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A MAGAZINE FOR THE OWNER/PILOT OF KING AIR AIRCRAFT





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www.kingairmagazine.com

SUBSCRIPTIONS

King Air is distributed at no charge to all registered owners of King Air aircraft. The mailing list is updated bi-monthly. All others may subscribe by writing to: King Air, P.O. Box 1810, Traverse City, MI 49685, or by calling 1-800-447-7367. Rates for one year, 12 issues: United States \$15.00, Canada \$24.00 (U.S. funds), all other foreign \$52.00 (U.S. funds). Single copies: United States \$6.50, Canada/Foreign \$9.00.

COVER PHOTO

Cover photo courtesy of Textron Aviation

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King Air (ISSN 1938-9361), USPS 16694 is published monthly by Village Press, Inc., 2779 Aero Park Drive, Traverse City, Michigan 49686. Periodicals Postage Paid at Traverse City, Ml. POSTMASTER: Send address changes to King Air, Village Press Inc., P.O. Box 1810, Traverse City, Ml 49685. Telephone (231) 946-3712. Printed in the United States of America. All rights reserved. Copyright 2019. Village Publications.

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JULY 2019

Flying to and Touring Aca

by Matthey

Frenchman Bay bathed in morning civil twilight. The nearest island to the right is Bar Island, immediately north of Bar Harbor's city center.

SUITISE Idia National Park, Maine

v McDaniel

quickly silenced the alarm that began chirping at precisely 4 a.m. Even as a morning person, forcing myself from a cozy bed while my wife and kids continued to snooze contently required extra motivation at that hour. The reward was looming just outside the door and would unfold over the next 90 minutes. Dressed for the brisk morning air, with a warm drink and camera in hand, I slipped out the door onto the hotel room patio, gazing east as the morning nautical twilight transitioned into civil twilight. A glorious sunrise over the Atlantic Ocean seemed to set the Gulf of Maine ablaze in ever-changing shades of burning red and orange. Fishing and tour boats slipped their moorings as the sea reflected the slow-motion eruption of daylight. Dawn had arrived at Acadia National Park, site of the first sunrise in the continental U.S.

The Maine Idea

Americans often associate their national parks with vast expanses of desolation, from the Rockies westward, yet, many of the National Park System (NPS) gems lie east of the Mississippi River. Some are quite new (like Indiana Dunes, upgraded to a national park in February 2019). Others, like Acadia, have held that status for a century. Almost by definition, many of our national parks are remote and can be challenging to reach. Large commercial airline hubs north of Boston simply don't exist, limiting commercial flights into the immediate area to only connectors. Enter general aviation and its nearly limitless options for taking us to amazing places faster and easier than driving, while providing views vastly different from those of terrestrial tourism. Fortunately, several general aviation airports can get you close to Acadia and provide the necessary services as well.

I first became aware of Bar Harbor, Maine's Hancock Co. Airport (KBHB) back in the early 2000s when I flew Reagan-era Secretary of Defense, Caspar Weinberger, in on a charter flight. He was a gregarious elder statesman and espoused the many virtues of his adopted home. It was the dead of winter and the town and hotel reminded me of The Shining, buttoned up as they were for the offseason. But the airport services were excellent,



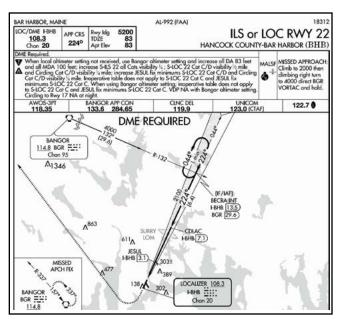


Figure 1: The ILS Runway 22 at Bar Harbor is the primary approach into BHB. While it includes standard Category I ILS minimums of 200 feet, beware of the "Notes" section of the approach plate which details several adjustments to minimums under certain conditions. Also note that DME is required (of course, most aircraft equipped with modern avionics have DME or use IFR approved GPS navigations systems in addition to or in lieu of DME).

even in those frigid conditions. Of course, so far north, tourist season is typically only May through October. Regardless, King Air pilots, with their full weather capabilities, could also choose to partake of the winter wonders the area has to offer (without fighting the summer crowds). Today, FBO services are provided by Columbia Air Services and include everything a King Air pilot might need (rental cars, fuel, tie-downs and hangaring, pilot lounge, flight planning room, etc.). Arrival procedures are straightforward and do not include any published Standard Terminal Arrival Routes (STARs). For approaches, BHB is equipped with an ILS and two RNAV-GPS (LPV) approaches. Runway 4/22 is primary (at 5,200 feet long), but Runway 17/35 (3,363 feet long) is available if winds or traffic require (assuming that is within your King Air's performance limits at the time). Note that some minimums adjustments are necessary when using non-local altimeter settings, which is required when the AWOS is unavailable at this pilot-controlled field (see Figure 1).

As an alternative, Bangor's Class C international airport (KBGR) is only 30 miles inland. That distance could potentially get you away from coastal weather that might be driving conditions below published minimums at BHB. Or it could be that the larger facilities of BGR better match your performance limitations or personal preferences, thus, offsetting the minor additional driving distance. BGR's single 11,440-foot runway (15/33) will certainly accommodate any size/weight King Air, while offering much larger safety margins than BHB's runways.



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The shoreline below the Bass Harbor Head Lighthouse is perfect for taking in the south-facing views of the Atlantic Ocean, while romping along the rocky coast. The author's daughter takes a rest while his son (middle right) continues to explore.

Various ILS and RNAV-GPS approaches are available at both ends of the runway, including CAT II, CAT III, LPV and L/VNAV minimums options (if you are appropriately equipped and qualified). Bangor Approach can even provide you with radar services for an ASR approach (workload permitting), if you're inclined to practice your if-all-else-fails approach procedures! Once on the ground at BGR, any King Air pilot will feel right at home with Bangor Aviation Services' standard turbine-level FBO services and amenities.

Whether you are driving from BHB or BGR, you'll travel Highway 3, which passes right along the southern boundary fence of Bar Harbor airport. During good weather, Acadia Air Tours – the local aerial sightseeing company – stages their aircraft from this area to maximize visibility of their operation, hopefully luring passing cars

of tourists in with their attractive fleet of single-engine aircraft and helicopters. They can admit passengers through a gate near the approach end of Runway 35 for the purpose of loading them for a local air tour of Acadia. This is an experience not to be missed, especially if you can score your ride in a one of the several opencockpit biplanes they operate on a warm summer day. Aerial tour options range from quick 15-minute loops around Bar Harbor and Acadia to more specific and inclusive tours of an hour or more; even sightseeing via gliders are offered.

Back on Highway 3, heading southeast from the mainland, travelers must cross tiny Thompson Island. A stop at the information center there is worthwhile for gathering maps and tourist info for both the park and surrounding areas throughout Down East (the local term for most anywhere along the southeastern coast of Maine). Thereafter, you are mere minutes from entering the first national park east of the Mississippi River.

Mount Desert Island

Acadia makes up about half of Mount Desert Island (MDI), half of Isle au Haut, plus 18 smaller islands, and a portion of the Schoodic Peninsula, which lies east across Frenchman Bay. On MDI, you'll find the majority of resorts, hotels and B&Bs along the island's northeast coast and within the town of Bar Harbor. We chose the Atlantic Oceanside Hotel, which offered terrific views, a nice evening restaurant and kidfriendly amenities (pool, free breakfast, etc.), all for midrange pricing. However, many higher-end options also exist –

whether you're looking for a three-star resort with spa, various activities and multiple eating choices, or an elegant four- or five-star bed-and-breakfast. Be sure to book well in advance during peak-season though, especially for the more unique and desirable lodging choices.

Since we arrived well ahead of check-in time, we chose to drive through the western portions of Acadia to the southern-most point of MDI (Bass Harbor Head Lighthouse). A short wooden staircase takes you down to the boulder-strewn coastline, where you too can ramble across the rocks below the lighthouse while enjoying spectacular views of the Gott Islands (and beyond) across Bass Harbor. Climbing back up, trails are available through the wooded areas and up to the still-functional lighthouse. Built in 1858, the lighthouse is one of four within Acadia, but the only one accessible by car.



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We cruised a scenic route back north, rather than simply retracing the same way back. Tiny towns and villages remain scattered across MDI (both within and outside of official park boundaries), providing many excuses for brief stops. The roads are narrow two-lane affairs with a mix of local and tourist traffic. We found traffic to be fairly light on the western half of MDI, even during our August/peak-season visit, proving it sometimes pays to visit the more remote and less publicized sites within a given national park if big crowds aren't your thing. A shortcut across the middle of MDI brought us into Bar Harbor from due west for an evening on the town.

Bar Harbor

MDI has been inhabited for at least several thousand years. The first Europeans arrived in the 1500s and contacted the Wabanaki natives. French explorer Samuel de Champlain not only founded Quebec and crossed the Atlantic 29 times in his explorations, he also named this area I'Isles des Monts-deserts in 1604. By 1759, the British had won the power struggle with the French for primary control of the area. In 1796, the first "modern" settlement on MDI incorporated as Eden (known today as Bar Harbor). Situated on the East Coast of MDI, Bar Harbor relishes its nearly synonymous identity with MDI

and Acadia, making it a matter of semantics to try to distinguish each. As a whole, all proudly proclaim they are the location of the first sunrise on the continental U.S. This can be a confusing claim, given that none are the eastern- or northern-most points. However, parts of Canada block the sunrise from more northeasterly U.S. locations. Thus, the summit of Cadillac Mountain (MDI and Acadia's highest peak) receives first light at least from Oct. 7 through March 6.

While commercial fishing maintains an employment foothold, Bar Harbor is now the epitome of a tourist economy, well suited for all tastes and wallets. Food and shopping range from the standard tourist-fare to highend eateries and boutiques, with an emphasis on a wide variety of Maine-lobster and seafood choices. For fine dining, the choices are too extensive to list, but for fine local seafood, three highly rated choices are The Fork & Table, Salt & Steel and Veranda Bar at Balance Rock Inn. For more moderate pricing, casual fish and lobster houses or bars can be found on nearly every city block. Mostly though, you're drawn to the natural beauty of the surroundings (the views of ocean, mountains, islands, peninsulas, quaint city parks and harbor). While, I'm sure there are times when the population of 5,200 is overwhelmed by tourists, that was not our experience. This likely changes when large cruise ships disgorge





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Looking northeast during a morning hike along the Great Head Trail. Egg Rock Lighthouse (circa 1875) warned mariners of the dangers of entering Frenchman Bay via the Mt. Desert Narrows (site of many shipwrecks). Acadia National Park's Schoodic Peninsula in the background.

their passengers at the harbor; cruise ships, tour boats and scheduled ferries to the out-islands and peninsulas are big business here.

The downtown area is walkable from nearly any of the public parking vicinities. Agamont and Grant Parks, plus the Village Green, all beckon you to just lie in the grass and relax, enjoying the view of Frenchman Bay's islands and the various vessels coming and going. At low tide, a wide land bridge provides walking access to Bar Island and the many sandbars and shallow areas you can wade to or from, if you can tolerate the chilly water temperatures. On Bar Island, you can explore via beach combing and wooded hiking trails. Caution should be taken not to overstay your welcome, lest the tide return, trapping you on the uninhabited island overnight!

The Heart of Acadia

Acadia was the first national park set aside from exclusively private lands. Wealthy benefactors established a public land trust in 1901 in response to threats of overlogging and other environmental scourges feared by the prominent families who'd established vacation homes on MDI. In 1916, the 5,000-acre Sieur de Monts National Monument was created through cooperation between the trust and the U.S. and French governments. When national park status was granted in 1919, it was renamed Lafayette. A decade later, another renaming labeled it Acadia, a native word meaning "Land of Plenty" and also the name of the first permanent French settlement in North America. Today, it has grown to over 49,000 acres of protected lands.

Armed with some knowledge of the area's history and a good night's rest, we embarked upon a full day of touring the park's better-known areas via the 27-mile Park Loop Road, which meanders through the more visited eastern half of the park. The famous Precipice Trail is

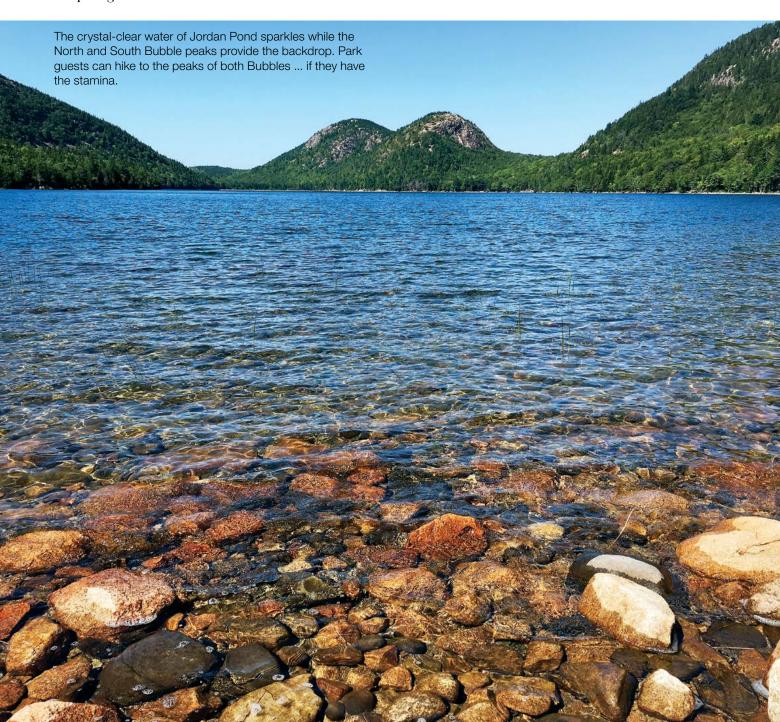
The ThrustSense® Autothrottle makes it a little easier to enjoy the sunset

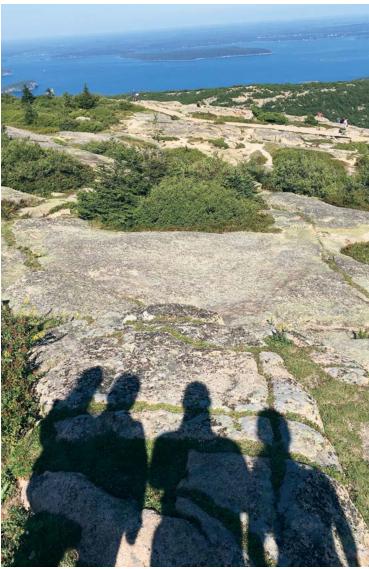
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a nearly 1,000-foot vertical and exposed climb up the face of Champlain Mountain labeled "strenuous." With a rambunctious young son and little safety gear, we skipped it. But, the southeastern point of MDI contains a truly pleasurable hike down to a sand beach, one of the few nonrocky beaches on MDI. After reaching and crossing the beach, we continued along the Great Head Trail, which is steep and challenging in places, but never more than moderately difficult. The views gained when reaching the heights of this rocky headland were well worth the exertion required and proved to make for a great morning excursion. A short distance further, a wayside stop at Thunder Hole was crowded, but picturesque, even though the calm conditions prevented the buildup of trapped air in the narrow channel from making its thunderous escape. So, we pressed on to the 100-foottall pink granite cliffs of Otter Point. Further down the Loop Road, we stopped at the Jordan Pond House – site of the only restaurant within the park boundary. Always a popular lunch spot, the nearly perfect warm and calm conditions made dining on the lawn preferable, with its ample seating and amazing view of Jordan Pond and the glacier-scarred Bubble Mountains beyond. Be sure to partake of the local fare they've been famous for serving since the 1890s: flaky and delicious popovers with jam and Maine-blueberry infused teas and lemonades (all worth the cheat-day from your low-carb, low-sugar diet). After overstuffing ourselves, the trails and pathways along the shores of Jordan Pond proved the perfect antidote. At 1.2 miles long, up to 150-feet deep and covering 187 acres, it is certainly not your typical pond! Jordan's pristine, clear waters and breathtaking vistas encourage you to keep moving just to see what views are hiding around the next bend.





The author and family casting shadows atop Acadia National Park's highest peak. The paved loop trail atop Cadillac Mountain provides a 360-degree view of Mount Desert Island and the surrounding waters and islands. Cadillac rises to 1,530 feet above the sea and can be reached via the picturesque Cadillac Summit Road.

Panoramic Peak

No tour of Acadia or MDI would be complete without a visit to the summit of Cadillac Mountain, either via the curvaceous Cadillac Mountain Road or one of the many hiking trails that converge at the peak (some many miles in length). Cadillac's views down upon MDI and Acadia are all-encompassing, offering a true panorama of the entire area. While a mere 1,530 feet above sea level, no higher peak along the Atlantic coast exists in the U.S. With parking near the top, the views can be enjoyed while strolling the paved walking path that encircles the peak, offering great photo opportunities in every direction. Unfortunately, over the near century that crowds have flocked to this pinnacle, they've not always been good stewards of it. Be sure to stay on-trail







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to avoid contributing to the already extensive loss of soil and vegetation. Careless tourists have put several rare plants at the mountaintop into a threatened status. For any disappointment the calm conditions caused at Thunder Hole, the sedate winds were welcome atop Cadillac's exposed peak.

Departures and Returns

Acadia National Park offers more to do and see than can realistically be accomplished in a single visit. One must select which of the 125 miles of hiking trails to enjoy (and which match your fitness and equipment levels). If you prefer biking or horseback riding, you can thank famous American millionaire and philanthropist, John D. Rockefeller. Fearing the park would be overrun by automobiles, he began having narrow stone carriage roads built in 1913. Eventually, they stretched 45 miles through the park and across 17 bridges made from local granite and cobblestones. He also donated more than 10,000 acres for the park. If swimming or water activities are more your thing, there are several ocean beaches and fresh-water valley lakes to enjoy, though they remain cool, even in the hottest months. For us, any return visit would hopefully include some carriage road biking and exploration of the Schoodic Peninsula and some of the minor islands.

When your time in Acadia does expire, the drive back to the airport is fairly short – even if you chose the more distant Bangor versus Bar Harbor. At either locale, a quick call to the FBO can have your aircraft fueled, awaiting your arrival. Conveniently, rental cars can be returned at the FBO as well. Departure procedures are as straightforward as arrival options. As with STARs, no Standard Instrument Departures (SIDs) are published (with the exception of the simple, radar vectored Bangor 3 SID out of BGR). Although, you should note there are several published Obstacles Departure Procedures

BAR HARBOR, ME

HANCOCK COUNTY-BAR HARBOR (BHB)
TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES

AMDT 4A 13066 (FAA)

DEPARTURE PROCEDURE: Rwy 17, climbing right turn via heading 220° to 2100 before proceeding on course. Rwy 22, climb via heading 224° to 1100 before proceeding east or southeast bound. Rwy 35, climb via heading 349° to 600 before proceeding on course. TAKEOFF OBSTACLE NOTES: Rwy 4, road 324' from DER, 524' left of centerline, 15' AGL/79' MSL. Multiple trees beginning 119' from DER, 231' right of centerline, up to 60' AGL/193' MSL. Rwy 17, bush 116' from DER, 164' left of centerline, 10' AGL/47' MSL. Tree 245' from DER, 346' right of centerline, 44' AGL/82' MSL. Rwy 22, multiple poles and trees beginning 562' from DER, 329' left of centerline, up to 60' AGL/135' MSL. Terrain, multiple poles and trees beginning 450' left of DER, up to 60' AGL/142' MSL. Power lines beginning 626' from DER, 359' right of centerline, 35' AGL/103' MSL. Rwy 35, terrain and multiple trees beginning 35' from DER, 340' left of centerline, up to 60' AGL/217' MSL. Glideslope antenna and multiple trees beginning 657' from DER, 565' right of centerline up to 60' AGL/146'

Figure 2: The published Obstacle Departure Procedures (ODPs) for Bar Harbor, Maine. Note that three of the four runways at BHB are specified in the ODPs. Bangor (BGR) has a radar vectored SID serving both runways, but no published ODPs.

(ODPs) for BHB (see Figure 2). While Maine's Down East is certainly not as mountainous as the Rockies, it is also a far cry from the Central Plains. ODPs are published for many area runways and care should be given to comply accordingly. Even with the specific procedures the ODPs require, with typical King Air turbine performance you'll be above the highest obstructions in short order. Whatever your route home, you'll likely spend much of it mulling your Acadia experiences and contemplating a return trip.

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Matthew McDaniel is a Master & Gold Seal CFII, ATP, MEI, AGI, & IGI and Platinum CSIP. In 30 years of flying, he has logged over 18,000 hours total, over 5,500 hours of instruction-given, and over 2,500 hours in various King Airs and the BE-1900D. As owner of Progressive Aviation Services, LLC (www. progaviation.com), he has specialized in Technically Advanced Aircraft and Glass Cockpit instruction since 2001. Currently, he is also an Airbus A-320 series captain for an international airline, holds eight turbine aircraft type ratings, and has flown nearly 90 aircraft types. Matt is one of less than 15 instructors in the world to have earned the Master CFI designation for nine consecutive two-year terms. He can be reached at: matt@progaviation.com or (414) 339-4990.



New Satellite-based ADS-B Receivers – A Boost for ATC and Safety

by Rob Mark

n early January, the eighth and final SpaceX Falcon 9 rocket lifted off from Vandenburg AFB in California on a mission for Iridium Communications. Seven of those eight rockets carried 10 Iridium NEXT satellites with the final carrying just five, 66 in all. Each satellite placed itself into a low-earth orbit replacing Iridium's original satellite-phone constellation launched by Motorola in the 1990s. The new Iridium network will improve satellite phone service, but it will also profoundly improve air traffic control and aviation safety around the world, as each new satellite also carries an ADS-B receiver.







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Now if you're thinking a satelliteborn ADS-B receiver is simply redundant to the thousands of groundbased receivers that already exist, you'd be right ... almost. Those of us flatlanders who fly IFR in the United States almost never hear ATC utter the phrase "Radar contact lost," because coverage is just short of awesome around big cities and at least a few thousand feet in the air while en route.

Fly out west though, or up in Alaska, or away from the Atlantic, Pacific or Gulf shores and that phrase is probably more familiar. That's because the radar technology that bounces a radio signal off an airplane making it visible to air traffic controllers, a system first deployed during World War II, works by line of sight, just like VHF radios. That means aircraft operating in mountainous regions, over open water or jungle can't always be seen. Aircraft flying near heavy precipitation can also become nearly invisible to ATC on standard radar.

When aircraft fly outside of groundbased radar contact, ATC must

significantly increase lateral and horizontal separation standards to keep everyone safe, wasting time and fuel, while also reducing the number of aircraft able to use a given chunk of airspace. There are still plenty of airports around where a departure sits on the ground until an arriving IFR aircraft cancels its flight plan. Without radar information, it's also nearly impossible for ATC to locate an airplane should they lose radio contact. Think Malaysian flight 370, a Boeing 777 with 239 people on board that went missing in March 2016 and was never found.

The advantage of using Global Positioning System (GPS) based ADS-B is its talent for accurately pinpointing aircraft anywhere on earth at nearly any altitude, provided of course that ADS-B receivers can hear the signal. With space-based receivers augmenting the ones already installed on earth, those ADS-B signals won't be lost, unless the transponder is disabled for some reason.

While ADS-B receivers on satellites can't completely prevent another aircraft from going missing, the new system will mean no airplane should ever again go missing with ATC wondering about their last known position. With an ADS-B based ATC system, controllers will see precise position updates as often as once every 15 minutes in the North Atlantic where testing is now in full swing.

In order to make this new-age ATC system viable everywhere, including the U.S., Iridium sells the ADS-B information its satellites receive to a partnership of ATC service providers around the world such as Nav Canada, NATS in the U.K., ENAV (Italy), the Irish Aviation Authority (IAA) and Naviair (Denmark), as well as Iridium, through a new company called Aireon. Working together with Flight Aware, a name already familiar for aircraft tracking data, ATC providers will more easily track an airplane's callsign, airspeed and altitude, its magnetic heading and transponder code. This positive location information will allow ATC to separate airplanes in areas that were once invisible to them. And the price for entry in this new system doesn't require extensive aircraft modifications other than what operators are already doing to meet the 2020 mandate.

What It All Means for ATC

Aireon's supplemental data will appear seamless to air traffic controllers on their radar screens. All controllers will realize is they can now see aircraft data blocks moving across their screens in areas where they never could in the past.

That means when you're piloting your King Air into Aspen in the not-too-distant future, ATC will be able to follow your flight nearly down to the ground on







arrival and see it just seconds after departure. VFR flight following along the West Coast of North America in an ADS-B equipped Bonanza traveling between Seattle and Fairbanks, for example, will be easier and safer.

Flying at 1,000 feet over the dense Amazonian rainforests or across the vast Indian Ocean, ATC will eventually receive position updates as often as once each minute when the service is fully certified.

As already mentioned, Aireon-based ATC is already being tested over the North Atlantic, the busiest oceanic airspace in the world. This allows air traffic controllers to reduce aircraft in-trail separation distances from 40nm to as little as 14nm, making the airspace more flexible, predictable and able to accommodate the immense growth forecasted in the coming years. Aircraft spending less time in the air and able to proceed more directly to destinations saves on fuel and reduces emissions.

No one should underplay the role of satellite-based ADS-B on search and rescue efforts either. Should an airplane like balloonist Steve Fossett's Decathlon ever again go missing in the Rockies with an ADS-B Out on board, weather permitting, a downed pilot could be located quickly rather than the year it took searchers to eventually locate the adventurer's taildragger.

Surprisingly, not all countries have yet decided to sign on to receive Aireon's data stream. During this first phase of testing, many European states as well as Singapore, Malaysia, China, Hong Kong, Taiwan, Japan, South Korea, India and Vietnam have given Aireon the thumbs-up. The FAA plans to begin testing in Miami Oceanic airspace near the end of 2019, with more deployments before 2021. A firm date for fully adding Aireon's ADS-B data to domestic ATC services will be announced once FAA completes its testing in the Caribbean.

Rob Mark is a business aviation pilot, journalist and flight instructor. He also publishes the award-winning industry blog, *Jetwhine.com*.



It's All About Safety

Agenda and Speakers Set for King Air Gathering IV September 26-29, 2019

by Kim Blonigen

he agenda for the safety-themed King Air Gathering IV (KAG IV), being held Sept. 26-29, 2019, in Fredericksburg, Texas, has come together with an outstanding variety of speakers and topics.

On Thursday, Sept. 26, KAG IV attendees will fly in to Gillespie County Airport (T82) where the Hangar Hotel Conference Center is located right on the field. Hotel check-in and rental car pickup will be available and that evening there will be a welcome cocktail party with drinks and hors d'oeuvres, sponsored by Blackhawk Aerospace, starting at 5:30 p.m.

Friday and Saturday will feature speakers discussing different aspects of aircraft ownership, flying and safety including:

- AOPA President Mark Baker the State of General Aviation
- Dr. Kenneth Stahl, M.D., FACS Expectation Bias and Cognitive Activities
- Textron Aviation's Turboprop Product Support Leader Kim Burton – the company's commitment to safety and King Air-related hot topics





There are two full days of educational speakers providing useful information and this year you have the option to take recurrent training ground school from King Air expert Tom Clements.

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On Sunday, you have the option to take recurrent training ground school taught by Tom Clements. The King Air Academy is therefore offering options for attendees:

Option 1: General Attendee Package

DATES: Evening of Thursday, Sept. 26, Friday, Sept. 27, and Saturday, Sept. 28.

PRICE:

- \$300 per attendee due upon registration
- \$50 for guest which includes the cocktail party receptions and other activities (no conference admission) – due upon registration

INCLUDES:

■ Cocktail reception – Thursday and Friday evening

- Conference with outstanding speakers and topicsFriday and Saturday
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Complete your first day of ground school training at the Gathering with Tom Clements.

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DATE: Evening of Thursday, Sept. 26, Friday, Sept. 27, and Saturday, Sept. 28, PLUS Sunday, Sept. 29.

INCLUDES:

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- Sunday ground school recurrent training with Tom Clements, author of *The King Air* Book.

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Tom's session at KAG IV will be considered part of your recurrent training at the King Air Academy with special pricing. To complete your recurrent training, you will need to attend one more day of comprehensive simulator and a "model-specific" ground session at the King Air Academy, which must be completed before the end of the year.

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Ferrying BB-294 to Malaysia – Part I

by Tom Clements

n 1977 I had left Beech Aircraft Corporation's Training Center in Wichita and transferred to the factory-owned Beechcraft West retail facility in Hayward and Fresno, California, as an aircraft salesman. Although Hayward would be my home for the next 10 years, my first months were mostly spent in Fresno. Why? Because Larry Hall, the head honcho in Fresno, was temporarily managing both facilities and he wanted to give me "under his wing" guidance as I made the transition from the factory to the field. It wasn't too long before I found that I was not cut out to be a salesman, and in 1979 I started Flight Review, Inc. – a King Air and Duke on-site training operation that I managed for 21 years.

Larry was a good guy and mentor, at least it seemed that way to me. He is the one who taught me to cruise climb a Baron at full power and 500 fpm and just accept whatever speed that yielded. Scientific? Good for all situations? No. But it certainly worked well for a lot of our Fresno-Hayward flights.

Larry had sold – and maintained in which I had helped – a 1977 King Air 200 (serial number BB-294) to the Government of Sabah, a Malaysian state on the island of Borneo. He believed (correctly!) based on my less-than-stellar sales performance that he could make better use of my talents by getting me involved with the delivery of this airplane to Borneo and the subsequent crew training that would be needed there. Thus, began a most interesting and unusual five months of my life.

Larry contracted with a fellow whose business was ferrying airplanes across the Pacific. This gentleman had lots and lots of ferrying experience but always in single and twin-engine piston, unpressurized airplanes. Since he had never flown a turboprop and I had never executed a Pacific crossing, it was a symbiotic combination! What could go wrong?

To make the flight from Oakland, California, to Honolulu, Hawaii, the King Air 200 needed about 350 more gallons of fuel on top of the 544 normal gallons. Our ferrying friend had worked often with a maintenance facility located on the Oakland airport (KOAK) in the San Francisco Bay area. He arranged for them to do the extra tanking for our flight. The plan was to add

three aluminum, rectangular tanks – one in front of the main spar and two behind, all securely mounted to the seat tracks – to accommodate the desired extra fuel. The seats that had occupied the space where the tanks would go would be secured in the back of the cabin and in the baggage area.

How would the fuel in these extra tanks get to the engines? The tanking organization asked for my input and I came up with this idea: The crossfeed line was the only fuel-containing line that was available under the floorboards in the cabin. I thought that we could install a T-fitting into this line that would allow our cabin fuel to feed to both engines.

The three cabin tanks were plumbed in parallel so that any or all could feed to the T-fitting on the crossfeed line. We had an electric boost pump installed in the line between the tanks and the T-fitting to ensure that the fuel from the cabin would have priority over any fuel coming from the wings. Remember that the crossfeed line feeds directly to the engines and that a checkvalve prevents this fuel from entering a tank.

The Normally Closed (NC) crossfeed valve is located in the left wing, so when our cabin fuel was introduced into the T-fitting, it would initially feed only to the right engine. Once that flow was verified, we could then open the crossfeed valve and allow cabin fuel to feed to both engines.

But, wait a minute! To open the crossfeed valve in a 200 (and F90 and 300-series King Airs) requires moving the crossfeed switch left or right and this also turns on the feeding side's electric standby pump. If the pressure output of this pump is greater than the pressure of the cabin fuel connected to the T-Fitting then the cabin fuel would not be utilized. Instead, the fuel from the side of the operating standby boost pump would supply both engines and probably even send fuel into the ferry tanks."

So, the question I faced was, "How do I open the crossfeed valve without activating the standby pump?"

Simple: Pull the pump's circuit breaker beneath the fuel panel. Oops that won't work. You see, in serial



numbers before BB-1098, the standby pumps were "hotwired," receiving power from two 5-amp, parallel-wired fuses off the Hot Battery Bus in addition to the left or right pump's circuit breaker (CB) that received power from the #3 or #4 Dual Fed Bus. Solution? Remove those two 5-amp CBs before we commenced operation. Afterall, we were going to have an approved ferry permit anyway, authorizing our procedures, right? Plus, Beech removed the hot-wiring in the later airplanes anyway.

As the tank plan was being discussed with the ferry tank company that would install it, a discussion arose about the venting of the tanks. As they had done hundreds of times before in unpressurized singles and twins, they planned to simply install a vent line from the ferry tank combination through a fitting in the belly's skin to the ambient, outside air.

I said, "Wait a minute! That won't work! Remember that our cabin is pressurized. If the inside of those tanks is subjected to ambient air pressure while the outside is subjected to cabin pressure – 6 psi greater – they will collapse!"

The tanking people assured me that I was mistaken; that their tanks were strong enough to handle the pressure differential. I was quite skeptical of their belief but the project went forward to the installation and testing phases.

I accepted the new airplane at the Wichita factory and after a thorough test flight there flew it to Beecheraft West at the Hayward airport for temporary storage. Knowing that the crossfeed line would be cut open to

install the T-fitting, I wanted to have the fuel quantity on board as low as possible, so there would be less to defuel before opening the line.

On the day I was to make the short hop from Hayward to Oakland to begin the tanking process, I discovered that the "helpful" fuelers had topped off both side's main tanks. Darn! I was told that the tanking company was not equipped to accept that much Jet-A for temporary storage so I should burn it off before arriving at KOAK. "It's a tough job but someone has to do it!" I chuckled, as I envisioned flying up and down the lovely northern California coast for a few hours at low altitude and high power, burning up the unwanted fuel.

About the time I passed the Golden Gate bridge heading north, this thought came to me: All I really need to do is burn off the fuel on the right side. Since the crossfeed valve is in the left side, the left fuel cannot find its way into the crossfeed line section in the cabin unless the valve is open. When that insight registered – and with only myself on board – I moved the crossfeed switch from the center position to the left. This action opened the crossfeed valve and turned on the right standby pump. As expected, the right main fuel was now feeding both engines while the left fuel was no longer being consumed.

Wow! Look at the fuel quantity gauge go down! At my cruise altitude of 1,500 feet I was burning about 400 pounds per-hour, per-engine so in an hour I had about 1,200 pounds remaining on the left side and 400 on the right. The imbalance limit on the 200-series

is 1,000 pounds so I started heading for Oakland. Periodically I would turn off the autopilot and see how much aileron trim I needed to handle the heavier left wing. Surprisingly, little trim was required. As I slowed for landing, I cranked in more trim as needed but even with the 1,000-pound difference and at 100 knots, I never needed more than half of the available trim. What did eatch me by surprise – and I have mentioned this in my book – was how much the airplane wanted to turn left when taxiing. The extra weight on the left main tires surely wanted to pull the plane to the heavier side!

In a week or so the tanks were installed, the vent line was fitted from the tanks through the belly skin, the electric boost pump – on a wooden board fastened to the left seat tracks in front of the spar – was plumbed with the proper fuel lines and wired with power ... we were ready for a test flight. Thirty-five gallons had been added to each of the three, interconnected tanks and the mains had again been filled. The filler cap on each of the ferry tanks would be left off until we got to altitude, allowing cabin air to freely flow in and out of the tanks. We would be operating normally, consuming fuel from the main tanks, until we were in cruise and ready to test.

This time we went up to 17,500 feet – on a clear day, flying VFR – and were fully pressurized to 6.0 psid.

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Before opening the manually operated valve to permit the ferry fuel to reach the T-fitting, one of the two "tank guys" in back started installing the tank caps. These were the metal, screw-on type. I heard a "clank" and some metal-moving-on-metal sounds as the first cap was screwed tight. Soon the second cap made the same sounds that I could hear. Remember, since the three tanks were interconnected, cabin air was still inside and outside all of the tanks.

Finally, I heard the last "clank." However, this time it was immediately followed by a loud string of expletives and a yell of "Take it off! Take it off!" coming from the other installer in back. As soon as the inside of the tanks was no longer subjected to cabin air but started to decrease toward the ambient air at 17,500 feet to which they were vented, the three big box-shaped tanks collapsed as if they were made of tissue paper! On the way back to Oakland I had to bite my tongue to keep the "I told you so!" from leaking out. Six pounds pushing on one side more than the other against every square inch of aluminum adds up to a lot of destructive force.

A meeting was held back in the tanking company's office to discuss the failure. I proposed the following solution: Retain the existing design but with one small addition: a one-half psi relief valve between the tanks and the cabin. This one-way valve would allow cabin air to flow into the ferry tanks and then go overboard through the belly vent line. No kerosene fumes would ever reach the cabin. The differential pressure between the inside and outside of the tanks would never exceed one-half psid. Also – and this would have to be proven on a further test flight – I was quite certain that the 5.5 psi difference between the ferry fuel and the wing fuel would be sufficient to feed fuel from the cabin tanks into the crossfeed line without needing to run the ferry system's boost pump.

A week or two later we were advised that they were ready for a second test flight. This time we not only filled the mains but also put 25 gallons in each aux tank, as well as the 35 gallons in each ferry tank. Back in 1978 I had not yet learned the important "trick" of burning a couple of hundred pounds out of the mains before transferring to the aux tanks. So, we took off and climbed to altitude burning main tank fuel that was being replenished from the aux tanks. Once this was confirmed to be normal, we then pulled the left and right aux transfer circuit breakers to shut down the normal transfer. Next the three caps were screwed onto the tanks and, as expected, nothing bad happened. We now opened the valve to allow ferry fuel to feed into the crossfeed line.

How did we know if it was working? Was the right engine actually burning the ferry fuel or was it still using fuel from the right main? The only way to tell was to let enough time pass to see if the right main quantity was or wasn't decreasing. In about 30 minutes we all agreed

that the right main quantity was not dropping. Yay! The system was working as planned; and we had not turned on the ferry system pump. That 5.5 psid pressurization-provided "shove" was all we needed.

Lastly, I pulled the right standby pump CB – we had previously removed the hot battery bus fuses for the right standby pump – and moved the crossfeed switch to the left. This powered the crossfeed valve to the open position but did not activate the standby pump. Doing this provided a path for our ferry fuel to reach the left, as well as right engine.

Again, a half-hour or so of waiting confirmed that none of our main fuel was being consumed. Success! A plane full of happy people headed back to Oakland.

By the way, I understand that the military and other operators use a completely different ferry fuel system in the 200- and 300-series of King Airs. Instead of feeding into the crossfeed line I believe fuel flows from the cabin into both side's aux tanks and from there gets transferred normally into the main tanks before being consumed. Can any of my readers confirm this and explain exactly what is involved in the installation? Specifically, how does the venting system work and how does the fuel get to the aux tanks?

The system that I designed seems to be simple with only one fitting on one line necessary. It requires very little airplane modification: The T-fitting and the overboard vent. Am I missing something? Is there some lurking danger in this design of which I am unaware? It certainly worked perfectly all across the Pacific!

Please email or phone me directly at twcaz@msn. com / (602) 625-9132 if you have any information to share concerning other ferry tank arrangements. I will give you credit and acknowledgement if I include your information in a future article. Thank you!

To be continued next month ... KA

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

If you have a question you'd like Tom to answer, please send it to Editor Kim Blonigen at editor@blonigen.net.



AirVenture Oshkosh — Everything Aeronautical

The Experimental Aircraft Association's (EAA) annual fly-in and convention is more than just a global showcase of aviation innovation – it's also the world's largest air show dedicated to promoting the thrill of flight.

by Edward H. Phillips

he founding of the EAA by Paul H. Poberezny Jan. 26, 1953, led to a gathering of 21 airplanes and 150 members in September of that year at Curtiss-Wright Field in Milwaukee, Wisconsin, and marked the organization's first convention. The inaugural meeting was billed as part of the larger Milwaukee Air Pageant, but during the past 66 years the Pageant has become a memory while the fly-in has grown into the most prolific exhibition of all things aeronautical in the world.

The annual convention, held at Wittman Airport in Oshkosh, Wisconsin, late in July/early August, routinely attracts more than 500,000 people from many nations to see a multi-faceted potpourri of flying machines from ultralights to the latest generation of military jet aircraft.

During World War II, Poberezny served in the United States Army Air Force's Training Command as a flight instructor. When the conflict ended, he flew for the Wisconsin Air National Guard, attaining the rank of Lieutenant Colonel before retiring in 1973. Poberezny

served as EAA president from its inception until 1989 before transitioning to his new position as chairman of the board (COB) that he held until 2009. (His son, Tom, took over the presidency and the additional duties of COB before retiring in 2011. In addition, Tom served as chairman of AirVenture for 30 years.)

Paul Poberezny, who taught himself to fly a rebuilt glider at age 15, was a staunch advocate of a person's right to design, build and pilot their own aircraft. As a result of his efforts, as of 2019 there are more than 30,000 amateur-built aircraft registered with the Federal Aviation Administration (FAA), and thousands of these are flown for hundreds of hours each year by their owners and builders. In the wake of the 1953 first flyin, participation in EAA increased until, as of this year, there are more than 220,000 members worldwide.

Poberezny died Aug. 22, 2013, at age 91. He was chiefly responsible for not only creating the EAA that eventually became a worldwide aviation organization, but spearheading development of an annual show



Aerial view of the first EAA Fly-In held at the Curtiss-Wright Airport in Milwaukee, Wisconsin, in 1953. Among the airplanes visible in the photograph are a World War I-vintage Curtiss Jenny, a Cessna Airmaster and twin-engine T-50 Bobcat; two Beechcraft Model 35 Bonanzas, a Grumman amphibian, two Cessna L-19/O-1 Bird Dog observation aircraft; a North American P-51 Mustang and the fuselage of a Boeing B-29 Superfortress bomber.

(Courtesy EAA.org)



Paul Poberezny and his wife Audrey initially operated the EAA from the basement of their home in Milwaukee, but eventually relocated the organization's headquarters to Hales Corners, a suburb of Milwaukee. (Courtesy EAA.org)

dedicated to fostering growth of the postwar amateur-built aircraft movement. That event grew into EAA AirVenture Oshkosh.

During his aviation career Poberezny flew more than 500 aircraft of various types and logged more than 30,000 hours in the air. He is remembered as an aviator whose constant goal was finding an affordable way for the common person to build and fly their own aircraft. His founding of EAA and the evolution of AirVenture paved the way for thousands of people to realize their dream of flying. Poberezny once summed up the EAA AirVenture Oshkosh experience this way: "Come to Oshkosh for the planes and come back for the people."

During the next six years EAA members and their aircraft continued to return. The original convention grew by leaps and bounds until, in 1958, the space allotted to EAA at Curtiss-Wright Field became inadequate. As a result, the fly-in was relocated to the municipal airport near Rockford, Illinois, where it remained for the next 10 years. It was during that time at Rockford that the "EAA Fly-In Convention established both its prominence as a homebuilder's event and its friendly atmosphere that it has retained to this day," said Jack Pelton, chairman

of the board and CEO of EAA. In addition, an increasing number of amateur-built aircraft were joined on the airfield by a diverse group of "Warbirds" from World War II including the North American P-51 Mustang and F-86 Saber Jet, Boeing B-17 Flying Fortress and Chance-Vought F4U Corsair, to name only a few. Antique aircraft from the early decades of aviation also were on display, and aerobatic performances became an integral part of the daily airshows.

By 1969, however, it was becoming obvious that the fly-in and convention had outgrown the facilities at Rockford. The EAA board of directors considered a number of new venues, including one suggested by famed air racing pilot and EAA member, Steve Wittman. He recommended the regional airport at Oshkosh, which featured an FAA control tower, room for future expansion, and east/west and north/south runways (without any intersections) that would facilitate the efficient movement of aircraft during the convention.

The only potential problem was the absence of infrastructure to construct a new convention site. Thanks to the massive efforts of EAA's volunteer network, within six months facilities were deemed adequate for the upcoming









convention in the summer of 1970, and Oshkosh city officials were eager to accommodate the EAA and reap the economic rewards it would provide. Late in 1969 the board approved relocating the event to Wittman Field. It was during the 1970s and 1980s that the flyin achieved both national and international recognition as a major aviation exposition. Attendance by the public exploded into six-figure territory and thousands more pilots as well as flying machines of all types made an aerial pilgrimage to Wittman Field each year. In 1998, the event's name was changed to EAA AirVenture Oshkosh.

The convention has earned the respect and participation of federal government and general aviation industry officials from FAA, NASA, National Transportation Safety Board, the National Association of Airport Officials, General Aviation Manufacturers Association and other agencies. In addition, there is active participation by key international representatives of governmental



The daily air show performances at AirVenture draw large crowds and feature various aerobatic displays as well as precision formation maneuvers as demonstrated by members of the Canadian Harvard Aerobatic Team.

(Courtesy EAA.org)

aerospace agencies interested in developing private and business flying activities in their countries. Corporate officials from major general aviation airframe and engine manufacturers in the United States, Europe, Asia, China and South America, consider EAA AirVenture Oshkosh an important stop in their yearly travel schedule. An EAA official said the fly-in "spans the entire spectrum of aviation interests" and generates more than \$170-million in revenue for the Wisconsin economy. Pelton said the International Convention and Fly-in "has become more than a place or a gathering for the aviation community.

Mention 'EAA AirVenture Oshkosh' to nearly any pilot in the world and that person will know what you are talking about."

In the past 10 years the convention site has undergone a series of major upgrades that have significantly improved visitor accommodations and space for more exhibitors as part of the organization's effort to ensure that AirVenture "retains its world-class status," another EAA official said. These changes allow both the general public and official participants opportunities to better study and



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understand the latest innovations and technological developments for aircraft and avionics systems, discover new ideas and techniques from hundreds of workshop and forum sessions held throughout the weeklong event, and see and listen to some of aviation's well-known personalities as they talk about their experiences flying airplanes of many types from around the world.

Throughout the 1950s and well into the 1980s, EAA performed daily operations from its headquarters in a suburb of Milwaukee known as Hales Corners. Eventually, by the late 1970s room was becoming tight and the decision was made to relocate to Wittman Airport, build a museum to house displays of amateur-built, commercial and military aircraft and provide facilities for conducting aviation research. Restoration shops for resurrecting old airframes and engines would be included to underscore EAA's commitment to maintaining the airworthiness of its fleet of vintage and warbird airplanes including (but not limited to) the museum's Boeing B-17G heavy bomber Aluminum Overcast, a faithful reproduction of Charles A. Lindbergh's 1927 Ryan Spirit of St. Louis and a North American P-51 fighter, as well as many other aircraft.

The following list highlights important milestones in EAA and AirVenture's 66 years of history:

- 1953: First fly-in held at Curtiss-Wright Field in Milwaukee
- 1956: Fly-in makes one-year move to Oshkosh, Wisconsin, but rain and hot weather spoil attendance
- 1957: EAA returns to Milwaukee for the next two years

- 1959: Convention relocates to Rockford, Illinois, for the next 10 years
- 1970: Oshkosh hosts the convention
- 1976: John Moody, considered the patriarch of the modern ultralight aircraft movement, displays a powered hang glider
- 1983: EAA's new Aviation Center, museum and international headquarters dedicated
- 1984: Burt Rutan-designed Voyager, the aroundthe-world aircraft, was displayed before its nonstop, globe-circling flight that occurred in 1986



"Warbirds" are a favorite of the crowds and participate in the daily airshow activities at AirVenture. World War II-era airplanes such as the Boeing B-29 Fifi (owned and flown by the Commemorative Air Force) and a flight of North American P-51 Mustangs were photographed over Lake Winnebago. (Courtesy EAA.org)



High altitude photograph looks down on Oshkosh's busy and crowded Wittman Regional Airport revealing the two runways expansive EAA grounds and thousands of aircraft. Hand-picked FAA air traffic controllers in the tower constantly maintain safe separation between commercial airline and EAA flight operations. The controllers play a key role in maintaining AirVenture's excellent safety record. (Courtesy EAA.org, photo credit: Madison Connor)



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- 1985: British Airways displays a Concorde supersonic airliner
- 1992: EAA launches "Young Eagles" program with initial flights during the convention
- 1994: A salute to the Apollo moon landing program draws 15 of the program's surviving 25 astronauts to celebrate the 25th anniversary of man's first landing on the moon in July 1969
- 2003: Airbus displays an A300-600ST Super Transporter, also known as the Airbus Beluga
- 2005: The world's first successful, privatebuilt spaceship, SpaceShipOne, winner of the \$10-million Ansari X-Prize, displayed along with its carrier aircraft, WhiteKnight
- 2009: WhiteKnightTwo lands at Oshkosh for its public unveiling, along with the Airbus A380 – the world's largest airliner
- 2012: EAA inaugurates "Eagle Flights" program aimed at introducing adults to personal flying
- 2014: The United States Air Force's "Thunderbirds" aerial demonstration team makes it first appearance at AirVenture
- 2016: Actor and pilot Harrison Ford makes the two-millionth Young Eagles flight during AirVenture
- 2017: The United States Navy's "Blue Angels" precision flight team flies at Oshkosh for the first time

- 2017: EAA observed the 25th anniversary of the Young Eagles program
- 2017: The recently rebuilt Boeing B-29, Doc, was on display and flew in formation with Fifi the only other airworthy B-29 in the world.
- 2017: The convention site received a number of important upgrades that included electrical power available in the main campground, the Vintage Red Barn was enlarged and a permanent pavilion built for the experimental aircraft camping area.

2019 EAA AirVenture Oshkosh

This year EAA's AirVenture Oshkosh is July 22 through July 28 with 1,000 forums and hands-on workshops scheduled.

Other noteworthy items include:

- A gathering of North American P-51 Mustang fighters in honor of World War II ace Bud Anderson, credited with shooting down 16 German aircraft
- A "Year of the Fighter" program will feature the F-15, F-16, F-22 and F-35 jets
- U.S. Navy Vought F4U-series fighters will be the centerpiece of a special exhibition
- Observance of the 75th anniversary of the D-Day invasion of France that occurred June 6, 1944



The AirVenture site at Oshkosh can accommodate more than 800 exhibitors of aircraft, engines, avionics and aftermarket equipment. The world's major airframe and engine manufacturers are well represented at the event. (Courtesy EAA)

■ More than 2,500 aircraft show airplanes including warbirds, amateur-built, aerobatic, vintage, ultralight and military aircraft

According to EAA, there are also a number of special anniversaries that will be observed at this year's event including:

- 90th anniversary of the Pietenpol monoplane developed in the 1930s as an affordable "homebuilt" airplane
- 50 years since the first flight of the 747 airliner
- 70th anniversary of the North American T-28 and Beechcraft T-34 trainers and the Beechcraft Model 50 Twin Bonanza
- 50th anniversary of EAA AirVenture's presence at Wittman Regional Airport

There will be a special gathering of Cessna 180, Piper Comanche, Stinson and Helio Courier aircraft.

The event will also showcase the potential of Urban Air Mobility (UAM) through displays that emphasize innovative concepts in personal flight as well as urban transportation reported by TransportUp – a news service covering the latest information about electric vertical takeoff and landing (eVTOL) Flying Car and Urban Aviation industries.

Note: The author thanks Dick Knapinski, Senior Communications Advisor, and his staff at the Experimental Aircraft Association for their guidance and assistance in the preparation of this article.

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



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JULY 2019

Textron Aviation Announces New Aircraft Maintenance Data Hub

Textron Aviation recently announced a new Aircraft Maintenance Data Hub for owners and operators of Beecheraft, Cessna and Hawker aircraft. The new data hub will be available in summer 2019 and will offer a more comprehensive record of all aircraft maintenance performed on Textron Aviation products by working with multiple industry tracking system providers.

The company named CAMP, Flightdocs, SierraTrax and Traxxall as recommended providers of aircraft maintenance tracking for the new data hub. While previously exclusive to CAMP, customers now have the flexibility to select the recommended provider that best fits their needs.

The data hub will be a new feature in the Textron Aviation Customer Portal. Customers will benefit from receiving a one-year free subscription from their choice of recommended provider for new and pre-owned aircraft purchased from Textron Aviation.

Garmin adds Latest FIS-B Weather Products to the GTN 650/750 series

Garmin is pleased to announce several new enhancements and the addition of new features within the GTN 650/750 series touch-screen navigators. With the latest software update and a compatible ADS-B In receiver, pilots can now view new FIS-B weather products on the GTN. These features and more are available immediately from Garmin Authorized Dealers. This upgrade is available from Garmin at no charge. A dealer installation charge may apply.



GTN 750 FIS-B Icing

When paired with a compatible ADS-B In product such as the GTX 345 or GDL 88, pilots can now access the latest FIS-B weather products on the moving map alongside flight plan information and dedicated weather pages within the GTN 650/750. These new weather products include lightning, cloud tops, turbulence, icing (current and forecasted), graphical AIRMETs and center weather advisories (CWA). This adds to the growing number of Garmin products that already support these new weather products, including Garmin Pilot on Apple mobile devices, G3X Touch and the aera 660 aviation portable.

Additional features

- The GTN 650/750 now displays a selected altitude intercept arc on the moving map when it's installed with a Garmin primary flight display (PFD) such as the G500 TXi/G600 TXi, G500/G600 or G3X Touch. When pilots input a preselected altitude on the PFD, the selected altitude arc will populate on the map page to indicate where the aircraft will arrive at that particular altitude.
- For customers with SiriusXM aviation weather, pilots now have the option to alternate between base reflectivity and composite reflectivity NEXRAD weather radar imagery.
- Pilots operating into airports throughout the world that are not served by SBAS can now receive advisory vertical guidance (LNAV+V) while flying LNAV approaches with the GTN 650/750.
- When SiriusXM aviation weather or FIS-B weather cannot be displayed on the GTN 650/750, the "no coverage" area of weather is transparent so pilots can still view airports, basemap information and more.

For more information about Garmin's full line of avionies, go to www.garmin.com/aviation.

CAT Receives EASA Approval for Operating Weight Increase for B300 and B300C

Commuter Air Technology (CAT) has received design change approval from the European Aviation Safety Agency (EASA) for its Operating Weight Increase (OWI) STC. Under the certificate, CAT is now fully authorized to sell their proprietary OWI – also known as the CAT 350 Operational Gross Weight Increase (GWI) – to European operators of King Air B300 or B300C aircraft.

The original CAT 350 Operational GWI STC was awarded in July 2015 to support CAT's Maximum Endurance (ME) configuration for the King Air B300



aircraft that increases the operational gross weight which complements its extended range fuel tank STC. The CAT 350 Operational GWI provides an overall increase in operating weights for the King Air B300 series aircraft with increased ramp weight to 16,600 pounds, takeoff weight of 16,500 pounds and landing weight of 15,675 pounds.

The company says it has been engineering industryleading King Air enhancements for customers globally since 1988 and have several that will be announced later this year.

PWI Signs JAG Aviation as Authorized Installation Center

PWI's new partnership with JAG Aviation out of McGregor, Texas increases the PWI LED product line reach further into the Texas market. PWI is looking forward to this joint venture that will help accelerate growth in this area.

JAG Aviation is a Fixed Based Operator (FBO) that has been in business over 18 years. They offer aircraft maintenance, avionics, and fuel for pilots for privately owned piston and turbine aircraft. They are an authorized dealer for Garmin, Avidyne, Aspen Avionics, BendixKing, L3 Technologies as well as other trusted industry leaders. As part of the new partnership, JAG Aviation will now carry and install the entire line of PWI LED lighting products.

PWI manufactures several interior lights for Beechcraft King Air aircraft and has in-house ability to design,

engineer and manufacture all types of electrical assemblies, electronics contract manufacturing, magnetometers and customized LED lighting solutions.

For additional information, please feel free to contact PWI at (316) 942-2811 visit our website at pwi-e.com.

Gogo is First Inflight Connectivity Provider to Announce a 5G Network for Aviation

Gogo, the leading global provider of broadband connectivity products and services for aviation, announced its plans to build a 5G network for aviation. The new ATG network will be designed for use on business aviation aircraft, commercial regional jets, and smaller mainline jets operating within the contiguous United States and Canada. Gogo expects the network to be available for business and commercial aviation in 2021.

Gogo will build the 5G network on its existing infrastructure of more than 250 towers and will use unlicensed spectrum in the 2.4GHz range, along with a proprietary modem and advanced beamforming technology. Gogo's 5G infrastructure will support all spectrum types (licensed, shared, unlicensed) and bands (mid, high, low), and will allow Gogo to take advantage of new advances in technology as they are developed. Similar to how wireless carriers provide redundancy across their networks, Gogo will continue to employ its 3G and 4G networks throughout the continental U.S. and in Canada that will provide backup to the 5G network when needed.

When compared to satellite technologies, groundbased network technologies in general deliver certain operational advantages - specifically lower cost of operation and lower latency. Gogo is committed to provide easy upgrade paths to 5G for existing Gogo air to ground customers. KA





From Mandatory Service Letter MTL-32-01

Landing Gear – Inspect the Steering Support Bracket for Incorrect Bolts

Date: May 30, 2019

Effectivity: King Air 90 (applicable variants within defined LJ serial range), Serial Numbers LJ-1964 through LJ-2139; King Air B200GT, Serial Numbers BY-75 through BY-298; King Air 200C/B200C, Serial Numbers BL-154 through BL-170; King Air 200/B200, Serial Numbers BB-2004 through BB-2018; King Air B300C, Serial Numbers FM-27 through FM-69.

Description: Inspect the steering support bracket for the presence of incorrect bolts. If found, replace incorrect bolts.

Compliance – Recommended: This service document should be accomplished at a scheduled maintenance period or inspection.

A service document published by Textron Aviation may be recorded as *completed* in an aircraft log only when the following requirements are satisfied:

- 1. The mechanic must complete all of the instructions in the service document, including the intent therein.
- 2. The mechanic must correctly use and install all applicable parts supplied with the service document kit. Only with written authorization from Textron Aviation can substitute parts or rebuilt parts be used to replace new parts.
- 3. The mechanic or airplane owner must use the technical data in the service document only as approved and published.
- 4. The mechanic or airplane owner must apply the information in the service document only to aircraft serial numbers identified in the Effectivity section of the document.
- 5. The mechanic or airplane owner must use maintenance practices that are identified as acceptable standard practices in the aviation industry and governmental regulations.

No individual or corporate organization other than Textron Aviation is authorized to make or apply any changes to a Textron Aviation-issued service document or flight manual supplement without prior written consent from Textron Aviation.

Textron Aviation is not responsible for the quality of maintenance performed to comply with this document, unless the maintenance is accomplished at a Textron Aviation-owned Service Center.

From Multi-Engine Turboprop Communiqué ME-TP-0013

Date: May 2019

ATA 25 – Crew Seat Armrest Stop Pin C90GT; B200GT/B200GTC; B300 Series

Crew seat armrests are subject to abuse as it is often used as a prop to get in and out of the crew seat. The mechanism was not designed for this purpose and the result is damage to the MS171538 split pin which it is there as a stop when it is used as an armrest (see photo, below).





Crew Set Arm Rest Stop Pin

Engineering has approved the use of a solid pin to provide a more robust installation; however, it is still recommended that the armrest be folded up and out the way while entering or existing the crew position and not used as a prop. The part number of the solid pin is MS16556-833, available from Textron Aviation Parts and Distribution.

This change started at FL-1176, FM-79, BY-347, LJ-2160 and on. For aircraft with this installation, you will bond the pins into the armrest frames using Loctite 609.



Rockwell Collins FMS Desktop Trainer

ATA 28 – Fuel Heated Vent Outer Coating All

The King Air fuel heated vent outer coating is subject to elements and airstream causing the outer coating to erode with time. If the heated vent is still heating, the coating can be re-applied with a product part number 8B6A available from Textron Aviation Parts.

ATA 33 – LED Recognition Light Replacement B300

Textron Aviation Engineering has approved the use of LED Recognition lights as the direct replacement for halogen lights on the B300. The new part number is 130-381001-0003. When installing the new LED lights, both the left and the right-hand light assemblies must be replaced. Additionally, the installation will require the replacement of two spacers already installed with new spacers part number NAS43DD3-11FC. No wiring changes are needed, and polarity is not an issue.

ATA 34 - Availability of Rockwell Collins ProLine Fusion King Air Desk-top Trainer

Rockwell Collins recently released an FMS desktop trainer for Fusion-equipped King Airs. The FMS Desktop Trainer software is based on the Fusion phase 3 B350 and provides a near real-time, Windows simulation environment that allows the user to become familiar with Rockwell Collins Flight Management System avionics. However, this is not a high-fidelity aircraft flight simulation. The FMS Desktop Trainer is targeted toward aircraft owner/operators intent on gaining a high degree of familiarity with the Rockwell Collins FMS capabilities in their aircraft. In addition, the FMS Desktop Trainer can assist the aircraft owner/operator

in flight planning operations provided the user has current database subscriptions with the Rockwell Collins, FMS and Database Support Engineering department. It is assumed that the user already possesses the owner's manual and Operator Guide that was provided with the aircraft. The FMS Desktop Trainer is responsible for running the Rockwell Collins, Rehosted Operation Flight Program (ROFP) avionics to the extent necessary for the FMS to accomplish its principal task of aircraft navigation via FMS on a Windows hosted computer. The fidelity of the simulated avionics components varies from simplistic models to sophisticated rehosting of the actual avionics applications. Consequently, not all FMS capabilities are available.

The equipment needed to setup and operate an FMS Desktop Trainer is a personal computer running a compatible version of the Windows operating system. See specific Communiqué for Minimum PC System

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Left: Chris Crisman/TNC/LightHawk; Right: Lincoln Athas/WCC/LightHawk

Requirements. The FMS Desktop Trainer must be registered and licensed with Rockwell Collins to operate. Registered aircraft owners/operators may contact Collins at trainingregistrar@rockwellcollins.com to arrange for access. Non-registered persons can still purchase a copy by registering at https://rockwellcollinsgreenlight. silkroad.com/student/default.aspx. Once registered and logged in, you can select the trainer from the list provided in the training catalog.

ATA 36 – Pneumatic Pressure Indication Increases on Ascent

LJ-1 through LJ-1062; LA-1 and after; B-1/BE-1 and after; BB-2 through BB-913

Reports of pneumatic pressure indication increasing when the airplane is climbing is a sign that the seal between the pneumatic pressure regulator and the adapter has broken. This adapter provides an air reference for the regulator to regulate the airplane's pneumatic pressure. If the seal is broken, the air reference is lost, and the regulator is reading cabin pressure evident as an increase of the airplane's pneumatic pressure indication. The adapter should have a 101-970120-9 gasket between the regulator body and the adapter, and it is installed with RTV-732.

On older airplanes, the issue is with the adapter becoming brittle and cracking, having the same effect.

The adapter or weld assemblies are 50-970091 (for LJ-1 through 501); 101-970120-1 or -3 (for the other models listed above).

From Multi-Engine Turboprop Communiqué ME-TP-0014

Date: June 2019

ATA 21 – AirComm Corporation (ACC) Formerly Keith Products Laptop Setup Procedures B200/B200GT; B300/B300C with ACC Environmental System

This entire Communiqué provides the steps to set up a Windows 7 or newer computer to troubleshoot the ACC Environmental System.

For Windows XP or older systems, see Communique KA-2015-05 for previous instructions for Keith Setup.

Go to website listed below to get the multi-page detailed instructions.

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





Wednesday, October 23 | 6-8 P.M. | Wynn Las Vegas

The 10th Annual Fund an Angel Cocktail Reception, held on the second day of the NBAA Business Aviation Convention & Exhibition (NBAA-BACE), is an invaluable networking event for business aviation leaders and influencers. The reception will feature an auction to benefit Corporate Angel Network (CAN) who organizes critical flights for cancer patients to treatment centers throughout the country.



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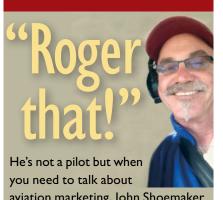






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is an online meeting place for pilots and other volunteers

who help to transport rescue animals by air. The mission of the site is to provide a user-friendly communication venue between those that rescue, shelter, and foster animals; and pilots and plane owners willing to assist with the transportation of these animals.

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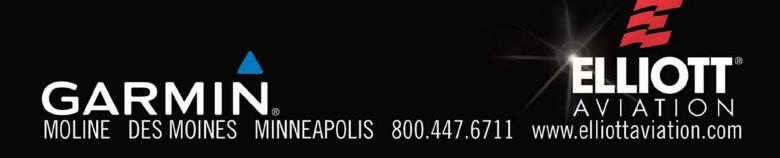


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