER: The pilot moved both power levers smoothly forward as I pulled the left condition lever fully back to cutoff the fuel. The pilot carefully stopped moving both power levers as the right ITT hit 700 degrees, our self-imposed training limit on the -20 engines.

PROPS: The pilot smoothly pushed both propeller levers to the forward stops. To hold our landing speed of about 100 KIAS, we were now sinking below our "make believe" runway.

FLAPS: Up they came and we sank a bit more.

GEAR: Its handle was placed in the up position and the gear started retracting.

IDENTIFY: "Left foot is dead; left torque is dead." The pilot correctly noted.

VERIFY: The pilot moved the left power lever carefully back to idle and made certain that nothing changed. (Except it triggered the gear warning horn to blow. That's why I teach moving it back forward if you have used this as an identification step.) By now, we had lost about 500 feet, nearing 6,700 feet MSL. The sink rate was near zero but with the windmilling propeller we certainly were not yet climbing. "This fellow is doing a great job," I thought to myself. "He's maintaining a safe speed and is doing the correct procedure expeditiously but without rushing. Nice!"

FEATHER: Then the doodoo hit the fan! The pilot kept his hand on the left power lever that he had just moved to idle, lifted it and immediately pulled it into maximum reverse, all the way aft.

I wish we had smart phones with video capabilities back then, because I would love to see both the expression on my face and the exact reaction of the airplane. It seemed we pivoted around that reversed propeller, turned 90 degrees to the left, and pealed off into a dive with maybe a 15- to 20-degree, nose-down attitude. I immediately pulled the right power lever to idle, pushed the left power lever forward out of reverse to idle and eased out of the dive. Then it was back to using the *Four Friends* – Power, Props, Flaps and Gear – to get us back in the groove for the correct feathering step. I pitched up to get to VYSE and tried to get my heart rate back to normal. Was I surprised? You bet! Scared? No, that's why we do this well above the ground. We probably bottomed out at about 6,000 feet, a total loss of 1,200 from when we began the go-around.

I returned aircraft control to the pilot, we leveled off at 7,500 feet, turned on the autopilot and completed the engine shutdown checklist. The pilot knew exactly what had transpired – he had moved the power lever into reverse instead of the propeller lever into feather.

"Why?" I asked. "Because when my eyes saw the red and white stripes of reverse, my mind thought they were the red and white stripes of feather," he said. Never before or since have I had this happen in training … that someone would pull the wrong lever back into the stripes. The event taught both the pilot and myself an important lesson. The pilot: Not to use the wrong lever! Me: To teach my students that the cockpit coloration is indeed the same, so be careful! Also, one more reason to not keep the dead power lever back at idle. Get it forward out of the way!

All King Airs being produced now no longer have the red and white stripes denoting reverse. Instead, they have the "Ground Fine" stop at the end of beta and at the start of reverse. Now it requires a second lift of the power lever to enter reverse. It has been this way on most models since the late 1980s, early 1990s. This change was not made based on the incident related here, but it should help in decreasing the probability for making the same mistake in the later models.

I want to clarify a point or two. First, for the blade angle to go into beta or reverse, the propeller must be underspeeding … off of the propeller governor, with the blade angle resting on the Low Pitch Stop (LPS). After all, beta and reverse is simply where the power lever's position has relocated the LPS to flatter than normal angles. With the combination of zero power and an airspeed near 100 KIAS, the left propeller was definitely underspeeding on its LPS.

Second, although the blade angle went to maximum reverse, realize that the fuel was shut off. We had no reverse *power*, just one heckuva lot of drag! The situation would have been worse and we would likely have lost significantly more altitude had the engine "failure" been initiated by moving the power lever to Idle instead of shutting the fuel off with the condition lever. If the power lever had now been moved to maximum reverse, not only would blade angle have gone fully negative, but the N_1 also should have spooled up to near 85 percent, giving close to 50 percent power.

You're starting to understand why I got white hair at such a young age, right?

A BE-100 and a BE-A100 Story

It is common for pilots to think of the Garrett-powered B100 when they hear "King Air 100." However, before the B100 model, there was the "straight" 100 and the A100, both powered by PT6A-28s rated at 680

SHP instead of the B100's TPE331-6s rated at 715 SHP. The 100-series was the first of the longer-cabin King Airs, having the exact same cabin dimensions – 4 feet longer than the 90-series cabin – as the 200 and 300 models yet to come. (Not the 350. Its cabin is longer still, by 34 inches.)

The Beechcraft Training Center had a policy that their instructors should not instruct in any model that they themselves had not previously flown. Seems to make sense, eh? But then, as is so often the case, the policy gets ignored when certain pressures appear.

Such was the case in late 1972 when I had been at Beech less than a full year. I was qualified and had instructed in the C90 and E90 models but had not yet flown the A100. Those three models – C90, E90, A100 – made up the entire King Air line that year. A company that operated a 100 – the three-blade predecessor of the four-blade A100 – sent their crews to Beech every year for recurrent training in their own airplane – Beech had no simulators back then – and this year one of their co-pilots needed to receive upgrade training so that he could move into a captain's slot.

The 100-qualified instructors were busy elsewhere so my boss called me into his office and explained why I was assigned to this training slot. The facts that the 100's systems were almost identical to the C90, the engine was the same -28 as on the E90, the "student" already had lots of right seat time in this airplane … "Heck, Tom, you'll feel right at home!"

Many readers will know that the biggest difference between the 90s I had been flying and the 100 is that the 100-series has no elevator trim wheel. Instead of trim tabs on the elevators, the 100s use a movable horizontal stabilizer for trimming, with both main and standby electric motors. The main motor is activated by using dual switches on the outboard grip of both pilot and co-pilot control wheels and the standby system is activated by using dual switches on the pedestal, readily accessible to either pilot. Additionally, the 100 has shorter wings – same dimension as the straight 90 and A90 – and dual main tires that are smaller and carry more pressure than the 90 main tires. Thus, the airplane tends to touch down a bit firmly if power is reduced to idle too quickly with those rock-like tires, you feel it!

The day came for the co-pilot's upgrade training. It was lovely weather and, unusual for Kansas, there was hardly any wind. We departed Beech field for our normal training location of Hutchinson, 38 miles northwest. "Hutch" had all of the approaches, plenty of runways, a helpful tower, and not too much traffic … a perfect training airport.

As expected, the pilot did an excellent job. He was a conscientious and talented pilot and his previous right-seat experience was noticeable. We did all of the maneuvers, approaches, landings and emergencies on the syllabus. Although all of his landings were absolutely fine, none were "greasers," nor did we expect any. As we taxied out for our last takeoff from Hutchinson, he suggested that I fly back to Beech Field and offered to switch seats. I thanked him and accepted the offer but said it would be better practice for me to fly from the right seat … which I did.

The light wind was from the north so "Tower Brown," the friendly and efficient Beech tower operator, directed us to enter on the crosswind leg for right traffic to Runway 36. On downwind, Brownie cleared us to land. I kept using the trim switches under my right thumb as we turned final and went to full flaps. It was one of those landings where you never really knew when you made ground contact. But eventually you realized that the mains were rolling and it was time to lower the nose and lift the Power levers. My student looked over at me in awe and said, "Man! That was beautiful! How did you do that?!"

"Oh, you'll get it with a little more practice," I replied. If he happens to be reading this, he'll finally know that this was a total case of beginner's luck since it was my very first landing in a 100. I don't believe that I have ever made a smoother one!

Now for the A100 story. This time I am doing recurrent training for a Kentucky-based company. Their director

King Air model A100

of maintenance (DOM) has a pilot certificate and the chief pilot wants the DOM to be more familiar in flying the A100 so he asks me to include this fellow in my flight training sessions while I am doing recurrent training with them in Lexington. The year is about 1981 and I am now training through my own company, *Flight Review, Inc.*

The young man is very pleasant, eager to learn, has great airplane knowledge, and is a joy to train. After demonstrating autofeather operation – this particular A100 had that option – and doing single-engine maneuvering, we conduct a starter-assisted airstart. The engine starts normally but the prop won't come out of feather. Darn! No matter how many times we move the prop lever into and out of feather, the prop stays feathered, turning at maybe 400 RPM with the engine running at low idle. Even adding a little power does not help. I suspect that the autofeather dump valve has stuck in the open, dumped position. Later, we find that this is exactly what has happened. A good whack with a wooden mallet fixed it, never to stick again.

When our unfeather attempts all proved fruitless, we declared an emergency and returned to Blue Grass airport, shooting the ILS to Runway 4, even though the weather was good. The DOM, a rather low-time pilot, was a bit nervous with our situation and asked me to fly. I commented that he was doing a fine job and it would be good experience for him to make the single-engine landing, so he kept flying.

I could tell he was nervous. After we were nicely stabilized on the glideslope with gear down and approach flaps, with the runway in sight about 3 miles ahead, I tried to ease his fear. I turned to him and said, "Hope you're ready, because the hard part is yet to come."

"It is?!" he gasped. "Yeah. You've got to taxi to the hangar on one engine!" We laughed together and the tension eased. He made a wonderful approach and landing and kept the speed up enough that he was able to make it to their hangar without using a tug. Good job!

Well, readers, did you enjoy these war stories? I have plenty more, so please let me know if you'd like to read more in this same vein. If you do, great, I'll regale you with others! If not, I'll return to my normal King Air systems and operations emphasis. Be safe out there! KA

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." 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, contact Tom direct at *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

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"Monoplanes Cessna"

Part Two

By early 1928, Clyde V. Cessna was building and selling cabin monoplanes of his own design. Less than two years later the debacle on Wall Street would clip Cessna's wings, just when financial success was within his grasp.

by Edward H. Phillips

The year 1928 would prove to be an undreamed-of boon to the airplane manufacturers from coast to coast, including those in Wichita, Kansas. Charles A. Lindbergh's solo flight to Paris from New York City in May of the previous year helped to ignite a nationwide interest in aviation. Flight schools, it seemed, were popping up everywhere, books on how to fly flew off the shelves and companies such as Wright Aeronautical, whose J-5 static, air-cooled radial powerplant had propelled Lindbergh across the vast North Atlantic Ocean, struggled to meet skyrocketing demand for their engines. In addition, more people were learning to fly and those wealthy enough kept fattening the order books at local manufacturers such as the Travel Air Company, the Cessna and Stearman factories, as well as the Swallow Airplane company and other aviation-related businesses located in the city.

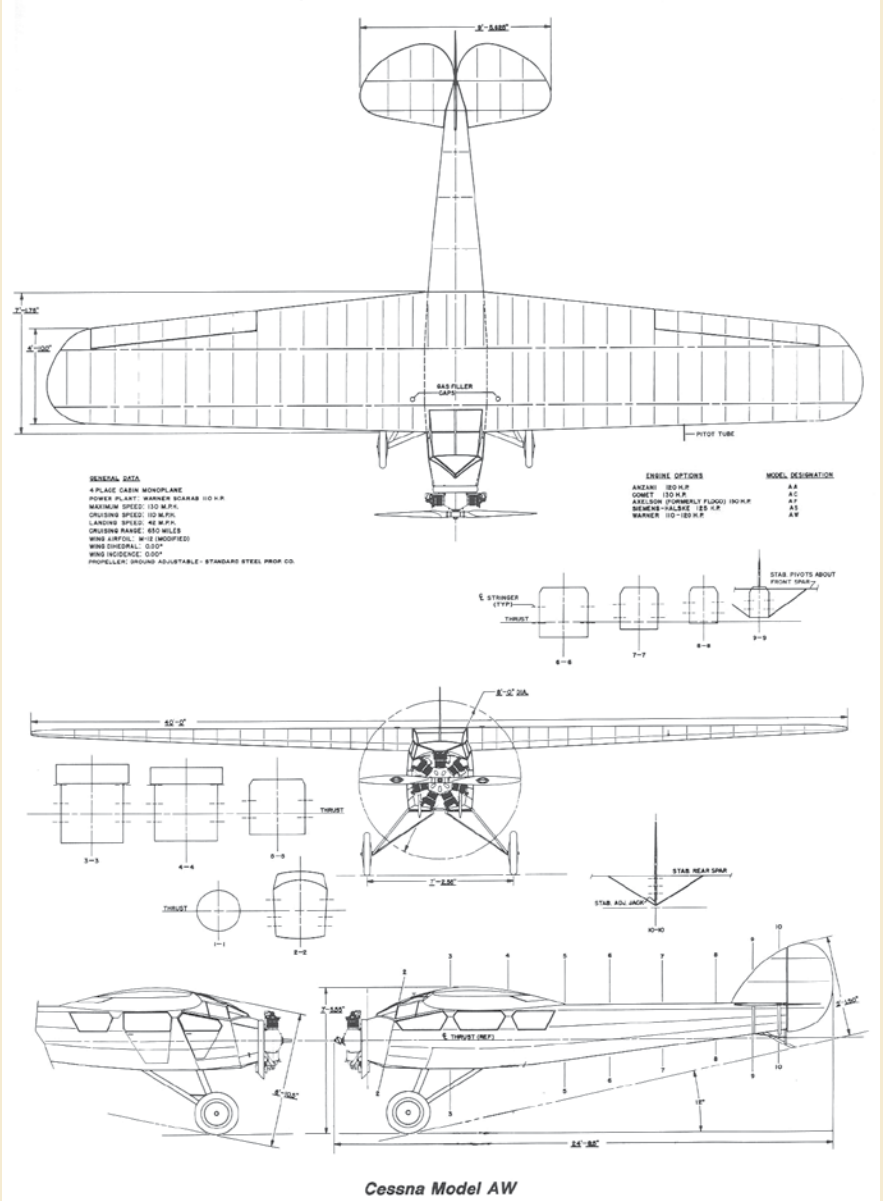
Of these, Travel Air, led by Walter H. Beech and a forward-thinking board of directors, and the Swallow company were already well established, but Clyde Cessna and Lloyd Stearman's companies were struggling with production problems that kept initial deliveries to a trickle. In Cessna's case, as of January 1928 not one airplane had been delivered to a customer, and their patience was wearing thin. The principal reason deliveries were delayed was the acute shortage of Wright J-4 and J-5 radial engines that Clyde preferred and his customers demanded. An even more pressing issue was cashflow – Cessna needed to deliver airplanes as soon as possible before the coffers were empty.

There was an interim solution to his dilemma and Cessna quickly seized upon it: The factory workers would install obsolete 10-cylinder Anzani engines (Clyde had at least 60 on hand) but each one would require major internal modifications to ensure reliability. When the Wright engines eventually became available, the airplane would be flown back to the factory for installation of the appropriate Wright radial engine. To keep the production line moving along, Cessna enlisted the help of his friend Curtis Quick, a local engineer who was well-known for his expertise with the aging engines such as the Anzani.

To upgrade the powerplants, Quick installed aluminum alloy pistons and removed the automatic intake valves, replacing those parts with a camshaft-activated mechanism that permitted the engine to produce more horsepower. Internal lubrication was vastly improved, a new scavenge return system was developed along with a new crankcase ventilation tube, and modern, dual Scintilla magnetos were installed. These modifications not only increased the engine's horsepower to 120 from 90 but made the Anzani a reliable powerplant. During the time it took Quick to develop tooling to modify the engines, Clyde bought a new Siemens-Halske SH-12 nine-cylinder radial from T. Claude Ryan, who acted as a distributor for the German engine. Cessna planned to install it on a prototype monoplane and conduct extensive flight tests before committing to a large order. Rated at 128 horsepower, the SH-12 did not appeal to many buyers who preferred the new Wright J-5 or Warner *Scarab* radial. When equipped with the SH-12, the Cessna monoplane was designated Model AS. Only four are known to have been built, with the first ship sold to Beacon Airways in Kansas City, Missouri.[1]

As soon as Curtis Quick completed one of the first modified engines, Cessna installed it on airframe serial No. 114 (the 14th Cessna monoplane), completed flight testing and declared the ship ready for delivery. On Feb. 28, 1928, the Cessna Aircraft Company delivered its first airplane to customers Edmund A. Link and Richard Bennett, who paid $6,500 for the cabin monoplane. The new Cessna, however, did feature an unusual option: a wind-driven siren mounted on the main landing gear strut. A few days after taking delivery, Mr. Link flew the Model AS home without incident.

Meanwhile, orders for the Wright-powered Cessna Model BW were piling up fast. Clyde pleaded with the Wright company to ship quantities of the J-5 engine to the Wichita factory, but Cessna was allotted only one radial per month. Clyde's dilemma was shared by Walter Beech at Travel Air and Lloyd Stearman at his factory north of the city. Fortunately, other new, lightweight radial engines were coming on the market during the hot Kansas summer of 1928 and were quickly snapped up by Beech, Stearman and Cessna for flight testing. These included three seven-cylinder powerplants – the 110-horsepower Warner *Scarab*, the *Floco* (later renamed Axelson) rated at 115-150 horsepower, and the 130-150 horsepower *Comet*. Of these, the rugged and reliable Scarab proved to be the most popular with Cessna, chiefly because of its small frontal area, good fuel



Model AW three-view drawing (ROBERT PICKETT COLLECTION/TEXTRON AVIATION)

economy and ease of maintenance. In addition, the Warner company provided excellent support. As a result, the Scarab proved to be the ideal engine for Cessna's best-selling monoplane, the Model AW.

In autumn of 1928, Clyde realized that the growing number of air races being held across the United States provided an excellent opportunity to advertise the speed of his airplanes. It would, however, take a special event with a good chance of seeing a Cessna in the winner's circle to convince Mr. Cessna to participate. That special event was the New York-Los Angeles Air Derby – one of four cross-country speed dashes planned as part of the National Air Races that year.

Clyde entered eight airplanes in the Derby: One Model AW, flown by local pilot Earl Rowland, six Model BW monoplanes, and Clyde and Curtis Quick would fly one Model AA powered by a modified Anzani engine. All the Cessna entrants arrived safely at Roosevelt Field near New York City. Ahead of them lay 3,000 miles of rough, tough competitive flying. Of the eight Cessna ships entered, Clyde was particularly confident that the Model AW flown by Rowland stood an excellent chance of taking top honors in the Class A Division. Compared to the biplanes and other monoplanes in that division, the Model AW had less aerodynamic drag, was capable of averaging more than 110 mph while achieving about 21 miles per gallon of fuel burned.

On Sept. 5, the field of 26 competitors took off in the pre-dawn darkness and headed west toward Los Angeles. Earl Rowland was the 13th pilot to depart, and Clyde knew he would "give his all" to win the Class A Division for the Cessna Aircraft Company. Earl was doing exactly that – the pilot who reached Mines Field in Los Angeles with the lowest cumulative en route times would be declared the winner. As the race progressed westward, Rowland had built up a nine-minute lead over his closest competitor, Robert Dake, who was flying an American Moth biplane. At Kansas City Earl's lead increased further, and when he landed at the next designated stopover point, Travel Air Field in Wichita, Earl maintained a substantial lead over Dake.

At Fort Worth Earl had more than a 30-minute advantage over Dake.

In 1928 Cessna's engineers designed the Model CW-6 that featured a larger and more comfortable cabin than the earlier Model AA, AW and BW airplanes. By 1929 the CW-6 had evolved into the Model DC-6 series. (ROBERT PICKETT COLLECTION/TEXTRON AVIATION/ KANSAS AVIATION MUSEUM)

Soon after departing there, the Warner radial began to run rough. As the engine's condition seemed to worsen, Rowland could land in the desert or throw caution to the wind and keep flying toward El Paso while nursing the Scarab onward. He chose the latter. It was difficult to hold altitude as convention currents tossed the monoplane around like a cork in an angry sea. Finally, Earl landed at El Paso, but he had lost eight precious minutes to Dake. A Warner mechanic soon diagnosed the issue as ignition problems. He quickly replaced the faulty components and declared the Warner ready for action. Having solved one problem, however, another suddenly appeared – the left main landing gear tire was hissing its last breath as it settled to the ground, flat as a pancake.

The next morning heralded the final leg of the race to Mines Field. As the Model AW charged westward, Earl was happy that he maintained nearly a one-hour lead over Dake, but nine hours of hard flying lay ahead. Passing Yuma, Arizona, Earl climbed the ship higher to find cooler air. He had no mercy on the Warner, shoving the throttle full forward and keeping it there, just as he had throughout the race.

On Sept. 10, Rowland and his Cessna roared across the finish line at Mines Field. He had beaten Dake and won the Class A Division, as well as the first prize of $5,000. After parking the monoplane and exiting the cockpit, he was glad to see his friends Arch Merriam, H.G. O'Dell, Roscoe Vaughn and Marcellus Murdock, all of whom were representing the National Aeronautic Association's Wichita chapter at the races. The four men congratulated Earl for a great victory that was not only his and that of the Cessna Aircraft Company, but of Wichita, too.

Earl Rowland posed with the Model AW he flew to victory in the New York – Los Angeles Air Derby held in September 1928. His flying time from coast to coast was 27 hours 31 seconds. (COURTESY LES FORDEN)

Including cash prizes for the lowest elapsed times between certain control points that earned Earl another $1,910, he eventually corralled $10,910 in prize money. Rowland's achievement in the Derby vindicated Clyde's belief that his full-cantilever monoplanes were among the fastest lightweight airplanes in the world. In the wake of Earl's victory, the Cessna factory was flooded with orders for the Model AW as a testimony to the airplane's impact on the growing commercial market. Within three days 60 letters were received and more would arrive for many days afterward.

On Sept. 20, Rowland and the Model AW arrived safely in Wichita where he received a hero's welcome by an admiring public. Gala celebrations were held, including a 550-seat banquet held at the Hotel Lassen and attended by both Walter Beech and Lloyd Stearman. A few days later Rowland and the Cessna had flown east to New York City where he and the airplane were feted yet again; he performed some demonstration flights and attended various airport dedications. Meanwhile, back in Wichita, Clyde Cessna was given a rousing dinner by company employees at the Green Parrot Inn.

For Mr. Cessna, the sudden rush of fame was both a blessing and a curse – demand for airplanes, particularly the spunky Model AW, skyrocketed but the factory's ability to meet that demand remained inadequate. The only solution was to refinance the Cessna Aircraft Company, build a new, much larger manufacturing complex and broaden the product line. The board of directors agreed, and by October 1928 plans were being drawn up to build a major facility on Franklin Road southeast of the city.

During October, scuttlebutt about the refinancing continued to fuel the rumor mill for weeks. Financiers from Chicago contacted Clyde and offered to capitalize the company with 2 million dollars if Cessna would move his factory to the Windy City. He refused but contact with various eastern financiers continued as 1929 approached. On Wall Street Cessna stock was trading at $150 per share. By comparison, before the Air Derby, stock was selling for a mere $10 per share. After months of uncertainty, January 1929 marked a fresh start for the Cessna Aircraft Company. Clyde announced plans for the new factory on Franklin Road and an agreement with The Shawmut Corporation of Boston and New York City. Shawmut officials had taken a long, hard look at Cessna's enterprise and handed him a check for $300,000 to jump-start construction of the manufacturing campus.

The factory was sorely needed. Cessna dealers nationwide were experiencing a sales boom that was unheard of before 1929. Late in January they sent Clyde orders for 57 monoplanes, but the next month Curtiss Flying Service (CFS) of New York signed a contract

In 1929 airshow and aerobatic pilot Art Goebel ordered the special, long-range CPW-6 to compete in the Los Angeles – Cleveland air race scheduled for September as part of that year's National Air Races. Fuel capacity was more than 600 gallons; the Pratt & Whitney radial engine developed 420 horsepower. Poor climb performance with a full fuel load forced Goebel to withdraw his entry. (ROBERT PICKETT COLLECTION/TEXTRON AVIATION)

for exclusive rights to sell Cessna ships in the United States and Canada. To sweeten the deal further, CFS placed orders for 39 monoplanes that swelled the total order backlog to 96 airplanes. There was, however, a catch: CFS stipulated that after orders from other Cessna dealerships were fulfilled, it would become the company's sole distributor.

Groundbreaking ceremonies were held late in March for the factory. The complex would consist of six buildings totaling 55,000 square feet of floor space compared with only 18,000 square feet at the other facility, where 50 employees were working overtime in a vain attempt to meet delivery schedules. In addition to the new factory, Clyde Cessna unveiled the next generation of his cabin monoplane – the Model DC-6. It was a major improvement over the Model BW, which was no longer in production. Larger, with a spacious cabin and a redesigned cockpit, the DC-6 would have a maximum speed of 130 mph and cost $9,250. Unfortunately, the DC-6's Achilles' heel was its powerplant: Cessna's agreement with CFS essentially obligated him to use the company's six-cylinder Curtiss R-600 *Challenger* radial engine rated at only 170 horsepower.

As a result, the DC-6 was woefully underpowered and performance suffered accordingly. Only five were built and were delivered to CFS. Later, four were converted to 225-horsepower Wright J6-7 engines. Fortunately, Cessna engineers had already redesigned the DC-6 into the DC-6A *Chief* and DC-6B *Scout* powered by the 300-horsepower Wright J6-9 and the 225-horsepower J6-7, respectively, which increased performance significantly. The DC-6A had a maximum speed of 160 mph and a range of 600 statute miles, while the DC-6B cruised at 125 mph. Both versions were awarded an Approved Type Certificate in September 1929.[2]

In late summer 1929, a mass exodus of equipment and personnel was underway from the Glenn Avenue site to the new factory on Franklin Road. Production of the Model AW and a few DC-6-series ships had reached five airplanes per week, with 47 built during the past 90 days. When equipment was in place, Clyde Cessna expected production to ramp up quickly to at least two aircraft per day, increasing to four per day before accelerating to as much as 25 per week by the end of August. The stakes were very high, indeed, for CFS had placed orders for 545 monoplanes worth more than 5 million dollars, and deliveries were expected to be made on schedule. Although factory workers were turning out four monoplanes per day by August, Cessna estimated that six times that rate would be required to fulfill the massive order by the contract deadline of Oct. 1.

The Cessna Aircraft Company was not the only airframe manufacturer in Wichita being hard-pressed to deliver airplanes to impatient customers. As of June 1929, the Travel Air Company was struggling to build 50 biplanes and cabin monoplanes per week, and Lloyd Stearman's company was building ships for airmail contracts at a feverish pace, not to mention Swallow, which was turning out biplanes for flight training as fast as possible. In addition, there were five aeronautical investment firms operating in the city as well as three airport engineering companies and one export business. By the summer of 1929, Wichita was home to 16 airframe and six engine manufacturers that were designing, building and selling their products to an aviation-hungry public. Investors had poured more than $10 million into the city's aeronautic industry and the future looked incredibly bright.

At the root of all that success was the national economy. The "Roarin' Twenties" had produced more than its share of millionaires, and Wall Street was abuzz

The company offered the DC-A powered by a Wright J6-9 radial engine of 300 horsepower, and the DC-6B that featured a J6-7 rated at 225 horsepower (shown here). Only a small number of both versions were built before the national economy gradually collapsed in 1930, adversely affecting sales of new aircraft in the United States. (ROBERT PICKETT COLLECTION/TEXTRON AVIATION)

daily with the reckless buying and selling of stocks. Even the average American could dabble in the risky business of investing, and millions of people did just that.

As the summer of 1929 slowly gave way to autumn, there were growing signs of potential trouble ahead. The trading stocks slowly began to waver. Investors and speculators quickly lost their nerve to stay in the market, fearing irrecoverable losses. On Thursday, Oct. 24, an unprecedented selling spree occurred that led to a steep nosedive in stock values. The next week another wave of panic selling precipitated a colossal collapse in prices – the stock market had finally crashed.

Air racing! Cessna monoplanes won their share of prize money in the high speed, ground-hugging competitions that were popular in the late 1920s. This photograph shows a Model AW rounding a pylon while flying about 15 feet above the ground in a steep bank.
(ROBERT PICKETT COLLECTION/TEXTRON AVIATION)

As the days and weeks passed without any sign of a genuine recovery, every business in the nation began to feel the deleterious effects of America's postwar love affair with financial irresponsibility. Aviation was among the first victims of the debacle on Wall Street. By November, the factory had delivered about 45 airplanes, and the bleak outlook for selling new monoplanes forced both Cessna and CFS to terminate their contract as of January 1930. Cessna stock plummeted to a mere $18 per share from more than $100 a year earlier, and in December fell to $12 with no buyers.

Wichita's Christmas holiday of 1929 was anything but cheerful. The town's big four airframe manufacturers – Travel Air, Cessna, Stearman and Swallow – were still recoiling from the disastrous financial events of October. Airplane sales continued their slow, downward spiral, but Walter Beech, Clyde Cessna and Lloyd Stearman continued to exhort their salesmen to sell, sell, sell! By the end of the year Beech was forced to lay off hundreds of employees, as did Cessna and Stearman, and Swallow cut its workforce by half. In addition, prices of new aircraft were falling almost as fast as the value of company stock.

Clyde knew that unless he could generate profits, the end of his dream was fast approaching. In January 1930 the company's board of directors filed a petition in Wichita District Court asking that a receiver be appointed to handle the affairs of the nearly defunct Cessna Aircraft Company. Certain members of the board charged that Mr. Cessna was at fault, having mismanaged the business. In their opinion, he had inflicted a loss of $100,000 on stockholders despite having sold $750,000 worth of airplanes and more than $300,000 worth of stock.

In February Clyde received more bad news, although he was not surprised – The Shawmut Corporation withdrew its involvement with Cessna's company amid its own desperate struggle to survive. In March 1931, the board of directors decided that because there were no profits to be made under the existing economic conditions, the factory would be closed and locked. Worse yet, any remaining employees, including Cessna himself, were eliminated from the company's meager payroll. Only a watchman would be paid to patrol the facility day and night.

Clyde was stunned by the sudden turn of events. He had worked so hard to keep the doors open, but he was at the mercy of the stockholders who had to put an end to the torrent of red ink that was flooding the company's books. In its short existence of less than three years, the

Clyde Vernon Cessna always believed the monoplanes were the only type of airplane worth building, although he did own a *"New Swallow"* biplane that introduced his nephew, Dwane Wallace, to aviation.
(EDWARD H. PHILLIPS COLLECTION)

Cessna Aircraft Company built and sold only 240 airplanes. His friends Walter Beech and Lloyd Stearman also suffered losses. The Travel Air factory was locked up tight, and Beech was relegated to a desk job with the Curtiss-Wright Corporation in New York City. Stearman would be forced out of his own company in 1932 and return to California to become president of the resurrected Lockheed Aircraft Company.

Just when all seemed lost, in 1933 Dwane Wallace and his brother Dwight, with help from their uncle Clyde, would wrest control of the Cessna Aircraft Company from the stockholders and design a new, much improved version of the venerable Model AW that would put new wings on Wichita. KA

NOTES:

1. During the 1928 Republican National Convention held in Kansas City during August, the Model AS was put to work transporting daily newsreel footage to St. Louis for distribution by the Pathe' News agency.
2. Only 22 DC-6A and 22 DC-6B were built before production ended in 1930. It is interesting to note that when Walter and Olive Ann Beech leased part of the defunct Cessna factory in 1932 to build the first Beechcraft, unused, welded fuselages for the Model AW, DC-6A and DC-6B were stored in the overhead rafters.

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.

Improved Situational Awareness and Navigation Now Standard on Beechcraft King Air 350i

Textron Aviation recently announced that iTAWS is now standard on the Pro Line Fusion®-equipped Beechcraft King Air 350i/ER turboprop aircraft. The system provides an integrated Terrain Awareness and Warning System (iTAWS) with the Fusion's high-resolution Synthetic Vision System (SVS) for easy operation.

iTAWS brings aural and visual warnings to the primary flight and multi-function displays, and it eliminates the standalone TAWS line-replaceable unit along with all related wiring and complexity.

Also, newly standard for the King Air 350i is multi-scan radar with turbulence detection that automatically detects short, mid and long-range weather. This provides an optimized weather picture regardless of the aircraft altitude or the range selected. Additionally, mobile enablement is now available as an option that allows wireless chart and flight plan uploads from an iPad via the ARINCDirect app, in addition to allowing the avionics to wirelessly receive and upload v-speeds.

All new Beechcraft King Air turboprops come equipped with Rockwell Collins Pro Line Fusion flight decks. The company expects to roll out the new features on the King Air 250 in the near future.

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About Pro Line Fusion

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- Available automatic flight plan uploads
- Open and scalable architecture for future upgrades and mandates

For more information, visit *www.txtav.com.*

Blackhawk Teams with Sierra Nevada to offer XP67A Engine Upgrade for King Air 350ER

Blackhawk Modifications' subsidiary for government and military sales division, Vector-Hawk Aerospace (VHA), has teamed with Sierra Nevada Corporation (SNC) to offer the Blackhawk XP67A Engine+ Upgrade Supplemental Type Certificate (STC) Kit for the Beechcraft King Air 350ER. The Federal Aviation Administration (FAA) recently approved Blackhawk Modifications' XP67A Engine+ Upgrade for the aircraft at takeoff weights up to 17,500 pounds maximum allowable takeoff weight (MTOW), significantly increasing the weight capability and horsepower output for special mission applications.

According to SNC, the after-market, system-of-systems approach, was developed specifically for special mission applications, and is mission endurance, safety and options combined into one solution. It "provides users with the most capable aircraft available, providing greater usable power, allowing for increased mission payloads and significantly longer loiter times, while providing increased safety and reduced risk throughout the range of operations and mission locations."

The XP67A will provide a 25-30 percent increase in power, which translates into improved climb and cruise performance for King Air 350ER aircraft, especially on hot days at high-altitudes. Although the PT6A-67A will produce a 400 thermodynamic SHP increase over the stock PT6A-60A, the Blackhawk engine will actually reduce the overall weight of the aircraft by about 18 pounds.

The new offering will include two factory-new Pratt & Whitney Canada (P&WC) PT6A-67A engines, new MT five-blade composite propeller assemblies and spinners, and a True Blue Power lithium-ion battery. Training, support and a five-year/2,500 hour enhanced new-engine warranty are also included.

The XP67A engine upgrade is a key element of SNC's Mission Enhancement Kit combined with the True Blue battery and Advent eABS anti-skid braking system.

SNC is the exclusive provider of the XP67A and Mission Enhancement Kit for the King Air 350ER, and will complete the installations at their network of authorized install facilities, field installations are also available.

For more information, visit *www.sncorp.com*.

West Star Aviation Launches Maintenance Portal for Customers

West Star Aviation is pleased to announce that it has launched a maintenance event portal for their customers as the latest tool to stay connected while their aircraft is in service.

The new portal was driven by the input of West Star's customers and will make communication between customers and West Star quicker and more efficient. The user-friendly portal makes it easy for customers to approve squawks online, provides approval status, labor, parts, service and other squawk charges, connects customers and lead technicians, and allows technicians to supply specific detailed photos regarding squawks.

In addition to its facilities in East Alton, Illinois; Grand Junction, Colorado; and Chattanooga, Tennessee, West Star Aviation runs maintenance operations at Aspen-Pitkin County Airport in Aspen, Colorado; Chicago Executive Airport in Chicago, Illinois; Centennial Airport in Denver, Colorado and Conroe-North Houston Regional Airport in Houston, Texas. The company also provides complete FBO services for transient aircraft at its newly remodeled East Alton and Grand Junction facilities. For more information visit *www.weststaraviation.com* or call (800) 922-2421. KA

From Multi-Engine Turboprop Communiqué # ME-TP-009

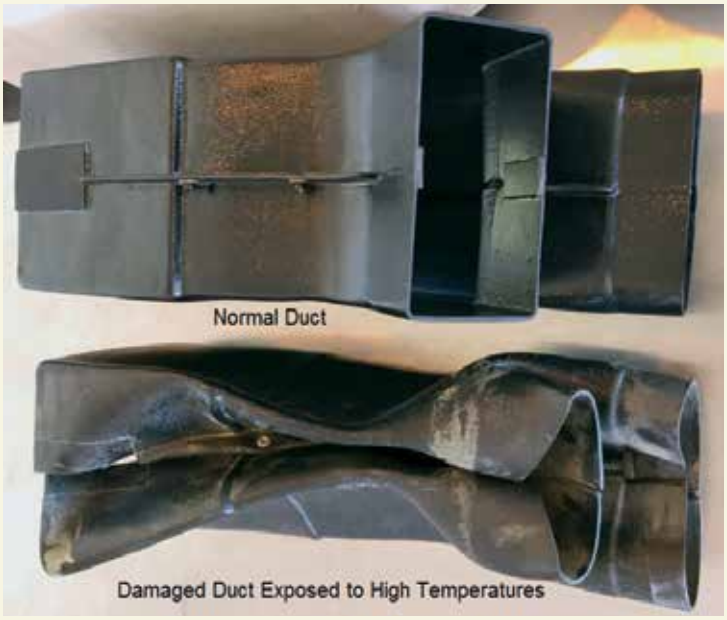
Date: June 2018

ATA 21 – Environmental Ducting Damage

Serial Numbers BB-1978, BB-1988 and after; BY-1 and after; BZ-1 and after; FL-493, FL-500 and after

The airplanes listed above are equipped with the Keith Products environmental system. This system has an automatic (AUTO) mode and a manual (MAN) mode. The system is designed to be operated in the AUTO mode as the system's computer monitors temperatures, blower speeds and servo positions to keep the airflow and air temperature within the system limits to deliver the air to the cockpit and cabin based on the temperature selected by the crew. In the event of a system malfunction, the MAN mode can be used. However, all the functions that were taken care of by the system's computer are now the responsibility of the crew.

Textron Aviation Technical Support has received reports of duct damage due to over temperature events.



Investigation has revealed that some crews are using the MAN mode to bypass the system's computer to "expedite" the delivery of the air at the temperature they have selected. The result of this practice is shown in the picture (at left) when the crew forgets that they are now in charge of keeping the system within its design limits. It is important to remember that the system should be operated in the AUTO mode and MAN mode should only be reserved to get you home at which time the discrepancy can be corrected.

ATA 25 – King Air Seating Configuration and Structural Loading

All

King Air Operators may change the seating configuration to arrangements not shown in the AFM as long as the necessary regulatory approvals are obtained for the change. The airplane's weight and balance must be updated and the airplane must be operated within the center of gravity limits. Consideration should be given to emergency egress, aisle widths, access to oxygen masks and the floor loadings described below and regulatory approvals for any data used to embody the change should be approved by the local regulatory body.

The King Air floor loading has been defined by Engineering as follows:

- Floor load not to exceed 200 PSF when supported directly on seat tracks via metal or wood skids.
- Floor load not to exceed 20 PSF when supported directly on floor boards and not supported by seat tracks via skids.
- Floor load not to exceed POH limits aft of the door in the sloped baggage area.
- Center aisle loading not to exceed 20 PSF.
- Tie down points shall be spaced no closer than 20 inches apart.
- Do not exceed POH compartment loading. Compartment loads should be reduced for equipment already installed.
- Do not exceed POH luggage compartment limits.
- Load factors are:
  - 9 Gs forward x 1.33
  - 9 Gs down x 1.33
  - 7 Gs up x 1.33

The above information may be abbreviated for space purposes. For the entire document, go to www.txtavsupport.com.

ADVERTISING INDEX

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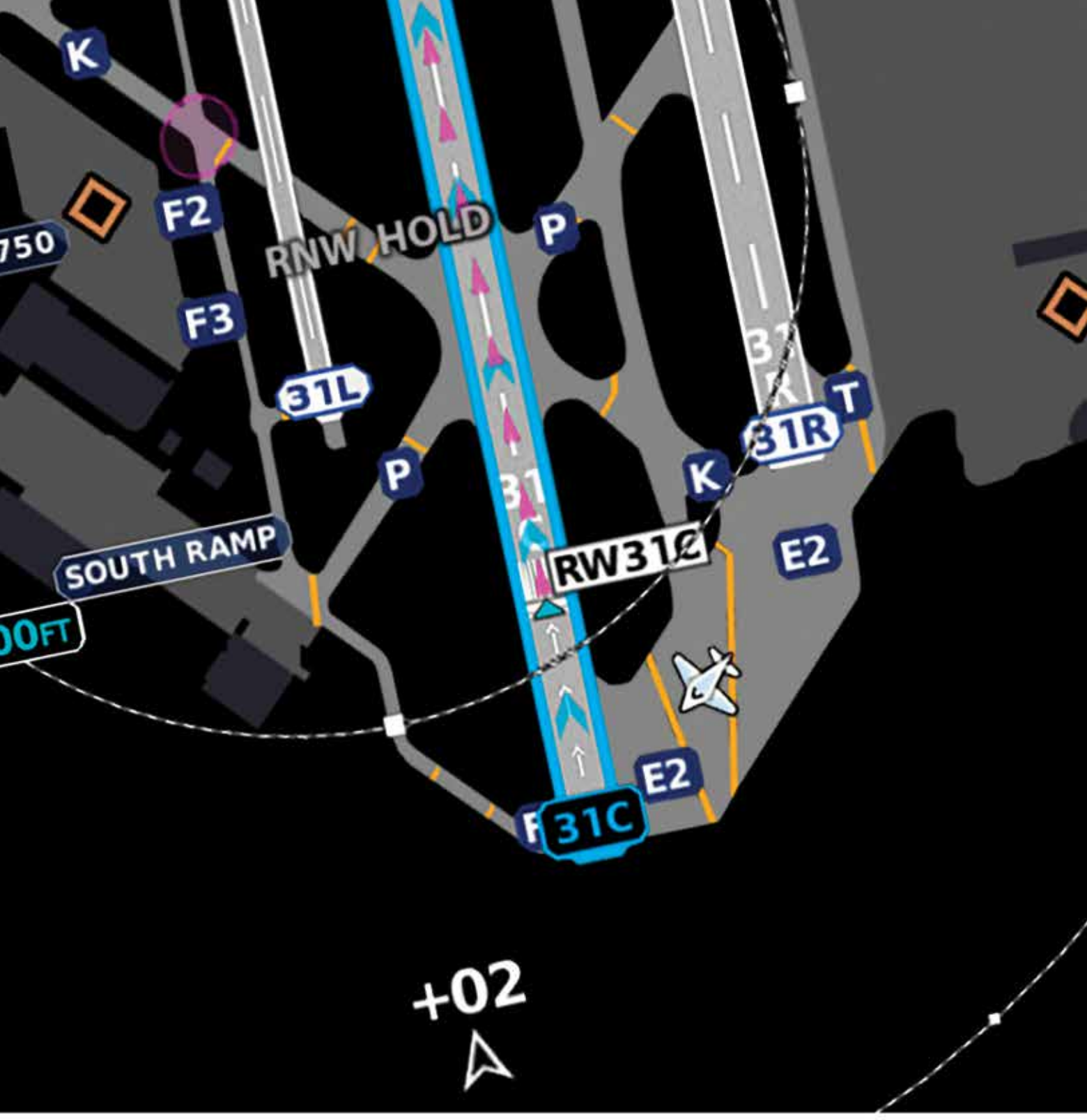

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