King Air

A MAGAZINE FOR THE OWNER/PILOT OF KING AIR AIRCRAFT

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Lighting It Up

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Photo courtesy of Wilson Construction (Gabriel Miller Photography)

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REMOTE

This 2007 King Air 350 is the busiest aircraft in Wilson's fleet, averaging about 350 hours per year. Wilson acquired the airplane with Raisbeck Wing Lockers and Dual Aft Body Strakes already installed, then added the same to their 2008 C90GTi. (GABRIEL MILLER PHOTOGRAPHY)

CONTROL

King Airs help Wilson Construction reach remote jobsites

by MeLinda Schnyder

Wilson Construction is a family-owned electric utility construction business headquartered in Canby, Oregon, with a fleet of three fixed-wing aircraft including these Beechcraft King Airs based at Aurora State Airport. (GABRIEL MILLER PHOTOGRAPHY)

Stacy Wilson, vice president of Wilson Construction, grew up in the electric utility construction business. Her grandfather, Matt O. Wilson, started building power lines in 1952 to connect farms in rural Oregon and Washington to the electrical grid. Stacy's father and current Wilson Construction president, Don Wilson, joined the company in 1974. Early in his career, after driving 60,000 miles throughout Oregon and Washington in one year, he joked that he was not going to have a home life if he kept driving for business. So he decided to do what any smart problem-solver would do – he got his pilot's license.

Stacy was raised flying in airplanes piloted by Don and helping out around the office. So it should be no surprise that Stacy, too, is now a pilot at Wilson Construction, which has expanded beyond the Pacific Northwest over the past half-century and into one of the largest privately held utility construction companies in the nation, by using innovative construction solutions made possible by a fleet of fixed-wing aircraft.

"The company really started to expand to different geographic areas and into different projects once my dad took over," Stacy said. "He would tell you that every time he bought a bigger airplane, our customer base could expand more and more."

Now, Wilson Construction owns three fixed-wing aircraft, including two Beechcraft King Airs, that fly 700-800 hours each year to make visits to jobsites that are often remote, transport management to customer meetings, position lineman crews and support the company's in-house helicopter division.

An important service Wilson Construction offers is helicopter-aided construction. The company has used helicopters for decades and since 2004 they have operated their own rotary-wing fleet. (WILSON CONSTRUCTION)

WILSON'S BUSINESS MODEL

Wilson Construction, headquartered in Canby, Oregon, south of Portland, performs all facets of electric distribution and transmission construction projects. The company specializes in overhead and underground power line construction, substation and foundation construction, and helicopter and environmental services.

Wilson Construction owns a large inventory of highly specialized tools, equipment and aircraft, including five MD 500 series and one AW Koala helicopter specifically equipped for power line construction. (WILSON CONSTRUCTION)

In addition to overseeing nationwide operations as company executives, Don and Stacy remain directly involved with the fixed-wing flight division.

Stacy said Wilson Construction stands apart from competitors in several ways: there are very few utility construction companies remaining that are family owned, they offer helicopter-aided construction and have operated their own rotary-wing fleet since 2004, and they've used business aviation since the 1970s.

"We can be very nimble, flexible and react to customer needs," Stacy said.

The tools that set Wilson Construction apart mean customers can expect timely completion on even the most complex projects. With the use of business aircraft, they've been able to bid and win jobs outside the Pacific Northwest. Wilson Construction employs more than 600 people across the United States and has regional offices in Washington, California, Arizona, Illinois and Pennsylvania.

Wilson Construction's fixed-wing flight department handles most of its maintenance in-house and employs three full-time pilots. (GABRIEL MILLER PHOTOGRAPHY)

AVIATION ASSETS

Using business aircraft may have started at Wilson Construction as a way to get from point A to point B quicker, but the uses and benefits quickly multiplied. Today, the company has a full-fledged flight department.

"The Wilson flight department is pretty self-sufficient," said Mike Hughes, chief pilot. "We have three full-time pilots in addition to Don and Stacy. Most of our maintenance is done in-house using our

Wilson Construction relies on Beechcraft King Airs to get management and crews to jobsites, many of which are in remote locations in the Pacific Northwest. (GABRIEL MILLER PHOTOGRAPHY)

own maintenance department. Almost all of our flights are conducted single-pilot under Part 91 flight rules."

There are scheduled customer meetings from coast-to-coast or routine site visits; there are also emergency trips. For example, there are times when entire crews need to move quickly from state to state to repair storm damage or respond to other power emergencies.

"My dad or I can be on the plane and sitting in front of the customer in just a couple of hours," Stacy said. "Our airplanes can get us quickly to a jobsite or to a customer's office, and they can get our linemen repositioned for emergency work situations."

The fleet is based at Aurora State Airport (KUAO) and includes a 2010 Challenger 300, a 2007 King Air 350 and a 2008 King Air C90GTi. King Air Model 90s found their way into the Wilson Construction fleet early on, because so much of the company's work is located in remote locations. Don did the majority of the flying for the company until 2007, when Wilson Construction hired its first fixed-wing professional pilot. Don still flies both the King Airs and Stacy flies the C90GTi.

"The King Airs are perfect at getting us into and out of these smaller airports quickly, efficiently and safely," Hughes said. "There really isn't another airplane out there that matches the capabilities of these airplanes."

The busiest aircraft in the fleet is the King Air 350, which averages about 350 hours per year and has 2,200 total hours. It was pre-owned and came with Raisbeck Wing Lockers and Dual Aft Body Strakes.

"It's pretty hard to find an airplane like the 350 in which you can fill all the seats, fill the cargo compartment and still haul plenty of fuel to get to your destination," Hughes said.

Wilson Construction added Raisbeck Crown Wing Lockers, Quiet Turbo Fan Propellers and Dual Aft Body Strakes to the King Air C90GTi, which the company flies about 250 hours per year.

"The 90 is excellent for short to mid-range trips," Hughes said. "It can take us into small airports with limited services very efficiently."

Hughes said the pilots love the diversity of the flights, because every mission presents a unique set of challenges and opportunities to learn.

"Our Flight Department is a tight-knit group of professionals," Hughes said. "We all love what we do and enjoy working together. The culture of the department closely matches the company as a whole in that we are not limited by our titles. If there is a need for maintenance, we all help in that capacity. It's not uncommon to find a pilot, mechanic and the hangar manager working shoulder-to-shoulder to get an airplane washed and prepped for a flight." KA

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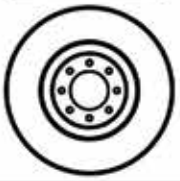

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The Overspeed Governor and the Test Solenoid

by Dean Benedict

Just before takeoff, or at least before the first flight of the day, your checklist includes testing the overspeed governors. You know that switch on the sub-panel? When you hold it up, the test solenoid opens a port that dumps some oil back into the engine case, and this holds the prop rpm to 150 below takeoff rpm. If the solenoid sticks in the open position after you release the switch, the prop stays at the reduced rpm level. It gets your attention when you're about to take off.

A customer of mine with a B200 was heading home at the end of a weekend trip. He started to roll on takeoff, but noticed the prop rpm on one side was hanging up at about 150 rpm shy of takeoff requirements. The aircraft started to yaw because the torque on that side was now disproportionately high. He aborted the takeoff and gave me a call.

As soon as he outlined the scenario, I immediately suspected the solenoid on the overspeed governor (OSG). No maintenance personnel were available, so I had him flick the test switch several times to see if it would release the solenoid, but it wouldn't budge.

A torque gauge on a King Air E90 showing the limits in red.

We decided that if he pulled the other prop back to match the lower prop rpm, he would be able to take off safely and get home so I could have a look at it. His location was not much above sea level, so I knew he would get enough horsepower for takeoff. Good thing he wasn't in Telluride.

Of course, I have to insert a caveat for safety here, because I'm a "by the book" kind of guy. I'm the last person to recommend a cavalier approach in the cockpit. But *if you know the capabilities and limitations of your aircraft well*, you can gently bend a rule here or there to find a safe way out of a less-than-optimal situation. That's a big "if" and I trust you readers are getting my intention here.

Skipping the Test

When the B200 got to my shop, the solenoid was still stuck open. I cured it with a whack of a mallet and suggested he skip the overspeed governor test from now on. All it does is test the solenoid. It doesn't, in my opinion, test the overspeed governor itself. Some may disagree with me on this, but there are many seasoned King Air pilots with thousands of King Air hours who agree wholeheartedly with omitting the OSG test before takeoff.

The same thing happened to the pilot of an E90 down in Alabama. He was picking up the aircraft following a Phase Inspection. The shop had just finished checking all the systems (pressurization, auto-feather, auto-ignition, overspeed governors, etc.), so the pilot wasn't expecting anything to be amiss. But as he was about to take off, he noticed one prop rpm lagging below the other.

He had my number in his cell phone because I'd done the pre-buy for him two years before, so he gave me a call right then and there. He described the problem and I knew right away that the OSG solenoid was stuck open.

I told him to taxi back to the shop, tell them he had spoken to me about the problem, and have them smack the OSG solenoid with a mallet. That did the trick.

I gave that pilot the same advice – quit testing the overspeed governor because you're just asking for a stuck solenoid.

The Power Lever Double-Check

Back in the '70s and '80s, we had a chronic problem with solenoids sticking open. We would do the final ground runs on a King Air and everything would be fine, but when the owner went to leave, one prop wouldn't come up to takeoff rpm. It happened a lot and it was maddening.

In response, I formed the habit of releasing the test switch and running the power levers back up through the test zone. This way, if the solenoid stuck open after the test, I could catch it on my ground run and fix it before the owner picked up his aircraft. To this day, if I touch that OSG test switch, I do a double-check with the power levers afterwards.

In the old days, those solenoids failed so frequently that we kept them in stock. I don't know if it was a vendor problem or a change in design, but the tendency for stuck solenoids on the overspeed governors seemed to lessen over time. It still happens, however, and always at an inopportune time. Being able to identify and fix the problem is very handy.

Malletization Beats Beaucoup Bucks

So why didn't I replace the solenoid in that B200, or tell the E90 pilot to have his replaced?

Once you look up the price you'll see why. They have become absurdly expensive. Currently, the price at Beech (Textron) is a hair below $7,000.

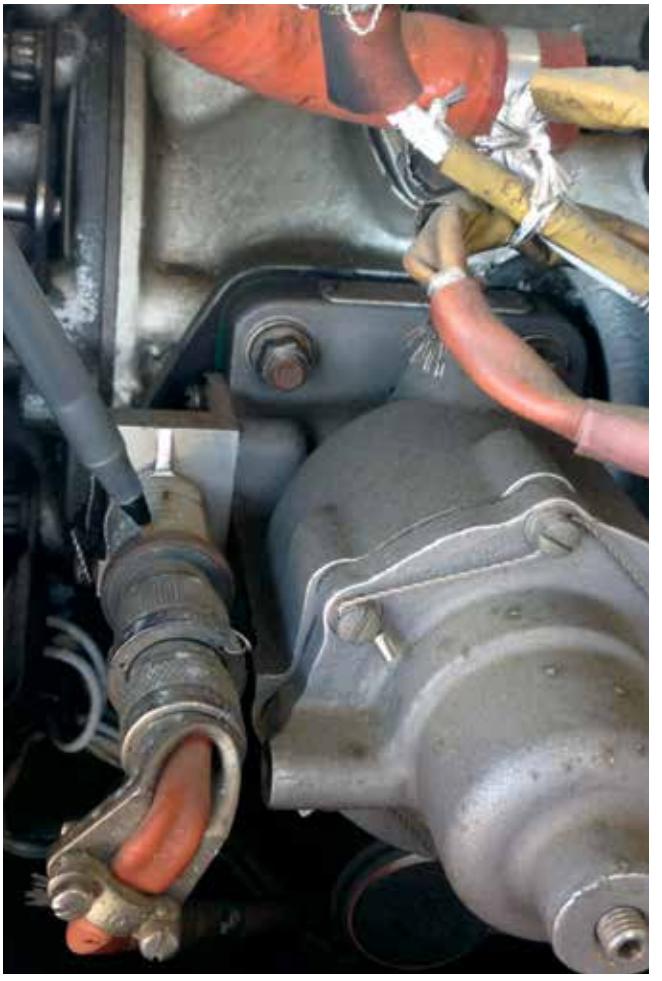
Malletization, or hitting something with a soft-blow hammer, is a

time-honored solution to lots of problems. Customers don't want to hear that their expensive aircraft was whacked with a hammer, hence the term "malletization" was born. What was once an inside joke among mechanics, is now listed in the "Urban Dictionary" on the internet. Solenoids, valves, certain switches, etc., respond beautifully to malletization, provided you know what you're doing, and it beats the heck out of replacement pricing (pun intended).

The E90 Conundrum

You E90 drivers have two torque limits on your torque gauges – one for 2,200 rpm (TQ value of 1315) and one for 1900 rpm (TQ value 1520). I ran into a puzzling situation with the owner of an E90 with Raisbeck four-blade props who complained that his OSGs had never tested in the time he owned the airplane. Of course, the first place I went was the solenoids. I verified that both had power, I removed them for bench check and they both passed with flying colors … hmmm.

I was beginning to suspect bad OSGs when I had an "Aha!" moment. The takeoff rpm on an E90 with three-blade props is 2200, so the normal setting for the OSG is about 150 rpm below that (1950-2050 rpm is typical). But on an E90 such as this one, with four-blade props, the takeoff rpm is 1900, so the corresponding OSG setting would need to be around 1750 rpm. I found the prop



A pen pointing to the test solenoid of a King Air 200, with the overspeed governor directly to its right.

governors on this E90 were correctly set for takeoff rpm at 1900, but the OSGs were still set at 2050 to align with a takeoff rpm of 2200. Bingo! The OSGs will never test at that setting. Once both OSGs were properly adjusted to 1750 rpm, everything worked as advertised and the OSGs tested every time.

In Conclusion

If skipping that OSG test altogether sounds a tad radical to you, let me tell you where I'm coming from: The overspeed governor is a backup to the prop governor. And in the 40-plus years I've been working on King Airs, I have yet to hear of one with a prop governor failure. I'm not saying they have never failed on a King Air; I'm just saying I've never experienced it.

Therefore, based on my experience, the OSG test is an unreliable and/or misleading test of a secondary system which is backing up a very reliable primary system.

The other point I want to make is this: You could perform the overspeed governor test and get a failure – i.e., you pull the switch, but the prop rpm doesn't stop and goes all the way to takeoff rpm. So you have the overspeed governor removed, you pay $3,500 for an exchange unit with a $15,000 core deposit

(Beech/Textron current pricing), and then you get a $7,000 bill back on your core for a bad solenoid! Your OSG was fine but the solenoid failed to actuate! So, again, this OSG test is more about the test solenoid than the OSG itself. This is exactly why many seasoned King Air pilots skip the OSG test altogether.

Yes, the OSG test does check the function of the OSG, but it also tests the test solenoid. Unfortunately, that pesky solenoid is far more likely to malfunction than the OSG, leading you to think you have an OSG problem when you don't.

If you want to test your OSGs, by all means do so. But consider doing a double-check with your power levers immediately following; and maybe stash a mallet somewhere ... just in case. KA

Dean Benedict is a certified A&P, AI, with over 40 years of maintaining King Airs. He owned and managed Honest Air Inc., a maintenance shop specializing in Beech aircraft with an emphasis on King Airs, for 15 years. In his new venture, BeechMedic LLC, Dean consults with King Air owners and operators on maintenance management, troubleshooting, pre-buys, etc. The Honest Air operation merged with Apex Aviation (KHND) where Dean oversees all King Air and Beechcraft activity. He can be reached at *drdean@BeechMedic.com.*

Recent Developments in Aviation

by Kim Blonigen

Study Recommends New Go-around Procedures

A new study, which was commissioned by the Flight Safety Foundation and presented at a recent Flight Safety Foundation/NBAA Business Aviation Safety Seminar, recommends redefining approach criteria for business and commercial aviation operations. Only three percent of commercial pilots comply with SOPs mandating go-arounds if the aircraft is not on a stabilized approach at or below 1,000 feet agl, and corporate pilots are believed to be the same.

According to the study, compliance could eliminate 54 percent of accidents, but most pilots believe the standard is unrealistic and thus have little incentive to observe it. "Understanding the Psychology of Non-compliance in Go-around Decision Making" also finds these pilots score lower on all measures of situational awareness and are less communicative with other crewmembers than compliant pilots.

The study recommends making 300 feet, rather than 1,000 feet agl, the go-around height for unstable approaches; and also recommends enhancing landing go-around criteria. In the interim, recommended measures include installing stable approach and alerting systems on aircraft, as well as ensuring flight crews actively communicate during approach and landing.

FAA Proposes Eliminating Hundreds of Remote Communication Outlets

The Federal Aviation Administration (FAA) issued a Notice of Proposed Policy to reduce the number of remote communication outlets (RCOs) used by flight service stations (FSSs). Currently there are 1,621 RCOs in the United States, and under the proposal 666 would be decommissioned starting next year. Frequencies especially designated for emergency and military use are not included in the proposal, as well as frequencies in the state of Alaska.

The FAA states that currently RCO coverage includes duplicate, overlapping and seldom used frequencies. Last year, it contracted the MITRE Corporation to study the areas covered by RCO and VOR frequencies for "possible removal without significantly impacting the area of coverage." The study concluded that the 666 frequencies could be removed and still provide 99-100 percent coverage at 5,000 feet; 98-100 percent coverage at 3,000 feet; and 93-100 percent coverage at 1,000 feet.

By reducing radio coverage, the agency estimates it can save up to $2.5 million annually in

maintenance costs alone. More savings will be realized once property leases are terminated and the voice-switch communications infrastructure is reduced.

Comments on the proposed policy are due to the FAA by June 27, 2016.

Proposed Rulemaking Withdrawn for NYC Airports Landing Restrictions

The FAA has withdrawn its Notice of Proposed Rulemaking (NPRM) that would have imposed new landing restrictions on nonscheduled operations for three major New York City-area airports due to "significant" changes affecting the airports. The NPRM would have limited unscheduled operations at John F. Kennedy International Airport to two slots per hour and one per hour at Newark Liberty International Airport, as well as permanently implementing existing restrictions of three per hour at La Guardia Airport.

Since the FAA initiated this rulemaking early last year, there have been "significant changes in circumstances affecting New York City-area airports, including changes in: competitive effects from ongoing industry consolidation; slot utilization and transfer behavior; and actual operational performance at the three airports." The agency also recently announced that slot controls are no longer needed at Newark.

"In light of the changes in market conditions and operational performance, and particularly the potential impact of Newark's change in status, the FAA is withdrawing the NPRM to allow for further evaluation of these changes," the agency stated.

Doug Carr, National Business Aviation Association's (NBAA) vice president of regulatory and international affairs, responded to the withdrawal by stating, "Business aircraft operators flying into and out of the New York/New Jersey region will benefit significantly from retaining historic access to these important aviation resources, particularly when certain weather conditions make these larger airports better options than smaller area airports."

The NBAA also stated that the FAA's withdrawal of the NPRM also means LaGuardia Airport's (LGA) current slot limitation of three unscheduled slots per hour remains in effect, and JFK continues to have no unscheduled slot requirements. And that these conditions will remain in effect until October 27, 2018, when the relevant JFK and LGA orders will expire. KA

Descent Planning

by Tom Clements

There is really nothing new in this article. If you are totally comfortable with your descents and have learned the techniques presented in my or King Air Academy's *Flight Training Notes*, then you are wasting time here. Move along; nothing to see here.

But if you have not yet learned these tips, you're about to learn them now (and how useful they are)! One of the nifty things is that when you learn the tips, you can apply them to any pressurized airplane from your King Air to the 747 your airline operates. In fact, I first learned these techniques back in the '70s from a great book about flying 747s, "Handling the Big Jets" by David P. Davies.

There are two pieces of mathematics that are necessary to solve our descent planning question: Altitude to Lose and Ground Speed.

Rule #1:

Distance Required (nm) = [Altitude to Lose (in thousands) x 3] + 10%

We are cruising at FL270 and the ATC-crossing restriction is at 11,000 feet. That means we have (27,000 – 11,000) 16,000 feet to lose; 16 x 3 = 48, plus 10% more is 52.8. For our realistic (lazy?) computation, anywhere between 52 nm and 60 nm is fine.

Another example: We are at 12,000 feet, landing at Sea Level, VFR. We have 12,000 feet to lose; 12 x 3 = 36, plus 10% more is about 40. We need to start down about 40 nm out.

One more: Cruising at 21,000 with a crossing restriction of 7,000 would mean 14,000 feet to lose; 14 x 3 = 42, plus 10% = 46. We'll start down about 46 to 50 miles out.

Rule #2:

Rate of Descent (fpm) = [Ground Speed (knots) ÷ 2] X 10

What we are really doing is multiplying our ground speed by five. But for most of us mathematically-challenged types, it is easier to divide by two instead of multiplying by five. That works perfectly so long as we move the decimal point appropriately. So just half your ground speed and add a zero at the end.

Descent ground speed is 260 knots? Then descend at 1,300 fpm. At 300 knots? 1,500 fpm and 200 knots would be 1,000 fpm. You get the idea. Easy, right?

So at the appropriate distance out, you nose over to get the vertical speed desired, tap the VS button on the autopilot – if you have one – and go back to sipping your coffee, right? What could go wrong?

Well, winds can change, that's what can go wrong. And the wind change will cause your ground speed to vary. Also, you may make a significant power reduction due to turbulence encountered and that, too, will have an effect on ground speed.

So it is important to stay on top of this descent planning and to make the necessary adjustments. In other words, make a "How Goes It" (Howgozit) check every few thousand feet. For example, you are descending to Sea Level from 16,500 feet, so you started down about 54-60 miles out. Your ground speed was 240 knots, so you began your descent at 1,200 fpm. Now, passing 10,000 feet you make your howgozit check. At 10,000 feet to go, I need 33 miles. The GPS tells me I have 35 miles to go. I am slightly ahead of the profile, so no need to change anything.

But now I am passing 7,000 feet. I need 23 miles and the GPS says I have 28 miles left to go. I am getting so far ahead of the profile that I will dial the descent rate from 1,200 back to 1,000 fpm and see how it goes. Later, at 4,000 feet, I need 13 miles and I have 14 to go. Ah, all looks good in my descent world!

Another example: We are descending from FL280 to make a crossing restriction at 16,000 feet. We started down 40 miles out with an initial descent rate of 1,500 fpm. (Our ground speed in cruise had been 280 knots and we figured we'd pick up a little in the descent.) Passing FL230, we notice that we have 20 miles remaining to the fix, yet we need about [(23 – 16) X 3 + 10%] 23 nm. We better increase the VS from 1,500 to 1,800 or so. Later, passing 180, we need seven and we have eight nm remaining. Cool! We are slightly ahead of the game. No need to make any adjustment.

Are there other, perhaps even better, ways to conduct our descent planning? Of course. Modern VNAV (Vertical Navigation) capabilities make this a snap for the autopilot to accomplish. The old method of time-to-go and altitude-to-lose works well if we always descend at 1,000 fpm (20,000 feet to lose? I'd better start down 20 minutes out.). But always descending at 1,000 fpm is certainly not optimal for every situation, especially in the 200- and 300-series King Airs. Furthermore, when ATC assigns

something like "Descend so as to cross 15 miles west of Salom at 17,000 feet," the time-to-go reading is not known to us unless we create a new waypoint at that offset point. But distance is always a known quantity. (In this case, approaching Salom from the west, we'd need to add the extra 15 miles to our calculation. Need to lose 10,000 feet? Then instead of 33 out, we'd start down about 48-50 nm from Salom.)

Try it. You'll like it! And to make it easier, I will include a couple of tables. Feel free to copy them and attach them to your kneeboard or whatever for easy reference. 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.* 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.

ALTITUDE TO LOSE (Thousands)	DISTANCE REQUIRED (nm)	GROUND SPEED (knots)	RATE OF DESCENT (fpm)
28	92	390	1,950
27	89	380	1,900
26	86	370	1,850
25	83	360	1,800
24	79	350	1,750
23	76	340	1,700
22	73	330	1,650
21	69	320	1,600
20	66	310	1,550
19	63	300	1,500
18	59	290	1,450
17	56	280	1,400
16	53	270	1,350
15	50	260	1,300
14	46	250	1,250
13	43	240	1,200
12	40	230	1,150
11	36	220	1,100
10	33	210	1,050
9	30	200	1,000
8	26	190	950
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By the early 1930s, the Great Depression had decimated Wichita's once booming aircraft industry, but a few courageous entrepreneurs were willing to gamble everything to put new wings on their dreams.

by Edward H. Phillips

As the wave of economic devastation continued its sweep across America in 1931, sales of new commercial airplanes remained in a tailspin. Every airframe, engine and component manufacturer in the country was struggling to keep its doors open and its workforce employed.

A look at some statistics from the period will illuminate the situation quite clearly: According to the Aircraft Year Book for 1931, production of new commercial and military aircraft that year was only half of what it was in 1929. American airframe manufacturers built 2,684 new airplanes in 1930 compared with 6,034 the previous year. Of these, 1,937 were commercial ships and another 747 were procured for the military. The number of new and used aircraft actually sold in 1930 (commercial and military) totaled 3,125.

Despite America's worsening economic situation, the Stearman Aircraft Company continued to advertise its products. The full-page artwork illustrated here shows a Model 4E *Junior Speed Mail* built in 1930 expressly for the Standard Oil Company of California. A total of three were built and delivered. Another Model 4E was built for the Standard Oil Company of Louisiana. All four biplanes were powered by various Pratt & Whitney static, air-cooled radial engines. (KANSAS AVIATION MUSEUM)

Wichita's crippled aircraft industry contributed little to those numbers as demand for small airplanes continued to shrink. By 1932, the city's only major airframe manufacturer still operating was the Stearman Aircraft Company that had managed to survive during 1930-1931 thanks to its corporate relationship with parent United Aircraft & Transport Corporation (UA&TC). Before the new Stearman factory opened for business in December 1930, Lloyd Stearman and businessman Walter Innes, Jr., hosted a meeting of the Wichita Manufacturers Club. During the event, City Manager Bert C. Wells, who also served as head of the town's Unemployment Conference Committee, urged businessmen to "refrain as far as possible from decreasing their forces" and suggested that if "they could not work more than half a force," to work "all the men half of the time instead of half of them all of the time." In addition, he pleaded with members of the organization not to cut wages any further. The Stearman facility was the only active airframe manufacturer in Wichita and employed only 125 men and women. Their wages, once among the best in the nation, had been slashed in an effort to stem the flood of red ink brought on by an industry that had almost collapsed overnight. The employees, however, were happy to have a job because more than 100 of their fellow workers had been laid off.

In addition to Lloyd Stearman and Mac Short, famed aeronautical engineer John K. "Jack" Northrop would play a minor role in the history of the Stearman company. Northrop had designed and built the *Alpha* series of modern, all-metal monoplanes.[1] Back in 1929, officials of UA&TC, in particular its president Frederick B. Rentschler, decided to absorb the *Avion/Northrop Aircraft Corporation.* In 1931, Rentschler consolidated the Northrop and Stearman companies and relocated Northrop's operation to Wichita. Walter Innes viewed the consolidation with enthusiasm, stating to the press that the transfer of men and equipment from Burbank,

California, to Kansas "would add greatly to the size and activity of the Stearman plant," and that the *Alpha* and the smaller *Beta* monoplanes would be built at the Stearman factory.[2]

By mid-1931, however, sales of new Stearman airplanes were becoming increasingly difficult to achieve and the future looked bleaker than it had in 1930. It was, therefore, a great relief to Lloyd Stearman when, in June 1931, American Airlines threw the company a lifesaver by ordering seven Model 4CM-1 biplanes to supplement the five it already had in service. Building the small fleet of *Senior Speed Mail* ships kept the factory busy throughout that summer as workers labored long hours at miniscule wages to complete the contract on time.[3]

Soon after the first of American Airline's 4CM-1 departed the factory in July, so did Lloyd Stearman. His decision to resign from the company that bore his name came in the wake of a business trip to New York City. He met with officials of UA&TC and announced his plans to seek new opportunities elsewhere. His decision came as quite a surprise to many of his friends and associates, but his departure was inevitable given his independent nature and entrepreneurial spirit. The company he had founded and guided to worldwide notoriety had become just another cog in the wheel of UA&TC, and Stearman had tired of playing a secondary role as the company's chief consultant and technical advisor. Lloyd's plans included a return to California where "he will take a rest and look into various business prospects," according to a report in the Wichita *Eagle* newspaper.[4]

The year 1932 marked the low point in the fortunes of the struggling Stearman Aircraft Company. With no orders for new airplanes, the factory grew quiet and only a skeletal crew remained on the slender payroll. The number of employees had plummeted from 125 in December 1930 to fewer than 25 that summer. Mac Short's engineering staff had been reduced to himself and a few other men, and the drawing boards were gathering dust. Money for daily operations was extremely tight and the company was operating on a shoestring budget. In the wake of these hard realities, senior company officials circled the wagons and waited for better days to come.

Early in September, those better days did come. The Boeing Airplane Company contracted with the Stearman factory to build hundreds of detail parts and assemblies for the Boeing Model 247 airline transport. The all-metal, twin-engine monoplane could carry 10 passengers and 500 pounds of mail at a cruising speed of 175 mph. United Air Lines had ordered a large fleet of the latest Boeing design and planned to operate the aircraft on routes between Chicago and California. The contracts proved to be a blessing and played a significant role in saving the ailing Stearman enterprise from extinction. The factory would be responsible for manufacturing landing gear, control columns, instrument panels and seats for the pilot and copilot.

Schaefer quickly began to hire experienced mechanics, machine operators, welders and sheet metal experts, many of whom had lost their jobs during the past three years. Soon the factory was humming once again as the work of 100 new employees filled the back shops with components for the Boeing 247. The contract would keep them all busy well into 1933. By the summer of that year, Innes and Schaefer were becoming increasingly optimistic about the future of the American economy. Business was slowly gaining momentum and the dark abyss of the Great Depression seemed to be giving way to a light at the end of the tunnel. Yet, Innes and Schaefer remained keenly aware that the market for new commercial aircraft would continue to be fundamentally weak in the near term. Therefore, they reasoned that pursuing military contracts was the best path the company could seek for potential sales. In what could

In 1932, the Great Depression kept its stranglehold on Wichita's aviation industry. As a subsidiary of United Aircraft & Transport Corporation, which included the Boeing Airplane Company, Stearman Aircraft Company survived primarily because it received subcontracts from Boeing to build landing gear and cockpit components for the Model 247 airline/executive transport. (PHILLIPS PETROLEUM COMPANY)

In 1934, the Beech Aircraft Company relocated manufacturing of the Model 17 cabin biplane to the former Travel Air factory on East Central Avenue. The facility remains the permanent home of Beechcraft, a division of Textron Aviation.

be described as a most fortuitous turn of events for the Stearman organization, by 1934 the Army and Navy brass were having some success squeezing more money out of a penny-pinching Congress to buy new airplanes. In addition, Franklin D. Roosevelt was in the White House, and his multi-faceted "New Deal" program convinced many Americans that happy days could return once again.

During the cold winter of 1934, there was increasing evidence that the "Air Capital of the World" was beginning to rise from the ashes. Not only was the Stearman factory busy, but over on the east side of town the Beech Aircraft Company had begun production of the Beechcraft Model B17L cabin monoplane. Walter, his wife, Olive Ann, and a few trusted associates from the old Travel Air organization had returned to Wichita early in 1932 and set up shop inside Clyde Cessna's abandoned factory. The company's first product was the Model 17R1, a big, bullish biplane with a plush cabin for five occupants, a fire-breathing radial engine pumping out 420 horsepower, and a maximum speed of 200 mph. It was an impressive machine, but its $18,000 price tag was too high for a depression economy. By contrast, the B17L was smaller, much more economical to operate, could cruise at 150 mph and cost about $8,000. It was the right Beechcraft for a depression economy, and sales proved it.

Meanwhile, southeast of the city, Clyde Cessna's nephews, Dwane and Dwight Wallace, were waging a campaign to wrest control of the defunct Cessna Aircraft Company from its disgruntled, obstinate shareholders. In January 1934, the brothers, with token support from their uncle Clyde, sent out a flurry of special letters to shareholders along with a proxy to hopefully gather enough votes to oust the existing board of directors.

One of the letters is quoted here in full, and contains some interesting points:

Dear sir:

A short time ago I mailed you a letter enclosing a proxy, which no doubt gave you a good idea of what has been going on at the Cessna plant for the past three years under its present management. I feel that I should write you more in detail of what I intend to do after I'm back in control of our company.

There is no doubt but that the airplane industry could be a paying one today if handled properly. Good examples of which are represented by the Waco, Monocoupe, Douglas and Northrop airplane companies, as well as various others. Through the fact that I have been engaged in the airplane business for the past two decades, and having always been recognized as one of the pilgrims in the airplane industry, I have made many valuable contacts in the field of aviation in the last three years with various companies and large distributing agents, and with these connections I am sure that I can sell a large number of airplanes.

I intend to redesign and develop the four-place Warner ship [formerly the Model AW] to such as extent that it will develop a speed of about 185 mph and yet keep its present stability, airworthiness and other grand features that made it so popular. This ship will have many wonderful selling points, such as the low cost of maintenance and operation, upkeep and high cruising speed.

I am sure you realize that our stock is practically worthless today. A complete liquidation would pay only a very small percent back on our original investments, while if you cooperate with me, the Cessna Aircraft Company will again be doing a good business and our stock on the market rise accordingly. I am enclosing another proxy in case you did not receive or have misplaced the other one, and I will appreciate your executing the same and returning it to me in the self-addressed envelope, which is enclosed.

Although Cessna did not compose the letter, he did agree to sign each one, "Very Truly Yours, Clyde V. Cessna." The Wallace boys knew they had a tough fight ahead of them. Dwane followed up the letters by visiting each person in Wichita who held more than 100 shares of stock, assuring them that the time was right for Cessna airplanes and that their support would result in profits later. It was not, however, only the shareholders who had to be convinced. Dwane and Dwight knew they had to buy thousands of shares of stock if they were going to win the battle. Wichita investor Thad Carver held more than 20,000 shares, Clyde Cessna had 12,000, and the brothers were able to buy 6,000 shares from the Clement M. Keys brokerage firm in New York City.

At the annual shareholders meeting held on January 17, 1934, the votes were counted and the Wallace boys had won, albeit by only a tiny margin. The two young men soon forged ahead with ambitious plans to manufacture the first new Cessna design since the DC-6 of 1929 – the Model C-34 cabin monoplane. Dwane did a majority of the engineering work, but was ably assisted by engineer Jerry Gerteis and Tom Salter. The prototype C-34, powered by a Warner Series 40/50 static, air-cooled radial engine rated at 145 horsepower, rolled out of the factory and into the Kansas sunlight on August 10, and made its first flight that day with George Harte at the controls.

Sales were slow, but the C-34 soon proved that it was a highly efficient airplane and orders increased throughout 1935-1936. Priced at $4,985 for a standard-equipped airplane, the C-34 was affordable and 42 were built before the company introduced an improved version known as the C-37. The factory workers built 46 of those ships before production switched in 1938 to the upgraded C-38, of which 16 were built (the C-38 was the first version to be named *Airmaster*). In late 1938, the company introduced the Model C-145 and Model C-165 that remained in production until 1941. A total of 79 were built. Despite the solid success of the single-engine series, Dwane Wallace and the board of directors knew the company needed to expand its product line and in 1939 the twin-engine Model T-50 was flown for the first time in March 1939. Powered by two Jacobs L4MB static, air-cooled radial engines each rated at 225 horsepower,

In 1934, Wichita witnessed the resurrection of Clyde Cessna's original company, thanks entirely to the efforts of Dwane Wallace and his brother, Dwight. The reborn Cessna Aircraft Company's first product was the C-34 (later known as the *Airmaster*), powered by a Warner *Scarab* radial engine rated at 145 horsepower. The airplane shown is a C-165 owned and flown by Dwane Wallace.
(EDWARD H. PHILLIPS COLLECTION)

the T-50 was aimed at the business/air taxi and charter segment of the market, but was also capable of serving as a short-haul, regional airline transport.[5]

The Cessna Aircraft Company had an excellent twin-engine airplane that would sell in a depressed market, but the aviation business was still a constant struggle as Wallace fought to keep the books in the black. In the years 1935-1940, profits were razor thin and it was a never-ending battle to meet the payroll. For example, in the four months ending March 31, 1939, the books revealed a net loss of $1,123 – not bad considering the still slow heartbeat of America's economy.

Walter and Olive Ann Beech posed with a Model C17 demonstrator at the Denver air races, held in July 1936. The Model 17 series continued to sell throughout the mid-to-late 1930s, but profits remained razor thin. Olive Ann Beech always maintained that the company was never in danger of bankruptcy during those uncertain times. (MARY LYNN OLIVER)

Walter Beech, Julius Schaefer and Dwane Wallace realized that war clouds were gathering over Europe, a mere 19 years after the Treaty of Versailles was signed. In 1918, one French general called the treaty nothing more than a 20-year cease-fire, and his prediction was uncannily accurate. Only a few thousand miles away, Europe was on the brink of another war. Germany's Chancellor Adolph Hitler increased his saber-rattling rhetoric aimed at creating a 1,000-year Reich. On the other side of the world, Japan's militarists were boasting

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The Cessna company's next project centered on development of a lightweight, twin-engine monoplane designed for multi-engine flight training and short-haul airline service. Designated the T-50, the prototype first flew in March 1939 with Dwane Wallace at the controls. The T-50 was destined to play an important role during World War II training pilots. (EDWARD H. PHILLIPS COLLECTION)

of a grand strategy they called the "Greater East Asia Co-Prosperity Sphere" that was aimed at dominating the entire Pacific region. Across the Atlantic Ocean, however, America remained staunchly isolationist. President Roosevelt constantly reassured the nation that the United States would not be drawn into a European conflict.

It is important to pause for a moment to realize that the small group of aviation entrepreneurs in Wichita were a

In 1933, the Stearman Aircraft Company designed the Model 70 in an attempt to attract military business from the United States Army Air Corps and the Navy. The prototype flew in January 1934, but no contracts were forthcoming until May of that year when the Navy ordered 41 airplanes designated NS-1 for primary flight training. (KANSAS AVIATION MUSEUM)

tight-knit clan deeply committed to the cause of building aircraft in the prairie city. They were also patriots and strong believers in protecting the American way of life. There was a certain camaraderie between Walter Beech, Julius Schaefer, Walter Innes, Dwane Wallace and others that helped to hold the struggling industry together during tough times. They were competitors, but more importantly, they were Wichitans. All of them realized that it was in the best interest of everyone to keep Wichita at the forefront of small aircraft manufacturing in America, both in times of peace or global conflict.

Meanwhile, late in 1933, Stearman engineers Mac Short, Harold Zipp and J. Jack Clark were designing a two-place, open-cockpit biplane designated the Model 70. The airplane would spearhead the company's efforts to win military contracts from the United States Army Air Corps and the Navy. Based on the commercial Model 6 *Cloudboy,* the latest Stearman was ready for its first flight in January 1934 under the command of company test pilot David "Deed" Levy. After a short flight he reported that the ship flew well and exhibited no bad habits. Later that month Levy flew the Model 70 to Wright Field near Dayton, Ohio, where it was "wrung out" by both Army and Navy pilots. Additional evaluations were conducted at Naval Air Station Anacostia in Washington, D.C., and at the Navy's pilot training facility in Pensacola, Florida.

The Army, still woefully short of funds to buy new aircraft, expressed no further interest in the biplane, but the Navy invited Stearman officials to provide a quotation for a trainer similar to the Model 70, but with certain modifications. Schaefer and Innes were overjoyed when, in May 1934, the Navy ordered 41 airplanes designated NS-1 (Stearman Model 73). In addition, the contract specified spare parts sufficient to build another 20 ships. Schaefer was quick to share the good news with the people of Wichita. The *Eagle* newspaper recognized the importance of the contract to the city: "Drama lies behind the simple, business-like announcement of the [Stearman] factory, for Wichita, metropolis of the Plains, is accorded a large part in the up building of the nation's sea forces more than a thousand miles away. Despite determined work on the part of Wichita's plane builders and air enthusiasts, few large military contracts have been awarded factories here. The big order accorded the Stearman plant is thought to have broken down this barrier and to point the way to national recognition of Wichita as capital of the air whether in peace or war."

The first NS-1 for the Navy was completed early in December, and the Army Air Corps evaluated an upgraded version of the Model 73 known as the Model X75. In February 1935, the Army issued a specification and a request for bid to the Stearman Aircraft Company. That summer the federal government placed orders for

Walter Beech introduced the twin-engine Model 18 in 1937 and the all-metal monoplane soon became popular with business executives, air taxi operators and the military. The photograph shows the first Model 18S powered by Pratt & Whitney R-985 radial engines, each rated at 450 horsepower. The Model 18 series paved the way for future development of larger, more powerful postwar, cabin-class twin-engine Beechcrafts that led to development of the turbine-powered King Air in 1963.

46 Stearman primary trainers – 26 for the Army and 20 for the Navy. Schaefer could not agree more that, "Happy days" were here again. These orders were part of an expansion program by the Air Corps to increase its strength to more than 2,300 aircraft from the existing 1,800. In 1935 Congress had appropriated $23 million for new armaments, but the Army and Navy brass knew that the money fell woefully short of what the services needed to train for and fight the next world war.

By 1936, the Stearman factory was bursting at the seams with orders for new training airplanes worth $450,000. The company had never experienced such a high level of activity, which dwarfed the halcyon days of the late 1920s. Employment skyrocketed to 400 people, and as the late 1930s evolved, more contracts for Stearman trainers arrived on J. Earl Schaefer's desk. Wichita was experiencing a revival that was benefitting not only the Stearman factory but the city's entire aviation industrial base. A reporter for the Wichita *Eagle* wrote in December 1936, "It is estimated that perhaps $2,500,000-worth of business was put on the books here during the year, some of it yet to be filled but a substantial part of it has been produced. It was the best year since the boom days of 1928-1929."

Five miles east of downtown Wichita, the Beech Aircraft Company was enjoying its best year since operations began in 1932. As 1936 drew to a close, the company had more than doubled sales compared with 1935, and 1937 promised to deliver more orders for Beechcraft airplanes. Walter Beech informed the local press that his workers had built twice as many commercial Model 17 biplanes in 1936 as they had in 1935, and more than 300 people were working in the back shops and on the production line. In addition, chief engineer Ted Wells and his staff were in the midst of designing an all-metal, twin-engine cabin monoplane that would become the legendary Model 18.

Over at the Cessna plant on Franklin Road, general manager Dwane Wallace reported that sales of the popular C-34 monoplane were on the rise, and that the factory was operating at nearly full capacity. According to Wallace, more than 50 aircraft had been built in 1936 (three times the number manufactured in 1935). He predicted that the company would double its business in 1936 chiefly because of rising demand for the affordable and economical C-34. The years 1937 and 1938 proved to be even more bountiful for all three of Wichita's major airframe companies. Cessna Aircraft introduced its C-37 and C-38 monoplanes, and Beech Aircraft was achieving good success with its Model 17 series and the new Model 18.

Early on the morning of September 1, 1939, orders were received from the military high command in Germany's capital of Berlin to commence an attack on Poland. The German army, with its modern weapons and well-trained troops, easily swept across the Polish borders and descended upon the capital of Warsaw from the north, south and east. The bloody but brief campaign against Poland gave the world its first glimpse of "Blitzkrieg," or "Lightning War." After Herr Hitler ignored an ultimatum demanding that German forces withdraw from Polish soil, England and France declared war on the Third Reich.

The ramifications of that declaration would soon reach across the deep, cold Atlantic Ocean to the coast of America and all the way to Wichita, Kansas. The city on the Plains was about to play a vital, indispensable role in the worst conflict yet to strike the human race. KA

NOTES:

1. The *Alpha* and its successors would have a profound impact on the design of the all-metal Boeing 247 and the Douglas DC-1 in the mid-1930s.
2. Despite Innes's enthusiastic report, the Stearman factory did not build any *Alpha* or *Beta* monoplanes, but did provide modifications, maintenance and overhaul support services for the Alpha series into the late 1930s.
3. Many Stearman enthusiasts believe the Model 4CM-1 was the zenith of Lloyd Stearman and Mac Short's seven years of cooperation on advanced biplane design. It was, however, the final collaboration between the two men at the Stearman Aircraft Company.
4. In California, Lloyd Stearman joined forces with Robert Gross and Walter Varney to acquire the assets of the defunct Lockheed Aircraft Company. Stearman was elected president. He had been working on a new design that evolved into the Model 10 *"Electra."* Airlines bought the twin-engine, all-metal cabin monoplane for service on short-haul passenger routes.
5. The T-50 was destined to become one of the best multi-engine trainers of World War II.

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, Kansas. 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.

Rockwell Collins gives new incentives for King Air 350 Pro Line Fusion® avionics upgrade and unveils ADS-B packages for Pro Line 21™- equipped King Airs

Rockwell Collins has announced that its Pro Line Fusion® avionics upgrade for King Air 350s equipped with Pro Line II™ has been expanded to include Flight Management System (FMS) navigation database updates and coverage under its Corporate Aircraft Service Program (CASP℠) at no additional charge for three years.

The new bundled Pro Line Fusion upgrade is available now for a limited time through Rockwell Collins-authorized dealers. It also includes a manufacturer's warranty on new equipment that extends to three years.

Rockwell Collins' Pro Line Fusion upgrade for King Air 350 turboprops provides turn-key compliance with airspace modernization deadlines and transforms the flying experience with the largest widescreen primary flight displays available. Pro Line Fusion is designed to be easily updated with software upgrades, and is architected to accommodate future technology enhancements, including Rockwell Collins' HGS™-3500 Head-up Guidance System, EVS-3000 Enhanced Vision System and Airport Moving Map.

CASP is supported by a global dealer network of more than 250 facilities that service and repair Rockwell Collins' avionics and cabin systems. Highlighted features include: Unlimited exchanges, rentals and repairs; parts ship within 24 hours after order; inclusion of labor and overnight shipping in the U.S.; and up to five no-fault found failures.

Rockwell Collins has also unveiled three Pro Line 21™ upgrade packages for King Airs that give operators more flexibility in equipping their aircraft for next-generation airspace and procedures. The upgrades are Federal Aviation Administration (FAA)-certified and European Aviation Safety Agency (EASA)-validated and available now through all Rockwell Collins-authorized dealers.

The three packages have been tailored to meet the needs of all Pro Line 21-equipped King Air aircraft and include automatic dependent surveillance-broadcast (ADS-B) Out; synthetic vision; updated flight management system (FMS) with localizer performance and approach procedures with vertical guidance (LPV/APV) and radius-to-fix (RF) legs; and the latest version of the Integrated Flight Information System (IFIS).

The full breakdown of what is included with each Pro Line 21 upgrade package for the King Air family can be found on the company's website under Pro Line 21 upgrade options.

For King Air operators wishing to go even further and update their flight deck to closely match what is being delivered from the factory, Rockwell Collins also offers its Pro Line Fusion® 14-inch touchscreen LCD avionics upgrade.

For more information on both of these upgrades, visit *www.rockwellcollins.com* or email *csmarketing@rockwellcollins.com*.

Banyan Provides Advent eABS for King Air 300s

Banyan Air Service, located in Fort Lauderdale, Florida, is approved as an authorized dealer and installation facility for Advent Aircraft System's recent FAA STC for the advanced-technology GPS/digital anti-skid braking system (Advent eABS™). This STC is for Beechcraft King Air B300/B300C equipped with Rockwell Collins Pro Line GPS 4000S or Garmin G1000/430W/530W avionics.

The Advent anti-skid braking system offers several benefits to King Air operators, including system performance, tire protection, tactile feedback, low-speed cut-out and touchdown protection. According to Banyan, installation requires minimal downtime and can be done separately or during scheduled maintenance inspections.

Certification for the Advent eABS is also in process for the King Air B200.

For more information, visit *Banyanair.com*.

Textron Aviation expands maintenance offering in Europe with new Bremen site

Textron Aviation announced the opening of its newest European line maintenance station in Bremen, Germany, further enhancing its service offerings including King Air operators in Germany and throughout Europe. The company is leveraging facility space from Lufthansa Flight Training's Bremen facility to bring line maintenance to customers in the northern region of Germany.

According to Textron Aviation, with more than 250 jet and turboprop customers throughout Germany, it remains committed to making quality, factory-direct support convenient and accessible.

Line maintenance stations provide on the ground support and can perform a variety of services, including troubleshooting, minor repairs, component replacement and some service bulletins. With the addition of the Bremen site, Textron Aviation operates six line maintenance facilities across Europe, including year-round service in Luton, United Kingdom; Stuttgart, Germany; and Cannes, France, as well as seasonal service from June to August in Geneva, Switzerland and Nice, France.

Garmin® Introduces D2™ Bravo Titanium Aviator Watch

Garmin International Inc. has announced the D2 Bravo Titanium, a premium aviation GPS smartwatch that combines contemporary design and sophisticated connectivity to bring pilots and aviation enthusiasts an

elite aviator watch. Utilizing premium materials like a hybrid titanium band and gunmetal bezel, sapphire lens and high-resolution color display, D2 Bravo Titanium combines the GPS wearable technology Garmin is known for with a sleek form factor suitable for activities both inside and outside of the cockpit. It also boasts new multisport activity profiles like golf and advanced fitness training and incorporates Garmin Elevate™ wrist-based heart rate technology allowing customers to measure heart rate 24/7. Automated flight logging, the display of Terminal Aerodrome Forecasts (TAFs) and an aviation-tailored customizable watch face that allows customers to input the tail number of their aircraft add to D2 Bravo Titanium feature set.

Designed by pilots, for pilots

A custom aviation-tailored feature set differentiates D2 Bravo Titanium from other aviator watches on the market. For example, D2 Bravo Titanium incorporates a worldwide airport database and support for up to 18 languages to meet the needs of pilots around the globe. When paired with a compatible smartphone, pilots can view aviation routine weather reports (METARs) and TAFs in plain language, which are color-coded to indicate visual or instrument meteorological conditions (IMC). D2 Bravo Titanium features the option to create flight plans and includes both an altimeter with an adjustable barometric setting and a compass with an HSI and moving map. Dedicated direct-to and nearest buttons along the side of the bezel allows for immediate navigation commands. Similar to Garmin portables, customizable data fields include Estimated Time Enroute (ETE), Estimated Time of Arrival (ETA) and more, so customers can easily monitor the progress of their flight at a glance.

D2 Bravo Titanium provides a preset oxygen reminder based on barometric altitude when operating at or above 12,500 feet, serving as a valuable back-up cabin pressure monitor in pressurized aircraft. Pilot selectable altitude alerting also notifies pilots when they reach or leave a preselected altitude.

Additionally, D2 Bravo Titanium provides the option to set up supplementary vibrating alerts to serve as a reminder to perform time-sensitive operations such as switching fuel tanks in-flight.

D2 Bravo Titanium also enriches other flight experiences by integrating with select Garmin products, including VIRB® XE, which allows customers to start and stop video, view elapsed time for active video recording and capture high quality stills.

Automated logbook sync

Automated flight logging offers pilots a convenient way to maintain a consistent log of their flights with D2 Bravo Titanium, which also automatically syncs and stores logbook data within flyGarmin.com, as well as the Garmin Pilot™ application on a mobile device. During takeoff, it detects a change in altitude, which initiates the logbook function to begin recording. Pertinent information such as date, total flight time and route are automatically recorded and logged within the watch and synced across flyGarmin.com and the Garmin Pilot app with an Internet connection.

New D2 Bravo enhancements

All new and current D2 Bravo owners have access to a free software upgrade that enables the display of TAFs, incorporates automated flight logging and includes the addition of new activities such as golf. An aviation-tailored customizable watch face and option to display an aircraft tail number is also available with this new software update. For existing owners, the D2 Bravo software update that enables these new features is available immediately.

Additionally, support for flight plan transfer from the Garmin Pilot app to D2 Bravo Titanium and D2 Bravo is expected in June, which will be enabled by a free software update.

The D2 Bravo series is compatible with the Connect IQ™ store for a multitude of customization options. Through Connect IQ in the Garmin Connect Mobile app, customers can download any of the free apps, widgets, watch faces or data fields to customize their D2 Bravo Titanium or D2 Bravo to suit style and personal preferences.

D2 Bravo Titanium is available immediately for a suggested retail price of $899.00.

King Air Customer Service Letter #CSL-KA 2016-01

Issued: May 11, 2016

Re: Updated Integrated Modular Avionics Configuration Index Table (ICIT) file for Fusion Equipped King Airs

Serial Numbers Listed Below

King Air aircraft outfitted with Rockwell Collins Fusion avionics have experienced occasional OMST file corruptions at power up. When this file corruption occurred, it caused a configuration fault at the next power cycle and a DO NOT TAKE OFF message would be displayed on all displays. These occurrences were initially reduced by utilizing the power-up sequence detailed below.

1. The Battery Switch is a three position switch with the lowest position labeled "OFF," center is labeled "GND OPS" and top position is labeled "ON." The "GND OPS" position is used for ground communications prior to engine start. When turning the battery switch on, it must be paused at the "GND OPS" position, to allow the pilot's Primary Flight Display (PFD) to power up, until the screen below is displayed.

2. Once the screen is displayed, the Battery Switch can be placed in the ON position and normal Aircraft Flight Manual (AFM) procedures can be followed.

To provide a solution to mitigate this issue, a new ICIT file has been created. This updated file will help prevent the DO NOT TAKE OFF message from being displayed. The new ICIT file has been released as part of a new software load set part number 434-310011-0003. The update to the new software load set is covered in kit 434-3006-0001.

Model	Airplane Serial Number
B300	FL-954, FL-1010, FL-1031 through FL-1041, FL-1043, FL-1046 through FL-1049, FL-1051, FL-1053 through FL-1055, FL-1057, FL-1059 through FL-1061, FL-1063
B200GT	BY-207, BY-239, BY-250 through BY-258
C90GTi	LJ-2129

The kit applies to the aircraft serials shown above. All other production aircraft were updated prior to certification. Note that this update does not apply to aircraft with Fusion installed under an STC.

This letter provides authorization to install the kit on the aircraft listed above and file for two hours labor warranty credit. All warranty work must be performed by an Authorized Textron Aviation Service Center rated to perform maintenance on the specific model of aircraft to ensure claim reimbursement. The warranty expires 12 months from issue date.

The above information is abbreviated for space purposes. For the entire communication, go to www.txtavsupport.com.

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