King Air

A MAGAZINE FOR THE OWNER/PILOT OF KING AIR AIRCRAFT

SEPTEMBER 2024 • VOLUME 18, NUMBER 9 • $6.50

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King Air
September 2024 Volume 18 / Number 9
A MAGAZINE FOR THE OWNER/PILOT OF KING AIR AIRCRAFT

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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
Courtesy: King Air Nation

THE MUSCLE CAR OF AVIATION

King Air Nation transforms a B200

by David Johnson and Sara Katherine Waller

Photos provided by King Air Nation

In the realms of high-speed thrills and engineering marvels, few names evoke as much excitement as the 2023 Dodge Challenger SRT Demon 170. The Dodge Demon symbolizes raw power, impeccable design and unparalleled performance. Now, imagine translating that legacy into the skies. Enter the King Air Demon Project—an endeavor to showcase the King Air as the muscle car of the aviation industry.

This project highlights the endless capabilities of the Beechcraft King Air while capturing the essence of the Dodge Demon's personality and power. The result is a statement of style, performance and innovation that challenges traditional boundaries by incorporating design elements and performance features typically found in high-end muscle cars into the King Air framework.

For aviation enthusiasts, the King Air Demon represents a seamless fusion of advanced engineering and a nod to the design that makes muscle cars so iconic. This aircraft is not just about flying but redefining what an aircraft can be. It pushes the boundaries of aviation while combining the precision of flight with the bold innovation of the automotive industry.

Here's a look at the key players involved with this collaboration.

The Birth of the Demon Project

"The inspiration behind the King Air Demon Project came from wanting to highlight King Air as the muscle car of the aviation world," said Carl Davis, vice president of King Air Nation (KAN), a company that specializes in parts, engines and aircraft sales, and is also host of the King Air Gathering. "We saw the opportunity to be creative with an aircraft that would perform superbly and captivate the imagination of anyone who sees it."

"We saw the opportunity to be creative with an aircraft that would perform superbly and captivate the imagination of anyone who sees it."

King Air Nation purchased the 1981 B200 from Haven Aviation Services Group in 2023. The team at Haven ASG installed BLR winglets and Raisbeck's 200 Series EPIC Platinum Performance Package before the aircraft left the Amarillo, Texas, facility. The Raisbeck modifications included leading edges, crown wing lockers, main landing gear doors and four-blade swept propellers.

"As soon as Carl told us what he needed an aircraft for, we were all in on the project," said Travis Lamance, CEO of Haven ASG. "Carl and the team at KAN are so fun to work with and the process of acquiring the right aircraft and the subsequent process of accomplishing the long list of modifications was great. Our maintenance mods team did an outstanding job of fitting the BLR winglets and all the Raisbeck modifications. The coordination and communication between KAN, BLR, Raisbeck and the Haven team was top-shelf, which always makes for a very exciting and fun project … It's not often that a special project like this comes along and we could not have been happier to play a part in the birth of the King Air Demon."

While the aircraft was receiving the upgrades and mods via Haven ASG, the design concepts began back at

"… It's not often that a special project like this comes along and we could not have been happier to play a part in the birth of the King Air Demon."

KAN headquarters in Brandon, Mississippi. King Air Nation embarked on the visionary project with a clear objective in mind: to create a King Air as stunning and captivating as the Dodge Demon, inside and out.

David Johnson, marketing director at King Air Nation, said the project had ambitious creative needs, from the initial task of creating countless design renderings for the paint shop to hours devoted to perfecting the smallest details. "We even went as far as hiring an interior designer to conceptualize the aircraft's interior, which turned out to be outstanding," Johnson said.

For aviation enthusiasts, car lovers and tech innovators, the King Air Demon is a symbol of what's possible when boundaries are pushed and imagination takes flight.

Flex Aero Aircraft Painting and Interior showcased its proficiency in painting the King Air to match the Dodge Challenger's paint scheme.

AIRCRAFT PAINTING AND INTERIOR

Flex Aero Aircraft Painting and Interior

Once the concepts were decided by King Air Nation, they were handed off to Florida-based Flex Aero Aircraft Painting and Interior for the finalizing of the designs and the intricate painting process.

"Painting a metallic-colored airplane requires precision and expertise to ensure the finish is not only visually stunning but also aerodynamically efficient and durable against the elements," said Sabrina Satler, CEO of Flex Aero. Despite a humorous nod to the "Demon" featured on the aircraft, the team dedicatedly prayed over the project.

The exterior paint process took a little less than eight weeks. Due to the extended drying time required for metallic colors, Flex Aero had to wait a few extra days before starting the stripe layout process. Below is a description of each step involved:

1. **Inspection and Preparation**
   - Upon arrival, the aircraft undergoes a thorough inspection for any signs of damage.
   - All surface controls are removed to facilitate the process.
2. **Protection and Stripping**
   - Areas not to be stripped are covered with chemical-resistant tape and paper to protect them during the stripping and cleaning phase.
   - The aircraft is then stripped using a liquid stripper.
3. **Sanding and Repair**
   - The aircraft is sanded to remove any remaining paint or primer residue not removed by stripping.
   - Composite parts are also sanded as required.
   - Any bodywork, fiberglass and dents are meticulously repaired.
   - The aircraft is etched and treated to ensure corrosion protection.
4. **Priming and Painting**
   - An epoxy primer is applied as the base layer.
   - This is followed by three coats of polyurethane topcoat paint.
   - The landing gear struts and wheels are also sanded and painted.
5. **Decorative Design and Finishing**
   - A custom design stripe layout is meticulously created.
   - A licensed mechanic weighs, balances and reinstalls all surface controls.
   - Operational exterior placards are installed for functionality and compliance.
   - A strip of PRC black sealer is applied around the windows to achieve a clean, crisp edge.
6. **Final Touches**
   - The final stage includes touching up all stripes, removing masking tape and cleaning windows and exterior parts to ensure a flawless finish.

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Aerosmith Aviation, a full-service aircraft completion center in East Texas, played a crucial role in ensuring the safety and efficiency of BB-887.

Aerosmith Aviation

Aerosmith Aviation, a full-service aircraft completion center in East Texas, played a crucial role in ensuring the safety and efficiency of BB-887. They installed the Garmin GTN 750 navigator paired with autopilot, an advanced engine indication system and G600 TXi touchscreen flight displays. Here are some key features and aspects of the GTN 750:

1. **Touchscreen Interface**
   - The GTN 750 features a large, high-resolution touchscreen display allowing for easy and intuitive navigation.
2. **Navigation and Flight Planning**
   - It offers advanced GPS navigation capabilities, including flight planning, airspace alerts and graphical flight plan editing. It can interface with autopilot systems for smooth route management.
3. **Communication and Audio Control**
   - The GTN 750 can integrate with aircraft communication systems, providing radio tuning, intercom functionality and audio control. It also supports dual-frequency monitoring.
4. **Weather and Traffic Information**
   - The system can display real-time weather data and traffic information when connected to compatible sensors and systems. This includes NEXRAD weather radar, METARs, TAFs and TIS-B traffic data.
5. **Terrain Awareness**
   - The GTN 750 includes terrain and obstacle awareness features, providing visual and auditory alerts to help pilots avoid potential hazards.
6. **Charts and Maps**
   - It supports a wide range of charts and maps, including VFR sectional charts, IFR en route charts and approach plates.
7. **Integration**
   - The GTN 750 is designed to integrate seamlessly with other avionics systems, including transponders, audio panels and ADS-B systems.

"... the King Air Demon represents a seamless fusion of advanced engineering and a nod to the design that makes muscle cars so iconic."

This makes it a central hub for managing various aspects of the aircraft's avionics.

8. **User Customization**
   - Pilots can customize the display and user interface to match their preferences and flying style, including configuring shortcuts and user-defined waypoints.
9. **Software Updates**
   - Garmin provides regular software updates for the GTN 750, adding new features and improving performance. These updates can be installed via an SD card.

Aerosmith Aviation upgraded the B200's flight deck and the yokes feature demon heads similar to those found in the 2023 Dodge Challenger SRT Demon 170.

ABOUT THE 2023 DODGE CHALLENGER SRT DEMON 170

- 1,025 total horsepower at 6,500 rpm
- 945 lb-ft of torque at 4,200 rpm
- 0-60 mph in 1.66 seconds (currently fastest production car)
- 2.004 Gs (currently highest g-force acceleration of any production car)
- 8.91 seconds elapsed time at 151.17 mph
- 6.2L V8 Supercharged D170 engine

Make no mistake. The limited-production 2023 Dodge Challenger SRT® Demon 170, featuring the first-ever 1,000-plus-horsepower production HEMI® engine, is absolutely here to kick ass and cross names off the competitor lane list. The seventh and final Last Call Special Edition is already banned in its stock form by the NHRA (National Hot Rod Association) thanks to dominating the quarter-mile with a certified 8.91-seconds elapsed time at 151.17 mph.

With only a red key in hand, horsepower levels are determined by the percentage of ethanol fuel detected. A recalibrated powertrain control module optimizes fueling and spark timing for both premium and high-ethanol-blended fuel to unlock the full horsepower potential.

What does it take to achieve a 40% boost increase, go 0-60 mph in 1.66 seconds and generate the highest g-force acceleration of any production car at 2.004 Gs? Next-level engineering, a hell of a lot of determination, testing and passion to deliver the craziest performance numbers ever for the Brotherhood of Muscle.

Source: Dodge website

King Air Nation, the creative minds behind the project, created this promotional image of the Dodge Demon and the King Air Demon.


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The colors, materials and technology of the King Air Demon match the Dodge's interior details, including the red stitching.

The King Air Demon debuted at West Virginia's Greenbrier Valley Airport in May 2024 during the annual King Air Gathering, which King Air Nation hosts.

Blackhawk Aerospace + King Air Nation

The team at King Air Nation installed the Blackhawk PT6A-52 engine upgrade and coordinated the refurbishment of the B200's interior, using colors, materials and technology to match the car's interior details such as red stitching, demon heads embroidered on yokes and touchscreens.

The Blackhawk PT6A-52 engines are the perfect match to our "musclecar of aviation," providing significantly more horsepower and better fuel efficiency. For aviation enthusiasts, professional pilots and aircraft owners, these engines are the epitome of power and reliability. These engines allow pilots to fly faster and experience a smoother, more robust climb. The Blackhawk PT6A-52 engines also provide improved safety margins and better high-altitude and hot-weather capabilities, ensuring reliable opera-tion in challenging conditions.

"We're thrilled to be a part of this project with King Air Nation," said Edwin Black, president of Blackhawk Aerospace. "The King Air has long been referred to as the suburban of the sky, but with our XP52 Engine+ Upgrade, it's transformed into the 'muscle craft' that it truly is and was always meant to be."

Future Prospects and Innovation

The King Air Demon debuted in May 2024 at the annual King Air Gathering, held this year in White Sulphur Springs, West Virginia. "The King Air Gathering consists of many people devoted to the King Air kingdom, so there was no better place to reveal this exciting project than at the gathering," said Davis, whose King Air Nation presents the annual event.

The aircraft was on static display alongside a 2023 Dodge Challenger SRT Demon 170 at Greenbrier Valley Airport (LWB), the host airport for attendees of the gathering and site of the event's Airport Day, enabling attendees to exchange ideas and share experiences about their aircraft.

"Getting to see the fully finished aircraft with the matching car for the first time at the King Air Gathering was so awesome," Haven ASG's Lamance said. "They really turned out as a great complement to each other. The Haven team eagerly awaits King Air Nation's next ambitious King Air project!"

King Air Nation believes the King Air Demon is just the beginning. With its success, there's potential for future aircraft designs to take inspiration from the automotive world, creating a new genre of versatile, high-performance aircraft. The project also opens up possibilities for further customization and personalization in aviation, catering to the unique tastes and needs of aircraft owners and operators.

The one-of-a-kind aircraft is a testament to what can be achieved when dared to innovate. By blending the power and aesthetics of muscle cars with advanced aviation technology, the Demon represents a new frontier in aircraft design. For aviation enthusiasts, car lovers and tech innovators, the King Air Demon is more than just an aircraft—it's a symbol of what's possible when boundaries are pushed and imagination takes flight.

Goodbye turbine suburban, say hello to the muscle car of aviation! KA

Visit kingairnation.com/demon for more photos and details about this project. Watch a video using this QR code:

Olympics-inspired Destinations

Get in the game with these active adventures

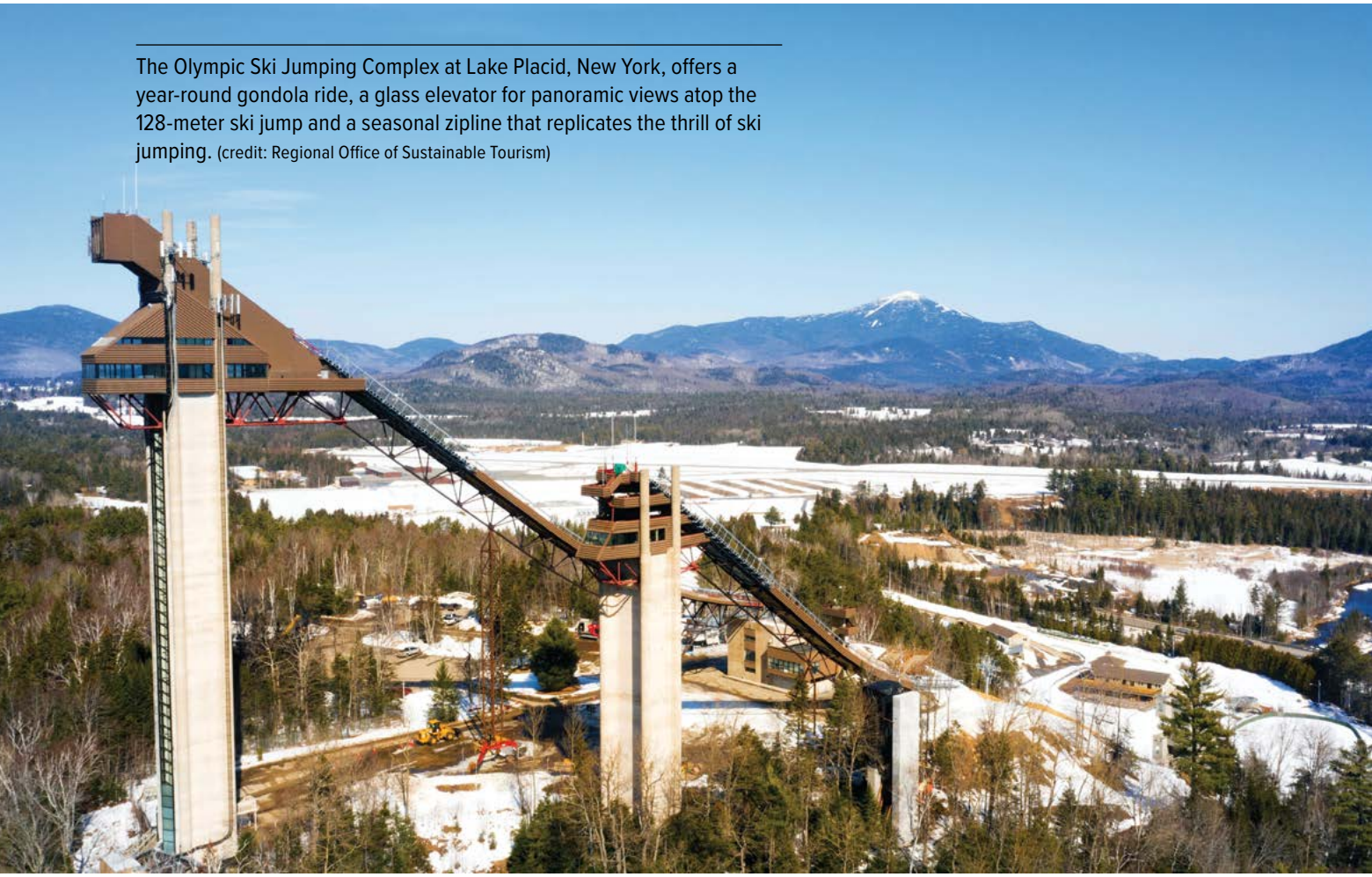
by MeLinda Schnyder

Is the competitive spirit from the 2024 Paris Olympics still pulsing through your veins? Or maybe you're looking forward to the 2026 Winter Olympics happening in Italy, or the return of the Summer Olympics to the U.S. in Los Angeles in 2028. You don't have to wait to create your own golden experiences at these five North American destinations with former Olympic venues and current Olympics training centers offering active adventures.

Colorado Springs, Colorado
aka Olympic City, USA

Colorado Springs' Olympic ties are unrivaled. The area has natural training grounds for summer and winter sports – dare to tackle the 2,744-step Manitou Incline – as well as the U.S. Olympic and Paralympic Training Center, where you can tour facilities that attract 10,000 athletes each year. The city is home to the United States Olympic and Paralympic Committee Headquarters along with dozens of national Olympic governing bodies, but the top reason to visit Colorado Springs is the U.S. Olympic & Paralympic Museum. Opened in 2020, the attraction integrates technology and artifacts to bring to life inspiring personal stories culled from more than 12,000 U.S. Olympic and Paralympic athletes across more than 100 years of Olympic and Paralympic history. Run a 30-meter dash against a virtual opponent or test your reflexes in goalball, a sport played by visually impaired athletes, in the Athlete Training gallery. You can also experience the parade of athletes and medal ceremonies among the 12 galleries in the 60,000-square-foot museum. It's not unusual to run into former Olympians inside the museum; keep an eye on their event calendar for meet and greets.

The U.S. Olympic and Paralympic Museum located in Colorado Springs, Colorado, shares personal stories from more than 12,000 Olympic and Paralympic athletes, as well as features interactive galleries and meet and greets with former Olympians. (credit: Jason O'Rear)



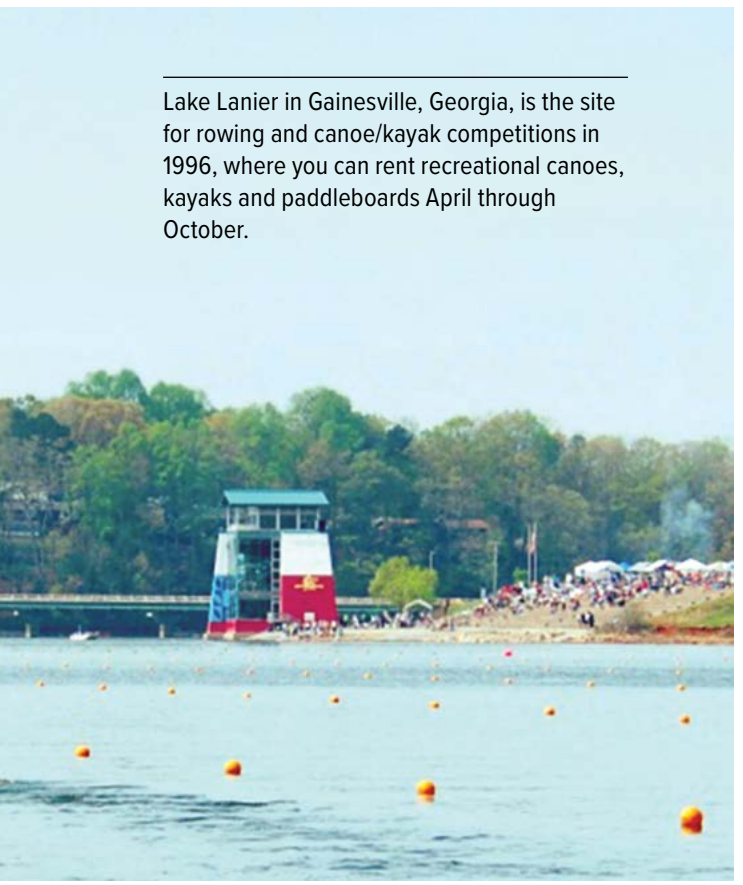
The Olympic Ski Jumping Complex at Lake Placid, New York, offers a year-round gondola ride, a glass elevator for panoramic views atop the 128-meter ski jump and a seasonal zipline that replicates the thrill of ski jumping. (credit: Regional Office of Sustainable Tourism)

Lake Placid, New York
Hosted 1932 and 1980 Olympic Winter Games

This village built along Mirror Lake high in the Adirondack Mountains twice hosted the Winter Games. Four legacy sites are within 7 miles. At Olympic Center, skate on an outdoor speedskating oval or two historic indoor rinks, including the ice where the U.S. hockey team beat the Soviet Union in the "Miracle on Ice." Olympic Jumping Complex has a year-round gondola ride and glass elevator for panoramic views atop the 128-meter ski jump and a seasonal zipline that replicates the thrill of ski jumping. At Mt. Van Hoevenberg, get a close-up view of sliding sports tracks on a walking/bus Legacy Tour or opt for a more adventurous visit, including the Bobsled Experience, a Discover Biathlon session or the Cliffside Coaster running alongside the historic 1932 and 1980 bobsled course. Beyond being an Olympic venue, Whiteface Mountain offers skiers the greatest vertical drop east of the Rockies. Explore the summit via the 15-minute Cloudsplitter Gondola or cover 2,500 feet over a 5-mile drive on Veterans' Memorial Highway, then reach the summit by elevator or a 15-minute hike.

Atlanta, Georgia
Hosted 1996 Olympic Summer Games

While downtown Atlanta's Centennial Olympic Park has an interactive Fountain of Rings, along with other sculptures and tributes to the games, you'll want to travel to other parts of the state for an active Olympic experience. A long, straight stretch naturally bordered by trees made the calm waters of Lake Lanier in Gainesville the site for rowing and canoe/kayak competitions in 1996 and keep it in the echelon of top courses in the world. Rent recreational canoes, kayaks and paddleboards April through October; the best chance to paddle with the Olympic course set up, which consists of 2,000 hand-placed buoys, is February through May. The Upper Ocoee River was the site of the 1996 whitewater competition. It's a natural mountain river in northwest Georgia though the quarter-mile segment used for the games was modified to increase intensity of the rapids and flow. People still come here to raft the resulting world-class slalom course. Bring your own ride to Georgia International Horse Park in Conyers to explore on horseback the former Olympic Equestrian Endurance Course or on bicycle the first Olympic mountain biking course, a 9-mile ride with 1,032 feet of elevation change.



Lake Lanier in Gainesville, Georgia, is the site for rowing and canoe/kayak competitions in 1996, where you can rent recreational canoes, kayaks and paddleboards April through October.

The bobsled experience at the Salt Lake City, Utah, Olympic Park reaches 70 mph and runs year-round by modifying the sleds to roll on the concrete surface May through September. (credit: Visit Salt Lake)

Salt Lake City, Utah
Hosted 2002 Olympic Winter Games

Salt Lake City is the most recent U.S. destination to host the Olympics and these three venues developed specifically for the 2002 Winter Games are worth exploration within 50 miles of the city. Rent skates and take laps at Utah Olympic Oval, called "the fastest ice on Earth" because the 400-meter oval holds the most Olympic world records. They also offer speedskating and curling lessons at the indoor speedskating venue. The 400-acre Utah Olympic Park houses a sliding track, six Nordic ski jumps and two museums. Take tours or step up the adrenaline by hitting 70 mph on the bobsled experience. The course is run year-round, modifying the bobsled to roll on the track's concrete surface from May through September. Other summer capers include tubing down the ski jump landing hills, an alpine slide, ziplines and aerial adventure courses. The complex also houses a ski museum, a winter games museum and winter sports virtual reality rides. Soldier Hollow Nordic Center is a nature reserve that offers nonstop recreation, including mountain bike rentals, winter tubing and a year-round biathlon experience.

You can relive some Olympic sports at the Richmond Olympic Experience near Vancouver, British Columbia, through their virtual simulators which were developed with athletes to recreate their experiences.

Vancouver, British Columbia
Hosted the 2010 Olympic Winter Games

The 2010 venues in western Canada stretched 70 miles from the island city of Richmond, through downtown Vancouver and north to Whistler, a town built in the 1960s with hosting the games in mind. Head to Whistler Blackcomb, the largest ski resort in North America, to ski or snowboard on the Olympic/Paralympic courses. Also experience the Olympic legacy at Whistler Olympic Park with cross-country skiing, snowshoeing and tobogganing plus year-round biathlon. Winter or summer, on ice or on wheels, you can slide like an Olympian at the Whistler Sliding Centre. Passenger bobsled is available year-round and from December to March you can slide solo on your own skeleton sled. Once the long track skating events venue, Richmond Olympic Oval is now an indoor multi-sport and fitness center where you can public skate or relive other sports via virtual simulators inside the Richmond Olympic Experience. Developed with athletes to recreate their experiences, these include a sit-ski race down an Alberta slalom course, bobsledding the Vancouver Olympic track and surfing a Costa Rican wave. KA

PHOTO CREDIT: RICHMOND OLYMPIC OVAL

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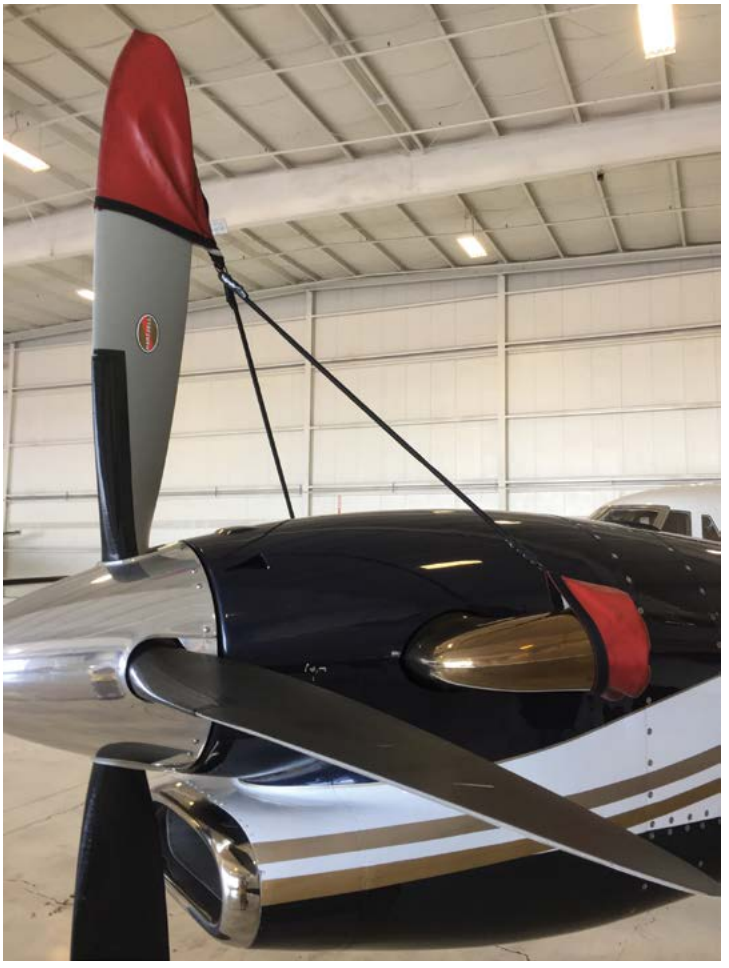
Propeller Restraints: The Good, the Bad and the Ugly

by Tom Clements



As you have experienced, the propeller on the PT6A engine series turns very freely. Even a child using a little finger can spin it quite easily in the hangar or on the ramp, due to the fact the PT6 is a "free turbine" engine in which the propeller shaft is not physically connected to the gas generator or compressor section of the power plant. Wind can also supply the force that causes prop rotation. When parked on a windy ramp, almost always one or both propellers will be rotating, sometimes in the proper clockwise direction, sometimes in the opposite direction, depending on the wind's direction. Due to the ratio of input to output shaft speed designed into the reduction gearbox (RGB) – N2 to NP – the power turbine is rotating 15 or more times faster than the prop.

The lubricating oil supply to the RGB comes from the engine's oil pressure pump that is driven by the compressor section – the other shaft in the engine: N1, not N2. See the problem? When the propeller is allowed to turn without the engine running, no lubrication is supplied to the gears and bearings in the RGB except for residual oil that was originally there.

So that is why airplanes with PT6 engines are always supplied with some type of propeller restraint device that can be connected to the propeller when parked on a windy ramp: The engine people want to prevent propeller and RGB and N2 shaft rotation when no positive lubrication is being supplied. Beech's factory-provided restraints consist of a rubberized fabric sleeve that fits over the end of one propeller blade and two elastic straps that connect the sleeve to two rubberized fabric exhaust stack covers.

Questions have often been raised during initial and recurrent King Air pilot training classes about the importance of and use of the restraints. A common one is "How important is it to stop rotation? If I am just going to be in the FBO for 15 minutes, paying the ramp fee, should I put the restraints on?" Also, "How cool should the exhaust stacks be before I attach the restraint?" And the ever-popular "Should I place the propeller blade with the sleeve attached in the up or down position?"

There are not black-and-white, right-or-wrong answers to these questions. Some operators let the props spin for an hour or more while others install the restraint immediately before leaving the airplane alone. Some exhaust stack covers are more heat-resistant than others, and some pilot's fingers are more heat sensitive than others! The up versus down question? I doubt that one will ever be resolved to everyone's satisfaction. But let me provide a few of my observations, comments and "war stories."

If you have spent time in Wichita, Kansas, you well know that it is usually windy there. Leaving the King Air on the ramp without restraints will almost always lead to aggressive propeller rotation. We at the Beechcraft Training Center – where I started my King Air career in 1972 – always emphasized the importance of installing the restraints if the airplane would be parked for more than 30 minutes or so. Yet, when our students drove to lunch, what did they see on the factory ramp? They saw every new King Air sitting there with no restraints and the props turning like crazy! Right or wrong, the production test personnel had been directed not to worry about it, and they surely did not! Was harm caused? Probably no one knows the exact answer, but I'll say this: I don't think Beech ever received a warranty claim for RGB damage in a new King

Air. (At least not when I worked at the factory, 1972-1977. I wonder if the Textron Production Test Flight department still lets them spin?)

So from this experience I am not worried about restraining the props during a fuel stop or passenger drop-off or pickup. Even if the airplane will be sitting for hours waiting for the passengers to return, I will still not install them if the wind is light and forecasted to remain that way. But overnight stops? For these I will always install the restraints along with the other "loose equipment" items, like pitot tube covers and intake plugs. In fact, I will do this even if I have arranged for hangaring the airplane overnight at the FBO, since I don't know what the wind condition will be when they pull the airplane out onto the ramp an hour or so before the scheduled departure the next day.

I have observed some operators who do not always use the Beech-provided restraints but instead have taken a simple bungee cord of the right length so that it can be looped to tie one blade to one exhaust stack. This eliminates the hot stack worry since the tight-fitting exhaust cover does not need to be installed. The simple bungee is used when it's windy even during a relatively quick turn and the "proper" restraint only is used for the overnight situations. By the time the passengers and baggage are off-loaded, the fueling is done, the potty stop has been made and the other covers and plugs installed, the exhaust stacks are cool enough that affixing the restraints to them is not problematic.

However, a word of caution: If you are going to use the simple bungee cord, I strongly suggest having a big, red "Remove Before Flight" tag that can be readily seen from the cockpit attached to it. It's embarrassing to get all situated ready to start and then realize the bungee was never removed. And that leads to this humorous war story.

One day back in the 1960s, a King Air A90 had made a trip from its Northeast home base airport to LaGuardia Airport (KLGA) in New York. The chairman of the board (COB) and his aides were the passengers and he, the COB, had a very important dinner meeting back home that evening. It was a cold and windy day so the airplane sat at KLGA with the standard prop restraints in place.

As the day wore on, the nervous-nelly chief pilot, who was PIC that day, got more and more worried that the boss would not return in time to make his dinner engagement. He briefed the co-pilot, "Now when the boss arrives, you load the passengers and get the door and I will go straight to the cockpit to get the clearance and start the engines."

"Is that him?" "Is that him?" was the PIC's query as each limousine arrived. Finally, there he was! Like a bullet, our intrepid hero ran to the cockpit to get ready. The copilot, as directed, saw that everyone was safely aboard, briefcases stowed, briefing given. Before he pulled the airstair door up, he heard the sound of the right engine being started yet he hadn't yet pulled the restraints! He quickly, temporarily (he thought), closed the door and raced up the aisle. "Mike! Mike! Wait, I haven't untied the props!" He could also see the linemen waving at the cockpit and pointing to the still-tied down right prop that was not yet rotating but pulling strongly against its restraint. About that time, as the engine reached high idle, the exhaust burned through the stack covers and the elastic cord broke, flinging off the sleeve and freeing the propeller. "Hell, that worked. We need to get moving. Sit down and buckle up." And with that, the PIC fired up the left engine, burned off its restraint and proceeded with the flight.

(This story was relayed to me by the copilot. Names have been changed to protect the not-so-innocent. I never found out if the boss made his appointment!)

So I learned from that incident that (1) You need some visual reminder that the restraints are installed, (2) The engine starts satisfactorily with the fabric exhaust covers on, not reaching excessive ITT and (3) Never be in such a hurry!

Regarding the blade up versus blade down argument. In the days of nothing but three-blade propellers, there was – and still is for those with three-blades – a "correct" answer: down. This is true for two reasons. First, the shape of the exhaust covers and the angle at which the elastic straps connect to them permit the stack cover to fit perfectly when the strap comes upward to the cover. If the strap angles downward, the exhaust cover can be forced to fit but it is obviously not designed with that position in mind. Second, why was it designed this way? So that rain could drain out of the spinner through the hole for the down blade. There were incidences reported of noticeable propeller vibration and it was traced to water that had collected in the spinner, turned into ice as the temperature dropped and left that ice slug inside the spinner, upsetting the balance.

The main reason that a lot of pilots prefer the blade up orientation is to make the restraint more obvious from the cockpit. There's less chance of making the "Start with 'em on"

mistake. With the four-blade propellers, of course there will be a hole for rain to exit the spinner no matter whether the sleeve connects to the down or up blade. Thus, putting the sleeve on the up blade does not increase the risk of propeller imbalance due to ice inside the spinner. However, the fit of the strap and cover to the exhaust stub still favors the blade down profile, leading me to still use the original orientation. But I have no complaint whatsoever for those who choose to go blade up for the increased visibility reason.

Ready for another war story? Because of the delay needed for the exhaust stack to cool enough for comfortably installing the stub covers, this particular operator had made a second set of prop restraints that replaced the elastic cords and the stub covers with simple bungees with hooks on both ends. One was connected to the sleeve and the other available to hook to the exhaust stub lip. Easy peasy, right?

The early model 200 landed and was parked for the day at an airport in Kentucky that had a King Air maintenance facility associated with the FBO. It was another windy, cold and rainy day so the pilot installed the homemade restraints. The temperature kept falling as hours passed until the rain had turned to sleet. When the passengers arrived later in the day, the pilot found a major starting problem: no N1 rotation when he activated the start switch. The large drop in voltage led him to believe that the starter was receiving power, but the compressor shaft never showed any speed. Into the maintenance facility he goes, reports the problem and is advised that they will pull the plane into the shop. "We had this same thing happen about a month ago on another 200. The Number 2 bearing – the forward support of the compressor shaft – had seized and we had to replace that bearing. I bet yours is the same. Probably a bad batch of bearings."

The passengers get put on another plane and into the shop the 200 goes. The shop personnel start by removing the starter-generator and inserting a socket wrench into the accessory case splines and trying to rotate the compressor by hand. "Yep, she's frozen solid." The pilot authorized the shop to proceed to replace the suspected seized bearing.

This shop, being well-versed on King Airs, had the cowling off and the power section separated from the compressor section at the C flange in a jiffy, to gain access to the bearing. Wait! What is this we see?

We see the bottom quarter or so of the compressor turbine (CT) solidly encased in a hunk of ice. What the …?!

Seems like the rain and wind angle had conspired to blow lots of water into the engine via the uncovered exhaust stacks. As the temperature dropped, the water inside of the engine had now frozen, locking the CT in

its icy grip. This was the reason for the lack of rotation; the bearing was fine.

I had – and still have – a question that has never been satisfactorily answered. PT6 engines have two drains, forward and aft, at the bottom of the compressor case. These are designed to spring open when the pressure equalizes on both sides of the drain but they close when the compressor's rotation creates higher internal pressure, to avoid an undesirable P3 leak. Their primary purpose is to provide an exit path for fuel following a no light-off starting attempt. Why didn't they permit the water to drain from the case in this situation? Were they installed incorrectly? Were they defective? Or did the ice freeze over them rapidly enough that they became plugged before much water could exit? I don't think we will ever know the exact reason, but we do know that this incident did indeed happen and led to unnecessary delay and expense.

Bottom line? Do not use a simple bungee cord setup under these conditions. Cover up those exhaust stubs with the propeller restraint when it's rainy and cold.

My last comment has to do with storing the restraints when not in use. There may be room in a wing locker – if you have them – to simply toss them into the locker along with the pitot tube covers, engine intake plugs and heat exchanger inlet plugs. But if no locker is available or if it is full with baggage, golf clubs or skis, now is the time to fit all of the items into the small canvas bag that Beech provides with the new airplane. That can be a tight fit.

What I have found that works well is to insert one exhaust cover into the other one then roll the combination down the elastic straps until they're three inches or so away from the sleeve. Now insert the wad of covers and straps into the sleeve. Voila! A rather compact package easy to stow and easy to unroll to use the next time. There are probably other methods that work just as well or even better, but I like this one.

The good of the restraints? They protect the RGB from possible damage. The bad? They are difficult to install until the exhaust stacks cool. The ugly? When you start the engine with them still installed, you'll need to buy a new set – not to mention the ridicule you will receive from the line people and other pilots! KA

King Air expert Tom Clements has been flying and instructing in King Airs for over 50 years and is the author of "The King Air Book" and "The King Air Book II." He is a Gold Seal CFI and has over 23,000 total hours with more than 15,000 in King Airs. For information on ordering his books, contact Tom direct at *twcaz@msn.com*. Tom is actively mentoring the instructors at King Air Academy in Phoenix.

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"Crimson Edition" King Air Unveiled in Honor of 60th Anniversary

Textron Aviation recently announced a special edition 60th anniversary option for the iconic Beechcraft King Air 260 and 360 turboprops to celebrate the aircraft's proud history of being the best-selling business turboprop family in the world. The new "Crimson Edition" King Air features a striking new interior and a vibrant red and silver exterior paint scheme, inspired by six decades of legendary Beechcraft customers and operators. The order book is open for the special edition aircraft, with deliveries beginning in 2025.

"The Crimson Edition of the King Air provides customers with an immersive experience that pays tribute to the turboprop's renowned legacy, while also featuring modern luxuries and upgrades that showcase the aircraft's ongoing evolution," said Christi Tannahill, senior vice president, Customer Experience. "We're honored to celebrate a prestigious aircraft that is beloved by so many customers around the world."

The King Air series aircraft has long been a customer favorite since its introduction in 1964. The legendary turboprop is synonymous with unwavering reliability, exceptional performance and unparalleled versatility, earning the trust and preference of operators worldwide.

New Crimson exterior scheme

One of the first noticeable attributes of the new "Crimson Edition" King Air is the iconic Beechcraft "B" on the aircraft's tail. The exterior paint scheme showcases a metallic-like crimson, silver and black paint scheme. The aircraft's new boarding step has hidden fasteners that create a sleeker appearance for entry, and

PHOTO CREDITS: TEXTRON AVIATION

its graphite silver finish perfectly matches the new exterior and interior.

Stunning custom interior

The special-edition interior is inspired by the King Air's proud history, seamlessly integrating a number of Beechcraft elements like the familiar "B" logo on lower sidewalls and the aft cabin bulkhead panel. The dark leather seats feature Alcantara accent panels and crimson accent piping, while also bringing together subtle design elements to signal the aircraft's diamond anniversary. Charcoal carpeting is highlighted by crimson arcs that complement the aircraft's exterior striping, elevating its luxurious ambience.

King Air Leadership

More than 7,800 Beechcraft King Air turboprops have been delivered to customers around the world since 1964, making it the best-selling business turboprop family in the world. The worldwide fleet has surpassed 64 million flight hours in its 60 years, serving roles in all branches of the U.S. military and flying both commercial and special mission roles around the world. KA

Garmin Introduces Revolutionary Technology to Help Avoid Runway Incursions

Garmin recently announced the certification of Runway Occupancy Awareness (ROA), marking the first certified software solution utilizing the Surface Indications and Alert (SURF-IA) technology. ROA uses ADS-B traffic to alert the crew of potential runway incursions caused by nearby airborne aircraft, aircraft on the ground and ground vehicles. The initial Federal Aviation Administration (FAA) certification was received by Textron Aviation on the G1000® NXi-equipped Cessna Caravan.

Garmin also expects to receive FAA certification on more Garmin-equipped aircraft in the coming months. ROA is initially available on select Garmin Integrated Flight Decks ranging from G1000 NXi to G5000 equipped aircraft serving the broad general and business aviation markets.

"With the rate of runway incursions increasing, there is a real need for increased safety tools in the cockpit. Equipping pilots with this technology can reduce the risk of runway incursions and help provide confidence for pilots navigating busy and complex airports," said Garmin Executive Vice President and Managing Director, Aviation, Phil Straub.

ROA technology analyzes aircraft GPS and ADS-B traffic information relevant to the airport's runways and taxiways to assess and alert the crew of a possible runway incursion or collision. ROA provides visual crew-alerting system (CAS) caution and warning annunciations on the pilot's primary flight display (PFD) and highlights the runway yellow or red, depending on the level of threat, on Garmin's Synthetic Vision Technology (SVT™). It also provides similar caution and warning annunciations on the SafeTaxi® map displayed simultaneously on the multifunction window.

Both visual and aural alerts are provided to the flight crew based on the potential hazard, ranging from no

immediate collision hazard to a warning level alert where a collision risk could occur within 15 seconds. Indications and alerts to the flight crew include: any traffic landing, taking off, stopped, or taxiing on the aircraft's runway; traffic on approach to the aircraft's runway or runway that crosses the aircraft's runway; as well as any traffic on the runway at which the aircraft is holding.

ROA builds upon Garmin's other Terminal Safety Solutions that help increase situational awareness while navigating runways and taxiways, including Runway Overrun Awareness and Alerting System (ROAAS), Garmin SafeTaxi and Garmin SurfaceWatch™.

To learn more about Garmin's ROA technology, visit Garmin.com/Aviation. KA

NOTICE

SmartSky Networks, LLC Ceases Operations

SmartSky Networks posted on its website that it has "ceased business operations effective Aug. 16, 2024."

As recent as the August 2024 issue of King Air magazine, it was announced that an FAA Supplemental Type Certificate (STC) for SmartSky LITE on the King Air 350i was issued and covered installation of the inflight Wi-Fi system for the King Air 200 through 360 models.

The company's website stated:

SmartSky was founded with a bold vision: to revolutionize aviation communications. We successfully built and operated a leading, high-performance nationwide air-to-ground network using unlicensed spectrum, made possible by innovative patented technology. Along the way, our team dedicated great energy and expertise, earning several prestigious industry awards. While our products were groundbreaking and we were growing our market share, we ultimately could not secure the necessary financing to continue our mission.

We hope that SmartSky's achievements have inspired others to dream big, push boundaries, and pursue transformative ideas to reshape the future.

Any inquiries should be directed to the following address: smartsky@vlpc.com

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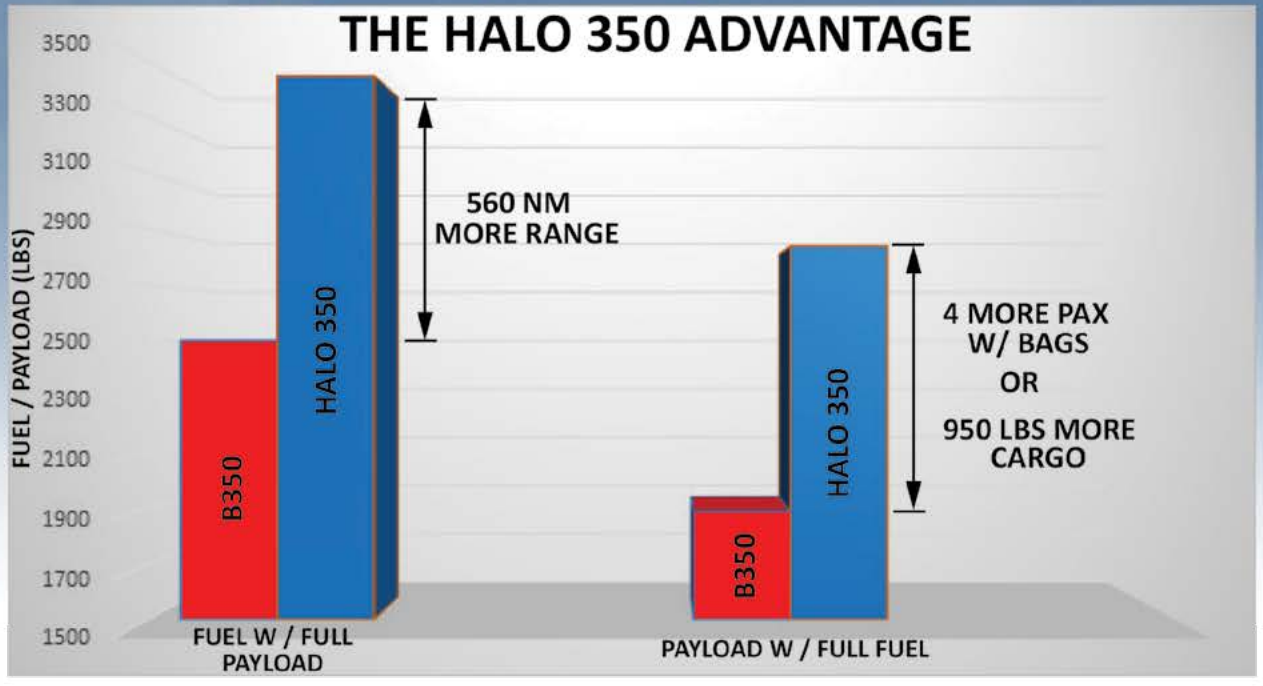

HALO 350 Information Chart

Increase Max Ramp Weight	15,000 to **16,050**
Increase Max Takeoff Weight	15,000 to **15,950**
Max Landing Weight	No Change **15,000**
Max Zero Fuel Weight	No Change **12,500**
Payload Increase	**950**

Weight and payload shown in pounds.

HALO 350 STC Kit:

The Halo 350 STC kit includes the STC, installation drawings and instructions, AFM Supplement, instructions for continued airworthiness documents, and the required parts and components (except common hardware items) for converting and operating a King Air 350 series airplane at a maximum takeoff weight of 15,950 pounds.

New safety systems installed are takeoff trim warning & ice mode stall warning.

Estimated installation labor hours: 20 hours

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FLY LIKE THE WIND:
OUR EXPERIENCE WITH BLACKHAWK'S XP67A UPGRADE

When you first hear about Blackhawk's XP67A engine upgrade for the King Air 350, the claims of dramatically increased speed and faster climbs might sound almost too good to be true. Naturally, you have to find out for yourself.

On a sweltering day in Florida, we boarded a King Air 350 equipped with Blackhawk's Pratt 67A engines. From a sea level runway, you shoot up to 28,000 feet in just 12 minutes, cruising at 331 KTAS—30 to 40 knots faster than the stock engines. The experience is exhilarating and far surpasses your expectations.

Want to see what happened? Check out the full details and the flight video for more details by scanning the QR code below.

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