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Courtesy of DragonFly Aviation Services Limited

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King Air 200 series' ramp appeal impresses charter passengers

by MeLinda Schnyder



ne of Howard Palser's childhood memories from growing up in the coastal city of Cardiff in Great Britain's South Wales region is of his parents taking him and his brother on Sunday afternoons to watch aircraft landing and taking off at the airport. He remembers sipping lemonade while watching what he describes as pure theater, when the Cambrian Airways' Douglas DC-3 Dakotas fired up: engines coughing up smoke and belching flames out of the exhausts with a cacophony of noise. He also saw the comings and goings of the more modern Fokker F27 Friendship turboprop airliners operated by the Irish airline Aer Lingus.



While the experience piqued his interest in aircraft and planted the seed for learning to fly later in life, he never imagined that he'd one day operate an air charter business out of "The White Building" at Cardiff Airport, a facility that back then was the head office of the airline that was eventually absorbed into British Airways.

His was not a direct flight path, however. Howard had a successful career as a lawyer, learning to fly at age 40 and then using an airplane for business travel throughout the United Kingdom and Europe. When he decided to retire from practice in 2003, he hit on the idea of setting up the only air charter company based at Cardiff and the first in Wales to offer jet-engine aircraft.

DragonFly Aviation Services Limited, which acquired the airline's old call-sign of Cambrian, turns 16 this year and has flown more than 12,000 commercial charter hours, nearly all in Beechcraft King Air 200 series aircraft.

Filling an unmet need in Cardiff

His father was an engineer who had his own small garage, which stoked Howard's lifelong interest in cars. (He owns a rare 1957 Daimler Drophead Coupé, of which only 57 were made, and a BMW Z1 that he bought new in 1990 and has driven fewer than 1,000 miles per year.) While aviation was also an interest, neither became his career.

Instead, he became a lawyer. He spent his first 20 years in the practice he joined out of law school, then started his own practice with two junior partners in 1992. What he intended to be a boutique firm specializing in litigation, principally acting for insurance companies, rapidly expanded into a large practice so that in five years the firm employed 70 lawyers and a total head count of 130. It was during that time that he realized the time savings of flying himself to visit his offices in five cities and clients located throughout the U.K.

"My interest in aviation was sufficient for my wife to make the inspired choice of a trial flight as a present for my 40th birthday," Howard said. "I very much enjoyed that, signed up for some lessons and qualified for a pilot's license in 1990. With a friend who is a true aviation enthusiast, who had also qualified for his license, I bought a Socata TB-200, an attractive, modern and well-built four-seat, single-engine French aircraft. Flying this aircraft around the U.K. for business and realizing the savings of time that could be achieved prompted me to set up DragonFly 10 years or so later." Howard has had a lifelong interest in cars due to his father owning a small garage. Here he is with his 1990 BMW Z1 and at left is his rare 1957 Daimler Drophead Coupé.



Howard retired from his firm in 2003 and opened DragonFly in 2004 with his wife Nerida. At first, he maintained a connection to the legal industry as chairman of an international association of lawyers headquartered in Geneva, Switzerland, while growing the charter business. It didn't take long, though, for DragonFly to command all of his attention.

Growth was fast because DragonFly was the only air charter company to serve the business community in South Wales. His decision to start the business with a King Air and operate from Cardiff Airport allowed him to offer time-efficient and cost-effective transportation throughout the U.K. and Europe.

"We are based on the south side of the airport, on the other side from the main passenger terminal," Howard said of the Cardiff Airport. "Traffic is relatively light and we are not subject to the use of slots for aircraft arrivals and departures. Because there are no environmental restrictions, the airport is open 24/7 which is rare in our small country where airspace is busy and highly controlled."

Another factor that accelerated the company's growth from a standing start to nearly 400 charter hours within a year was the recognition of DragonFly by charter brokers.



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DragonFly's first aircraft, a 1980 B200 Super King Air pictured here at Gibraltar Airport, has been retrofitted with Blackhawk PT6A-61 engines, 4-blade props and upgraded avionics.



These brokers produced charters from airports other than Cardiff, mainly in the South of England and peripheral airports in the greater London area, which are no more than a 30- to 40-minute flight from Cardiff.

"I believe the brokers were pleased to have another option to put clients, and those relationships we made with brokers in the early days still hold good today," Howard said. "They soon found that we were competitively priced, able to position quickly and inexpensively from our base, and were not restricted by airport closing times. Brokers were also impressed by the safety factor of flying at all times with two fully qualified, type-rated commercial pilots: a captain and a first officer. Although a significant extra cost to us, I believe that in the densely congested airspace in which we operate, having two genuinely experienced pilots up front provides an extra margin of safety."

Building a business around the King Air 200 series

Howard said he briefly considered purchasing a Cessna Golden Eagle to start DragonFly but a test flight in a 1980 B200 Super King Air owned by Manhattan Air Charter changed his mind.

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"I was guided by a professional pilot who had flown as safety pilot with me in my light aircraft," he said. "The test flight confirmed not only that it was the type of aircraft that was ideal for the proposed operation, but the buzz I felt following the flight confirmed to me that electing to switch from law to aviation was the way to go."

He ended up buying the very aircraft he flew that day, tail number G-BVMA. It is still part of the fleet – "performing sterling work" he says – and a few years ago was retrofitted with Blackhawk PT6A-61 engines and 4-blade props. The aircraft's avionics have been upgraded and the transponders are scheduled to be modified soon for ADS-B Out.

A little more than two years into operating DragonFly, Howard decided to add a second aircraft to help manage maintenance downtime and overlapping charters. In January 2007, the company purchased a 1995 King Air B200SE, tail number G-MEGN.

"MEGN was named after our first grandchild," Howard said. "The aircraft was built as a special equipment model with limited instrumentation and furnishing. On acquisition, it was virtually rebuilt with new avionics, tables, partitions, window polarizers and a full strip and respray in the company livery. Expecting a gradual increase in business, I was taken by surprise by the rapid growth that ensued. This was largely attributable to the brokers who had access to what was, to all intents and purposes, a new aircraft with an attractive beige leather interior that gave the cabin a light and airy feel."

DragonFly holds an Air Operator's Certificate (AOC) issued by the U.K. Civil Aviation Authority and technically is classified as an airline since most of its flights are international. More recently, DragonFly has added two more



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King Airs to its AOC that were purchased on behalf of clients and are managed and operated for charter by DragonFly. In 2014, a 2003 King Air B200, was purchased for a U.K.-resident French client. This aircraft was originally operated as a training aircraft by the Royal Air Force before it was reconfigured as a civil aircraft, refurbished and repainted in DragonFly's livery. The aircraft was given the registration G-OLIV after Howard and Nerida's second granddaughter, Olivia. DragonFly added the fourth King Air in May 2019, taking delivery at the Textron Aviation factory in Wichita, Kansas, of a new King Air 250 with the registration of G-NICB.

"Technically a B200GT, we acquired the 250 for a new client and arranged to ferry the aircraft to Cardiff on a route from Wichita to Montreal in Canada, to Goose Bay in Newfoundland, to Greenland, then Iceland, to the Isle of Man and then to Cardiff – a journey of three days in testing weather conditions," Howard said. "We manage this aircraft and operate it for commercial charter having generous access to it. Being virtually brand new and looking to be 'just out of the box,' it is a firm favorite with clients."

The company also manages a Nextant 400XTi, a variant of the Hawker 400 and therefore a close relative of the King Air. This aircraft, registration G-SKBD, is used exclusively by its owner and is no longer available for charter.

DragonFly's business falls into two categories: charters for individuals or corporate clients (booked direct or through brokers) and AOG recovery work for a major U.K. airline. They gained the prestigious contract in 2016. This requires G-MEGN to be stationed at Luton Airport 24/7 and, depending on the time of year, there are either one or two crews in readiness to be airborne within 90 minutes of receiving a request for a flight to take engineers and/or parts to any of the airline's fleet of 300+ airliners that may be grounded anywhere in Europe.



Howard said his experience operating King Airs has confirmed his choice when starting the company. "The King Air is a truly iconic machine that has evolved through a process of continuous development," he said. "Apart from winglets it is difficult to distinguish a new 250 from much earlier versions of the aircraft. It has a commanding ramp presence which never fails to impress passengers. It does everything well."

His team's focus is to continue to impress passengers with the service they receive before, during and after the charter. "I follow the principle that I had in my law practice, which was to provide a complete personal service to clients so that they would bring repeat business or spread a favorable word," he said. "In 16 years, we have done very little advertising. Our growth has been from recommendation and word of mouth."

He added: "The judicious charter of an aircraft is an efficient and cost-effective use of time: private flight is not simply an indulgence by the rich and famous. Remember, that the business sprang from my experience



G-OLIV, a 2003 King Air B200, was purchased on behalf of client and is managed and operated for charter by DragonFly. It was originally used as a training aircraft by the Royal Air Force and reconfigured to a civil aircraft.

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The King Air 250 purchased directly from the factory for a new client and managed by DragonFly is a favorite with clients. The comfort of the brand-new interior adds the extra touch.



in piloting my own light aircraft for business travel and discovering firsthand the time savings and sheer convenience that I could achieve."

Enduring pandemic times

Howard and Nerida are the sole directors and shareholders in DragonFly: he serves as CEO and accountable manager for the AOC, while she is the CAA-approved ground operations manager responsible for ground operations, day-to-day finances and human resources. They entered 2020 with 22 employees, including 14 pilots. Maintenance on the King Airs is carried out by an external company, Iscavia Ltd, based in South West England, a two-hour drive that is reduced to 15 minutes in the air by flying directly across the Bristol Channel.

We reached the Palsers while they were in self-isolation at their home just outside Cardiff. They were then 11 weeks into their ongoing isolation in compliance with strict regulations imposed by the U.K. and Welsh Governments to contain the COVID-19 pandemic. Restrictions on travel imposed by the governments meant that literally overnight both income streams were cut, requiring a shift in focus from the usual commercial activity to a fight for survival until such time as some semblance of normalcy is restored in the aviation world.

DragonFly's last AOG flight was on March 21 from Hamburg, Germany, to London Gatwick. The U.K. lockdown restrictions were imposed on March 24. All five aircraft (the four King Air turboprops and the Nextant 400 jet) returned to Cardiff and were placed on a "care and maintenance" package to maintain their airworthiness, and most employees were furloughed. All ad hoc charter bookings were canceled.

The shutdown came at a time of year when activity typically picks up after a quieter winter for both parts of the business (charter and AOG support). DragonFly has elected not to suspend its AOC but to maintain its operational capability. As a result it has performed a handful of emergency flights, and is in a position to become fully operational very quickly.

Howard said that the airline whose AOG recovery the business supports planned to resume a limited flight schedule in mid-June that would likely regenerate AOG activity in the near future.

"It is too early to judge the extent of the loss of income, but it will be substantial," said Howard, who is of the view that when general travel restrictions are lifted in the U.K. there will be a surge in private charter, on the reasoning that clients who can afford it would prefer to fly in a private aircraft where the environment and precautions can be tightly controlled rather than trust their luck in the back of a Boeing or Airbus.

Howard concluded by saying: "We have been running and growing this business over a period of 16 years with all of the weather, economic and engineering issues that are a daily feature of aviation. Whatever it takes, we intend to get through this pandemic and continue to provide the quality service for which we are renowned."

While Your King Air is Down Make the Most of Your ADS-B Downtime.



Preserves Aircraft Interior





Treat Your King Air Kindly

by Tom Clements

hat's your King Air to you? Is it only an inanimate object that provides transportation convenience for the owner(s)? Or is it something more, something that provides that mystical "pride of ownership" that makes you smile whenever you see it? For a lot of us – especially the owner-pilots among us – the King Air is definitely more than a mere means of transportation. It is a member of our family that brings great pleasure and enjoyment to our endeavors. Let me give you a few tips on how you can treat "her" kindly. Afterall, there's the law of reciprocity: Treat her kindly and she'll be more inclined to return the favor to you.

Cleanliness: A bucket of water and two terrycloth towels – one wet, one dry – work wonders in getting bugs off of the leading edges when she's back in the

home hangar. Doing this at the end of the day, before the carcasses have a chance to harden into the paint and boots, makes the task go swiftly. Hit the prop boots and blades and spinners while you're at it. This doesn't negate the need for periodic "deep cleaning" but it goes a long way towards keeping the airplane neat and presentable for the next flight.

Don't overlook the windshields. Get out the ladder, a spray bottle and a microfiber towel and have at it. A mixture that I have used for eons – recommended in the old days by PPG itself – is a 50/50 mix of isopropyl alcohol and purified water with a couple of drops of Joy dishwashing detergent added. It takes off bugs easily and leaves no streaks. I use my bare hand to rub in the mixture for the cleaning and then use the towel to

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wipe it dry. It works well on the plastic side windows too when they need cleaning.

About that nasty exhaust soot: The one big disadvantage of a conventionally mounted PT6 powerplant is that the exhaust comes out near the front of the engine and hence the cowling and nacelle get coated with the exhaust residue. A student once opined to me that "The PT6 is the only engine that must continually fly through its own a-hole!" He kinda nailed the problem, eh? Some exhaust stacks work better than others in keeping the cowling soot to a minimum, but no stack prevents the problem entirely.

The longer the exhaust remains the harder it is to remove, so this is another task that merits regular attention ... a last-flight-of-the-day cleaning whenever practicable. Many products are available and you probably already have a favorite. Mine is a spray bottle filled with about a 1:10 ratio of Simple Green and water. Spray it on, wipe it off with a towel ... the nacelle is clean again until the next flight!

Gentleness: How are you at closing the cabin door? Whenever I am sitting in the cockpit while someone else closes the door, I can immediately tell how adept he or she is at this task. How? By sound. If I can hear the door being operated it's not being done in an optimal manner. Here's the best way: Use a hand-over-hand pulling action on the aft door cable – the standard, only cable on many models – until you can grab the door handle with your right hand. Rotate the handle fully counterclockwise (CCW) – the opening position – to withdraw the door hooks and bayonets into the door itself. Now place the door in the frame – don't slam it! – and rotate the handle fully clockwise as far as it will go. See how easy that is? No slamming. No noise. No bayonets hitting the fuselage as they get pushed in far enough to allow the door to close. Before you head for the cockpit, of course you will make the six or seven checks to verify the door is properly closed.

You should have learned these checks in your initial training program. In case you need a reminder: One, the door handle won't rotate in the opening CCW direction. Two, three, four and five ... the green stripes on the bayonets are visible, centered in the viewing windows. (I keep a flashlight in a seat back pocket near the door to help in viewing this.) Six, lift the center step to view the inspection window – it has its own light operated by a little push button beside the viewing window – and verify that the red arm is properly engaged by the plunger. Seven – for the 300-series only – push the button for the hook inspection lights up above the door and verify that they look normal.

It seems that closing the door from the outside is also a weak area of "gentleness" for many pilots. First, bend your knees and lift up the door itself to start the process.





Do not start by pulling on the lower cable section that goes from the support arm to the door. That misguided action puts a big kink in the cable. See that little spring down where the cable connects to the door? Its purpose is to position the cable into a proper, large curve as the door is closed. Kinked cables eventually fray, break and leave an exiting passenger with a nasty surprise as the door is now resting on the ground!

Once you've lifted the door to about waist height, now reposition your hands so that the left hand can continue closing the door while the right hand reaches in to the upper aft cable piece – the section above the support rod – and assures that the cable goes forward (left, as viewed from outside) of the door's hydraulic snubber. The natural tendency is for this cable to get trapped between the door frame's upholstery and the snubber, causing it to impede the next opening of the door.

We're not done yet. Unless the exterior door handle is again rotated to the full opening position – this time clockwise (CW), as viewed from outside – we will again have the bayonets getting pushed in to the open position by striking the fuselage. Not cool; not gentle. So, grab the door handle and rotate it fully CW as you gently place the door into its frame. Now rotate the handle toward the closed position.

Need to lock the door for security? If so, go ahead and rotate the handle as far as it will go and lock it with your key. But what if you're in your own hangar and security is not an issue? You just want the door closed to keep dirt and bugs and rodents out. In this case, just rotate the handle about 45 degrees, not the full 90-plus degrees to the locked position. This action keeps the door in a "loosely closed" condition, not loading up the bayonets and hooks with the tension they must have to hold the door against the inflight pressurization force it experiences. (Side note: A King Air door is approximately 30 inches wide and 50 inches tall: 1,500 square inches of surface. Pressurize to 5.0 psid and it experiences 7,500 pounds trying to push it open!) I am probably optimistic in my belief that not putting the full closing forces on the hooks and bayonets when not needed will lead to better door reliability and less maintenance ... but it couldn't hurt!

Starting engines: Starting a PT6 is easy. Starting it correctly is not. That's why two chapters in *The King Air Book* and at least one in Volume II are devoted to that critical procedure. Just this week I watched a pilot initiate the start of the second engine while the first engine was at Low Idle, not the correct High Idle setting. To compound the problem, we were at an



(Dan Moore VMG LLC)

airport with an elevation of 6,700 feet and an OAT above 20 degrees Celsius. As the first engine got dragged down below 50% Ng and with ITT approaching the redline, I emphatically demanded, "Turn off the generator!" We reverted to a second battery-only start and all was well. But the "kindness" factor – giving the second engine a generator-assisted start with the benefit of a much cooler ITT peak – was non-existent.

The potential for engine harm, in my opinion, is greatest during starting than at any other operating regime. Do it right, without fail, to be kind to your powerplants.

Taxiing: By the time I observe a pilot get to the runway, I have a fairly accurate assessment of the skills he or she is about to demonstrate in flight. In my opinion, accuracy always trumps smoothness in flying. Holding altitude and heading perfectly, tracking an ILS with tight tolerance, doing steep turns to licensing tolerances ... things most King Air pilots are rather good at, in regards to accuracy. Smoothness? It is much rarer to find that a pilot can exhibit the proper degree of accuracy combined with smoothness. That combination demands a high level of proficiency and talent.

Likewise, when taxiing. Pretend the client/boss/spouse in back is continually about to take a sip from their coffee cup or martini glass. Is your taxiing smooth enough that nary a drop will be spilled? Do you start and stop rolling so smoothly that it's hard to tell when movement starts or stops? Strive for that. Your brakes, struts, and propellers will all benefit.

In most cases, releasing the brakes at Low Idle will start the airplane rolling. A slight hill to climb or sitting on grass or dirt may prevent this "automatic" roll. In that case, rather than adding power, a kinder technique is



to pull the propeller levers into the feather detent and then immediately place them forward. The extra bite of air almost always creates enough thrust to initiate the roll smoothly.

As taxi speed increases, it's time to lift the power levers into the Beta range to decrease blade angle and thereby to reduce thrust so as to hold the desired taxi speed without the need to drag the brakes. As you enter Beta, your eyes should be scanning the prop RPM gauges. Two things are important to observe: First, it is rare that the engine control rigging is so perfect that equal results will occur on the left



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and right sides when the power levers are side-by-side. If you see one tach reading 1,300 RPM and the other is reading only 1,150, you have a problem that is easily corrected. The side at 1,300 is going faster because it has less rotational drag. Why? Because its blade angle is flatter than the other side. To remedy this difference - which is causing the airplane to not roll straight - split the power levers by pulling back farther on the side with the slower prop speed. Why, looky there! Now both props are going the same speed and directional control is noticeably improved. The second thing to watch for is that there is no increase in N_1 , indicating that you have left the Beta range and entered the Reverse range ... you've pulled too far back. If your model has the Ground Fine stop, this should not occur until the second lift of the power levers has occurred but sometimes it is misadjusted and comes in too early.

This becomes automatic for us high-time King Air pilots. The prop tachs get a lot of our attention whenever we are using the Beta Range and what we see determines where the power levers get positioned.

Coming to a stop while taxiing should involve (1) Keeping the power levers deep into Beta so that the prop RPM is as high as possible without any change in N₁. This indicates the blade angle is near or at flat pitch, giving the least thrust. (2) Applying brakes to achieve the stop desired. Remember the imaginary cup near the lips in back. Brake usage should be modulated and lightened so that the stop is never really felt; the nose strut never does a little dip. (3) Once the stop is achieved, apply the brakes firmly, set the parking brake as desired, and move the power levers forward over the gate to Idle.

Is your King Air going to cower in the hangar corner the next time you approach or is she going to smile, wag her tail and look forward to the kindness you shower on her every time you fly? (What?! You didn't realize that King Airs are living beings?!)

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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Beechcraft – Diversify or Die

During the late 1940s and into the 1950s the cyclical nature of the commercial and military aviation business forced the Beech Aircraft Corporation to seek new sources of revenue to survive

by Edward H. Philips

⁶ t is said – not by us at Beechcraft but by those whose profession it is to know such things, that the history of general aviation is, in the main, the history of Beechcraft," said Frank E. Hedrick, executive vice president of the company during his address to the Newcomen Society September 28, 1967.¹



The "Dymaxion House" was designed by R. Buckminster Fuller as an affordable home for the masses, but Beech employees built only one. (Textron Aviation)

The Model 35 sold well in 1946 but sales declined significantly in 1948-1949 in the wake of an economic recession. (Edward H. Phillips Collection)



Sales of the postwar Model D18S were also affected by the economic slump, but by 1950 orders regained momentum. (Edward H. Phillips Collection)



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Hedrick's statement was bold and to a great extent, true - but the company founded by Walter and Olive Ann Beech in 1932 was only one of many that helped put wings on the world. Hedrick, who already had extensive experience in sales when he went to work at Beech Aircraft in 1940, arrived on the scene when the company was undergoing an extensive expansion of its manufacturing capabilities to meet military contracts for training airplanes. Facing an uphill struggle to meet demand, in July 1940 the decision had been made to terminate production of commercial airplanes, except for priority orders already on hand.

As 1941 approached, Beech Aircraft, along with the Cessna Aircraft Company and the Wichita Division of the Boeing Airplane Company, were hiring massive numbers of workers to build President Franklin D. Roosevelt's "Arsenal of Democracy" aimed at supplying Great Britain with the weapons it needed to fight Adolf Hitler and his Nazi regime. Included in that arsenal was the goal of manufacturing 50,000 military aircraft. Such seemingly impossible targets would require a workforce of millions, and Americans quickly signed up and went to work. For example, at Beech Aircraft in November 1940, there were 1,935 men and women toiling on the production lines to build the AT-11-, C-45-, SNB- and GB-series aircraft for the United States War Department. By contrast, by June 1945 employment had peaked at more than 14,000. As the war neared its end in 1945, Hedrick had already been heavily

involved in the planning and executing of a transition from wartime to peacetime production.

In his speech at the Newcomen Society, Hedrick summed up the situation: "With Japan's surrender, total United States industry faced a grim and uncompromising assignment: the transition from military to civilian production. Time was of the essence – time to solidify dormant civilian markets, time to reestablish product lines and time to let the economic laws of supply and demand adjust to a climate of peacetime coexistence."

Walter and Olive Ann Beech needed that time to pull together their company's resources, both material and personal, before launching two airplanes that had been quietly designed and developed during 1944 and 1945 – the Model D18S and the Model 35 *Bonanza*. The two company co-founders believed both aircraft would put the company back on a firm commercial footing.

In October 1945, only two months after Japan's capitulation, Walter Beech had his engineers and production managers, including Frank Hedrick, focused on manufacturing the Model D18S and the Model 35.

One other airplane, the Model G17S, a postwar upgrade of the venerable Model D17S biplane, was offered in limited numbers and only 20 were eventually built. It is worthy of mention that the D18S was the first postwar commercial airplane to receive an Approved Type Certificate.

Meanwhile, in addition to building new airplanes, Beech Aircraft management "sought out several avenues of diversification" to keep the company solvent and skilled workers on the payroll. Among these "avenues of diversification" was the manufacture of prefabricated homes. In the wake of the war there was an enormous shortage of housing – a shortage so severe that some experts claimed demand could not be met until the mid-1950s.

According to Hedrick, "So it was that Beech Aircraft temporarily entered the fringes of the real estate industry with a prototype of [an] all-metal house." He was referring to a design created by famed inventor and architect, R. Buckminster Fuller. Dubbed the *Dymaxion House* (shown on page 21), it was developed chiefly to



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address shortcomings found in the construction of homes during the late 1930s and into the early 1940s. Fuller's plan was to mass produce the Dymaxion design as kits that could be assembled on-site, with an emphasis placed on the ease of shipping and assembly.

The first house was completed in 1930 but was redesigned in 1945 and represented one of the first major efforts to construct an autonomous building in the 20th century. A postwar version of the Dymaxion design became known locally as the "Wichita House" and was Fuller's latest attempt to provide a costeffective dwelling for the masses.

Hedrick described the house as resembling a pumpkin, "suspended on a center post that permitted it to be rotated so that any of its segments could be aimed into the sun to absorb the latent energies of solar heat." In addition to the potential of commercial sales, the U.S. military expressed some interest in Fuller's creation as portable housing for troops both domestically and internationally.

As for Beech Aircraft's involvement, the company's experience working with sheet metal structures, coupled with its core workforce of skilled craftsmen, made it an ideal subcontractor, as were other American airframe manufacturers. A Beech Aircraft promotion of the house proudly proclaimed that, "Using the very same materials and tools, even the same workers, assembly lines can turn them out at a clip never before seen in home construction. A quarter of a million a year in Wichita's plants, 60,000 at Beech Aircraft alone. A complete house for \$6,500 - the price of a Cadillac."

Unfortunately, no production contracts were forthcoming and Beech Aircraft built only one example of the highly touted Dymaxion House – the sole example ever constructed. As of 2020 it resides at the Henry Ford Museum in Dearborn, Michigan. The house did serve as a family dwelling for about 40 years near Wichita before it was disassembled and transported to the museum for restoration.

After the war there was great optimism throughout the light airplane industry that demand for personal aircraft would skyrocket, with some overly optimistic prophets going so far as to boldly predict that by 1947 every garage would house a car and an aircraft. The economic recession that struck America in 1948-1949 quickly ended such unattainable fantasies. Hedrick summed it up well: "The personal aircraft market declined rapidly, and as a result, sales of the popular Bonanza plummeted to fewer than 350 from a high of 1,000 per year in 1947." Many small aircraft companies such as Taylor craft, Piper, Stinson and others struggled to stay in business or entered into bankruptcy proceedings.

Once again, Walter and Olive Ann Beech were confronted with a serious financial situation that had to be addressed in hopes that better times would soon return. The sales doldrums of 1949 bled over into 1950. Hedrick recalled how sales slowed "to a disquieting tempo." Fortunately, Mr. Beech once again "toyed with a sprinkling of projects as far removed from airplanes as "A" was from "Z." This time, it would be farm implements, not prefabricated houses.

In 1949 the company entered into contracts with the Chicago, Illinoisbased Great American Harvester Company to manufacture corn threshers. Wichitans who drove past the Beech factory campus suddenly saw row upon row of red corn picker machines spread all over the airfield. Sadly, as with the Fuller house project, the timing was wrong for an agricultural-related business venture. As Hedrick pointed out, "The corn pickers were produced in late fall and early summer and it was not until the next February that a most remarkable



The company manufactured hundreds of corn pickers for the Great American Harvester Corporation and hay baler farm machinery for the International Harvester Company. (Edward H. Phillips Collection)

The U.S. Air Force dealt Beech Aircraft a near fatal blow when it suddenly canceled the T-36A program in 1953. Subcontracting helped save the company. (Edward H. Phillips Collection)

inventory was ready to go to market. But this being the offseason, there were no customers."

Undaunted, in 1949 Walter and Olive Ann had also secured contracts with the Seeger Refrigerator Corporation to produce aluminum vegetable crispers and meat preservers and topped off that year by securing work building components for cotton pickers and hay balers from the world-famous International Harvester Company. In addition to work from Seeger, Hedrick said the company "Actively sought out and accepted a scattering of similar contracts: plastic nozzles for hair dryers, a new type of individual-piece aluminum pans, parts for automatic dishwashers, and later, in a more basic military flavor, the production of thousands of 110-gallon casings that, when primed with special inflammables, would serve as fire bombs in front-line trouble zones."

Although these and other contracts were helpful in retaining workers and meeting the payroll, Hedrick emphasized that Beech



UNITED STATES AIR FORCE





Aircraft Company's primary objective remained the "design and manufacture of high-performance aircraft." By 1952 Beechcrafters were busy building not only the piston-powered T-34 *Mentor* primary trainer for the U.S. Air Force and the Navy but were also engaged in manufacturing fuel tanks for jet aircraft at facilities in Herrington, Kansas, that were leased to meet that demand.

In 1951, however, the Air Force had issued the company a highly lucrative contract to design and develop a pressurized, twin-engine trainer designated the T-36A. The airplane could also be operated as a transport and was to be powered by two Pratt & Whitney R-2800 static, air-cooled radial engines. Plans called for a crew of one instructor and three students, or two crewmembers and as many as 12 passengers. Performance requirements called for a maximum speed of 350 mph at 30,000 feet.

It was estimated that production contracts for the T-36A would generate about \$300 million annually and would have required a 200% increase in the workforce. As plans progressed 500 new employees were hired



each month, eventually leading to a company-wide total of 13,000 people. To meet projected demand for the new Beechcraft, the company constructed a new building with 110,00 square feet to house manufacturing, production, final assembly and delivery.

During 1952 a mock-up and a pre-production prototype of the proposed T-36A was completed. Then suddenly, and without any warning, in June 1953 the Air Force abruptly canceled the entire program. It was a major financial blow to the company. As Hedrick described the situation, "There was not to be another dollar spent or another rivet driven. So abrupt was the cancellation that, much to the chagrin of engineers and test pilots alike, not one flight in the prototype airplane was permitted" although it was only hours from its maiden flight. In the wake of the T-36A disaster, employment quickly plummeted to only 6,800 workers. "This was an economic disaster that might have collapsed some companies, but under the direction of Mrs. Beech we pulled ourselves together and went forward," Hedrick said.

To make matters worse, in 1953 the general aviation market remained soft and sales of new Beechcrafts were insufficient to adequately support the company's facilities and employees. Despite the fact that subcontract opportunities after the war "had not been too successful," workers soon began manufacturing wings, flaps, ailerons and fuselage sections for other airframe builders. These included The Boeing Company, Bell Helicopter Company, Convair, Douglas Aircraft Company, Grumman Aircraft Engineering Corporation, Lockheed Aircraft Corporation, North American Aviation and the McDonnell Company.

By 1955 these subcontracts were providing Beech Aircraft with sales amounting to \$25 million – about 30% of gross sales – and continued to be a reliable source of revenue contributing \$36.5 million by 1966. One year later Hedrick was able to report that for fiscal year 1967, total military and aerospace sales approached \$75 million and export sales of commercial and military aircraft for the previous year totaled more than \$25.5 million. A significant part of that amount was due to the company's worldwide network of 32 distributors and 48 dealerships in 80 countries.

Hedrick was once asked by a reporter to summarize the Beech Aircraft Corporation in 15 words or less. Instead, he did it in only 10: "Beech Aircraft's business is the movement of people and products." From its humble beginnings in 1932, Walter and Olive Ann Beech never strayed from that creed. In 1933 sales amounted to a mere \$17,552 and employment stood at 10 people, including Walter, Olive Ann and engineer Ted Wells. By 1967 sales totaled \$175 million and 10,000 men and women were on the payroll.

Hedrick summed up potential of the years ahead this way: "Because of the past we are better prepared today to meet the challenges of the future. We shall continue a planned, steady growth, relying to a great degree upon one of our most precious assets – flexibility – which is the result of diversification of activities." Although the company has become a part of Textron Aviation, Hedrick's words still ring equally true today.

Notes:

 In 1968 Frank E. Hedrick was elected president of Beech Aircraft Corporation. He retired in 1982 and died at age 76 in June 1987. Hedrick did not learn to fly but in 1932 did hold a student pilot certificate.

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



Garmin Pilot App Has New Features on Apple Mobile Devices

Garmin announced the addition of new features to the Garmin Pilot app on Apple mobile devices. New enhancements to the document viewer allow customers to configure folders so they can more easily organize documents such as pilot's guides, cockpit reference guides and more, within the app. Additional features include the display of elevation information in the radial menu, night mode on approach charts, the option to print the navigation log and more.

Document viewer enhancements

Documents stored within the document viewer in Garmin Pilot are now synced across all Apple mobile devices running Garmin Pilot. These folders are also customizable by color and can be reordered for improved organization of documents such as pilot's guides, cockpit reference guides, checklists and more.

Night mode on instrument approach charts



While flying at night, pilots can now invert the colors on Garmin FliteCharts or Jeppesen terminal approach procedures for enhanced readability during night flights. Pilots have the option to select night mode from the menu in the top right corner when viewing a chart on the map page, in the charts binder, in split-screen view on the synthetic page or while viewing the airport page. Once selected, night mode is consistently displayed throughout the app.

Navigation log and weight & balance print option

FltPlan.com customers in the U.S., Canada and the Caribbean that file their flight plan using the FltPlan.com website or Garmin Pilot, now have the option to print their navigation log or the weight & balance sheet from Garmin Pilot. Garmin Pilot Europe subscribers also have the option to print the IFR autorouting briefing packet.

Additional features:

When the terrain database is downloaded, elevation information can be viewed within the inner circle of the radial menu on the map.



Pilots can easily view a new logbook report that details the airports they have visited. Each logbook period displays a map with pins to reflect the destination airport, as well as the date, flight time logged and more.

The display and animation of lightning has been enhanced on the moving map.

Garmin Pilot also supports the Apple Pencil 2 and a variety of gestures.

The newest release of Garmin Pilot on Apple mobile devices is available immediately. For new customers, Garmin Pilot is available in the Apple App Store as a free download for the first 30 days. After the 30day trial period, customers may purchase an annual subscription of Garmin Pilot starting at \$79.99. Garmin Pilot is supported by Garmin's award-winning aviation support team, which provides 24/7 worldwide technical and warranty support. Visit www.garmin.com/aviation for additional information.

ForeFlight Offering Live Global Traffic through FlightAware

ForeFlight, in partnership with FlightAware, is now providing live global traffic streaming for all customers with the Internet Traffic feature. Integrated with the same Traffic map layer used for ADS-B devices, Internet Traffic is available any time you have an internet connection and are on the ground, as well as when connected to inflight Wi-Fi networks from Gogo or Satcom Direct. View call sign, altitude and more detailed information for any airborne traffic target. You can also see how ATC is vectoring traffic around active weather systems and plan accordingly. Zoom in to an airport to see ground traffic fades into view alongside ForeFlight's embedded airport diagrams, reducing clutter and providing helpful context.

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From Multi-Engine Prop Communiqué MT-TP-0020

Issued: June 2020

ATA 25 – AmSafe Crew Seat Belts Connector Web Slide Insert

Aircraft equipped with AmSafe Crew Seat Belts

AmSafe has issued Service Letter SL279213 to call attention to the belt connector half assembly tongue web slide where the web slide has been found to be cracked, damaged or missing (see picture below). The Service Letter provides instructions on how to replace the tongue web slide insert.



In addition to the Service Letter, AmSafe has also issued a no technical objection (NTO) letter allowing operation with the tongue web slide broken or missing.

You may obtain the Service Letter or the NTO letter by contacting AmSafe at customerservice-new@ amsafe.com

ATA 56 – Windshield Surface Seal Update

All

PPG, the supplier of the aircraft cockpit windshields, has reformulated the Surface Seal® Gen II coating to the Surface Seal® Gen III. The purpose of the coating is to provide improved water shedding performance during precipitation conditions. The formulation change was introduced because of PPG's commitment to providing environmentally sustainable products and evolving regulation while not reducing the water shedding performance.

On June 1, 2020, the existing Surface Seal[®] Gen II coating will become obsolete. After this date PPG will provide only the new Surface Seal[®] Gen III coating whether it be for spare windshields or PPG kits used for refurbishing the coating.

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Any stock of spare windshields and existing Surface Seal® Gen II kits can continue to be used until the supplies are exhausted. If after June 1 you place an order with Textron for the existing Surface Seal® Gen II kit the new Surface Seal® Gen III kit will be provided instead.

The Aircraft Maintenance Manual (AMM) is being revised to address the change, but this communiqué provides the necessary information before the revision will be available. SEE ENTIRE COMMUNIQUE for specific information at www. txtavsupport.com.

ATA 61 - Hartzell Propeller Grease Change

All

Hartzell Propeller Inc. has announced, via Service Letter HC-SL-61-366, a change to the grease used on these propellers. The new grease is NYCO GN3058. Textron Aviation recommends that you refer to this Service Letter available from Hartzell Propellers Inc. Textron Aviation will be making the necessary changes to the applicable King Air, 99 Airliner and 1900 Airliner maintenance manuals to reflect this change.

The information provided in this column may be abbreviated for space purposes. For the entire communication, go to: www.txtavsupport.com.



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-Henry Maier, President and CEO, FedEx Ground

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