

LEADING EDGE



HERE TO WIN

Q&A WITH PILOT KEVIN COLEMAN



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+ SPECIAL PROP DISCOUNT FOR RECREATIONAL AVIATION FOUNDATION MEMBERS

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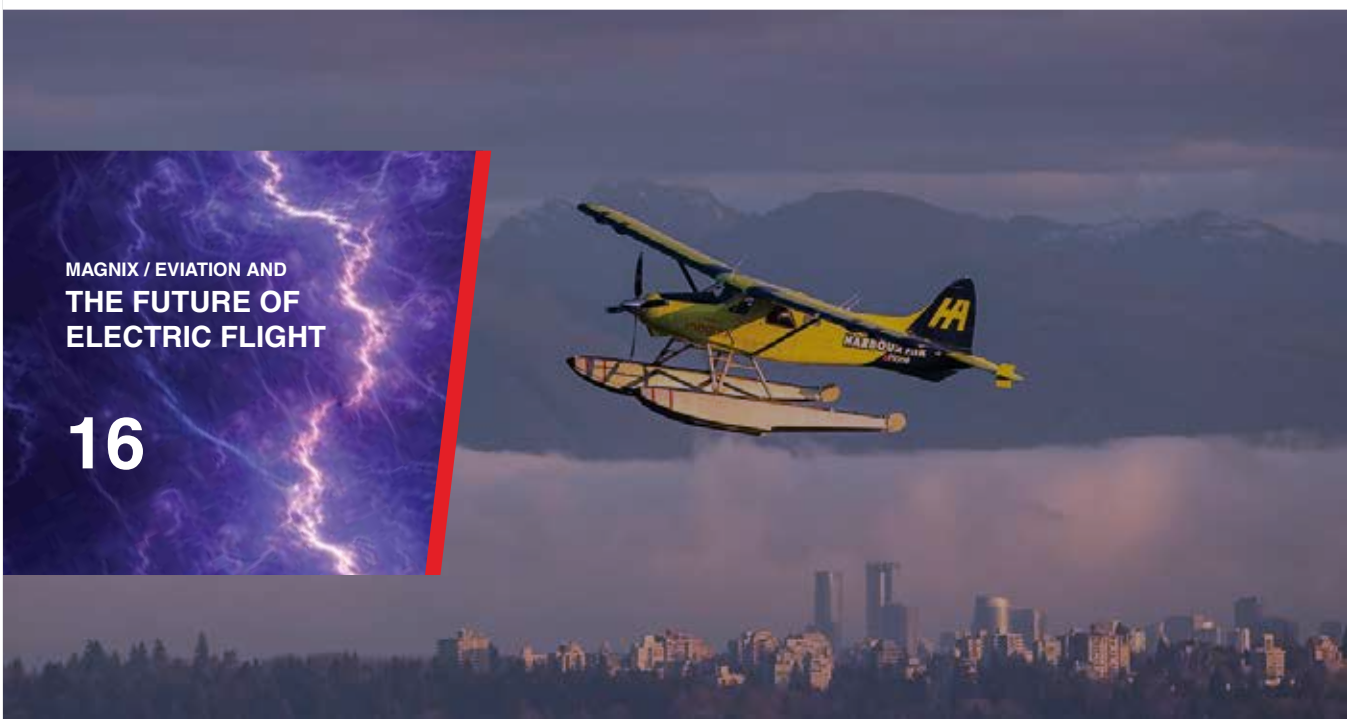
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Propelling the Future of Aviation

We have a saying at Hartzell Propeller: **Aviation is in our DNA.** It has been since 1917, when our founder Robert N. Hartzell first built propellers for the Wright Brothers. Now, over 100 years later, it's this same pioneering spirit that inspires us to continue shaping the future of aviation and taking the industry to new heights.

In our seventh edition of Leading Edge, we're proud to share our love of flight with stories celebrating all facets of the aviation world, from recreational backcountry flying to extreme aerobatics to the latest electric and hybrid aircraft developments.

We start by diving into the adventurous world of backcountry flying with the Recreational Aviation Foundation (RAF), which preserves, improves, and creates airstrips for recreational access. Be sure to read about the RAF's most recent advocacy efforts and Hartzell's special backcountry propeller discount exclusively for RAF members.

Next, we catch up with our friend Kevin Coleman, a professional air show pilot and air racer who was trained by some of the greatest legends in aerobatics. Seasoned pilots and aviation enthusiasts alike are sure to enjoy learning more about Kevin's background and his advice for the next generation of aviators.

Finally, we set our sights on the future of electric and hybrid flight and the groundbreaking technology that is making it possible. Hartzell Propeller is proud to be a part of this exciting new segment of aviation with the development of custom solutions for electric propulsion systems. We highlight a few of these programs in an exclusive interview with Roei Ganzarski, CEO of magniX and chairman of Eviation.

Much has changed about aviation since Hartzell Propeller was founded. What hasn't changed is our unwavering commitment to quality, safety, and support. You can count on us to continue investing in innovative products and technology that not only promote aviation as we know it, but propel the industry forward.



JJ Frigge
President, Hartzell Propeller

P.S. For more photos, videos, and articles, check out the online edition of Leading Edge at HartzellLeadingEdge.com.



Hartzell Family of Brands

Builds on Legacy of Innovation

Few aviation companies can trace their history back to the earliest days of flight, but Hartzell Propeller is proud to be one of them. What began as a neighborly conversation between Robert Hartzell and Orville Wright has since evolved into the world's largest manufacturer of aircraft propellers.

Over the decades, Hartzell has grown its footprint to include other companies and brands that develop, certify, and manufacture products within the general aviation industry. Today, the Hartzell brand name stands for much more than aircraft propellers — it reflects an investment in the future of GA.

With a reputation for quality and a commitment to best-in-class service and support, the Hartzell family of brands is uniquely positioned to serve this market. Looking forward, Hartzell's vision, values, and brand promise of "Built on Honor" provide a firm foundation for a growing family of brands dedicated to building on a century-long legacy of aviation innovation.

SINCE 1917



*Orville Wright
+ Robert Hartzell*



The Hartzell Family of Brands

The Hartzell family of brands encompasses a wide array of products, services, and capabilities within the general aviation industry.

Hartzell Propeller, Inc. is the global leader in advanced aircraft propeller design and manufacturing technology for business, commercial, and government customers. Hartzell propellers are produced using an innovative blend of sophisticated engineering analytics, certification skills, and world-class manufacturing technologies.

Hartzell Engine Technologies is a leading OEM supplier and aerospace technology company that includes Janitrol Aero, Plane-Power, Aeroforce Turbocharger Systems, Sky-Tec, and Fuelcraft. These five brands provide engine accessories and heating solutions that meet the demanding challenges of today's aircraft systems.

Quality Aircraft Accessories (QAA) is an FAA Part 145 Class 1 and Class 2 Repair Station for piston engine and airframe accessories and an online distributor of new, rebuilt, and overhauled engine accessories. With a primary facility in Tulsa, Oklahoma, and a growing location in Fort Lauderdale, Florida, QAA offers full product life cycle support of Hartzell Engine Technologies manufactured products.

Aerospace Welding Minneapolis, Inc. (AWI) specializes in welding, bending, and fabricating sheet metal and tubing, as well as the manufacturing, repair, and overhaul of piston aircraft exhaust and engine mounts.

Aerospace Manufacturing, Inc. (AMI) specializes in machining and welding with a focus on bending and welding tube assemblies for jet engines and airframes. AMI also handles metal details for AWI's exhaust and engine mount business.

Together, the Hartzell family of brands is well-positioned to support the current demands of various general aviation markets and pave the way for the future of the industry.

THE HARTZELL FAMILY OF BRANDS



**QUALITY.
PERFORMANCE.
SUPPORT.**

Quality products with unmatched service and support

Each brand in the Hartzell family takes pride in delivering exceptional service and support throughout the entire product lifecycle. Both Hartzell Propeller and Hartzell Engine Technologies have appointed a network of recommended service facilities that meet their high standards for maintenance, overhaul, and repair services. QAA's maintenance facilities offer a same-day service guarantee on many aircraft accessories and components.

"The Hartzell family of brands are leaders in firewall forward products and services, and continue to invest in these types of products and technology. With locations spread across five states, there is incredible opportunity to better serve our shared customers," said Brett Benton, President of QAA. "Our experience and knowledge of the marketplace allows us to anticipate the needs of our customers and provide quality products backed by reliable service and support," added Benton.

"A steadfast dedication to best-in-class service and support is what sets the Hartzell family of brands apart," shared Keith Bagley, President of Hartzell Engine Technologies. "We ensure we can support every product we bring to market. In fact, in just the past year, we've invested in new facilities and equipment in Alabama for Hartzell Engine Technologies, Oklahoma for QAA, and Minnesota for AWI-AMI. This sets the stage for quality and growth for decades to come."

Propelling the future of aviation

Driven by a relentless pursuit of excellence, the Hartzell family of brands continues to invest in world-class processes and leading-edge technologies. Each company is committed to continuous innovation, from equipment enhancements to product design and development, including the latest electric and hybrid aircraft propulsion technologies.

"In the midst of COVID-19 and its impact across the world, we certified and launched over a dozen new products that bring significant performance gains to market," said JJ Frigge, President of Hartzell Propeller.

"On the Hartzell Propeller side, these include STCs for the Odyssey, a 4-blade composite scimitar prop for the Cirrus SR-22/22T, the Navigator, a 3-blade composite scimitar prop for the Bonanza fleet, and the Voyager, a 3-blade aluminum prop for the Cessna 180, 182, 185, and 206 aircraft."

"Collectively, the Hartzell family of brands is advancing the future of general aviation," added Frigge. "In the past year alone, we have made incredible investments in product quality, service, and new technologies — and we're just getting started."

To learn more about the Hartzell family of brands, please visit HartzellProp.com/Family-Of-Companies.

THE RECREATIONAL AVIATION FOUNDATION

(RAF) is celebrating another year of collaborative successes. Improvements to backcountry airstrips have been completed from New England to New Mexico, including Michigan’s Upper Peninsula.

Since its founding as a 501(c)3 donor organization 18 years ago, the organization has supporters in all 50 states and some foreign countries, totaling nearly 10,000 followers. The mission is carried out from its Bozeman, Montana headquarters with one paid Volunteer Coordinator who oversees a cadre of volunteer state liaisons and dozens of RAF ambassadors who interface with pilot organizations, local EAA Chapters, state Aeronautics bureaus, and type-clubs in their respective states. RAF liaisons engage with these groups for best ways to enhance local recreational aviation opportunities and preserve access to them.

In response to growing project opportunities and online communication, a Director of Marketing was recently added

after having served the RAF for a year as an intern.

The RAF cooperates with AOPA and local stakeholders to reverse threatened airfield closures, by pointing out the economic impact and benefits of recreational aviation. RAF volunteers assist in representation at land planning meetings, and commit to improvement and maintenance responsibilities. Recent examples are Isle Airport in Minnesota, and Goodspeed in Connecticut. Goodspeed airport has a 2,120-ft paved runway, a parallel turf runway, and is the only seaplane base in southern New England. When RAF Director Bill Brine learned the airport land was up for general sale, the RAF provided funds toward a down payment, leveraging a local aviation group into an outright purchase. “All the pieces are in place for success in preserving this airport for public use in perpetuity,” Brine says.

In addition to the cooperation the RAF seeks from state organizations, a large part of the RAF success story depends on its partnerships with commercial aviation goods and service providers like Hartzell, who right now is offering RAF members \$1,000 savings on certain propellers

through 2021. In addition to the benefit to the buyer, Hartzell has pledged \$250 toward the RAF mission for each of these sales. (See page 6 for details.) “This demonstrates Hartzell’s dedication to backcountry aircraft safety, performance, and noise reduction – features RAF members really appreciate. We encourage you to get in on this offer. You’ll save yourself a thousand dollars, and boost the RAF mission, thanks to Hartzell’s generous pledge,” RAF Chairman John McKenna said.

Recreational airfields are located on both public and private lands. The RAF maintains close relationships with public lands managers, starting at the top level with the US Forest Service, Bureau of Land Management, and National Park Service. In January, RAF Chairman John McKenna and US Forest Service Recreational Director Michiko Martin remotely co-signed the five-year renewal of the Memorandum of Understanding between the USFS and the RAF. The federal budget now includes an annual allocation of \$750,000 for the maintenance and preservation of backcountry airstrips on USFS lands.

“Working together, we are tracking projects and access to eighty-seven airstrips in seven of the nine Forest Service regions across the country,” RAF Director Tim Riley said.

This MOU codifies volunteer participation on these public lands. “We spent time in Washington, D.C. building the relationships that led to these agreements,” McKenna said. “Then, we partner with state and local pilot associations, and flying clubs to help complete the ‘boots on the ground’ work” he added. “You’re just as likely to find one of our volunteers wearing a suit and tie in

Washington, D.C. advocating to protect these airstrips, as you are to find them in their work clothes, digging a fence post hole, or clearing brush,” he pointed out.

On private lands, RAF state liaisons connect with owners of private airfields, and offer guidance on liability issues, FAA charting, improvements and work parties.

The RAF’s “signature” property is Ryan Airfield, above West Glacier in Montana. The land was donated to the RAF by Ben and Agnes “Butchie” Ryan, and RAF donors sent adequate funds to erect an Amish barn and two rustic cabins to augment the existing volunteer-built shelter and camping areas. “As stewards of this special place so close to Glacier National Park, we saw the chance to build not only a barn, but a great place for recreational aviation,” McKenna said. “Typical of RAF projects across the country, a dollar given multiplied because of the hundreds of hours of work by volunteers, some of whom traveled thousands of miles to help.”

The RAF is especially proud of its successful partnership with The Nature Conservancy. In Arkansas, the TNC approved and participated in the creation of Trigger Gap, a new turf airfield on TNC lands above the Kings River. Volunteers added camping amenities, and a recent fund drive raised enough donations to build an open-air timber and stone pavilion in keeping with TNC aesthetics. Designed by RAF Kentucky Liaison and architect Jeff Smith, the pavilion features solar lighting, a place to charge your electronics, and a fireplace.

The RAF has built up a grant fund for projects that fit the





BOOSTING BACKCOUNTRY FLYING

by Carmine Mowbray, RAF Publicity Liaison

“The RAF has prevented the closure of a number of airstrips and even built new ones. Hartzell Propeller is committed to the future of backcountry flying, and we’re excited to be a part of the legacy established by these dedicated pilots.”

— Hartzell Propeller President JJ Frigge



RAF mission. Since the RAF runs on volunteers, “we turn donations into deliverables,” Administrative Director Tricia McKenna says. Upgrades such as shower facilities, shelters, picnic pavilions, vault toilets, WiFi and weather stations have been installed; and grants go toward ongoing maintenance for airfield safety improvements like removal of encroaching brush and trees at Michigan’s North Fox Island, an airstrip that had been closed for decades. RAF Michigan Liaison Brad Frederick took the lead over several years to reopen it and organize volunteers to help maintain it. “It’s one thing to open up one of these airstrips. It’s the ongoing work that’s the

major effort,” he said, adding, “Last year over 230 aircraft signed in on the island and they all enjoyed the work of our volunteers’ dedicated efforts.”

A popular project is the Airfield.Guide, created in response to requests for a comprehensive listing of recreational places to fly. It lists physical characteristics, safety briefings and amenities. Created in cooperation between the RAF and Tailwind Aviation Foundation, all of the work is provided by volunteers. RAF state liaisons send in appropriate airfields for consideration. Once the information is verified, the

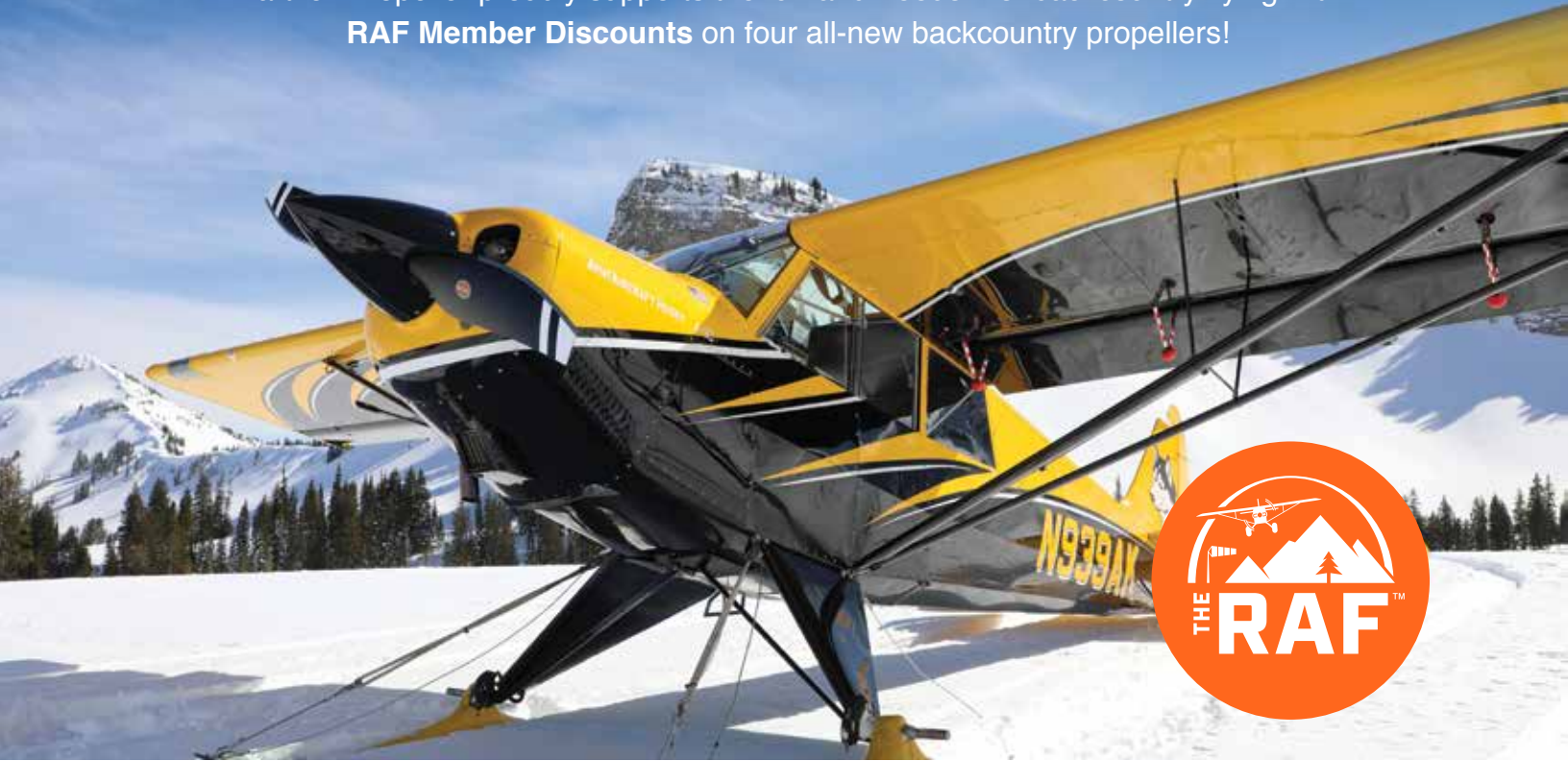


location is added. The site includes airfields in all 50 states, and more are being added all the time. See airfield.guide to register. Once you’ve created a user email, you receive updates of the new listings.

“We continue to seek new opportunities, and keep our backcountry voice heard nationwide,” McKenna said. “We are committed to keeping backcountry a thriving part of aviation.”

Save on a Backcountry Prop. Support the RAF Mission.

Hartzell Propeller proudly supports the fun and freedom of backcountry flying with **RAF Member Discounts** on four all-new backcountry propellers!



\$1,000 Discount on Backcountry Propellers for Recreational Aviation Foundation (RAF) Members.



The Voyager

3-blade metal scimitar propeller for the Cessna 180, 182, 185 and 206 fleet



The Trailblazer

2-blade composite prop for Aviat Husky, American Champion Scout, Maule M-7-235 and experimental aircraft



The Explorer

3-blade composite prop for a number of experimental aircraft



The Pathfinder

3-blade composite prop for Cubcrafters X Cub and Carbon Cub FX, and experimental aircraft

Hartzell Propeller will make a \$250 contribution to the RAF mission for every member who buys a new Hartzell backcountry prop through 2022.

Visit [HartzellProp.com](https://www.hartzellprop.com) to learn more.





GET BACKCOUNTRY READY

WITH MODS TO FIT YOUR MISSION

Part of the thrill of backcountry flying is accessing challenging and sometimes unforgiving environments. If you really want to go off the beaten path—while staying safe—it's important to equip your airplane to handle the roughest terrain. By adding a few modifications, you can take your aircraft's performance to the next level and rise to the challenges of backcountry flying.

Here are a few backcountry mods worth considering:

Bigger, Better Tires

Landings on rough or unstable terrain call for rugged tires. Oversized bush wheel or "tundra tires" are larger and low in pressure to provide better shock absorption on short landings and safer operations on gravel, dirt, sand, and rocky terrain. Tall tires also keep the nose of the airplane higher, helping to prevent the risk of prop strikes in the backcountry.



STOL Wing Kit

Successful, safe short takeoff and landings require low-speed control and stability. Modifying your aircraft's wings with a STOL wing kit can help to reduce stall speeds, improve lift, and reduce takeoff and landing distances. A STOL kit may also help increase your aircraft's useful load, allowing you to carry more supplies or bring another passenger into the backcountry.

LED Landing/Taxi Lights

Although LED aviation lights are pricier than their incandescent or halogen counterparts, they are brighter and last significantly longer. Day or night, you want your airplane to be visible to other pilots to prevent midair collisions. Upgraded lighting can also make a difference when it comes to preventing bird or wildlife strikes in the backcountry.

Backcountry Propeller

Another way to improve backcountry and STOL performance is to upgrade to a propeller that's specialized to maximize low-speed thrust, takeoff, and climb performance. Recreational and bush pilots around the world rely on Hartzell's backcountry propellers, which are approved on numerous certified aircraft.

Premium Performance from the Hartzell Voyager

Hartzell's latest 3-blade scimitar prop STC is custom designed for the Cessna 180, 182, 185 and 206.

- Up to 7 knots faster cruise speed
- 10% better take-off acceleration and exceptional climb rate
- Rugged and durable aluminum blades



Now available for immediate delivery and installation. Visit [HartzellProp.com](https://www.HartzellProp.com)



BUILT FOR THE BACK- COUNTRY



CESSNA SKYWAGON OWNERS PUT HARTZELL'S NEW VOYAGER TO THE TEST

The Cessna Skywagon is a favorite among bush pilots for its rugged durability and exceptional hauling capabilities. Often compared to an aerial pick-up truck, the taildragger can carry just about anything in and out of short, unimproved airstrips, making it an ideal choice for backcountry adventures. Now, with Hartzell's new Voyager propeller, Cessna Skywagon owners are taking their airplane's performance to the next level. Custom-designed for the Skywagon and now STC approved for the larger fleet of Cessna 180/182/185/206 aircraft, the three-blade, 86-inch aluminum Voyager propeller was built for optimal performance in the most challenging terrain.

After the Voyager was introduced, we asked three pilots in the Skywagon community—John McKenna, Mike Todd, and Willie Stene—to install the new prop on their airplanes and share their feedback with us. Read on to find out what each pilot had to say after putting the Voyager prop through its paces.

JOHN MCKENNA: *"The Voyager hits the mark."*

Those who know John McKenna know that his name is practically synonymous with backcountry flying. He is the chairman and founder of the Recreational Aviation Foundation (RAF), a non-profit organization with the mission to preserve, maintain, and create public-use recreational airstrips for backcountry access throughout the United States. Since earning his private pilot license at the age of 16, John has accumulated over five thousand flight hours, many in his 1978 Cessna 185AF. Based in Bozeman, Montana, John flies for both business and pleasure and loves the versatility and durability of the 185.

With an engine upgrade in John's future, it also seemed like the right time to investigate propeller enhancements for his airplane. John's 185 had been powered by the standard IO-520 engine, and he planned to upgrade to the IO-550. He spoke with Hartzell Chairman Joe Brown (who also flies a 185) about this change and the need for a purpose-built propeller for Skywagon owners that could pair with the upgraded engine. Before long, the Hartzell team set to work designing a custom performance propeller specifically for the Cessna 185E/F Skywagon and AgCarrall.

"The Voyager is a real tribute to Hartzell Propeller's commitment to backcountry pilots. It shows that they are paying attention to what the market is looking for, they hear what we're saying, and they understand," John said. "Hartzell really hit the nail on the head



"I've had a number of different propellers on my 185, and the Voyager has outperformed them in all quadrants."



with this one. I've had a number of different propellers on my 185, and the Voyager has outperformed them in all quadrants. Not to mention, it's a great looking propeller!"

"I've flown behind the Voyager for 75-100 hours and my personal impression of the performance only gets better as time has gone by," John said. "I have not noticed any environment in which the Voyager underperforms. Hartzell has met or exceeded my

expectations for this propeller in every way. The company turned a passion for backcountry flying into a propeller that fulfills a very defined purpose."

For a backcountry flying advocate like John, reducing noise levels is an important factor when making any performance upgrades to an airplane. Part of the RAF's vision is to act with consideration and courtesy toward the people and wildlife who share the recre-

ational environment. He was thrilled to tell us that the Voyager prop was quieter on his airplane.

"I'm always striving for additional performance, but at the same time, I'm always striving to be a better backcountry citizen," John said. "Hartzell recognizes that objective, and has hit the mark with the new Voyager prop."

MIKE TODD: "It's a winning combination."



Mike Todd is a retired 747 Captain who resides in Western Washington and now flies "just for fun" throughout Washington, Idaho, Montana, and beyond. His backyard airstrip sees a lot of action from his P.Ponk O470-50 powered Cessna 180, the "Silver Bullet," which he's owned for 25 years. When asked why he loves flying the 180, Mike said, "It's a really fun airplane to fly. As a taildragger, it's a little more challenging, but it performs well and is fairly economical."

Mike says he has used several different propellers on his airplane in the past and was interested to see how the Voyager measured up. "One of the reasons this propeller appealed to me was the idea that it was developed specifically for the type of use it will see on the Skywagon," Mike said.

After flying behind the Voyager for several months, Mike reported back to us. "I think it's a winner," he said. "The design hit a sweet spot. It compares very favorably to the other props I've put on the airplane. It accelerates better on takeoff, climbs better, and cruises faster than any other propellers I've had," he said.

Mike added, "According to my neighbors, the Voyager is considerably less noisy than other props I've used. It runs very smooth, even before I had a chance to do a dynamic balance on it."

Another factor that impressed Mike was the cruise performance at lower power settings, where he's looking to get the best range out of his short-range fuel tanks.

"I've measured takeoff distances and timed climbs to ten thousand feet from my sea-

level home," he said. "Acceleration on takeoff is stronger, takeoff distance using identical technique is measurably shorter, and time to climb and cruise performance are both improved. I don't think there is a better propeller for the airplane."

Since installing the Voyager, Mike has flown back and forth across the state several times, accumulating nearly 40 hours behind the prop. He continues to be impressed by the Voyager's performance, telling us that his averaged cruise speeds as recorded on ADS-B tracklogs are consistently five to six knots faster with the Voyager than with his previously installed 83-inch composite prop.

Mike says a significant difference is the more robust design of the Voyager propeller and spinner compared to other propellers, which he says makes it easier to stay within the center of gravity envelope when loading his 180. "When I head out to the backcountry, I can load the camping gear further aft and still be in the CG envelope. Also, the flywheel effect of the heavier prop helps to avoid "kick-backs" during start that can—and do—damage starter drives."





WILLIE STENE: *"The Voyager provides noticeably better performance."*

Willie Stene is well-known in the Cessna community as the manager of Stene Aviation, a GA maintenance and FAA-approved parts manufacturer based in Polson, Montana. Aviation has always been a part of life for the Stene family. Willie says that he grew up in 180/185s, and now tests and offers a number of performance upgrades for the series of aircraft through his business.

"At Stene Aviation, we're constantly testing the latest performance upgrades on Cessna aircraft," he said. "And we're always trying to make our own airplanes better."

Willie set to work putting together an initial test program that compared the Voyager propeller to another prop on his 185 Skywagon. After gathering all the data, he says the Voyager provided a noticeable improvement.

"My first impression was that takeoff was better, climb was better, and cruise was better," he said. "Those are typically mutually exclusive from one another, so it was very impressive to see the propeller deliver improvements for all these aspects."

Later, Willie took his 185 to the backcountry of Utah to see how the Voyager performed on a more technical airstrip.

"We were able to get some phenomenal takeoffs; some were at lower elevations, and others were higher at 6,500 feet. Even when the airplane was heavy, we saw takeoffs improve by about 10% and climb improve by 12-14%," he said. "It's great to be able to bring more and carry heavier loads."

Willie added, "When we're testing performance upgrades, we usually expect to see improvements in small increments. With the Voyager, it was a large improvement across the board."

"There's no doubt that the Voyager is faster than the previous prop I removed, by four to five knots. The prop offers better performance with no additional weight. It's super smooth and great looking. I think Hartzell hit it out of the park with this propeller."

"Flying in the remote backcountry can be challenging, but the Voyager makes operating in the unforgiving environment feel much safer," Willie said. "I'm able to clear trees and obstacles with a greater margin than I had before. Any time you can put something on your airplane that's a significant safety improvement, it's a no-brainer—you do it. This prop upgrade provides a lot of peace of mind."



Learn more about the Voyager

Inspired by enthusiastic customer acceptance since introducing the Voyager in 2019, Hartzell has expanded the eligibility of the Voyager, which is now STC approved for the large fleet of Cessna 180/182/185/206 aircraft powered by Continental 520 and 550 engines. Pricing includes a polished spinner and all STC documentation. The scimitar prop can be worked down to 84 inches in diameter if needed. Additionally, the propeller has a 2,400-hour, six-year TBO and the longest propeller warranty in the business, all the way through the first overhaul.

Want more information about the Voyager propeller? Give us a call at 1-800-942-7767 or visit HartzellProp.com/contact.

HERE TO WIN

For professional air show pilot and air racer Kevin Coleman, aviation is a way of life.

Since learning to fly aerobatics at an early age, Coleman has made a name for himself as an in-demand air show performer and fierce air race competitor. He was the first American to ever compete in the Red Bull Air Race Challenger Cup and one of the youngest pilots to compete in the series. Recently selected as one of only 12 pilots to compete in the debut season of the World Championship Air Race, Coleman is ready to take his flying to the next level—and losing is not an option.

We had the chance to sit down with Kevin Coleman to learn more about his unique flying background and ambitious goals for the future.



KEVIN

COLEMAN

HARTZELL: We understand you grew up in an aviation family. When did you get into flying?

COLEMAN: My dad learned to fly while he was still in medical school as a hobby. In the mid-1980s, he went to an airshow and met air show legend Marion Cole. They struck up a friendship, and my dad convinced Marion to teach him aerobatics. When I was born in 1990, my dad had already been flying air shows, so I grew up surrounded by aviation. I actually went to my first air show at six weeks old, and by the time I was three, flying aerobatics was all I wanted to do. That's when I set my goals.

HARTZELL: When did you start training for those goals?

COLEMAN: When I was ten years old, I started taking aerobatics lessons in our family's Decathlon with Marion Cole. He was an amazing mentor and taught me everything I know. I soloed on my 16th birthday and earned my pilot's license at age 17 before flying my first air show performance at age 18.

HARTZELL: Now that you're flying as a career, how do you prepare for an air show or race?

COLEMAN: Air shows and air races require completely different mindsets and skillsets.

For show flying, I'm practicing two to three times a day, usually three to four days a week. For air races, it's a little different because we obviously can't put a whole track up. But right now, my team is testing the race plane and working hard to make it faster and better.

HARTZELL: What are some of your favorite or signature maneuvers in your air show sequence?

COLEMAN: What I've worked the hardest on, and what I'm most proud of is pushing around a corner or pushing negative G-forces to the surface. Most aerobatic pilots pull positive G force around corners, so this takes a different skillset and a lot of focus. I've

always had a lot of respect for Sean Tucker's ability to push around corners. It adds a little bit of flair and excitement to a performance.

HARTZELL: You mentioned Sean Tucker and Marion Cole, are there other aerobatic pilots you've looked up to or considered your mentors?

COLEMAN: It's kind of surreal that all the pilots who were my childhood heroes are

HARTZELL: Let's talk about the new World Championship Air Race. You're the only American selected for the Aero/GP1 category and the youngest pilot in your class. How excited are you to get back to racing?

COLEMAN: I'm super excited about the opportunity. In the previous Red Bull Air Race, I was in the Challenger Class, which is kind of like the minor series. Now, it's like being in the major leagues. We've got a great

With air races, I start preparing about three weeks before the race. I'll go through the track and write notes with our engineer, Apollo. We have other tools that I use to learn the track, figure out what the fastest line is going to be, and factor in different weather scenarios. Winning an air race is usually determined by a 10th of a second or less, which ends up being about six inches over a two and a half to three mile track. Every little detail counts, from how I put my seatbelts



now not only my peers but my good friends. When I was five years old, I remember being at Oshkosh when Michael Goulian had just got his first Extra 300S. Fast forward to when I turned 16, we ordered my first Extra and Michael was the one helping me learn to fly it, along with guidance from Sean Tucker and Bill Stein.

At 17, I was competing in aerobatic competitions in the Extra and started flying air shows the next year. I was also lucky enough that Sean Tucker took me on the road with him, which was a great experience. The aerobatic and air show community is very tight-knit, and I've been lucky to lean on these pilots for a long time for advice and coaching.

team and a great airplane. As long as I can do my part inside the racetrack we should have good success.

HARTZELL: Other than equipping the airplane for performance, what kind of physical and mental activities do you have to do to prepare?

COLEMAN: This is my 14th year of flying air shows, so mentally, it's more about preparing for how the airplane will perform the day of the flight in terms of the wind, weather, and humidity. We do a lot of practicing leading up to the shows throughout the year.

on, to how I trim the airplane, to how the engine is set up. Weight is also a factor with the airplane's performance, so I'm working hard in the gym three to four times a week to be in my best shape.

HARTZELL: Obviously flying is a huge part of your day-to-day life. But when you're not in the cockpit, are there other hobbies that you love to do?

COLEMAN: My life pretty much revolves around aviation. When I'm not flying or thinking about how to be better at flying, I'm usually doing something outdoors. My wife and I love skydiving and scuba diving together. I also golf, hunt, and fish a lot. I don't like to sit still; I have to keep moving.



HARTZELL: As someone who does an extreme sport like aerobatics, do you still get a rush from skydiving?

COLEMAN: You know, it's funny, I don't really get an adrenaline rush from flying aerobatics or racing. I think it's because it's something I do every day, and I'm so focused that my mind doesn't have time to think about the physical sensations. But skydiving does give me that rush because I'm still learning. I don't get nervous before air shows or races. But as soon as I start putting on my skydiving rig and walking to the helicopter, my heart rate goes up, and I start getting nervous. I'd say that jumping out of an airplane is uncomfortable for anyone, and it's fun to put yourself in that position.

HARTZELL: Looking to the future, what's your biggest flying goal?

COLEMAN: With aerobatics, I've reached a lot of my goals since I had this dream at three years old. I'd like to continue

improving and pushing the envelope. With racing, I still have a lot of goals. I'm really looking forward to the challenge of the new World Championship Race and being in the Aero/GP1 class. I want to be able to win races and compete for a championship in the very first year. The competition is steep, but I do expect us to win. That's our mindset: refuse to lose.

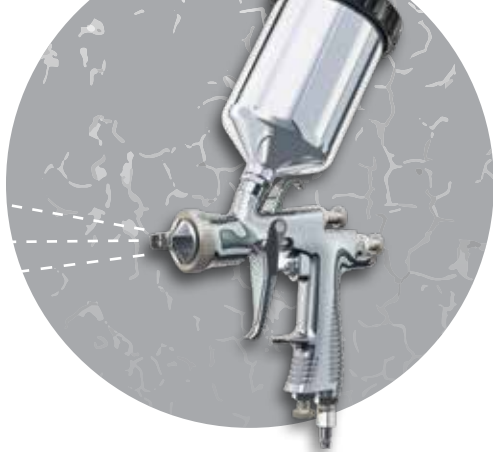
HARTZELL: What advice would you give to a young person interested in following in your footsteps?

COLEMAN: I've had a unique experience because I grew up in aviation. My story really started with my dad taking a chance and asking Marion Cole to teach him aerobatics. So I think the lesson is that the air show and aerobatic community is very approachable and welcoming. We all want to see this sport succeed and grow, so don't be afraid to go up and talk to someone if you have questions. More than likely, they'll answer it and be more than willing to help you.

Kevin Coleman recently installed the new **Hartzell Talon** on his aerobatic Extra.

"The new Hartzell Talon propeller has literally changed the aerobatic game. Everything about it has increased the aerobatic capability of not only my airshow airplane, but also the two-seat certified Extra. I never expected that a propeller could increase the performance the way that the Talon has. This is definitely the future of aerobatic airplanes!"

Follow Kevin on social media [@thekevincoleman](https://www.instagram.com/thekevincoleman)



Taking Care of Your Propeller's Paint

Your aircraft propeller represents a significant investment in your aircraft's performance and overall aesthetics. It only makes sense to do everything you can to care for your prop and extend its lifespan, including protecting its paint!

What's the purpose of propeller paint?

Not only does paint make your propeller look good, but it's also the first line of defense against dangerous corrosion and erosion.

Over time, any propeller is subject to some degree of paint wear and tear, but paint will erode even faster depending on your flying environment. Rain, sand, dust, bird droppings, bug debris, gravel, and water spray from float operations can all lead to chipping or flaking. When this happens, it's important to take care of the propeller's paint to prevent further damage.

Should I paint my propeller?

If you notice minor damage to your propeller's paint, such as chipping or flaking, a paint touch-up may be required. Be careful about the paint you use—regular spray paint won't do. Hartzell has approved paint and primers you can use to address any small issues.

It's important to coat each blade with even layers of paint to avoid putting your propeller out of balance. Never try to paint over cracks or corrosion on the surface of your propeller blades—it will only make matters worse.

When to call a prop shop

For any major paint problems that require disassembling or altering the propeller, don't try to fix it on your own—call an expert. If done incorrectly, repainting a propeller can cause further damage and even deem the prop unairworthy.

You can send your Hartzell prop to the Hartzell Service Center or one of our Recommended Service Facilities around the world to be repainted in its original paint scheme.

Introducing the Navigator Leading the Way for Beechcraft Bonanza

Hartzell Propeller introduces our brand new 3-blade scimitar prop STC custom engineered for thousands of Beechcraft Bonanza single-engine airplanes.



- Optimized blade design increases cruise performance by up to 7 knots
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ELECTRIFYING THE SKIES

The future of flight is **electric** — and it's closer than you may think.

Electric and hybrid flight offers the promise of more efficient, affordable, and sustainable air travel, and Hartzell Propeller is proud to be a part of several innovative programs already making it a reality. We chatted with **Roei Ganzarski**, CEO of magniX and Executive Chairman of its sister company, Eviation Aircraft, to shed light on the electric aviation revolution and the future of emission-free flight.



■ The successful first flight of the Harbour Air eBeaver, powered by magniX

As the aviation industry faces mounting pressure to curb its carbon footprint, innovative startups are disrupting the status quo and sparking an electric revolution.

Among the aerospace companies leading the charge are **magniX** and **Eviation Aircraft**. magniX develops advanced propulsion systems for electric aircraft, focusing on connecting communities with small, “middle-mile” airplanes that fly routes of less than 1,000 miles. Its sister company, Eviation, aims to build all-electric aircraft from the ground up, challenging the limits of air travel in a scalable, sustainable, and economically viable way.

“We have the opportunity to change the course of our future with electric aviation, which affords zero-emission, lower noise, and significantly lower operating costs,” said Roei Ganzarski, CEO of magniX and Executive Chairman of Eviation. “It all adds up to greater access to aviation to more people, in a way that doesn’t harm the environment or our health.”



■ **Roei Ganzarski**, CEO of magniX and Executive Chairman of Eviation





BUILDING A BETTER WORLD

24% aviation's estimated contribution to man-made carbon emissions by 2050

49% flights in North America in 2019 less than 500 miles in distance

80% lower operating costs per hour for electric aircraft

Although battery technology is still years away from powering large passenger aircraft, the ability to retrofit existing general aviation airplanes with electric propulsion technology is providing an interim solution for sustainable, cost-effective short-range flights.

In 2019, magniX unveiled its technology with an electrified de Havilland Beaver, or “eBeaver,” in partnership with Vancouver, B.C.-based seaplane operator Harbour Air. Propelled by the 750-horsepower magni500 electric propulsion system and a four-blade composite Hartzell propeller, the eBeaver marked the world’s first flight of an all-electric commercially-focused aircraft. Harbor Air plans to eventually convert its entire fleet of more than 40 aircraft to all-electric seaplanes.

Ganzarski draws parallels between the emerging electric aviation industry and the now mainstream electric automotive industry. “Tesla did not begin with a Tesla sedan or semi-truck,” he said. “They started by taking a small, existing car and converting it to electric to prove their technology. It’s the same philosophy with airplanes—instead of designing a brand new plane, we took a proven, reliable aircraft and replaced the heavy, gas-guzzling engine and fuel system with a small, lightweight, powerful, clean electric propulsion system and batteries.”

Nearly half of commercial flights in North America are less than 500 miles in distance, offering an ample market for the current electric aviation technology. By targeting these short haul flights, electric aviation will also help to revive smaller, regional airports and open the potential for new routes, added Ganzarski.

“Currently, in the U.S., there are more than 10,000 airports, but airlines only use about 600,” he explained. “Electric aviation will help solve two problems in one swoop: the environmental aspect of emissions and noise, but also the access of air travel by reducing the cost per flight hour by 40 to 80%. It goes back to the original vision of connecting communities with smaller airports that make travel more convenient and accessible to more people,” said Ganzarski.



■ **Eviation’s all-electric commuter aircraft, Alice**

Meanwhile, Eviation is working on its debut commuter aircraft, Alice, which is designed from the ground up for all-electric flight.

The revolutionary airplane is equipped with components from world-class aviation partners, including custom-built, five-blade structural composite Hartzell propellers. Built with regional air travel in mind, the Alice will be capable of carrying nine passengers up to 506 miles on a single charge with zero emissions.

When it came to choosing a propeller partner for the Alice and eBeaver programs, Hartzell Propeller was the first name that came to mind. “We knew we needed reliable, proven, and efficient propellers,” said Ganzarski. “Another key aspect of our partnership is that Hartzell understands what it means to take their propellers and technology to the market under FAA certification. Hartzell’s expertise makes them a phenomenal partner.”

With magniX’s electric propulsion system on track for FAA Part 33 certification in 2022, Ganzarski says he expects to see electric aircraft flying passengers and cargo on short routes as early as 2023. “By 2030, I think it will be mainstream, similar to today’s electric vehicles,” he said.

While long-haul, commercial air travel in fully electric aircraft is still decades away, the stage is being set for electric aviation to take off.

PERFORMANCE BOOST

The Extra 300 series is considered by many to be the most successful certified sport, performance, and unlimited category aerobatic aircraft in its class. Now, Extra pilots can get a performance boost with Hartzell's three-blade **Talon propeller** for the Extra 330SC, an evolution beyond the popular Hartzell Claw propeller. Newly STC-approved for the Extra 300L two-seat aerobatic aircraft, the next-generation Talon propeller features an enhanced aerodynamic design that results in low weight, low inertia, higher durability, and low life cycle costs.

The 78-inch diameter Hartzell Talon replaces the standard wood core three-blade propeller to provide a 2.5 percent increase in takeoff acceleration, five percent decrease in takeoff distance, and a five percent increase in climb performance.

Upgrade Your Prop for Extra Performance

The Talon aerobatic aircraft propeller is available now from prop shops, FBOs, or direct from the Hartzell Top Prop program.

2.5% increase in takeoff acceleration

5% decrease in takeoff distance

5% increase in climb performance



MICHAEL



Aviation superstar **Michael Goulian** was the Talon's launch customer and has flown the propeller on his single-seat Extra ever since. "I have made a living flying Hartzell props in aerobatic shows and very competitive air races for years," Goulian said.

"My flights with Hartzell's Talon showed an increase in performance, while also contributing to crisper execution of the aerobatic maneuvers that are the hallmark of my show. The smoothness and responsiveness of this propeller are second to none."

Hartzell is a proud sponsor of Michael Goulian - Pilot, Performer, and Athlete

HARTZELL

**SERVICE
CENTER**



ELITE SERVICE FOR YOUR PROP



A sleek Trailblazer prop paired perfectly with this Cessna 182 IO-550 conversion.

Photo courtesy of Mike and Carolyn Kelley, owners of Air Plains Services in Wellington, KS. Visit them at airplains.com.

The **Hartzell Service Center** is an FAA-Certified Repair Station focused exclusively on the Hartzell product line. If there is a Hartzell product you need serviced - whether you have a 2-bladed metal propeller or a 6-bladed composite system - our understanding of all things Hartzell is unparalleled. We provide high quality repairs and overhauls in short lead times at a competitive price. When we overhaul your propeller, the finished propeller will look like new, as we utilize the same surface treatments as the factory where your propeller was manufactured.



When you're ready to demand the best for your aircraft, call 1-800-942-7767.

Proven Partners in Aviation Innovation

Hartzell Propeller is proud to continue advancing the future of flight with custom propeller solutions for **electric** and **hybrid-electric propulsion**.

Whether you're working on an all-electric airplane, a hybrid-electric retrofit, or an evTOL urban air mobility design, we'd love to hear about your project.

Get in touch with our team at HartzellProp.com/contact.



TEXAS

AIRCRAFT PROPELLER & ACCESSORIES

Nothing is more important to us at Hartzell Propeller than safety and quality. To ensure the thousands of pilots flying behind our props always have access to the best-possible propeller repair and overhaul services, we've assembled a global network of Recommended Service Facilities (RSFs). These independent repair stations are recognized for providing the highest-quality propeller overhaul and repair work available on Hartzell propellers.

Texas Aircraft Propeller & Accessories is one of these fine prop shops supporting Hartzell's customer base in the southern United States. We had the chance to speak with Texas Aircraft Propeller & Accessories Owner & President, Jason Falzon, about the shop's history and plans for the future.

Falzon says he's "always been crazy about airplanes and all things aviation." He earned his pilot's license at age 21 and eventually became an instrument-rated commercial pilot with single and multi-engine privileges. When an opportunity arose for him to work in the aviation community full-time and join a local prop shop, he took advantage.

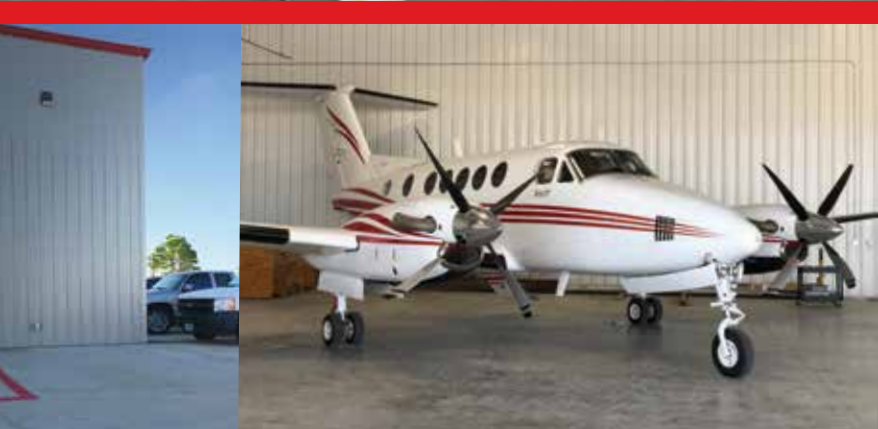
While working at the shop, then called R&D Propeller Services, Falzon learned everything he could about the business from the inside out. Soon, a passion for propellers was born. In 2014, he bought the company and changed its name to Texas Aircraft Propeller & Accessories.

The rebranding effort included moving the shop to Pearland Regional Airport (KLVJ) and building a modern, state-of-the-art facility. Falzon also focused on investing in tooling, equipment, and training with the goal of achieving Hartzell's Recommended Service Facility status.



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Web: txairprop.com







Optimized Performance for Cirrus SR22 and SR22T

If you've received flight training within the last decade, chances are you're familiar with the Cirrus SR22. Since its introduction, the SR22 has been a top choice for flight schools because of its performance, reliability, and safety features. But the SR22 is more than a good training aircraft. It's also a popular choice for personal flying, as well as small air charters and air taxi services. In 2004, the SR22 became the world's best-selling single-engine aircraft, a title it holds to this day.

Hartzell Propeller is proud to offer cutting-edge technology for the SR series of aircraft, including the new Hartzell Odyssey propeller upgrade for Cirrus SR22 and SR22T aircraft. The four-blade, 78" diameter structural composite carbon fiber propeller offers unmistakable ramp appeal, smoother operation, better climb,

faster speeds, and quieter flying, resulting in an enhanced experience for pilot and passengers.

Flight testing confirmed that the Odyssey is more than six knots faster and results in a 14 percent improvement in climb performance versus any other four-blade offering. The Odyssey is also a quieter propeller option, with a nearly 2.0 dB(a) reduction in cabin noise and a certified 2.0 dB(a) reduction in fly-over noise compared to the standard three-blade prop.

Hartzell's new Odyssey propeller is available as an STC option on new aircraft from the factory, or from prop shops, FBOs, and directly from Hartzell through our Top Prop conversion program.

CHECK OUT THE
LEADING EDGE
ONLINE EDITION



Share the 2021 online edition featuring the Hartzell interviews, news, and highlights found in this print edition with your friends!

hartzellleadingedge.com



Introduce a child to the joy of flying!

"Without the guidance of the mentors I had at EAA, I wouldn't be who I am today. I, along with 42,000 other pilots, are now helping light that same spark for kids through EAA's Young Eagles program. Since 1992, volunteer pilots – my personal heroes – have flown more than 1.8 million kids as part of the program. The Young Eagles program has had a huge impact on general aviation."

– Sean D. Tucker
Hall of Fame air show performer,
National Young Eagles Chairman

Go to YoungEagles.org to locate a Young Eagles Coordinator in your area.



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Join the Hartzell Propeller team and advance the future of aviation! Explore opportunities in manufacturing, engineering, sales, and more.

View our current positions and apply online at HartzellProp.com/Employment.

Equal opportunity employer M/F/H/V.

Photo courtesy of
Jim Stevenson @js170b



Hartzell propellers are the prop of choice for thousands of pilots around the world, and nothing makes us happier than hearing feedback from our satisfied customers.

Share your stories, photos, and videos with us on Facebook, Twitter, or Instagram — [@HartzellProp](https://www.facebook.com/HartzellProp). Your testimonial could be featured on our website and social media!



In Focus:

**Q&A with aviation
photographer**

**Deon
Mitton**

We sat down with Deon to learn more about his passion for capturing the natural beauty of Alaska and wilderness areas around the world.



Have you always been interested in photography and videography?

Yes! I am a very visual person and have always had an eye for graphic art — in any form. Photography and videography provide a fun platform to be creative and find an audience, particularly in today's age of digital media and mobile consumption.

What has been your favorite experience as an aviation photographer?

I enjoy working with natural settings where I can show aviation in a real-world application, and preferably a natural backdrop. Air-to-air formation work is by far my favorite kind of challenge because so many things have to work right for the outcome to be successful. Getting the right light, with pilots bringing top flying skills to fly in formation, is always the best kind of shoot.



What are some of the challenges and rewards of flying in Alaska?

Alaska flying is some of the most demanding I have done anywhere in the world. With limited two-way communication, extreme weather, and challenging terrain, flying VFR to off-airport locations in this region results in a very high workload environment for single-pilot operations.

The biggest reward is experiencing this natural wonderland, which is truly unique in the world. Nowhere else on earth can one find so much variety and scale of scenery than in Alaska. The scale of everything in

this region is immense. Access to the natural beauty, including the animal kingdom in this region, is especially unique.



Can you tell us about any encounters capturing wildlife in Alaska on camera or video?

I have conducted scenic tours and sight-seeing trips to the Katmai National Park region, where one can get up close and personal with coastal brown bears congregating in the salmon-filled streams. It's fascinating to learn about the complex social structure of the bears by seeing their behavior change over time. Observing the coastal brown bears at Chinitna Bay offers a different kind of experience. We land right on the beach, where the bears feed on clams and sage grass as part of their early spring diet.

What's your next adventure?

I'm looking forward to exploring the true wilderness areas of Greenland and Antarctica, and giving back to the aviation community to enable the next generation of pilots to become qualified and educated about a career in aviation.





Deon Mitton is a floatplane pilot and photographer/videographer who shares the joy of flying and nature through his popular Instagram page.

 **Follow Deon on Instagram**
@deonmitton

RSF Spotlight: **PROPTech**

Celebrating Over 45 Years as a Hartzell RSF



Proptech's new HQ, 2020

Hartzell Propeller is known as the world's leading propeller manufacturer, but our number one priority has always been safety. To ensure our customers are never far from the best quality overhaul and repair services, we assembled a global network of Recommended Service Facilities (RSFs). Among these highly regarded prop shops is **Proptech Aero Ltd**, which recently celebrated its 45th year as a Hartzell RSF.

In honor of Proptech's milestone anniversary, we recently sat down with Steve Peters, Commercial Director, and Ali Mant, GA & Light Regional Technical Manager, to learn more about the company's proud history and plans for the future.

Proptech has been a leading supplier of propeller maintenance, parts, and overhaul exchanges in the UK for over 50 years. As part of the Segers Group of aviation companies, Proptech serves customers of all types, from regional airlines to government operators and the general aviation community.

"We work on everything from two-blade fixed-pitch propellers all the way up to six-blade composite propellers," said Peters. "Although we're based in the UK, we serve customers from around the world. Logistically, our facility is within timely shipping proximity to Asia-Pacific, which has led to strong relationships with owners and operators in Indonesia and the Philippines who send us their propellers for servicing."

To achieve Hartzell's RSF designation, Proptech had to meet a number of rigorous requirements, including on-site quality systems and process audits, and the use of factory-trained and highly qualified propeller experts. As a member of the RSF network, Proptech offers the highest-quality propeller overhaul and repair work available today, reflecting Hartzell's strong customer commitment to safety and performance.

"Our longstanding partnership with Hartzell is invaluable," said Mant, who has over 35 years of propeller experience with Proptech. "We truly feel like part of the Hartzell family. I know I can always call them up with a question, and they'll come back nearly immediately with an answer."

"We find that many operators have very high standards and will only send their propellers to a Hartzell RSF," added Peters. "Having Hartzell's endorsement builds trust with customers and sets us apart from other shops."

With nearly 40 employees in a brand new, 26,000 square-foot facility, Proptech is continuing to expand its capabilities with special processes and modern inspection techniques. Along with standard maintenance services such as shot-peening and cold-rolling, Proptech has invested in the latest non-destructive testing and inspection methods, including fluorescent and visible penetrant testing, magnetic

particle testing, eddy current testing, and 3D optical measurement.

"The technology has leapt forward greatly in just the last five years," said Mant. "Being able to offer these advanced services in-house ensures more accurate inspection and reduces flight downtime for our customers."

Proptech's reputation and success in the UK led the Segers Group to add a new service facility in Dubai, called Segers Aviation. Drawing on Proptech's decades of expertise, Segers Aviation earned Hartzell RSF status in 2014.

"Looking ahead, the company is poised for continued growth," said Peters. "Not only are we increasing our MRO support and capabilities, but we're also focusing on the direct sale of parts and propellers to deliver even better service, quality, and value for customers."

At Hartzell, we're proud to recognize Proptech's commitment to providing world-class services to our global customers.

"For over 45 years now, Proptech has been an esteemed member of the Hartzell Recommended Service Facility network," said JJ Frigge, President of Hartzell Propeller. "Their experience and high standards for excellence have earned them a place among an elite group of aircraft service facilities around the world."



Spitfire way, Solent Airport,
Lee-on-the-solent,
PO13 9FY, UK
Phone: +44 (0)2392 657770
Web: proptech.aero

FIND YOUR RECOMMENDED SERVICE FACILITY



In order to provide the highest quality service to our customers, Hartzell has assembled a worldwide network of **Recommended Service Facilities (RSF)** or **Support and Service Centers (SSC)**. Do you know where your nearest Hartzell RSF or SSC is?

Piqua, OH – USA

Hartzell Service Center
One Propeller Place
Piqua, OH 45356
Phone: 1-937-778-4201

Minneapolis, MN – USA

Maxwell Aircraft Service
Crystal Airport
Minneapolis, MN 55429
Phone: 1-763-533-8611

Winston-Salem, NC – USA

Piedmont Propulsion Systems, LLC
440 Lansing Drive
Winston Salem, NC 27105
Phone: 1-336-776-6260

San Antonio, TX – USA

Jordan Propeller Service, Inc.
103 East Rhapsody
San Antonio, TX 78216
Phone: 1-210-344-3064

Pearland, TX – USA

Texas Aircraft Propeller & Accessories
1711 County Road 130,
Pearland TX 77581
Pearland Regional Airport
Phone: 1-800-580-7767

Phoenix, AZ – USA

Ottosen Propeller & Accessories, Inc.
105 South 28th Street
Phoenix, AZ 85034
Phone: 1-800-528-7551

Puyallup, WA – USA

Northwest Propeller Service, Inc.
16607 103rd Ave. Ct. E
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Phone: 1-253-770-7400

Lantana, FL – USA

Palm Beach Aircraft Propeller, Inc.
2633 Lantana Rd.
Suite 23, Bldg. 1501
Lantana, FL 33462
Phone: 1-800-965-7767

Opa Locka, FL – USA

Aviation Propellers, Inc.
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Phone: 1-305-688-6030

Tulsa, OK – USA

Intercontinental Jet Service Corp
3322 North 74th East Avenue
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Winnipeg, Manitoba – Canada

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462 Brooklyn Street
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Buenos Aires – Argentina

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Buenos Aires, Argentina
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Phone: 54-11-4623-5754

Dubai, United Arab Emirates

Segers Aviation SA
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Dingley, Victoria – Australia

Airbus New Zealand (Australia)
Pty Ltd.
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Australia
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Willetton, Western Australia

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430040
Phone: 027-68853833



5 Ways to Take Better Care of Your Prop

As one of the hardest working components of your airplane, your propeller deserves your respect and attention. Here are five ways to keep your prop in tip-top shape:



1 Don't skip pre-flight inspections

Before any flight, perform a comprehensive inspection of the propeller blades and hub. Look for signs of obvious damage, such as nicks, gouges, cracks, missing hardware, leaks, corrosion, and erosion.

If you see any issues, don't fly. Even seemingly minor damage could start a growing crack that leads to blade failure. Always have any problems addressed by a reliable prop shop.

2 Mind the gravel

Before starting up, clear away any debris within four to six feet of your airplane. Loose gravel will fly up into the air when the propeller blades rotate, even at slow speeds. Any prop strike is serious — whether on the ground or in the air. If your propeller hits something, discontinue the flight and conduct a thorough investigation for damage.

If you frequently use unpaved runways, consider upgrading to a more rugged composite propeller. Composite blades are specifically engineered to withstand the demanding environments of backcountry flying.

3 Clean the blades

Cleaning the propeller after every flight helps to keep corrosion at bay and ensures your prop always looks its best! We recommend using a gentle cloth and simple cleaning solvent of dish soap and water to remove dirt, dust, pollutants, and insects from the propeller blades. Never use acidic cleaning products, steel wool, harsh sponges, or a power washer on your prop. Wipe the blades in a downward motion to prevent water from running back into the hub and damaging seals.

4 Keep up with oil changes

Regular oil changes are one of the best ways to prolong engine life and help protect the propeller system. After 25 to 50 flight hours, aircraft engine oil gets contaminated with sludge, acids, and moisture, which can lead to harmful corrosion.

Following the engine manufacturer's recommendations, pilots can perform oil changes. It's a great way to save money and keep a closer eye on the health of your engine.

5 Use a tow bar

Propeller blades might be strong, but they should never be pushed or pulled to move or park a light aircraft. Applying manual force may cause the blades to come out of track with one another. Always use a quality tow bar — it's worth it! Finally, don't forget to check that you've removed the tow bar before starting the engine. More than one pilot has made this embarrassing and potentially dangerous mistake.

Give your prop the TLC it deserves, and it will reward you with many more hours of flying! If you have questions for the Hartzell Propeller technical team, email techsupport@hartzellprop.com.



Catch the latest from the
hartzellprop Instagram feed



BUILDING

THE OFFICIAL AIRCRAFT OF



← Steve “Flight Chops” Thorne

For Steve Thorne, owning a Van’s Aircraft airplane has been a dream that’s nearly 20 years in the making. The pilot and host of the popular YouTube channel “Flight Chops” (named after his distinctive facial hair) even carried around a dog-eared photo of an RV-7 since 2001.

During a visit to Van’s Aircraft headquarters in Oregon, Steve met aircraft designer Richard (“Van”) VanGrunsven and flew five different RV models. While flying the RV-14, Steve experienced what Van’s calls the “RV grin” — in other words, he was hooked.

“Discovering that such a capable aircraft was both accessible and affordable was inspiring,” said Steve. “The opportunity to meet Van himself to discuss building and flying the RV-7’s big brother – the RV-14 – was very exciting and meant a lot to me.”

In partnership with Van’s Aircraft, Steve is filming the RV-14 build process and sharing all the behind-the-scenes action, with the aim to be flying the aircraft within the next two years as the official aircraft of Flight Chops.



“My hope is that documenting the experience, including the mistakes I make along the way, inspires more people to take the leap and build an airplane of their own,” said Steve.

Choosing the Right Prop

The Hartzell Propeller team worked with Steve to select the best propeller for his mission and goals: our three-blade scimitar composite **Explorer propeller**, which was designed to offer smoother operation and optimize cross-country performance.

“Hartzell’s Explorer prop ticked off all the boxes I was looking for—to have a solid prop for cross-country to go fast and far, but to also be able to do aerobatics and have fun with it,” said Steve.



Check out the **Flight Chops YouTube channel** and follow along as Steve builds a Van’s Aircraft RV-14 with help from industry partners and friends.

FAST FACTS

Under FAA regulations, if an individual builds at least 51 percent of an aircraft, the aircraft is eligible to be registered in the amateur-built category.

Currently, more than 33,000 amateur-built/homebuilt aircraft are licensed by the FAA.

On average, 1.5 Van’s Aircraft RVs are completed and flown for the first time each day.

RVs are flying in at least 45 different countries and kits have shipped to more than sixty.



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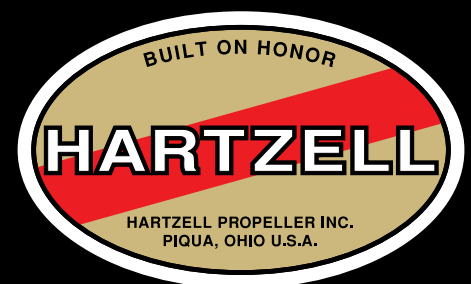
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