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COVER STORY

King Air Market Report

Limited Inventory and Unbelievable Prices

by Chip McClure



'm not sure I'm up for the challenge.

Ever think that? I rarely do. I'm typically very confident in life and in business. But we all have those moments of doubt and for me they seem to come up every year about mid-January. That's when I get an email from Kim Blonigen, the editor of this excellent publication, asking if I'll write about the state of the market.

I was really intimidated last year; how do you assess a market that seemed to be going a little off the rails post-COVID lockdown? I was still a little shell-shocked from watching my 2020 article turn out completely wrong by the time it was published! If having an article come out in March 2020 was risky ... then March 2021 was insane! Yep, that's when it happened. That's when the "rumble became a roar" and things went completely crazy in the King Air market.

We had active acquisitions for several clients, some left over from calendar year 2020, and the inventory was drying up. It was the first time since I've been in aviation that you couldn't just go



Getting a brand-new aircraft is about the same as the resale market. Aircraft manufacturers are seeing Q4 as the earliest availability and for many it is next year.



buy a Blackhawk King Air C90B. We had a client who had simple requirements and a reasonable budget; the problem was, there were zero airplanes that were worthy of buying. We made exhaustive efforts to find something off market, to no avail. The client raised the budget to consider B200s; we found one and made an offer. A couple of days later we were outbid by \$150,000! My first instinct was to walk, but my client made a statement that became concrete in my mind in the months that followed. He said "Chip, I don't want to be sitting here with a wheelbarrow full of cash in a few months that won't buy this airplane."

It was the moment when I accepted that things were changing and the days of pleasant but strong

negotiating were gone. The market was speaking and if we didn't listen, we'd be left behind. We had a conference call with my client and his wife, and she asked, "What's it going to take?"

I suggested a best and final offer that would end the negotiations, we submitted it, I leaned hard on the broker to not let it become a bidding war and we got the airplane. That airplane is easily worth half a million dollars more in today's market than what we paid for it. What seemed at the time to be paying retail, ended up being a great buy. The best part is our client loves the airplane. The King Air B200 is better for his growing family than the C90B would have been, and they couldn't be happier.

That was the last good buy on a B200 that we made in 2021. Despite our best efforts, the inventory has been sparce and we've been unable to find airplanes at a price that made any sense at all. I convinced

a B200 client who has a full-time pilot that the smart move was the King Air 350 - that market seemed to be lagging behind. That deal worked out great, especially when an owner of a really nice model 350 called us to see if we were interested in buying it. That's one advantage of only representing buyers: owners who want a personto-person deal without listing the airplane will actually call us! We were just in time on the King Air 350: that market has come from behind and surpassed everything else in levels of absurdity. We are seeing \$1 million or more in price increases from just a year ago.

The summer months of 2021 were tough – inventory levels plummeted and prices skyrocketed. It's important to note that while I'm

"That airplane is easily worth half a million dollars more in today's market than what we paid for it."



MARCH 2022

writing about the King Air market, we do acquisitions for all types of turbine aircraft and all the various aircraft markets are crazy. In fact, some are worse than King Airs.

"There are more buyers than aircraft and unlike real estate, the builders of new airplanes can't gear up and build their way out of this." For instance, the Embraer Phenom 100/300 prices have soared, if you can find an airplane at all. We are very involved in the Pilatus market as well (don't hate me King Air aficionados!) and its market is crazy as well. We helped a client purchase a 2019 PC-12 NG last November, and similar airplanes are being listed for hundreds of thousands of dollars more than the inflated price we paid to buy the airplane and close by year-end for tax purposes. As I write this, there's a

PC-12 NGX listed for \$7,995,000! That is over \$2 million more than a brand-new one sells for, but it's a moot point because you can't get a new one until 2025!

The same is true of all manufacturers of new aircraft. I think Q4 is currently the earliest slot for just about any aircraft and by the time you read this it will probably be 2023.

So, what is the state of the market? It's crazy and prices are stupid. It's definitely a supply and demand issue. There are more buyers than aircraft and unlike real estate, the builders of new airplanes can't gear up and build their way out of this. How long will it last? Your guess is as good as mine, but it isn't likely to change until some major outside factor changes the market.

The reality is there have always been considerably more people who could afford private aviation than those who participated in it. Those folks have avoided private air travel because they were **>**





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financially conservative or were concerned about optics. The airlines and COVID have changed that and it's not a knee-jerk reaction, it's permanent. I don't see it changing, even if the airlines returned to their days of grandeur and mask requirements went away. I don't believe the new market of people who have justified private travel are going to decide to start traveling on the airlines again. A slight paraphrase of a famous quote, "Once you have tasted private flight, you'll never fly with the masses again." Sure, some of the people who are new to aviation will decide that the cost is too great, others will decide that it just isn't for them, and even a modest downturn of the economy could bring back the feelings that optics are more important than convenience. But the result will >



The King Air 350 market was lagging behind the other models in early 2021 but has come from behind and surpassed them. Prices have increased \$1 million or more from a year ago.

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Inventories of aircraft on the market has been sparce as there are many "new to aviation" buyers which results in an increase in demand and a lower inventory as those buyers don't have a trade-in aircraft. remain that there is a lot of new blood in aviation. This is great for our industry, but not great for our aircraft inventory and buying opportunities.

The issues that we face today from an aircraft market standpoint are numerous. As I mentioned, we do have a lot of "new to aviation" buyers entering the market. This represents not only an increase in the demand for airplanes, but the new buyers do not bring a trade-in airplane with them. In the past, most of our clients were "move up" buyers – they were selling a Twin Cessna or a Baron and buying a King Air, or they were selling their King Air and buying a bigger King Air or a jet. They were taking an opportunity but creating one simultaneously. This created an equilibrium and a somewhat stable market. This new factor has changed the dynamics and how it settles remains to be seen; this has never happened before. Э





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Inventory Supported Maintenance - Repair - Overhaul The second major factor is one I've been talking about for years – the aging fleet of aircraft. The reality is that many more King Airs were built in the 1980s than in any year in the last several decades. If you then consider all the Cheyenne, Conquest, Merlin, Commander and Mitsubishi models that were also built at that time, but are no longer manufactured, do you begin to grasp the enormity of this problem? As I said earlier, we can't build our way out of this problem.

To fully understand why this current market cycle is so unprecedented, you must look back at the last decade. The market for turbine aircraft has been strong for 10 years. We were already seeing a shortage of nice, newer model aircraft of all varieties. This isn't like the 2005-2008 boom in aircraft sales that was certainly a seller's market and prices went up and inventory levels did decline, but not like this. That boom "The market for turbine aircraft has been strong for 10 years. We were already seeing a shortage of nice, newer model aircraft ... "



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"This market isn't for the faint of heart; it's hard to accept and even harder to understand."

was on the backside of a serious downturn in aviation and there was an abundance of inventory. It was truly a seller's market because there were a lot of sellers who wanted to sell. I would classify today's market as a constricted market, there is unprecedented demand and very few willing sellers. We have a team that spends its days talking to potential sellers and the most common thing they hear is, "Sure I'll sell, but first I have to find the replacement!"

The best advice I can give anyone considering purchasing an aircraft is to ask yourself a simple question. Do you *want* an airplane or do you *need* an airplane? If you want an airplane or want to upgrade and you can wait ... by all means, wait. I've been doing this a long time; the market goes up and it comes back down. It will likely take some type of catastrophic event to change the current trajectory of the used aircraft market, but that event will come. Things will settle down and life will return to normal.

If you are of the second group and you *need* an airplane, don't wait. All indicators are that inventory will stay at historic lows and prices will continue to rise. You have to shake off the mentality of what things sold for; I know it's hard ... it's been hard for me. It's a typical risk-reward scenario – sure there is a risk if you buy now and the market drops and you lose. This is balanced by the potential reward – the market may continue to go up and your aircraft's value along with it.

This market isn't for the faint of heart; it's hard to accept and even harder to understand. I'm in the business of providing information, I can tell you what's going on, what I suspect may happen based on a multitude of factors, but I can't predict the future. Today is Jan. 24, 2022, and you may be reading this in March thinking I'm a genius ... or an idiot.

Chip McClure has been in the aviation industry for over 20 years. He and his wife Amy founded Jet Acquisitions in 2015; the firm exclusively represents turbine aircraft buyers and specializes in King Airs, as well as all models of current production turboprops and jets.



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King Air Gathering May 12-14, 2022

by Kim Blonigen

f you haven't already registered, you may want to as spots are filling up for the King Air Gathering (KAG) being held May 12-14 at the Beechcraft Heritage Museum in Tullahoma, Tennessee.

Below is a summary of the speakers and evening activities:

Thursday, May 12:

Those flying their King Airs to the event will land at the Tullahoma, Tennessee, Regional Airport (THA) located adjacent to the museum and have reserved parking.

Starting at 1 p.m. and running every hour until 5 p.m., there will be guided museum tours (normally tours are only self-guided) from "VIP" tour guides – four people who have personal knowledge of Beechcraft history.

That evening enjoy meeting other King Air owners and pilots at a Welcome Cocktail Reception sponsored by Blackhawk Aerospace. Heavy hors d'oeuvres will be provided compliments of the King Air Academy.

Friday, May 13:

Grab a cup of coffee and visit exhibitors starting at 8 a.m. until welcoming comments at 9, followed by the first seminar speaker who you won't want to miss.

Bruce Landsberg, vice chairman of the National Transportation Safety Board (NTSB), will discuss recent King Air accidents and share best practices for the King Air community.

Ed Phillips, Beechcraft historian and author, as well as a pilot and mechanic, will share the early years of Beech Aircraft and how it survived through the tumultuous years.

Don Cary, retired VP Customer Support of Beech Aircraft, will discuss how the company prepared for the new era of pilots and aircraft when the King Air was introduced (one was hiring Tom Clements!).

Breakout session: Choose between two interactive sessions with experts from each field – one focusing on **Garmin avionics** and the other regarding **Collins Pro Line** & Fusion avionics.

An **aviation insurance specialist** will discuss the current state of the

aviation insurance industry, why premiums are so high and what you can do.

Breakout session: EFBs for the King Air pilot will be broken down by Garmin Pilot and Foreflight with interactive, informational sessions for each.

The day will wind down with the **inaugural "King Air Hall of Fame" awards presentation.** Individuals who had a vital role in making the aircraft what it is today will be recognized, starting with when it was first produced.

Afterward, enjoy dinner and entertainment – Nashville-style barbecue cooked right on the property and local Nashville entertainment of dueling pianos – hosted by Stevens Aerospace & Defense Systems.

Saturday, Sept. 25:

Bill Crutchfield, president and CEO of Crutchfield and also a King Air pilot and owner, will provide advice on safety and insurance that any pilot can benefit from, but specifically the aging King Air pilot.

Textron Aviation Senior Air Safety Investigator Peter Basile will present how the King Air compares to the industry and common themes he has observed. **Tom Grunbeck from IS&S** will discuss the ThrustSense Autothrottle, the latest safety device available to the King Air.

Textron Aviation's Manager of Turboprop Product Support Kim Burton will provide recent changes in King Air maintenance requirements and the top 10 questions (and answers) her group gets regarding the King Air.

Dean Benedict, King Air maintenance expert, will discuss logbook reviews, pre-buy inspections and acceptance flights.

Tom Clements, King Air expert, pilot and author, will share his thoughts on misunderstood King Air systems and why some were options.

Interactive session: PT6A engines with Rob Winchcomb of Pratt & Whitney and Paul Sneden, King Air DOM.

Interactive session: Legacy King Air autopilots with Tom Clements and Bill Brunton, instructor. Special Speaker: Back by popular demand Robert "Hoot" Gibson, USN Retired, former fighter pilot, test pilot, and Navy astronaut who spoke at the King Air Gathering II in Dayton, Ohio, has been requested back to speak as numerous KAG attendees have been requesting it. Don't miss his memorable way of sharing stories.

4:30 p.m. – Wrap Up

Don't miss the opportunity to attend the King Air Gathering at the historical Beechcraft Heritage Museum. Besides the wealth of knowledge that will be shared, being able to talk face to face with King Air product and service providers and other King Air owners and pilots, all attendees also receive a year's membership to the museum.

To register and for more information, go to *kingairgathering. com*.

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Why Do the Ailerons Have a "Lump"?

by Tom Clements



s the picture above shows, the ailerons on the King Air 200and 300-series models include a pronounced lump on their trailing edges. The official name for the lump is "Trailing Edge Bulge" but, to me, they are simply "lumps." The ailerons on other King Air models don't have the lump. Presenting the reason why the 200- and 300-series have it and the other models do not is the purpose of this month's article.

The straight 65-90 King Air, as well as the A90 models, have ailerons that are hinged at their leading edges. Beginning with the B90 model in 1968, a wingtip extension was added. This longer wing needed more aileron authority and Beech addressed this need by building an aileron with more chord. Also, the hinge point was relocated. Instead of the hinge being fully forward at the leading edge, it was now moved back slightly. To be more accurate, the hinge actually stayed in the same place but the aileron's extra chord was installed in front of the hinge. With this design, as the trailing edge of the aileron goes down, the leading edge goes up. This type of control service is referred to as being "balanced" and less force is required to rotate the control wheel.

The balanced ailerons that first appeared on the B90 made a huge improvement in roll authority and overall aircraft handling. Although the models 90 and A90 handled well, they feel "truck-like" when compared to the B90 and later King Air models. It feels like the newer airplanes have power steering and the handling qualities went from "OK" to "Wow!" The 100-series and F90-series reverted to the shorter wingtip extension and therefore have the same wingspan as the 90 and A90. However, the balanced aileron was now installed and the handling quality remained excellent.

Have you learned yet that the wing on a Bonanza and on a King Air not only have the same NACA Airfoil shape but they are the exact same size?! For as long as most of

us have been pilots Beech has used two different wingtip extensions. This is the piece that is outboard of the aileron, outboard of the main and rear wing spars. The shorter one is what's found on almost all Bonanza models, except the B36TC. That particular Bonanza model, as well as all of the Baron series, use the longer extension so as to reduce wing loading. Go to a crowded hangar with a tape measure. Isn't it mindblowing that the Baron's wingtip is the identical size to most King Air wingtips? Now, of course, the fuel tanks, spar strength and attach fittings vary but the wing on the King Air outboard of the nacelle and the entire wing on a Bonanza are indeed the same size, give or take whether they have the shorter or longer wingtip extension.

When the model 200 prototype (serial number BB-1) made its first



flight in October 1972, it had the longest wing yet found on a King Air. The wing's center section – the part that goes through the fuselage and contains the main landing gear wheel wells and the engine mounts – was widened by 50 inches, 25 inches per side. The larger threeblade propeller that the 200 used to absorb its additional power would have hit the nose of the fuselage if the center section were not widened. For the purpose of making the cabin quieter – by moving the prop tips further away – the center section was widened more than the minimum distance required to fit the propeller. The wing outboard of the center



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section, as you have now read, was the "standard" Beech design with the longer tip and the balanced ailerons.

During the flight test program, it was discovered that the roll control was a tad weak; the longer wing was a little too much for the ailerons to properly control. The designers came up with a clever and effective solution: a portion of the wingtip extension's trailing edge was cut away and a new, longer aileron was installed. Although all previous ailerons had two hinge points, a third hinge point was added on this new aileron with its longer span.

Well, the test pilots discovered a "good news, bad news" situation. The good news was that the airplane now had excellent aileron authority. The bad news was that the aileron lost much of its natural centering tendency. When the pilot took his hands off the control wheel with the ailerons well-deflected, the wheel did not automatically center as much as they desired. Back to the drafting boards the engineers went.

Being the first instructor at the factory on the 200 model, I was privileged to get to know a few people on the design team including the chief project engineer, Leroy Clay. Leroy walked me around BB-1 as it neared the end of the experimental flight test role, to show the changes that were made and which I may want to explain to our students. That's when I first saw and heard about the lump.

Mr. Clay used the comparison of the lump being like the feathers on the tail end of an arrow, always helping to streamline the projectile and keep the pointy end forward. With the lump, the ailerons exhibited the proper amount of centering tendency. Here's a chuckle for you: Leroy went on to say that adding the lump to the trailing edge of the existing aileron was a "temporary fix" but that a totally new aileron would be



designed and available soon. Well, let's see ... 1972 to 2022 – 50 years and we're still waiting for that new aileron. The latest models, the 260s and 360s coming off the Wichita production line still have the lumps. But, wow, do they handle nicely!

Now let's talk about the rudder on the T-tailed King Airs. I have never experienced this phenomenon personally in all of the model 200 flying and instructing that I have done. But the T-tail's rudder is susceptible to "rudder lock." When Beech was conducting the severe vaw tests required for FAA certification, they found that a certain configuration of power, rudder displacement and horribly uncoordinated flight would result in the rudder remaining fully deflected after the rudder pedals were released. All it took was a minor push on the "back" pedal to return to normal, so this was never viewed as being unsafe, but merely a slight handling anomaly. It also played a minor role in autopilot/yaw damper certification.

When the model 300 was being developed, and with the rudder lock phenomenon well known, Beech decided to "fix" it. How? By adding another centering lump, this time on the trailing edge of a portion of the rudder. This was/is also supplied on all B300s, known as the 350- and 360-series.

Now when you get the rare question about the lumps on the ailerons and rudder, you will have the correct answer to give. I know that you will continue to enjoy the fine handling qualities of these lumpy King Airs!

King Air expert Tom Clements has been flying and instructing in King Airs for over 46 years and is the author of "The King Air Book" and "The King Air Book II." He is a Gold Seal CFI and has over 23,000 total hours with more than 15,000 in King Airs. For information on ordering his books, contact Tom direct at *twcaz@msn.com*. 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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ATO

The Staggerwing Goes to War

Ted Wells never intended his Model 17 to fight a war, but when duty called the Staggerwing served American and Allied forces worldwide with distinction.

by Edward H. Phillips

From 1942 through 1944, the airfield at the Beech Aircraft Corporation's factory in Wichita, Kansas, was often packed with airplanes awaiting acceptance by U.S. and Allied forces, primarily military versions of the single-engine Model 17 and twin-engine Model 18. Among these were GB-2 ships for the United States Navy (similar to the Army UC-43). The guard toting a 12-gauge shotgun was a member of the company's security forces that kept watch over aircraft awaiting delivery. (Special Collections and University Archives, Wichita State University Libraries) he first Model 17 to wear "war paint" was C17R-115, designated as a JB-1 by the United States Navy when it entered service in 1936. Always in search of sales, Walter Beech was interested in obtaining more business with the U.S. military. In 1938 the company submitted the D17S version in a competition held by the Army Air Corps and the Navy. The Beechcraft was up against some formidable competition from Stinson Aircraft, Spartan Aircraft and the Molded Aircraft Corporation.

When the dust settled at Wright Field in Ohio where the trials were held, the D17S emerged victorious and 13 airplanes were ordered, to be designated YC-43 by the Army and GB-1 by the Navy. Essentially "offthe-shelf" airplanes, they were fitted with parachutetype seats and various other military equipment. These airplanes had a maximum speed of 202 mph and a range of more than 800 statute miles. Of the 13 ships delivered in 1939, the three YC-43s were assigned to U.S. military offices in London, Paris and Rome, while two of the 10 GB-1s served the Navy in Madrid, Spain, and Mexico City. The remaining eight ships were operated at various Naval bases in the United States.

Shortly before war enveloped Europe after Germany's invasion of Poland in September 1939, the British were hard pressed to detect the presence and movements of the German fleet. Specifically, the British Naval Intelligence Division became increasingly concerned that if war was declared, the Germans would attempt a "breakout" into the North Atlantic, sending their capital ships into the sea lanes between England and the United States. What the Admiralty needed was a reconnaissance mission by a non-military aircraft that could locate and report the position of those warships.

For that clandestine task, a man named Sidney Cotton, who had purchased Beechcraft C17R-118 early in 1939, was asked by the Admiralty to overfly the port of Wilhelmshaven in northern Germany. His mission was to photograph any ships at anchor there. Cotton responded to the call and prepared his Staggerwing for the flight. All he needed was good weather and an effective plan of action, and Cotton soon had both. On Sept. 2, one day after Germany's invasion of Poland began, pilot Robert Niven and a trained photographer departed the aerodrome at Heston for Germany. The C17R was well suited to the task at hand. With a maximum speed of more than 200 mph and the ability to climb and maintain an altitude of 20,000 feet over Wilhelmshaven, the Beechcraft would be difficult to detect.

After making the long climb toward the Dutch coast, Niven entered German airspace but encountered no Luftwaffe fighters as he neared Wilhelmshaven, where the Luftwaffe was known to conduct routine patrols over the port.

Fortunately, the mission was flown exactly as planned and the Beechcraft returned to Heston safely. After the photographs were developed and analyzed by the Admiralty, it was determined that the battle cruiser Gneisenau and the battleship Deutschland were in port. Unknown to the Admiralty, however, between Aug. 25 and Niven's secret mission Sept. 2, the pocket battleship Graf Spee had weighed anchor and slipped away undetected into the North Atlantic. The day after the C17R's flight, England and France declared war on Germany. During the next four years, Cotton's gallant Beechcraft soldiered on after being impressed by the Royal Air Force in May 1941 but was scrapped in 1944 after an accident that damaged the airplane beyond economical repair.¹

Meanwhile, back in America, President Franklin D. Roosevelt was making good on his promise to keep The UC-43 was built and sold to the U.S. military under the Lend-Lease Act for service with Allied nations, including the Chinese Nationalist Government that operated a number of these airplanes during the war. Note the retractable landing lights under each lower wing panel, and a large ADF antenna under the fuselage. (Special Collections and University Archives, Wichita State University Libraries)



the United States out of the European conflict. As the Battle of Britain raged in the skies over southern England during the summer and autumn of 1940, Roosevelt became increasingly convinced that America could not, and would not, allow England to sink into oblivion under German occupation. His resolve to help Prime Minister Winston S. Churchill and the British people fight the Third Reich led to creation of the Lend-Lease Act in March 1941. It put America's industrial might to work supplying ships, tanks, airplanes and armaments to the Royal Navy, the Army and the Royal Air Force, while helping to break the economic grip of the Great Depression. Germany, however, was not Roosevelt's only concern. In the Pacific, Japan was flexing her military muscle as she endeavored to implement the "Greater East Asia Co-Prosperity Sphere." America's diplomatic relations with Japan had been on a slippery slope since the mid-1930s when she had invaded China, and by mid-1940 the situation had reached crisis proportions. Warlords such as Hideki Tojo were not interested in negotiation, only domination. When the United States stopped exporting oil and raw materials to Japan, the die was cast that eventually led to the surprise attack at Pearl Harbor Dec. 7, 1941.

As Old Glory continued to fly atop the smoldering carnage of Battleship Row in Hawaii, the Japanese war machine sprang into action and quickly captured American military bases at Wake Island and in the Philippines. Grossly unprepared to fight the attacking Japanese juggernaut, the United States and Filipino forces under the command of General Douglas MacArthur fought bravely, and Beechcraft Model B17R-63 played a minor but heroic role in the final defense of the rock fortress known as Corregidor.

Originally sold into the Philippines in 1935, the Beechcraft was later impressed by the American military to fly humanitarian missions, bring in food and medicine as well as ferrying pilots to bases where fighters and bombers were being assembled to strike back at the Japanese. An example of how important the B17R was to the soldiers fighting on Corregidor – in April the airplane was used to evacuate P-35 and P-40 pilots as the Americans continued their retreat southward to Mindanao. After flying many missions in support of MacArthur's rapidly dwindling forces, the B17R finally met its end in mid-April when it was intercepted by Japanese floatplane fighters and shot down near Malaybalay. The fight for the Philippines ended May 6, 1942, when American and Filipino forces surrendered to the enemy.

In the wake of Pearl Harbor, the United States government acted swiftly to impress existing civilian aircraft into military service until military aircraft production could be accelerated. Hundreds of civilian airplanes were soon turned over to the military by their

owners, including at least 129 Beechcraft Model 17s. Of these, the Army operated 118 and 11 were flown by the Navy. Two of the airplanes operated within the United States with the British Air Commission – the West Coast Delegation flew D17R-188 (redesignated RAF EB279) to supervise construction and delivery of airplanes ordered by Great Britain for its war effort, and D17S-327 (RAF EB280) served with the British Mission in Washington, D.C., performing diplomatic missions.

As demand for more aircraft increased during 1942, the Beech Aircraft Corporation began receiving additional government contracts for a series of Model 17s equipped for military service. The D17S became the standard airplane for all of the orders received and was designated as the C/UC-43 for the Army Air Forces and GB-2 for Navy. As 1942 unfolded, Walter and Olive Ann Beech had an order book that was bulging at the seams for Army and Navy versions of the D17S and the twin-engine Model 18, designated military AT- for "Advanced Trainer" (an airplane that proved to be highly versatile and with modifications served a myriad of training, liaison and VIP transport roles in the war).² For example, during Fiscal Year 1942, the company had orders on hand for 1,287 airplanes worth nearly \$60 million, rising to 2,921 airplanes in 1943 worth more than \$126 million.

Because production of the AT-series of twin-engine airplanes took priority at the main factory building on East Central Avenue, manufacture of the C/UC-43 and GB-2 series airplanes took place at the south end of the airfield in a building originally erected in 1927 to build the Knoll cabin biplane. After the stock market debacle in 1929, the Knoll company went out of business and the facility was used by various aircraft maintenance businesses as well as the Yellow Air Cab Company, which also failed to survive the Depression.

Still critically short of production space, Beech Aircraft Corporation received funding from the government's Reconstruction Finance Corporation to expand facilities **>**

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Olive Ann Beech, the aircraft company's co-founder with her husband Walter, stands with a U.S. Army UC-43 at the factory in 1943. The Model 17 served with American and Allied forces during the war, chiefly as a liaison, pathfinder and VIP transport. Throughout the war years, Mrs. Beech played an increasingly important role in the company's operation. (Special Collections and University Archives, Wichita State University Libraries)

to 50,000 square feet. In addition, the airfield itself was enlarged by 320 acres and the north-south runway lengthened to 5,000 feet. As the workforce exploded by thousands of people from 1942-1944, the company built 412 C/UC-43 and GB-2 biplanes. Although the Army Air Forces and the Navy accepted 270 of these airplanes, many were assigned to Allied nations. For example, the Royal Air Force received 105 airplanes, including 74 that were assigned to the Fleet Air Arm air stations for VIP transport duties. These Beechcrafts were designated Traveller Mk. 1. Another 122 GB-2s were accepted by the Navy and the Brazilian government acquired the 20 airplanes for its air force.

It is interesting to note that May 29, 1943, a German U-boat torpedoed and sank the S.S. Agurmonte off Cape Province, South Africa. The cargo vessel was carrying 12 Traveller Mk. 1s that were destined for British air bases in the Middle East region. The British did, however, operate six Traveller Mk. 1 biplanes on reconnaissance missions



along the Suez Canal and above the Red Sea in search of U-boats. In addition, the Nationalist Government of the Republic of China received 10 UC-43/GB-2 airplanes and the United States provided another 31 to Brazil during the war.

With the end of hostilities in sight by mid-1945, orders for the venerable UC-43 and GB-2 ships began to dwindle, and after VJ-Day many of the military Model 17s began to find their way back to their original owners or migrated into the civil aircraft market as war surplus equipment. The Reconstruction Finance Corporation supervised civilian purchase of these airplanes, which sold for a fraction of their original cost. The Royal Navy returned a majority of its Traveller Mk. 1s to the United States, where they were either sold as surplus or scrapped, but a small number remained in England and were sold to private individuals.

It is a testimony to the leadership and the workforce of the Beech Aircraft Corporation that between 1941 and 1945 employment skyrocketed to 14,100 from 2,354, and more than 7,100 airplanes were built. The D17S proved to be a reliable, rugged workhorse in every theater of war in which it served. The UC-43 in particular, had ferried people, supplies and mail throughout the European Theater of Operations, flew above the trackless deserts of Arabia, and accompanied American forces in their relentless march from Guadalcanal to Tokyo Bay. Despite its sterling record of military service, by 1946 the Model 17 biplane was considered obsolete. Its welded steel tube and hand-stitched, fabric-covered airframe had been eclipsed during the war by the allmetal monoplane. It appeared that the end had come for Ted Wells' flying machine that had put Beech Aircraft Corporation on the road to success, but Walter Beech had a trick up his sleeve that would give the Staggerwing one last, brief moment of glory.

Notes:

- 1 Information on Sidney Cotton and the C17R courtesy of historian Peter Berry.
- 2 An excellent and highly comprehensive history of the Model 18 can be found in R.K. Parmerter's "Beech 18: A Civil and Military History."

Originally published in July/August 2010 issue of King Air magazine.

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.



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KADEX Announces Availability of STC-Approved LED Wingtip Light Assembly for Beechcraft King Air 350

KADEX Aero Supply recently announced the addition of the HYPERION II – LED Wingtip Light Assembly for the Beechcraft King Air 350. Developed by KAD Aerospace, the manufacturing arm of KADEX Aero Supply, this STC approval was granted after extensive prototyping and DO-160 EMI and Photometric testing was completed.

Following on the heels of the HYPERION I series LED for the King Air C90/200/300, the HYPERION II LED allows for a Plug and Play Installation into the 350 Wingtip, as well as removal of the High Voltage Power Supplies.

The company says the LED light assembly is *five* times brighter, *five* times lower current draw and has a five-year, worry-free warranty.

For more information, go to www.kadexaero.com or contact the KADEX sales team at *parts@kadexaero.* com or (705) 742-9725.

Marsh Brothers Appoints CJ Aerospace as Authorized Distributor/Service Provider

CJ Aerospace Pty Ltd., a leading distributor of quality aviation parts and technical support across Australia, New Zealand and Asia Pacific regions, has been appointed as an authorized distributor and service provider for Marsh Brothers Aviation's bearing and seals portfolio.

With locations in Sydney in Taren Point, NSW, and Cairns, Queensland, as Australia's largest stock of aviation spare parts, CJ Aerospace is well equipped to support the needs of their growing customer base.

Marsh Brothers Aviation continues to develop and certify new products for the Beechcraft King Air, as well as the 1900, Baron and Bonanza aircraft; distribution through CJ Aerospace will ensure these new products are readily available to local operators.

Marsh Brothers kits are made up of grease-free polymer bearings, seals and engineered mechanical components, and eliminate the risk of metal-to-metal contact between adjacent parts in actuators, landing gear and other aviation applications. The self-lubricating properties of Marsh Brothers' materials eliminate the need for any repetitive lubrication. The company says their products eliminate the risk of damage and seized joints as a result of inadequate greasing, which reduces lifecycle maintenance costs and scheduled downtime.

PWI Window Light LED Upgrade for King Air B200/250 Approved in Brazil

PWI recently revealed that the National Agency for Civil Aviation (ANAC) in Brazil has given certification approval to the PWI B200/250 window LED upgrade. The King Air B200/250 LED upgrade delivers the same light specifications and color temperature as fluorescents, but with a much longer life, providing 100,000 hours. The LED upgrade requires 50% less measured operating current and eliminates the high voltage associated with fluorescent lighting.

The B200/250 LED upgrade is already STC and EASA certified. This LED upgrade joins PWI's 300/B300/350 LED upgrade series in receiving ANAC approval.

The B200/250 LED upgrade kit is comprised of Velcro lined metal brackets, wiring harnesses and connectors and is designed for 9-, 10- and 11-window aircraft. The B200/250 LED upgrade is compatible with the factory installed connectors and ships with the certification paperwork. This ANAC certification does not include Beechcraft models 200C, B200C and B200CT.

PWI is the OEM for most King Air interior lighting and was the designated OEM of fluorescent lighting for business jets. Aviation products can be purchased through the company's authorized dealer network or contact sales at sales@pwi-e.com. For more



information contact PWI at +1 (316) 942-2811 or go to: https://pwi-e.com/product/king-air-retrofit-250-series/

New D2 Air X10 GPS Aviator Smartwatch Announced by Garmin

Garmin® International, Inc. recently announced the $D2^{TM}$ Air X10 – a GPS smartwatch with powerful aviation functionality and new features that lets pilots take calls





and use their compatible smartphone's voice assistant to send texts, ask questions and more. These connected capabilities join the robust set of dedicated aviation tools in Garmin's D2 Air series, including: weather, direct-to navigation capabilities, airport information, automatic flight logging, Pulse Ox^1 and more – all delivered directly to the watch. With a full suite of health, wellness and fitness features and a battery life of up to seven days, the D2 Air X10 is the perfect smartwatch for life in and out of the cockpit.

Here's what's new for the D2 Air X10:

- Phone calls from the watch: Make and take phone calls with the press of a button; no more missing calls while digging through your pockets or fumbling through your flight bag.
- Voice assistant control: Hands full? No problem. Compatible with Siri, Google Assistant or Bixby, pilots can use their smartphone's voice assistant

to send texts, ask questions, control compatible smart home devices and more.

A dedicated flight system on your wrist

The D2 Air X10 includes preflight, in-flight and postflight features and tools to assist pilots in navigation and enhance situational awareness. Direct-to navigation lets pilots navigate straight to an airport or waypoint in the preloaded worldwide database directly from the watch, or choose the nearest function to activate a direct course to a nearby airport. The instrument-like horizontal situation indicator (HSI) course needle makes it easy for pilots to see if the aircraft is left or right of the desired flight path, and the barometric altimeter can alert them when they've reached their desired altitude. Aviation alerts like time, distance, altitude and a fuel timer are also available on the D2 Air X10 during flight.

Flight logging is a breeze with the D2 Air X10, which automatically starts tracking flights on takeoff, then



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automatically transfers the date, duration, total flight time and route to the user's *flyGarmin.com* logbook.² Pilots can also seamlessly transfer³ flight plans from the Garmin Pilot[™] app to the D2 Air X10, and view the list of waypoints included in their route.

Know what's ahead with airport information like runway orientation and wind components³, runway lengths, airport frequencies and traffic pattern altitude – all preloaded and easily accessible from the watch. The D2 Air X10 also offers aviation weather reports, including METARs and TAFs that allow pilots to see winds, visibility and barometric pressure and more⁴ before takeoff. And stay on schedule with a UTC hand on the watch face, which can also display and help pilots manage multiple time zones, including Zulu time.

All-day health monitoring & customized fitness

With the broadest range of 24/7 health monitoring features available from Garmin, the D2 Air X10 offers: wrist-based heart rate (with user-configurable alerts for high or low readings⁵), advanced sleep monitoring with sleep score, breathwork activities, fitness age, respiration, Pulse Ox, all-day stress tracking, hydration and women's health tracking. Body Battery[™] energy monitoring shows users how "charged" their body is as well as the draining effects of stress and exercise. During a flying activity, pilots can quickly access the health stats menu to track their heart rate, Pulse Ox, respiration, Body Battery and more. Plus, a new Health Snapshot[™] feature logs a two-minute window of key health stats and generates a report users can share with a health care provider – a great tool for capturing physiological data anytime you're feeling off your baseline.

Smart features for life on the go

The D2 Air X10 keeps the essentials on the wrist with built-in music (download up to 650 songs including playlists from Spotify[®], Amazon Music and Deezer⁶), Garmin Pay[™] contactless payments⁷, and smart notifications for calls, texts, calendar reminders, social media updates, breaking news stories and more. Like all Garmin smartwatches, the D2 Air X10 can be used with either Android or Apple[®] smartphones.

Available now, the D2 Air X10 has a suggested retail price of \$549.99. Learn more at *garmin.com/aviation*.

- 2 When paired with a compatible smart device downloaded with the Garmin Connect app
- 3 Requires app on your compatible smartphone paired to the D2 Air X10
- 4 When paired with a compatible smartphone and in range of BLUETOOTH® technology
- 5 See Garmin.com/ataccuracy
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¹ This is not a medical device and is not intended for use in the diagnosis or monitoring of any medical condition; see Garmin.com/ataccuracy. Pulse Ox not available in all countries

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