

# King Air

A MAGAZINE FOR THE OWNER/PILOT OF KING AIR AIRCRAFT

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## Arctic Discovery

Seasoned pilot shares tips on  
flying the Canadian North

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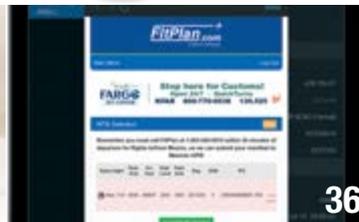
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**COVER PHOTO**

The King Air 100 used by Buffalo Airways for charter in Northwest Territories, Canada. (photo credit: Robert S. Grant)

# Contents

2

**Pilot Notes –  
Flying in the  
Canadian Arctic**

*by Robert S. Grant*

12

**Bucket Lists, Part 1 –  
Be a Box Checker!**

*by Matthew McDaniel*

22

**Aviation Issues –  
New FAA Admin,  
PLANE Act Support and  
International Flight Plan  
Format Adopted**

*by Kim Blonigen*

24

**Ask The Expert –  
Flap Stories**

*by Tom Clements*

30

**Wichita’s Greatest  
Gamble – Part Two**

*by Edward H. Phillips*

36

**Value Added**

37

**Technically ...**

40

**Advertiser Index**



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# Pilot Notes:

# Flying Canada

by Robert S. Grant



It was November, and as the altimeter moved toward minimums, snow ribboned over the windshield. First officer Sarah Mousseau began easing power levers forward for the missed approach when the dim airstrip lights of Cape Dorset, 1,081 nautical miles northeast of Winnipeg, Canada, pulsed in the gloom. Over the threshold, she raised the nose and touched down on the double main wheels; a slight reverse reduced the roll.

After post-landing checks, I resumed control for taxi while Mousseau reached for another doughnut. Parking parallel to Cape Dorset's silent terminal, I moved condition levers into cutoff and the 680shp Pratt & Whitney PT6-28s whined to a halt. In the quiet, Mousseau wondered aloud why I left mild southern Canada to launch into snow squalls, constant fog and perpetual crosswinds. The answer had nothing to do with the round-holed treats stashed behind our seats.

# in the ian Arctic



Buffalo Airways, based in Yellowknife, Northwest Territories, Canada, uses a Beechcraft King Air 100 (C-GBFE) for charter flight. One use is to shuttle communication technicians to settlements along Hudson Bay.

A Beechcraft owner in Houma, Louisiana, had inquired about summer flying conditions in the Canadian Arctic. His corporate customer, he explained, decided to reward some staff with bonus exploration and fishing trips. Coincidentally, I had just been offered a short-term captain contract by family-owned Buffalo Airways of the “Ice Pilots NWT” television reality series. I would fly from Yellowknife, the capital city of Canada’s Northwest Territories, and it would give me the perfect opportunity to advise my southern confederate if he should leave his land of oyster-pluckers for Canada’s pristine wilderness which proved irresistible. Besides, my own first venture north of the 60th parallel took place decades before in a diminutive Cessna 180 on wheel/skis. Revisiting the “good ’ol days” in an airplane never designed for the Barren Lands added to the picture.

Buffalo Airways, formed in 1970 by “Buffalo Joe” McBryan with a fabric-covered Noorduyn Norseman, had rolled out a Beechcraft King Air 100 registered C-GBFE for a charter to shuttle communication technicians to settlements along Hudson Bay. C-GBFE was a working machine with scuffed seats and scratched sidewalls caused by cabins full of drill rods, generators and fuel drums, not an executive club with belted lavatory seat configuration like its big sister King Air 300 series. Hardly showroom condition, but company A&Ps kept the

Buffalo bird finely tuned. On warm days, first officers like Mousseau washed and detailed every inch.

Mousseau’s 1,000 hours on type had been logged in hinterland milieu so her suggestions would be welcome as my recent past consisted mainly of asphalt runways. Not unfamiliar with remote airstrip odysseys and other airplane types, I knew gravel surfaces required different techniques. The aircraft flight manual stated that C-GBFE’s three-blade Hartzell propellers swung only 11.75 inches above the surface. A compulsory item aboard any low-wing type – and the King Air family flew everywhere above the 60th parallel – was a wood-handled household broom to sweep pebbles away before engaging start buttons.

The first leg entailed 590 nautical miles to the Inuit community of Gjoa Haven to meet the communication technicians who had airlined from Winnipeg. With total system capacity of 374 U.S. usable gallons of fuel and 6,600 pounds empty weight, our “Buffalo 666” cruised at 21,000 feet with autopilot following the Garmin GNS 430 WAAS. We overheard other King Air “drivers” above the tundra engaging in an informal self-policing policy by passing information to each other about general conditions and keeping track of their airborne comrades. Cajun-accented visitors accustomed to rigid Mississippi Delta skies would be welcome to join the chitchat. ▶

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The small village of Cape Dorset, located on the southwestern side of Baffin Island, has a population of 1,441 and is known as the capital of Inuit art.

Poor Mousseau had little choice except to listen to my ramblings about days before C-GBFE left assembly lines in 1970. Unlike the Cessna 180 of earlier times, pressurization saved us from scud running low level as snow obscured our views. In forthcoming warm seasons, Louisiana pilots could count on long daylight hours and waters rippling with char, grayling and lake trout. Along Hudson Bay's uncontrolled airspace, whales would create splashes of white and pot-bellied musk oxen resembled tiny brown dots. In our cozy 391.7-cubic-foot interior, we rode in darkness.

Gjoa Haven, 179 nautical miles above the Arctic Circle, has existed since 1903 when Norwegian explorer Roald Amundsen anchored his Gjoa in a sheltered bay to research the North Magnetic Pole. Mousseau peered into the two-inch thick Canada Flight Supplement (CFS), which provided essential information including fuel availability, airstrip details and telephone numbers. Like all destinations for the next few days, we could expect refueling facilities. After fingering through descent checks, we slipped into an 800-foot overcast layer for an RNAV (GNSS) RWY 31 approach.

At Gjoa Haven's terminal building, we were not alone. A Keewatin Air King Air 200 taxied from a clear cement pad where itinerant aircraft performed power checks without propeller erosion. Depending on traffic, airstrip managers preferred to keep the block clear for temporary stops. While aromas of kerosene wafted into our cockpit, I jotted a reminder to notify my Louisiana associate that some locations refused credit cards and dispensed fuel by pre-arrangement. Luckily, the CFS published call-ahead telephone numbers.

Pleased to see the Buffalo logo on our airplane since the company's positive reputation preceded us everywhere, our clients loaded equipment into C-GBFE

for the three-hour, 581-nautical-mile leg to Clyde River on Baffin Island's east coast. Mousseau, much younger than I, evinced surprise when told that a Cessna 180 along the same route entailed several landings because the little airplane carried only VFR instrumentation. Buffalo 666 could stay aloft almost six hours depending on power settings and altitude. Our passengers were unfamiliar with arctic conditions but within 15 minutes, each one voiced appreciation of C-GBFE's cabin size, speed and range.

While standing by in Clyde River, we followed the standard rule: never miss an opportunity to top fuel tanks. Settlements from Hudson Bay to the Beaufort Sea offered trucks or stationary pumps with trained staff. Daily airline service allowed access – a bonus since parts or A&Ps could be placed on-site within hours. In fact, Buffalo Airways would welcome a walk-in-the-park hop to Houma to retrieve whatever my compatriot in Louisiana might happen to need.

Before takeoff, Mousseau's numbers showed 1,024 pounds below the 11,500-pound allowable gross weight. The return to Gjoa Haven later in the day for an overnight stop proved effortless. Below the 45-foot, 10-inch wings, we knew polar bears roamed and occasionally, the cream-coloured creatures could be spotted on final approaches. If the ravenous beasts crossed our paths, there would be no damsel-in-distress heroics for this Buffalo Airways contract pilot.

Although severe temperatures had yet to overwhelm us, the 0° Celsius (C) prompted burrowing into C-GBFE's belly pod for electric cords. Most year-round arctic King Airs have been modified with built-in engine heaters and thankfully, outlets were available at every airstrip. While our customers climbed communication towers, I watched visiting aircraft and noted that none stopped



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after leaving a parking space. Every pilot completed pre-takeoff checks before releasing parking brakes and on the takeoff roll, the two-person crew slowly advanced power levers to avoid gravel spray. Maintaining a straight line became critical since overcontrolled nosewheels raised stones and damaged flaps.

With passengers already sleeping soundly, Mousseau leveled and waited five minutes before setting power levers to 1,000 ft-lbs and recording 690°C ITTs with propellers turning 1,800rpm in -30°C at 19,000-feet. Relaxed, I pondered what other information to pass on to adventurers from the hurricane-prone Gulf of Mexico. They would quickly learn that no one lived in igloos anymore, especially since the government assisted with home and hotel construction whenever a collection of huts popped up on a rock pile. No more tinned butter, beans or bacon. Guest tables in most hotels are as well stocked as any in New Orleans or Baton Rouge.



Author, Robert S. (Bob) Grant and First officer Sarah Mousseau at Yellowknife, Northwest Territories, Canada, where Buffalo Airways is based.

When my pencil broke, thoughts drifted to youthful days. On final with a Cessna 180 toward a cluster of spots on Hudson Bay shore ice, the skis had missed them all. The innocuous targets were plastic sacks of human feces placed to float into Hudson Bay at spring breakup. Incoming Louisianans never need worry. Flush toilets became standard long ago in Canada's Arctic.

I borrowed Mousseau's nail file to sharpen my pencil and continued note-taking when Cape Dorset's weather necessitated an RNAV approach over Hudson Strait where snow squalls and aggravated saltwater wavelets lowered ceilings. With the Garmin GNS430 providing guidance, Mousseau dropped into the polar depths and maintained a 307-degree inbound track as surface winds edging the King Air 100's 25-knot crosswind limit demanded constant corrections. Her gentle touchdown used less than half of Runway 31's 3,988-foot length.

Our wait allowed leisure time to explore Cape Dorset and encounter some of the 1,441 residents whose ancestors came upon the secluded bay in 1000 B.C. By the 1950s, the village's artistic stone carvings had been recognized worldwide. Notes to my Louisiana colleague would emphasise this fact and include a precaution that his corporate customers pack a gallon of insect repellent.

With tower and line inspections concluded, our passengers needed one night in Rankin Inlet where Mousseau happily replenished her doughnut supply. From this prosperous community and its superb paved ▶



Fuel availability and payment varies in the Northwest Territories; some require fuel by pre-arrangement, other more popular stops have fuel trucks and pumps, and there are places that don't accept credit cards.

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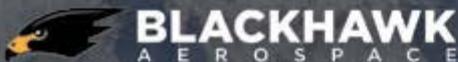


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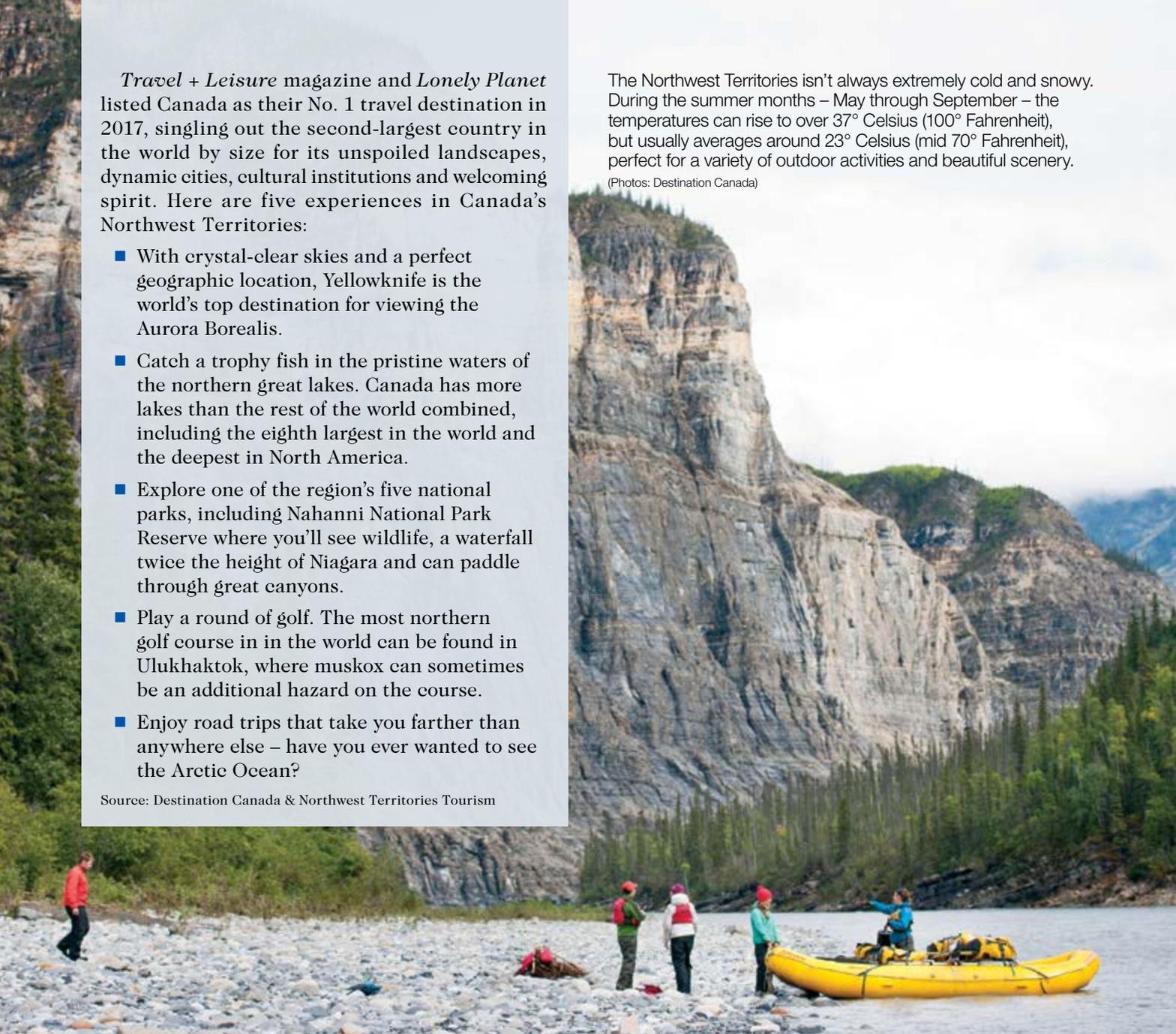
*Travel + Leisure* magazine and *Lonely Planet* listed Canada as their No. 1 travel destination in 2017, singling out the second-largest country in the world by size for its unspoiled landscapes, dynamic cities, cultural institutions and welcoming spirit. Here are five experiences in Canada's Northwest Territories:

- With crystal-clear skies and a perfect geographic location, Yellowknife is the world's top destination for viewing the Aurora Borealis.
- Catch a trophy fish in the pristine waters of the northern great lakes. Canada has more lakes than the rest of the world combined, including the eighth largest in the world and the deepest in North America.
- Explore one of the region's five national parks, including Nahanni National Park Reserve where you'll see wildlife, a waterfall twice the height of Niagara and can paddle through great canyons.
- Play a round of golf. The most northern golf course in the world can be found in Ulukhaktok, where muskox can sometimes be an additional hazard on the course.
- Enjoy road trips that take you farther than anywhere else – have you ever wanted to see the Arctic Ocean?

Source: Destination Canada & Northwest Territories Tourism

The Northwest Territories isn't always extremely cold and snowy. During the summer months – May through September – the temperatures can rise to over 37° Celsius (100° Fahrenheit), but usually averages around 23° Celsius (mid 70° Fahrenheit), perfect for a variety of outdoor activities and beautiful scenery.

(Photos: Destination Canada)



surface runway, we moved our clients to the former Distant Early Warning station of Hall Beach where the ice-free months attracted tourists to the multitudes of walrus and whales harvested by local Inuit hunters. Another note to my Louisiana friend emphasized: Reserve ahead – well ahead. Every hotel room becomes pre-booked when winter ends.

Our customers signed the paperwork for their last flight and rhapsodized about Buffalo Airways, the efficiency of the King Air 100 and our particular presence. Buffalo Joe could count on repeat business. In my case, I rearranged my paper pads crammed with facts ready to fire to the far-away domains of Louisiana. With tanks topped again, this time from a fuel truck, we climbed aboard for home.

Before long, C-GBFE's wheels went into their wells, and we turned for Yellowknife across the vast immensities we traversed five days before. By the time we landed, airframe hours totaled 19,907.5 and navigation logs showed 4,210 miles. I returned Mousseau's nail file/pencil sharpener and concluded that a confident pilot from the civilized country south of mine would follow my suggestions. If his customers needed a stable and well-balanced airplane close to perfect, the King Air 100 filled the bill. My last remark read: "C'mon up, eh!" as Mousseau scarfed the last doughnut.

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Robert S. Grant has become internationally known for publication of over 2,500 articles in six countries, as well as four books and a bimonthly column for a Canadian west coast magazine. During 20,100 accident-free flying hours beginning with a fabric-covered, 65hp hand-started Aeronca Champion, he flew Beechcraft King Air A100s in central and eastern Canada and recently completed a five-month Arctic contract for Yellowknife's Buffalo Airways. Previously, Grant spent 15 years in various African nations and flew his first King Air 200 in Chad for a US-based humanitarian organization called Air Serv. He currently resides in Ottawa and will likely fly again somewhere for someone.



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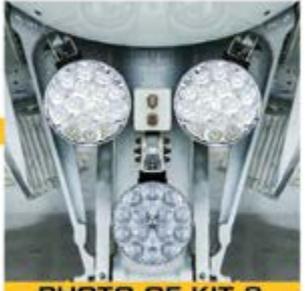
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# Bucket Lists, Part I

## Be a Box Checker!



by Matthew McDaniel

**E**ditor's Note: The following is the first of an upcoming series of articles which may resonate with King Air corporate and charter pilots when it comes to making the most of travel downtime. But it can also apply to the owner/pilot whether it's making a stop on the way to a planned destination or adding a future destination to visit. If you have layover pursuits or places you've enjoyed visiting that you feel are "must-sees," please feel free to drop the author an email with any ideas you might have for future installments of this series (contact information follows the article).

### List Makers and Box Checkers

History is full of famous list makers; list making is an enviable trait of all manner of successful people. It is said that those who make lists consistently accomplish more in a given time than those who move from task to task more randomly. Not only do lists give their makers a set of tasks to be accomplished, they often provide a prioritization of those tasks. Even more importantly, the simple act of checking or crossing a task off a list (to denote its completion) has been clinically proven to provide an endorphin rush to your brain's happy places. Many famous aviators were well-known list makers for their entire lives. Charles Lindbergh's list making was so pervasive that lists even as mundane as those for groceries eventually made their way into his historical archives.

Perhaps no one knows the merit of lists made and checked with precision better than pilots! But I'm not talking about checklists as aviators know them. I'm talking about something more akin to a bucket list – a list of tasks, places or adventures to be accomplished before “kicking the bucket.” For the pilot, like me, who often has layovers (be they daytime or multiday) at a variety of places, there is an incredible opportunity to become a checker of many boxes. Boxes that represent places/things not just seen, but experienced. Start by making a list, then be amazed at the personal satisfaction gained by checking the boxes of said list – one layover or planned stop at a time.

There isn't one formula for your lists; it's definitely a personal matter. What interests you or concerns you? What do you like to talk about at home, after your trips? What have you always wanted to see or do and then realize you can see or do it 100 different ways, depending on where you are? These are questions you can ask yourself and use to craft your list. Also, don't limit yourself. You can have multiple lists running concurrently, checking off items from one list on one layover, another list with tomorrow's or items from several lists in a single layover. For the owner/pilot, there may be something on your list on the way to your planned destination or located not far away from your stop.

The only limit to your lists is your own imagination and inquisitiveness. During my many years of aviation

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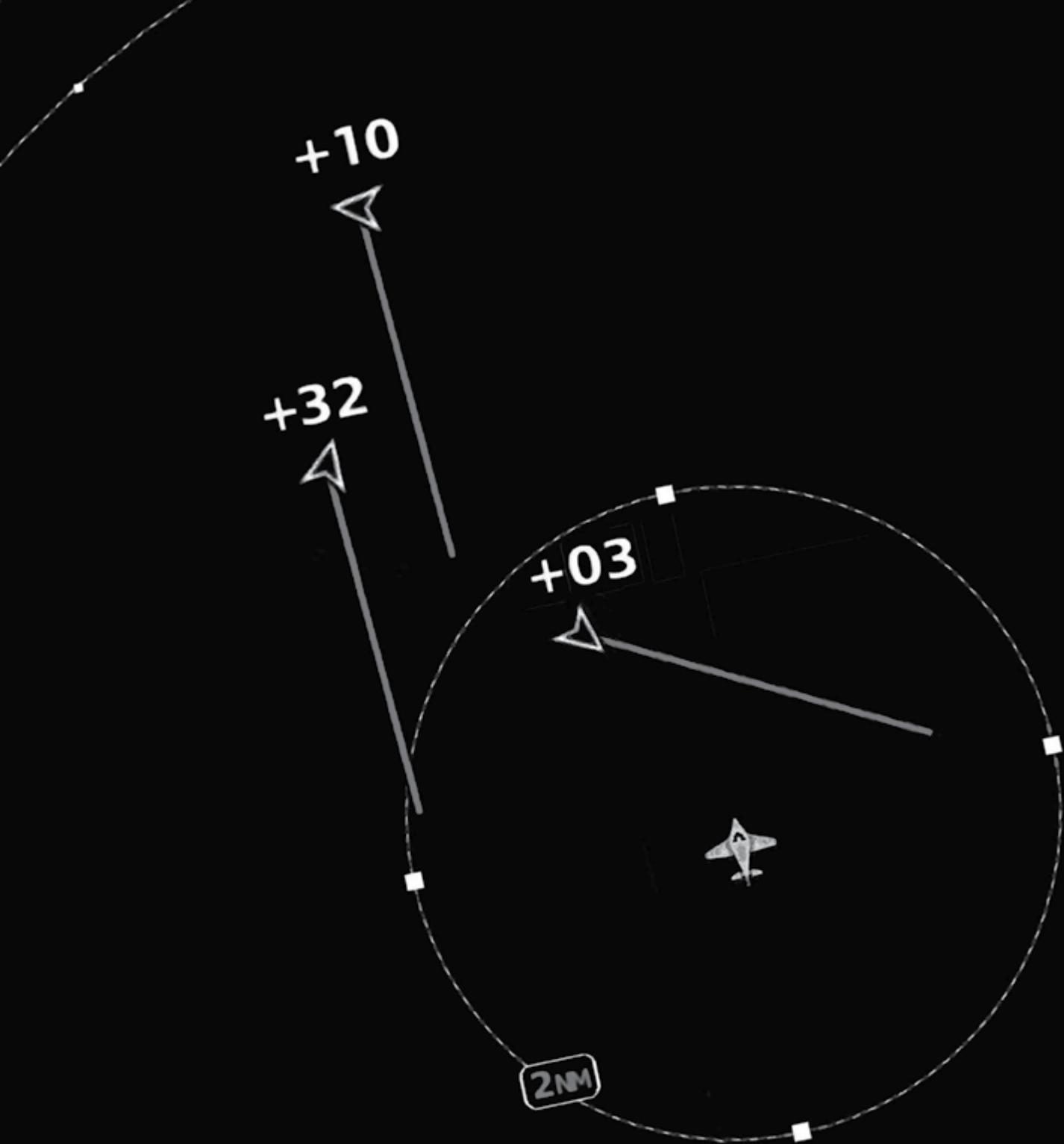
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layovers while flying as a corporate, charter, fractional, airline and traveling-instructor pilot, I've had many lists active concurrently. For the initial installment of this series, let's tackle a list that can be equal parts educational and entertaining, while offering infinite flexibility.

## Museums & Collections

If there is one commonality among pilots, it is their ability to totally geek-out on whatever it is that they are into. That could be the all too obvious aviation stuff, or other topics as obscure or varied as American Indian wars, rare musical instruments, automotive history, fine art or Pez dispensers. Whatever flips your switch, there is likely a museum for it somewhere. If your tastes run more mainstream, there are likely scores, even hundreds, of depositories representing that topic. Thus, choose your topic, do a quick web-search and begin a list of facilities which include or are dedicated to it.

My experience operating for years in a cockpit-crew environment is that most pilots enjoy aviation collections, military history museums or both. The assortment of these in the United States is staggering in both sheer numbers and variety. Of course, in many cases, a single collection which specializes in or includes military aircraft overlaps both these areas of interest. But, don't say to yourself, "Well, of course, there's the *Smithsonian*

*Air & Space Museum* in D.C. or *The National Museum of the U.S. Air Force* in Dayton, Ohio, but those are huge museums that could take days to go through. I never have that much time on a layover!" Maybe that is true, but you can take such massive collections a bite at a time. A few hours here, a full day there. In time, you'll see it all and, in many cases (such as these two examples), such museums are totally free, taking away the financial pressure to see it all in one visit.

Beyond these huge, nationally known museums, there is a nearly endless array of small/local museums dedicated to aviation and/or military topics. Airports small and large across the country often have such museums right on (or adjacent to) the field. Such establishments often feature one specific aircraft manufacturer who started at that airport, or that airport's military history in years past (before it became an all-civilian or joint-use airport). Such smaller museums most often operate on shoestring budgets using exclusively volunteer staffing. Yet, many remain free, asking only for donations at the door. Frequently, such small museums operate as nonprofit organizations, making any admission fee and/or donation tax deductible. Many current or former military bases operate a small public museum and/or display an aircraft/armament collection representing that base's history. Some such collections are quite impressive and include some real rarities.

The abundance of aviation and/or military history museums is truly staggering. Below is a list of just a few to get you started:

**The Smithsonian National Air & Space Museum: Washington, D.C.** The "gold standard" of aviation museums. The main building is in museum-row of Washington D.C.'s downtown Mall, a very short ride from Washington National Airport (DCA). The massive annex, known as the Udvar-Hazy Center, is located adjacent to Washington Dulles Airport (IAD). Regular shuttle services are available for transport between all these locations. Within this national collection, you'll lay eyes on the aircraft which shaped aviation as we know it today. From the original *Wright Flyer* (first powered, controlled, heavier-than-air flight), to the *Spirit of St. Louis* (Lindbergh's Atlantic spanning steed), to the Bell X-1 (first level, sustained, supersonic flight) to the Boeing 247 (first "modern" fully enclosed airliner), to the North American X-15 (fastest winged, piloted aircraft in history), to the Space Shuttle *Discovery* (even bigger than you ever imagined). ▶

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Taken inside the Smithsonian National Air & Space Museum's Udvar-Hazy Center in Chantilly, Virginia. While the Air France Concorde and the Virgin Atlantic Global Flyer dominate this view of the museum's main hangar, less noticeable is the King Air suspended above the tail of the Concorde. This is "King Air 65-90," which actually started life as a Queen Air. It was later converted to what would eventually become a King Air C-90 configuration. During its operational life, it not only served in this test bed role, but also flew over 7,000 hours for a variety of corporations.

Each branch of the U.S. Military has a representative aviation museum, dedicated to the aircraft utilized within that branch.

**The National Museum of the United States Air Force: Wright-Patterson AFB, Dayton, Ohio.** This enormous collection is housed in four matching, Quonset-style hangars with storage and restoration annexes and some outdoor storage. You'll see everything from pre-World War I Army-Air Corp flyers to the Convair B-36 (the massive post-World War II, ten-engine strategic bomber) to next-generation fighters and drone aircraft.

**The National Naval Aviation Museum: Pensacola, Florida (also represents Coast Guard aviation).** The Navy's proud history in flight is well represented here with some incredibly rare aircraft on display in a well-designed setting. From Grumman's entire "cat series" of fighters to giant flying boats, to World War II torpedo bombers, to Top Gun, carrier-based, jet fighters – it's one of the finest collections in the world.

**United States Army Aviation Museum: Fort Rucker (Daleville), Alabama.** An odder assemblage of aircraft would be hard to imagine. While many famous fixed-wing Army aircraft are represented, it is the incredible variety of oddball helicopters, tilt rotors and experimental rotor-wing machines that really make this collection truly unique.

**The National Museum of the Marine Corps: Triangle, Virginia.** This joint public-private venture represents all facets of Marine Corps history, including an impressive aviation component.

**Flying Leatherneck Aviation Museum: Marine Corp Air Station Miramar, San Diego, California.** Specific to Marine Corp Aviation, this collection is largely outside where you can partake of it while enjoying the SoCal sunshine.

A list of all sizable aerospace museums is available on Wikipedia, organized by country. Within the United States, the list is further broken down by state. It is not a truly comprehensive list, but it is certainly exhaustive enough to keep you busy for decades worth of layovers! Some other large collections include:

**The United States Space & Rocket Center: Huntsville, Alabama.** If you're into the history of the Space Age, NASA and military rocketry, this is a must-visit. It is also home of the hugely successful youth Space Camp for those aspiring to a career in aerospace.

**Pima Air & Space Museum: Tucson, Arizona.** The dry desert environment of Tucson is perfect for storage of vintage aircraft and artifacts and this is one of the largest non-government funded aviation museums in the world, with over 300 aircraft on display. While in town,



While not strictly an aviation museum, the National World War II Museum in New Orleans, Louisiana, represents nearly every facet of that global conflict. A Douglas C-47 Skytrain, in U.S. Army Air Corps D-Day markings, hangs above the main entrance lobby, along with a Supermarine Spitfire replica.

consider also visiting the **Davis-Monthan AFB long-term preservation and storage facility for inactive military aircraft** (shuttles from Pima run often).

**Castle Air Museum: Atwater, California.** Home of the former Castle Air Force Base, Strategic Air Command facility, this collection is adjacent to what is now the civilian Castle Airport. The mostly outdoor display in



The Hughes H-1 Hercules (aka, Spruce Goose) is the main attraction on display at the Evergreen Aviation & Space Museum in McMinnville, Oregon. This impressive museum is far more than the Spruce Goose, however. It contains scores of historically significant aircraft, both civilian and military, as well as many craft from various space programs.

California's central valley includes some of the largest aircraft to ever serve in the U.S. military – B-29, B-36, B-50, B-52, etc.

**Commemorative Air Force (CAF) Airpower Museum: Dallas, Texas.** As with all CAF museums, the aircraft based here may or may not be in residence during your visit. Because CAF's primary mission is to restore and



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The San Diego Air & Space Museum is only minutes from San Diego's Lindbergh Airport and contains an impressive collection. Mainly military in scope, but with some civilian aviation represented too. It is also a unique building and is located in San Diego's beautiful Balboa Park area.

maintain airworthy examples of historical military aircraft, the aircraft are often touring or participating in airshows on a seasonal basis. During the offseason is when you are likely to see the most concentrated display here.

**San Diego Air & Space Museum: San Diego (Balboa Park), California.** One of the top draws to the famous Balboa Park area, this circular structure contains a nice mix of historically significant civilian and military aircraft and artifacts. While some are replicas, most are the real McCoy, and all are fascinating to anyone who loves aviation history.

Smaller collections dot the United States from coast to coast, in such quantity and variety it would take several lifetimes to see them all. While smaller, many have fascinating collections of aircraft and artifacts. Their more diminutive sizes make them perfect for partial-day layovers. A few of my favorites over the years include:

**The Fargo Air Museum: Fargo, North Dakota.** Just outside the Fargo airport perimeter, this is another flying museum, where many of the aircraft are flown in the summer months. Thus, all the aircraft are in excellent condition.

**Fantasy of Flight: Polk City, Florida.** Kermit Weeks' conceptual museum in central Florida has opened and closed its doors to the general public twice in the past couple of decades. Currently, being redeveloped yet again (as Act III), it should re-open again in the near future with a whole new way to experience aviation, history and the pursuit of life goals. Kermit's wildly diverse collection of ultrarare civilian and military aircraft (many in flyable or near-flyable condition) is as unique as Mr. Weeks himself.

**Mighty Eighth Air Force Museum: Pooler, Georgia.** Home of the *Memphis Belle* and the history of the World War II aerial fighting force that played the leading role in the European air war.

**Atterbury-Bakalar Air Museum: Columbus, Indiana.** A great example of the hundreds of museums to be found in small communities hoping to preserve their rich military histories for locals and visitors alike. A combat glider training base in World War II that continued as

This small memorial at the Tamiami Airport in Miami, Florida, consists of a single Douglas B-26 Invader (re-designated from an A-26 after the World War II Martin B-26s were no longer in service). This aircraft was flown by the Cuban Air Force in the ill-fated Bay of Pigs invasion. The memorial honors the 10 Cuban pilots and four American CIA pilots who died as part of that "Liberation Air Force."



an Air Force base into the 1970s, this is a Midwestern jewel that can be toured in an hour, or over the course of a day.

It is rare to be laying over or stopping anywhere there is not some sort of military and/or aviation museum within a reasonable distance. Many Experimental Aircraft Association (EAA) Chapters have local museums. Similarly, many Wings of the CAF have a display space for their aircraft (at a minimum). Aircraft restoration shops often welcome aviation-centric visitors, as well. Finally, we cannot leave the topic of aviation museums without mentioning the stunning Beechcraft Heritage Museum in Tullahoma, Tennessee; the one-stop-shop for all things Walter and Olive Ann Beech, Beechcraft corporate history and immaculate examples of every major model ever produced with a Beechcraft data-plate. From Walter's early Travel Air designs to the graceful lines of the Staggerwing and Starship models, any Beechcraft pilot should consider a visit to this museum to be akin to a pilgrimage.

### Future Installments:

In forthcoming issues of *King Air*, we'll continue to explore additional topics for bucket lists which might motivate you to make or expand your own bucket lists. Architecture, national and state parks, historic sites

and things you maybe never even knew you wanted to see. We'll touch on it all. Maybe with your suggestions, we'll take this discussion in directions even we don't anticipate. In the meantime, safe travels and happy list making and box checking! **KA**

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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](http://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](mailto:matt@progaviation.com) or (414) 339-4990.



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# New FAA Admin, PLANE Act Support and International Flight Plan Format Adopted

by Kim Blonigen

## Steve Dickson New FAA Administrator

On August 12, 2019 Steve Dickson was sworn in as the Federal Aviation Administration (FAA) administrator after being confirmed for a five-year term by the U.S. Senate July 24. Dickson recently retired from Delta Air Lines as the senior vice president of Flight Operations where he was responsible for the safety and operational performance of Delta's global flight operations, as well as pilot training, crew resources, crew scheduling and regulatory compliance. He also flew in line operations as an A320 captain, and previously flew the B727, B737, B757 and B767 during his career. A former United States Air Force Officer and F-15 fighter pilot, Dickson is a Distinguished Graduate of the United States Air Force Academy, as well as a graduate of the Georgia State University College of Law, magna cum laude.

After Senate approval of Dickson's nomination, National Business Aviation Association (NBAA) President and CEO Ed Bolen stated, "NBAA has had a close working relationship with Steve for many years, and we're confident he's the right man for the job. Having a permanent administrator at the FAA is key to ensuring the continued advancement of important work being done on aviation-system modernization, equipment certification, workforce development, safety and other top priorities."

NBAA also pointed out that Dickson has leadership experience on Federal Advisory Committees, providing him with a comprehensive understanding of the nation's air traffic control (ATC) system. He served as chair of a task force that made key recommendations to advance ATC modernization goals while creating a business case for investing in NextGen technologies. This work led to formation of the NextGen Advisory Committee, which Dickson served on until his retirement from Delta.

## Aviation Groups Support PLANE Act of 2019

In mid-July, the bipartisan bill Aviation's Next Era Act of 2019, also known as the PLANE Act of 2019, S.2198, was introduced by Sen. James Inhofe (R-Oklahoma)

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# Flap Stories

by Tom Clements

I'd like to tell you a few interesting things that I have experienced over the years involving flaps. I hope you will find them interesting and educational.

Let me begin by reviewing the basic flap system design in King Airs and, with minor changes, in most other Beechcraft airplanes. The semi-fowler flaps – ones that extend aft to increase the wing's chord as they go down – are driven by jackscrews and ride on tracks connected to the wing's rear spar structure ... two tracks and one jackscrew per flap segment or flap panel. As my colleague, Dean Benedict, has written in this magazine, there are rollers, bushings and Teflon washers that connect each segment to its two tracks and it is unfortunately common to find these installed incorrectly, leading to track damage that can be time-consuming and expensive to repair. The jackscrews are driven by flex-drive cables that pass into the fuselage where they connect to a transmission or gearbox assembly that

is mounted under the cabin aisle floorboards on the forward side of the rear spar.

Mounted beneath the gearbox is the drive motor – a 28-volt DC, reversing, electric motor. In this case, “reversing” means that it can run in two directions for up and down flap travel, depending on which of its dual field windings is energized. When the motor is running in the “up” direction, the “down” winding is acting as a generator, and vice versa. However, with no demand, no “load,” placed on that generator it is providing insignificant resistance to motor rotation. Unlike in Bonanzas and other models with a single flap panel per side, the two panels per side on the King Air require more power to operate and, in turn, there is more momentum to keep them coasting after the motor is no longer receiving power. This coasting momentum can drive all flap panels to the absolute limit of track travel, putting undesirable strain on the components.



The flap motor, gearbox, drive cables and Dynamic Brake Relay.

To prevent this coasting travel, Beech uses a Dynamic Brake Relay. It does the following: Whenever power is removed from one field winding, the other winding is now shorted to the airframe. This puts an “infinite” load on the winding that is acting as a generator. With huge resistance to rotation being provided by that winding and no longer any driving force being received by the other winding, the assembly comes to a screeching halt. It acts as if some strong mechanical brake were suddenly applied to the motor’s output shaft but it is all done by a magnetic field, not by a physical brake. Cool!

The Dynamic Brake Relay operates whenever the flaps hit a Limit Switch – Up, Down or Approach. It also activates in earlier King Airs – the ones in which the flaps may be stopped in any position between Approach and Down – when the flap handle is moved from Down to Approach while the flaps are extending between Approach and Down. The fact that the flaps will stop immediately means that when we want to put them at 60%, we can wait to move the handle from Down to Approach until we see the indicator pointing right at 60%. They won’t coast on down to 65% or more, not with our Dynamic Brake friend!

What if they do coast a bit? If this is happening, you will likely also find no free play on the flaps when you move their trailing edges up and down on the preflight

inspection since they have coasted to the ends of the tracks. The likely cause of this is a bad Dynamic Brake Relay or highly worn flap motor brushes.

Back to the motor/gearbox connection: The output shaft of the motor acts as the “worm” that rotates two shafts, “worm gears,” one rotating clockwise and the other counterclockwise, or vice versa, depending on whether Up or Down is selected. Both left and right outboard flap segments are connected to one of these shafts and the inboard segments are connected to the other shaft. Although extremely rare, if one of these shafts experiences a stripped gear such that the motor cannot drive it, then we would lose both left and right inboard or both left and right outboard flap segments ... it would never present us with an asymmetrical situation.

In 1975, a colleague of mine was delivering a factory new E90 to Beechcraft West, a Beech distributorship in Southern California, located at Van Nuys (KVNY). In those “good old days” no flight restrictions existed over the Grand Canyon so on their descent into Las Vegas for a refueling stop, they were enjoying the canyon views while descending near redline speeds over the Colorado River. As the passengers “oohed and aahed” their way in the descent while the pilot S-turned over the canyon, my friend suddenly felt the airplane balloon upward. “Oops, I think I just touched something!” said

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the passenger sitting in the co-pilot's seat. It didn't take long to realize that the passenger had accidentally moved the flap handle from Up to Approach as he was leaning over to look out of the left-side cockpit windows. (This incident led to Beech adding the little "wall" on the right side of the flap handle to decrease the chance that it could be moved accidentally.) The pilot retracted the flaps and continued to Las Vegas. He used 100% flaps for landing and all was well. But as he taxied to the FBO, Ground Control said, "Hey, King Air, your inboard flaps are up, but your outboard flaps are still down. You aware of that?"

Until then, he was not aware of any problem. When the flaps were accidentally sent to the Approach position at a speed well over the limit, apparently the teeth on one of the transmission's worm gears had been overloaded so that they were weakened enough such that they failed completely in another couple of cycles.

For split flaps to occur – by this we mean one segment being out of sync with the three others – we must have a jackscrew failure: Either the jackscrew itself is faulty or the jackscrew is not being driven by its drive cable: the cable broke internally or it became disconnected from the jackscrew or the transmission.

Twice in my flying hours I have personally experienced split flaps. Once was in an A90 – that I talk about in

*The King Air Book* – and the other time was in a Duke ... that has a single flap segment per side, unlike the King Air. In both cases I was very pleasantly surprised to find that the outcome was basically a nonevent. Further analysis suggests that this is not too surprising since the lift/lack-of-lift this malfunction causes has an asymmetrical force acting on the wing's inboard area whereas the aileron and their trim tabs apply force on the outboard area. Inboard: Less rolling moment arm; Outboard: More rolling moment arm.

Compared to the King Air 90-and 100-series, the 50-inch wider wing center section of the 200- and 300-series means that flap asymmetry will contribute more roll force than before. Therefore, these later models incorporate a Split Flap Protection system. As we have discussed, a drive shaft failure that renders both inboard or both outboard segments inoperative simultaneously leads to no roll tendency. It is only when one segment stops and the other three continue working that asymmetry occurs.

The Split Flap Protection system works in this manner: The Flap Control electrical circuit – the same circuit that includes the switches that the flap handle actuates and the limit switches – includes two additional switches. They are connected to the leading edges of the flaps, one



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on each side, between the inboard and outboard flap segments. (If the flaps are inspected while they are down, the switches are rather easily located and seen.)

As long as the two – inboard and outboard – flap’s leading edges remain closely side-by-side, as they should, then that side’s split flap switch remains closed. But if one segment fails to move while its neighbor moves correctly, the leading edges are no longer side-by-side and the switch opens. As soon as this occurs, the absence of control circuit power causes the Dynamic Brake Relay to instantaneously stop the motor and the still-operating segments. The POH tells us that the stopping action will take place by the time the flaps are 3°- 6° out of sync. Since full flap extension is 35°, it means we never exceed a 20% differential.

How do we handle this split flap condition? We cannot fix the problem. Until maintenance takes place, we are stuck with the flap setting that we now have. The obvious procedural change we need to address is to determine and use a new proper  $V_{REF}$  landing speed. Since the flap position indicator gets its information from the right inboard flap segment only, realize that its position may not be the best measure of the overall average extension. “Eyeball” all of the segments, then make an

educated guess of the proper speed, somewhere between the Full flap and No flap  $V_{REFS}$ .

Before continuing, I need to clarify a minor item. The two split flap protections that I have been discussing did not become actual microswitches until 1979. All of the 300-series use the switches since they appeared later. But the 200-series, prior to serial number BB-425, use a surprisingly odd design. A standard 5-amp cylindrical fuse is mounted within a fuse holder, one with the springy metal clips that hold the fuse. A clamp connects a short wire to the fuse. When the 3°-6° separation occurs, the wire yanks the fuse out of the holding clips, shutting down the circuit. Who came up with that plan?! As funky as it seems, however, it works quite well!

How often do King Airs have split flaps? Almost never. Perhaps of more interest is how often does the Split Flap Protection system malfunction and leave us with inoperative flaps even though the flaps themselves are fine? I have been pleasantly surprised to find that this additional safety feature has proven to be almost 100% trouble-free. Nice!

In 1985 I had the pleasure of flying with one of my recurrent training customers to attend the Paris Air Show. His model 200 was one of the first to be modified with all of the various

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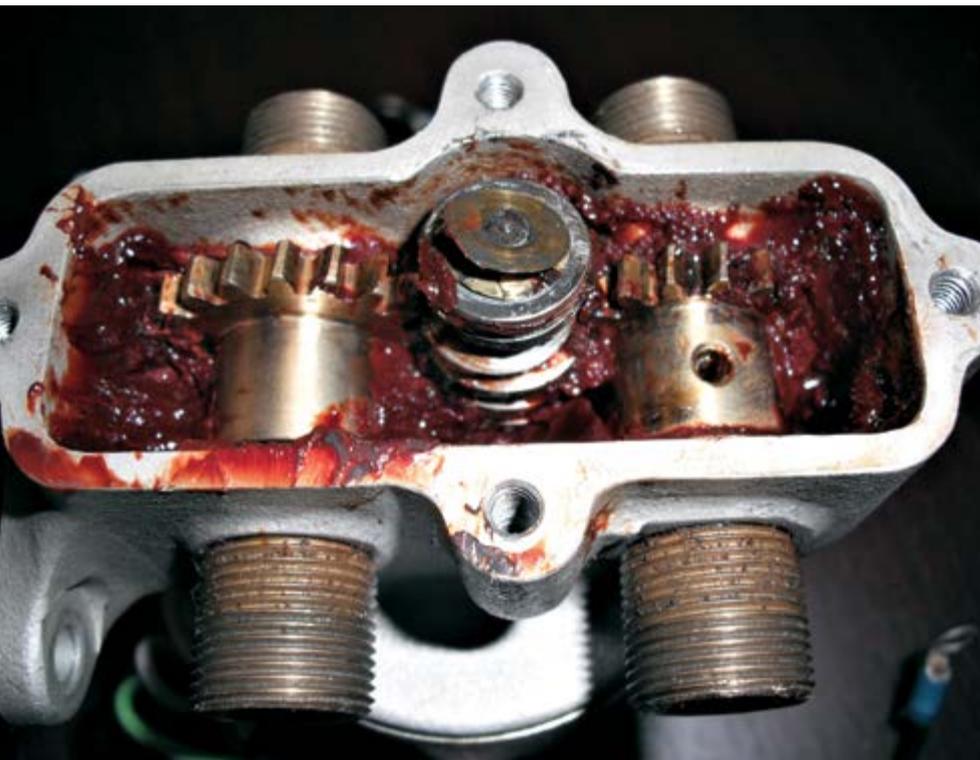
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Inside of the flap gearbox or transmission showing worm and worm gears.

Raisbeck Engineering King Air STCs that existed at that time. We met James Raisbeck in Europe and used the airplane, prior to arriving in Paris, for some demonstration flights. A number of these flights were in Norway. Landing on some relatively short strips perched on the walls of fjords was lots of fun and certainly showed the airplane to be exceedingly capable. Upon landing for an overnight stay in Bergen our flaps did not retract.

No CBs were popped and no burned-up-flap-motor odor had been detected. I wiggled the Up limit switch and it seemed normal. Maybe split flap protection problem? In our travel kit we had a small jumper wire with alligator clips on both ends. I jumpered around the left switch – easily accessible since the flaps were down – and tried retraction again: Nothing. Moved to the right side: Success! I took off one of the Control circuit wires going to the switch and screwed it on to the other switch terminal, completing a circuit that bypassed the switch completely. Legal? Of course not. A work-around to complete the mission? Yes. I will also add this: For the rest of that entire series of flights, until we safely arrived back in the States, I was always occupying a cockpit seat and watching the flaps carefully whenever they operated. Had any roll tendency developed I would have been a rather fast-acting human split flap protector! When I bid farewell to the owner-pilot I emphasized that now he should have his shop find and fix the actual switch problem. It was time to retire the “temporary” work-around.

A little over a year later I was pre-flighting this same airplane during a recurrent training session. You guessed it: The switch was still bypassed. We did not fly until it got fixed. In another episode that I included in *The King Air Book*, I came across a 200 that was totally missing split flap protection switches on both sides. They were simply not there and the wires were screwed together to bypass them. By



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• 65-A90	• C90	• C90A	• C90GT	• C90GTx





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the next day they had been “found” and reinstalled, so we finally flew ... a head-scratcher for sure.

One of my more recent articles, dealing with descent planning, was entitled “Just Because You Can, Doesn’t Mean You Should.” I will close this month by applying that same principle to flap operation ... landing gear, too. As you know, there are maximum speed limits for flap and gear operation. When you get behind in your descent and approach planning and/or ATC is not making it easy for you, that’s when you are justified in extending the flaps and/or gear right at the maximum speed limit. But normally? With proper planning and execution? There is no reason for continually utilizing the limits. Your equipment will be subjected to a much easier life if we include a 20 or even 30-knot buffer, delaying extension until we are well below the limits. It might even save a few maintenance dollars! **KA**

King Air expert Tom Clements has been flying and instructing in King Airs for over 46 years, and is the author



The Split Flap Protection switch and its connections to both inboard and outboard flap segments.

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](mailto: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](mailto:editor@blonigen.net).*

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The advertisement features a large image of a King Air aircraft in flight, viewed from a low angle, flying over a landscape. The aircraft is white with blue accents. The background is a bright blue sky with scattered white clouds. The text is overlaid on the top and bottom of the image.



# Wichita's Greatest Gamble — Part Two

On August 16, 1927, two airplanes built in Wichita, Kansas, took off from Oakland, California, bound for the shores of Hawaii, but only one would return triumphant.

by Edward H. Phillips

By early August both Arthur Goebel and Bennett Griffin had arrived at the Oakland airport with their new Travel Air monoplanes, the *Woolaroc* and *Oklahoma*, respectively. Resplendent in their paint schemes of blue fuselage and orange wings, the Wichita ships looked impressive and appeared more than capable of making the 2,400-mile-long trek westward. William Erwin and Alvin Eichwaldt had finally arrived in the *Dallas Spirit*, painted in a conservative green and silver combination.

Early on the morning of August 16 a flood of spectators began arriving at the airport. By midmorning the crowd was estimated at 25,000 with other estimates as high as 100,000. The race was Oakland's big event – merchants closed their shops, workers were given or took the day off and a large fleet of small boats filled with curiosity seekers bobbed gently in the waters of San Francisco Bay, almost directly in line with the end of the runway. As Dole race historian Lesley Forden writes, “The people at the airport brought their camp stools, picnic tables, lunches, ukuleles, cameras and field glasses to watch this crazy once-in-a-lifetime stunt, and they brought a great curiosity about this new and exciting world of airplanes and aviators.”

When the clock struck 12 the stirring of the crowds was overwhelmed by the ear-splitting roar of eight Wright Whirlwind radial engines as their pilots checked magnetos and checked oil pressure, temperature and RPM at full throttle. All of the racers were using the reliable Whirlwind, which had proved itself on Lindbergh's Ryan

The *Woolaroc* flying high above the clouds in the Dole race. Only four of the eight airplanes that had entered the race made it in the air – the *Golden Eagle*, *Miss Doran*, *Aloha* and *Woolaroc*. (Frank Phillips Museum)

monoplane and was fast becoming the engine of choice for commercial and military aircraft.

It was time for the first contestant to line up on the dirt runway, and Bennett Griffin taxied the *Oklahoma* into position, revved the engine to full throttle and watched anxiously for the starter's flag to drop. Behind the Travel Air, arranged in a semicircle, stood the *El Encanto*, *Pabco Pacific Flyer*, *Golden Eagle*, *Miss Doran*, *Aloha*, *Woolaroc* and last, *Dallas Spirit*.

When the checkered flag finally dropped, the *Oklahoma*, heavily laden with more than 450 gallons of highly flammable aviation fuel, its Wright engine roaring at full throttle, struggled to move forward, but slowly accelerated as men pushed on the wing struts until the ship left them in the dust. At 12:02 pm the monoplane was airborne and heading out over the bay. Next came *El Encanto*, which promptly entered a ground loop and crashed, crushing the left wing as the landing gear failed. The *Pabco Pacific Flyer* was next to try, but the airplane suddenly rolled to a stop and had to be towed back to the starting line (it later crashed on the second takeoff attempt).

The Lockheed Vega *Golden Eagle* took off effortlessly, followed by the Buhl Air Sedan *Miss Doran* with the pretty, 22-year-old schoolteacher Mildred Doran on

board as a passenger. The Breese monoplane *Aloha* took off next, followed two minutes later by the *Woolaroc* and then the *Dallas Spirit*. Of the airplanes that did manage to get into the air that day, the *Miss Doran* soon returned with engine trouble, as did the *Oklahoma*, and the *Dallas Spirit* landed trailing a long sheet of fabric that had torn loose from the fuselage aft of the navigator's station.

Pilots at the Oakland airport speculated that, of the four airplanes that took off, the *Golden Eagle* was favored to win because it was the fastest ship, followed by *Aloha* and *Woolaroc* with the slowest ship, *Miss Doran*, finishing fourth. As the crowds began to fade away, they could not have known that the *Miss Doran* and the *Golden Eagle* would never be seen or heard from again. Meanwhile, mechanics were scrambling to repair the torn fabric on the *Dallas Spirit*. Undeterred by the unfortunate mishap, William Erwin was determined to take off and head for Hawaii, still in pursuit of the Easterwood prize.

As for the two Travel Air monoplanes, one was out of the race with engine trouble, but the *Woolaroc* had climbed safely above a cloud deck as Art Goebel and navigator Bill Davis settled in for the long night ahead. Goebel flew Great Circle routes given to him by Davis as he laid out each one as the Travel Air flew westward. The initial course had been 250 degrees before changing to about 230 degrees until dawn would allow Davis to determine if they were still close to being on course for Hawaii.

Flying straight and level at 4,000 feet, with the Wright J-5 engine singing its constant, reassuring song of power, the two men and their airplane were slowly swallowed up by the Pacific darkness. By midnight Goebel had climbed the airplane to 6,000 feet, just above a layer of stratus clouds. Davis, sitting in the cramped navigator's station behind the cockpit, used a string telegraph to exchange messages with Goebel and took sightings on Polaris, tuned the radio set for a signal code and attempted to transmit position reports.

About 8 o'clock that evening the radio operator aboard the passenger liner *SS Wilhemina* steaming eastward 500 miles from San Francisco, began receiving the "dah-dit" Morse code sent by Davis as he transmitted the *Woolaroc's* position.

As the night wore on Davis was able to give a series of progress reports that were quickly relayed to Honolulu and San Francisco. Unfortunately, the other three airplanes did not have radio transmitters or receivers installed for the flight. There were, however, indications that at least two unidentified aircraft had been heard flying over vessels late into the night.

As dawn approached on August 17, Davis prepared to drop smoke bombs to determine if the wind had shifted during the night so he could give Goebel course corrections to the islands. White lines had been painted on the Travel Air's elevator panels at various angles.

The other Travel Air in the race, the *Oklahoma*, never made it to the skies that August day due to engine problems.

(Frank Phillips Museum)





Goebel celebrates being the first to land and claim the \$25,000 prize money. He was, however, quick to recognize Davis's navigation skills as a major factor in the victory. Walter Beech's great gamble had paid off.  
(Frank Phillips Museum)

Davis would watch the smoke on the water to ascertain drift and send a new heading up front to Goebel. It was a crude process, but it worked.

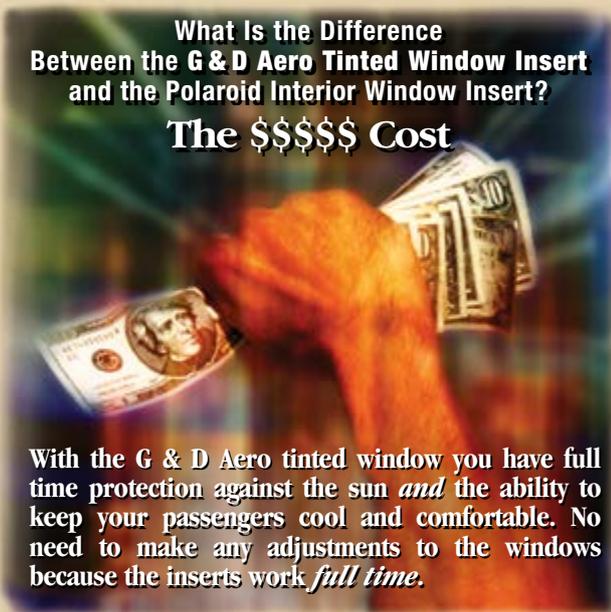
As Davis had hoped and anticipated, during the night the winds had shifted around to the northeast, providing a welcome tailwind as the flight entered its final hours. He estimated groundspeed to be about 100 mph that would pay dividends in reduced fuel consumption. Later, Davis realized that the wind was shifting to the southeast and ordered Goebel to change heading toward the south to "crab" into the wind and maintain course.

About 7 o'clock the next morning the residents of Honolulu awoke to the news that the latest report from the *Woolaroc* indicated that Goebel and Davis were only six hours from Wheeler Field, but the Travel Air was running low on fuel.

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About four hours later with the bright morning sun lighting up the world in front of him, Goebel spotted what he thought was a cloud, but it did not move. Art realized it must be land, maybe the island of Maui. It was, and both men felt relieved that the *Woolaroc* was nearing its destination. Soon the Travel Air flew past Diamond Head and was met by a Boeing PW-9 pursuit (fighter) from Wheeler Field. The pilot tucked the biplane in close, holding up one finger and gesturing wildly. Initially, neither Goebel nor Davis understood what the signal meant, but when the PW-9's pilot got even closer and they saw his smile, they realized they were first to make the crossing!

Guided by the pursuit ship, Goebel flew inland and landed at Wheeler Field, Territory of Hawaii, exactly 26 hours, 17 minutes, 33 seconds after departing Oakland. During the flight the Wright Whirlwind had consumed 317 gallons of fuel, and the *Woolaroc* had achieved an average ground speed of 93 mph. Spectators at Wheeler Field waited patiently to see if other airplanes would arrive. Two hours passed before the *Aloha* landed, nearly out of fuel, to win the \$10,000 second prize money.

As time passed that day it became obvious that no other racers were going to arrive. The *Golden Eagle* and the *Miss Doran* were hopelessly overdue. Their fate remains unknown, but there is general agreement that sometime during the night vertigo may have overcome the pilots, neither of whom was trained to fly on instruments, leading to a death spiral into the ocean.

Sadly, lives were lost, but in the final analysis it can be stated that despite all of the bad press given the Dole Race, it was another step toward aviation progress. It was as equally legitimate as the Atlantic crossings and showed no worse a track record for the number of people killed.

As for the *Dallas Spirit*, Bill Erwin had lost his chance to win the Dole

## Epilogue

After the *Woolaroc*'s victory in the Dole Air Race, the Travel Air disassembled and shipped it back to California aboard the steamship *Monoa*. Art Goebel flew the airplane to various cities as part of farewell flight commemorating the aerial journey to Hawaii and its potential to spur transpacific air transportation.

In October, Goebel flew the monoplane to Wichita where he was greeted by hundreds of people. On October 5 he laid the cornerstone for Travel Air's new factory unit "B," turned the first spade of dirt for Clyde V. Cessna's factory, and dedicated the manufacturing and production facilities of Lloyd C. Stearman's airplane factory north of the city.

Late in the next year, 1928, Goebel had the *Woolaroc* removed from temporary storage. It was flown to Wichita where Walter Beech and his engineers directed a series of major modifications in an attempt to turn the monoplane into a cross-country speedster. The Wright J5CA was replaced by a Pratt & Whitney Wasp Jr. rated at 400 horsepower, fuel tanks were added that increased capacity to 600 gallons, and the cockpit was relocated aft where the navigator's station had been for the Dole Race. The airplane had a maximum speed of 160 mph – too slow to be a serious contender – and in 1929 the airplane was restored to Dole race configuration and placed on static display at the Frank Phillips Museum in Bartlesville, Oklahoma, where it remained for decades. In the mid-1980s the airplane was fully restored and suspended from the ceiling in a special room dedicated to the race to Hawaii.

As for the *Oklahoma*, early in September 1927 Bennett Griffin flew the ship to Wichita where the original Wright Whirlwind was replaced with a new engine. In January 1928, Griffin contacted Walter Beech about modifying the airplane for an attempt to set a new endurance record. Fuel tanks were installed that held 525 gallons of fuel, and the ship was renamed *Peerless Princess*. The endurance attempt was not made, and by the early 1930s the aging Travel Air had disappeared from history. [KA](#)



Today the *Woolaroc* is displayed at the Frank Phillips Museum in Bartlesville, Oklahoma, on a compass heading to Hawaii. Art Goebel, William Davis, the Travel Air monoplane and the Dole race have been largely forgotten compared to the fame of Charles Lindbergh and the *Spirit of St. Louis*, but their achievement was no less significant. (Frank Phillips Museum)



Davis (left) and Goebel were feted as heroes for a week after their flight, and more honors awaited them upon their return to the mainland. The *Woolaroc* was disassembled and shipped back to California.

race, but he insisted on taking off to help search for the missing airplanes and their brave crews. With fuel tanks filled to more than 500 gallons of fuel, on Friday, August 19, the big Swallow monoplane took off not to search for lost airplanes, but for Honolulu and then on to Hong Kong.

After a successful takeoff run with the wind blowing straight down the runway, the *Dallas Spirit* began to wing its way west. During the next seven hours Eichwaldt made a series of position reports with the radio, stating that they were flying at various altitudes. A few minutes before 9 o'clock that night, while flying at 900 feet above the water:

“SOS ... relay that. We were in a spin but came out of it OK. We sure were scared. It was sure a close call. The lights on the instrument panel went out and it was so dark Bill could not see the wings.” Eleven minutes later another transmission was picked up by ships and shore stations: “We are in an...”<sup>1</sup>

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At daybreak on the morning of August 20, ships of the United States Navy were converging on the area where the *Dallas Spirit* should have been when Eichwaldt sent his final transmission. No trace of the airplane was found, and after a week of further searching, the Navy canceled the effort.

James Dole (center) talked met with first-place winners Goebel and Davis (left). Pilot Martin Jensen (right) and navigator Paul Schluter, placed second in their Breese monoplane *Aloha*. Of the eight contestants in the race only two reached the islands. (Frank Phillips Museum)

Back in Wichita, Jacob Moellendick was admitted to the hospital after hearing news of the disappearance of the *Dallas Spirit* and apparent death of his two friends, Erwin and Eichwaldt. Jake's great gamble had failed, forcing his airplane company into bankruptcy. By contrast, Walter Beech and the Travel Air company had much to celebrate in the victory of Goebel and Davis and the *Woolaroc*. His great gamble had paid off handsomely, but Walter and the nation deeply lamented the death of six men and one woman in an all-or-nothing dash to Hawaii, a race that 91 years later remains controversial in both its purpose and execution. [KA](#)

Notes:

<sup>1</sup> Forden, Lesley: "The Glory Gamblers—The Story of the Dole Race;" 1986.

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.



The *Woolaroc* was photographed after landing at Wheeler Field, Territory of Hawaii. Goebel and Davis had been in the air more than 26 hours since departing Oakland. (Frank Phillips Museum)

## King Air Academy Adds New Simulator

The King Air Academy (KAA) announced a new addition to its simulators will be added in September – a full-motion, dual GTN750-equipped simulator with optional Garmin 600s or traditional round gauges. The simulator will join KAA's new full-motion G1000/G1000NXi simulator, both providing model-specific King Air initial and recurrent training.

The academy prides itself on providing more specific King Air training, which includes extensive, serial number-specific, ground and systems materials.

For more information on training, pricing and scheduling, call (602) 551-8100.

## Garmin Pilot™ Introduces New FltPlan.com Integration

Garmin announced new features and enhancements within the Garmin Pilot application for Apple mobile devices. FltPlan.com integration now includes electronic Advance Passenger Information System (eAPIS) and Pre-departure Clearances (PDC) within the United States.

U.S. pilots who have purchased premium services within FltPlan.com can now access PDC services within the Garmin Pilot app. Pre-departure clearances (PDCs) are text clearances issued for an IFR flight plan at over 70 airports in the United States.

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Garmin Pilot allows customers with an eAPIS premium service from FltPlan.com to enter and upload passenger and crew manifest information to Customs and Border Protection. For flights from the United States to Canada, Mexico and the Caribbean, a notification will populate in the Trip Planning page in Garmin Pilot to notify customers a manifest is required. Customers may then create and submit manifests from the Garmin Pilot app.

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## Modesto City-County Airport FBO Changes Ownership, Name

The lone service provider at California's Modesto City-County Airport, Sky Trek Aviation, has changed ownership for the first time in more than three decades. Longtime customers Matt Bosco and Dan Kimmel have purchased the business and changed its name to Modesto Jet Center.

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Plans are being made to refurbish the Avfuel-branded facility's 1,500-square-foot terminal, which includes a lobby, pilot lounge with snooze room, 10-seat conference room and staff offices. Mather Aviation, which has had a long-standing relationship with the new owners, will operate the company's Part 145 maintenance and avionics division. The complex offers more than 60,000 square feet of hangar space and can accommodate aircraft up to a Gulfstream G450. **KA**

## Technically...

### *From Mandatory Service Letter MTL-32-01, Rev. 1*

#### **Landing Gear – Inspect the Steering Support Bracket for Incorrect Bolts**

**Original Date:** May 30, 2019

**Revision Date:** July 24, 2019

#### **Reason for Revision:**

**Updates the Effectivity as follows:** Adds defined King Air B300 airplanes.

**NOTE:** This revision replaces the original issue of MTL-32-01 in its entirety.

**Revision Compliance:** NO EFFECT. Airplanes previously modified by this service letter are not affected by this revision.

**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 B300, FL-601 thru FL-1100;** 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.

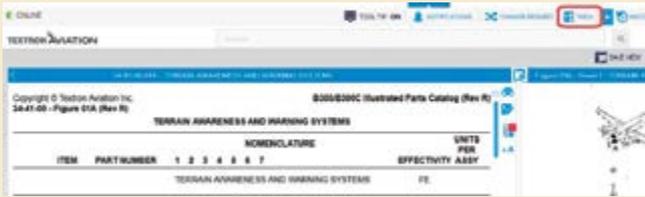
### *From Multi-Engine Turboprop Communiqué # ME-TP-0015*

**Date:** August 2019

#### **ATA 34 L-3 ACSS TAWS+ Computer Database Memory Limitation Update**

[Textron Aviation] has been notified by Aviation Communications and Surveillance Systems (ACSS) that database size has grown significantly in recent years. The 9000000-85006 TAWS+ computer installed in many Pro Line 21 and Fusion-equipped King Airs is nearing its memory capacity. ACSS recently notified us that the next obstacle database update 045 will exceed the memory limitation of the current unit. This update released at the end of June 2019 and the ACSS technical newsletter announcing





the release states that it cannot be loaded into the 9000000-85006 part number unit. The TAWS system will continue to operate normally on the last database loaded, however obstacles and airport data would not be up to date in the unit. TACSS released optional service bulletin (SB) 9000000-34-6037 to upgrade the memory in fielded units from 128MB to 256MB and converts the unit to part number 9000000-85010. Textron approved the upgraded unit as a spares replacement allowing fielded aircraft to upgrade their units through ACSS and reinstall the new part number without the need of an additional kit or other approval. The spares notes should be added to the related model illustrated parts catalogs as future revisions are released. In the interim, we have placed technical manual deviation approvals (TMDAs) in IView to provide the approval documentation. The TMDAs can be accessed by going to the IPC section detailing the TAWS computer and clicking on the TMDA tab at the top of the screen, see illustration above. Please contact your local service center in advance for a quote

and to coordinate the upgrade as the unit will have to be sent to ACSS for modification. The SB requests a minimum two-week lead time to schedule units in for modification to avoid delays getting the unit returned.

The computer was factory installed in the aircraft listed below:

LJ-1847 and LJ-1853 to LJ-2128; BB-2001 and after; BY-42 and BY-58 to BY-276; BZ-1; FL-600 to FL-611, FL-613 to FL-617 and FL-619 to FL-1080; FM-25 to FM 70.

### ATA-77 Collins Pro Line 21 and Pro Line Fusion Fuel Flow Indication

All

There have been sporadic reports of the electronic engine indication system (EIS) fuel flow readings dashing out (Pro Line 21) or showing XXX (Pro Line Fusion) a few minutes after engine start but returning to normal as the aircraft climbs to colder temperatures.

The common conditions for these reports were ramp temperatures are above 32° C (90° F), and the cause was traced back to a stuck thermal element in the oil to fuel heater.

When this element sticks in the open position, it allows oil to continually heat the fuel. The fuel flow transmitter receives fuel temperature as an input and uses it for compensation in the resulting fuel flow signal. If the fuel temperature exceeds approximately 70° C, the fuel flow transmitter will consider the input to be invalid, triggering the dashes or Xs on the display.

To isolate a stuck thermal element, both engines can be run until the fault occurs then shut down. An infrared thermometer can then be used to check the fuel line temperature at the outlet of the fuel heater or the inlet to the fuel flow transmitter. Comparing left and right temperature readings will compensate for local conditions. A temperature split of as much as 20° C will indicate a stuck thermal unit. This condition was not seen on legacy analog systems as they did not monitor the validity of the temperature compensation from the transmitter.

*The information provided in this column may be abbreviated for space purposes. For the entire communication, go to [www.txtavsupport.com](http://www.txtavsupport.com).*



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Ice Shield/SMR Technologies.....	29	Yingling Aviation.....	25



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ThrustSense is a low cost, high value install that takes less than three days and weighs less than two pounds.

Contact Tom Grunbeck,  
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