ROTOR

SEPTEMBER 2023 THE MAGAZINE OF HELICOPTER ASSOCIATION INTERNATIONAL

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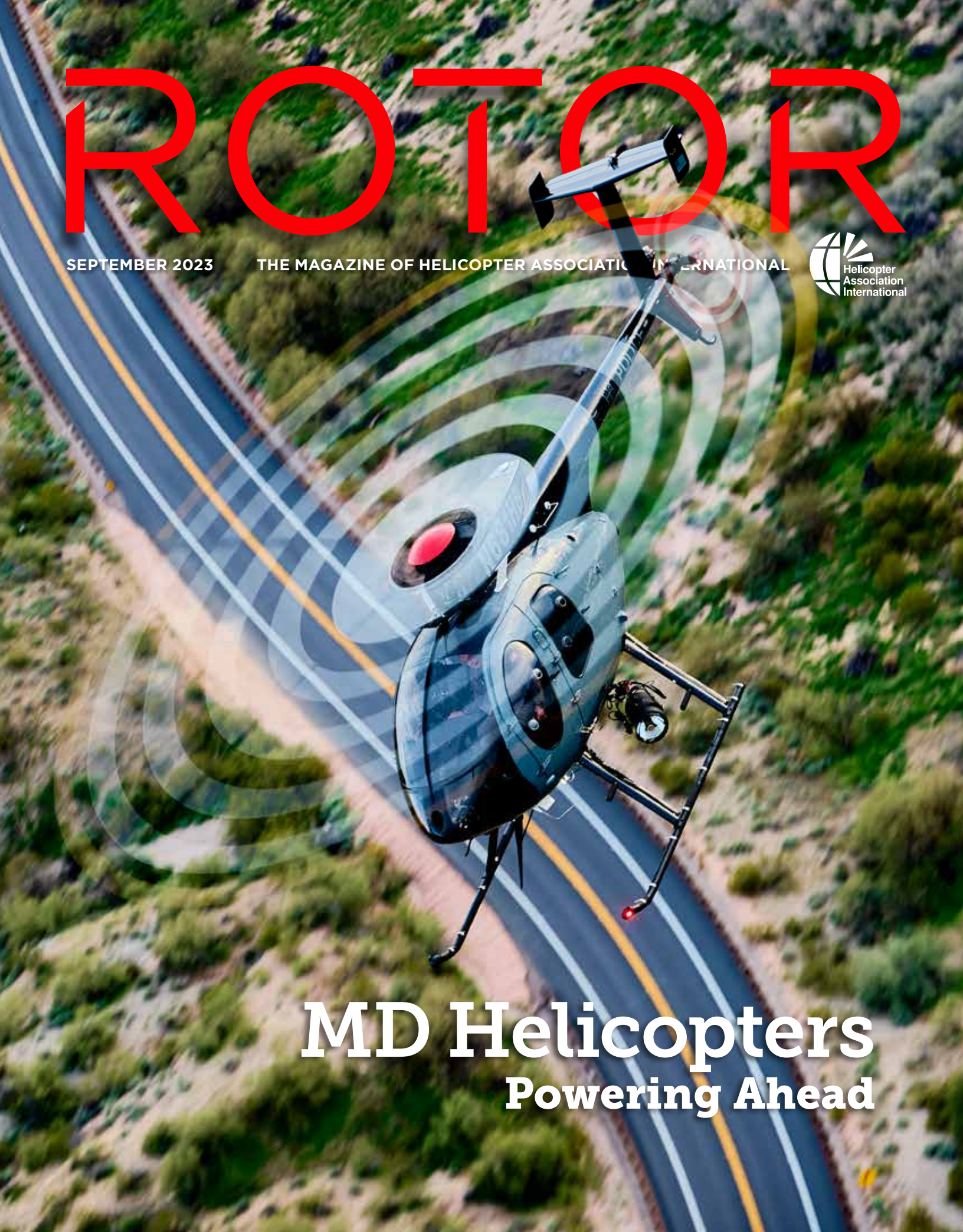

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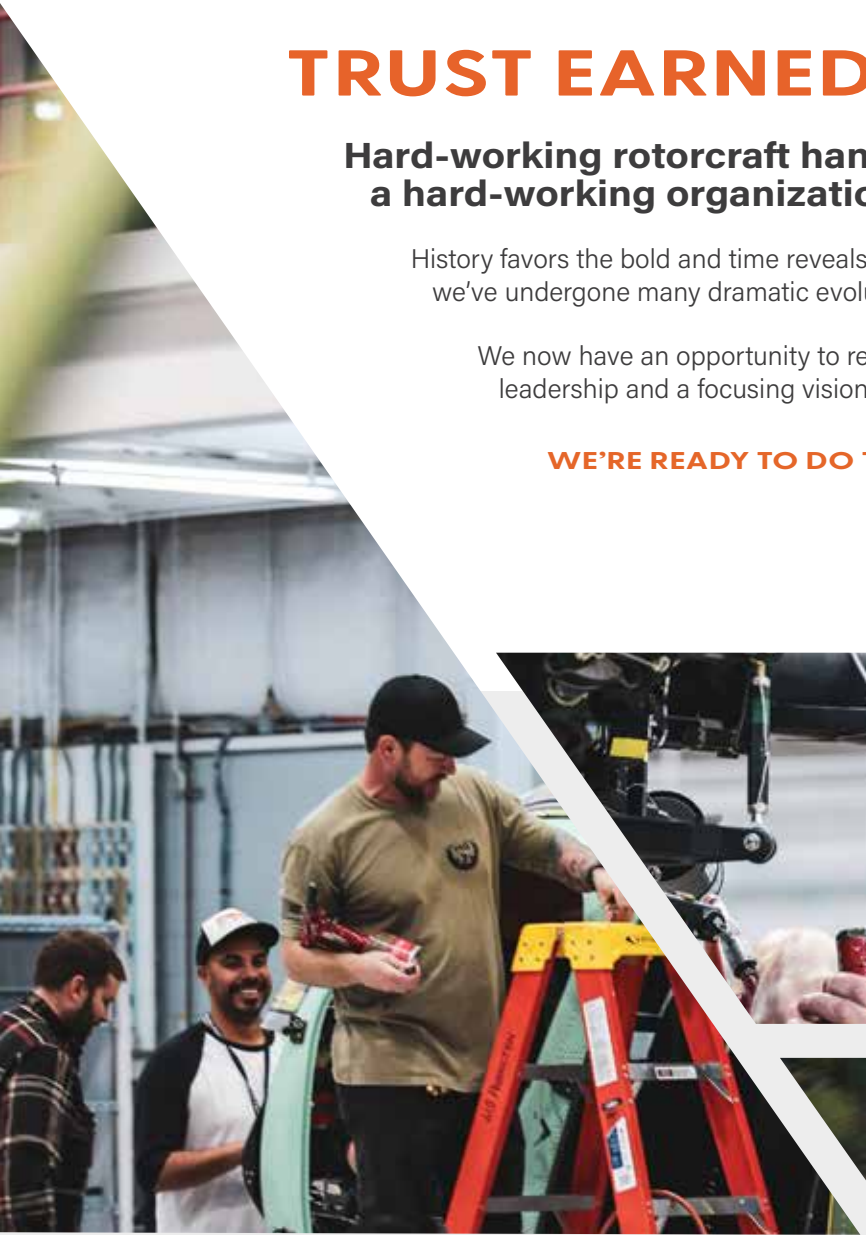

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CONTENTS

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ROTOR

SEPTEMBER 2023
VOL. 36 NO. 2

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ROTOR (ISSN) 0897-831X is published quarterly by Helicopter Association International, 1920 Ballenger Ave., 4th Flr., Alexandria, VA 22314-2898.

Subscriptions: Visit rotor.org/subscribe to sign up for your FREE subscription.

Postmaster: Please send all address changes and correspondence to:

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CONTENTS

DEPARTMENTS/COLUMNS

ON THE COVER: With new ownership and management, MD Helicopters is working hard to capture new customers and retain existing ones. One repeat buyer is the Huntington Beach (California) Police Department, which recently acquired three MD 530Fs. The first, on a pre-delivery flight, was photographed by Mark Bennett as it banked over a highway north of the manufacturer's plant in Mesa, Arizona. Read how MD Helicopters is "back to business," starting on p. 46.

WRITE FOR ROTOR

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Mark Bennett worked for McDonnell Douglas Helicopter/ Boeing for a decade, then in 1999 cofounded an aerospace-only marketing agency. With 30-plus years of photography and design experience serving the aerospace and defense industries, he founded AeroMark Images to shoot and write for both industry and media.

Cade Clark

Cade Clark, HAI's chief government affairs officer, has directed association advocacy programs for more than 20 years. Growing up, Cade worked at an FBO where he learned to fly and deepened his love for all things general aviation.

Jaasmin Foote

Jaasmin Foote joined HAI as the association's social media manager in March 2020. She holds a bachelor's degree in English and is currently pursuing her master's in marketing.

Paul Gottwig

Paul Gottwig is a senior pilot with the Los Angeles County (California) Fire Department (LACFD) and a member of HAI's Board of Directors. After retiring from active duty in the US Army following 20 years of service in 2006, he worked with General Electric (GE) Corporate Air Transport as a helicopter captain in the S-76B and AW139. While with GE, Paul served on the Eastern Region Helicopter Council as IFR Committee chairman and on the organization's board of directors. He joined the LACFD in 2015.

Stacey Hershauer

Stacey Hershauer has more than 25 years of experience as a writer and marketing and media expert. With a degree in journalism, she is a principal of sister public relations and marketing agencies FocusAZ and FocusAerospace, the latter of which specializes in aerospace marketing and public relations.

David Jack Kenny

David Jack Kenny is a fixed-wing ATP with commercial privileges for helicopter. He also holds degrees in statistics. From 2008 through 2017, he worked for AOPA's Air Safety Institute, where he authored eight editions of its *Joseph T. Nall Report* and nearly 500 articles. He'd rather be flying.

Christine Knauer

For more than 25 years, Christine Knauer has written for major aircraft OEMs, MROs, and avionics manufacturers as well as aviation trade organizations and publications. She specializes in editorial and marketing content that shares the stories of aviation's people and machines. Christine holds a master's degree in aviation safety.

Gina Kvitkovich

Gina Kvitkovich, HAI's senior director of communications, joined the association in 2011 after decades of honing her skills in writing, editing, and publishing. As editor of ROTOR, she is responsible for every error in the magazine that you're reading—and for some of the good stuff, as well.

James T. McKenna

An award-winning journalist, James T. McKenna has covered airlines, military aviation, spaceflight, and helicopters for *Aviation Week*. Twice editor in chief of *Rotor & Wing,* he's written for the Flight Safety Foundation, *The New York Times, USA Today, Vertical,* and *Vertiflite*. He specializes in covering accident investigations and safety.

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Zac Noble, HAI director of flight operations and maintenance, has more than 37 years of experience as a pilot and mechanic. He spent 11 years flying in the air medical sector before coming to HAI and is a veteran of the US Army, where he flew helicopters and multi-engine airplanes. Zac is a dual-rated ATP, a dual-rated CFII, and an A&P mechanic with IA privileges.

Andrew Parker

Andrew Parker is HAI's copy editor. A professional editor and writer for more than 20 years, his previous experience includes serving as editor-in-chief of *Rotor & Wing* magazine, online editor of *Vertical* magazine, managing editor of *Aviation Maintenance* and *Avionics* magazines, and news editor of *Professional Pilot* magazine.

John Shea

John Shea, HAI's senior director of government affairs, joined the organization in 2019. He came to HAI from the National Association of State Aviation Officials, where he was interim president in 2018 and lead government affairs representative from 2017 until he left the organization. Previously, as a legislative staffer, John advised multiple members of Congress on transportation policy.

Katia Veraza

Katia Veraza is HAI's manager of government affairs and regional relations. Before joining HAI, she was a managing consultant for government affairs. She earned her master's degree in political science from the Autonomous University of Barcelona.

Trever Walker

Trever Walker is director of operations/chief pilot and trainer for Winco Powerline Services. He holds commercial, instrument, and flight instructor ratings in fixed-wing aircraft as well as commercial rotorcraft with flight instructor ratings. Trever has accumulated more than 11,000 accident-free hours in rotary- and fixed-wing aircraft in the past 28 years in a variety of sectors, including volcanic studies, aerial firefighting, mountain search-and-rescue, aerial spraying, and power-line construction.

Jayne Wood

Jayne Wood joined HAI as assistant director of publications and media in November 2022, returning to the part of communications she loves—writing, editing, and publishing—after more than a decade as communications director for a nonprofit association. Before that, she was a communications consultant serving both associations and corporations.

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By Nicole Battjes

Vertical Aviation Is Vital

Reflections on Lahaina, Maui, relief efforts.

Nicole Battjes is the owner and director of operations for Rainbow Helicopters, a Part 135 air tour operation based in Honolulu, Hawaii, and the 2023–24 chair of the HAI Board of Directors. She is a dual-rated pilot, flight instructor, and check pilot with more than 3,500 flight hours in helicopters. An active industry volunteer and advocate, Nicole has worked on issues such as community compatibility and SMS implementation for small operators in the Hawaiian Islands.

SEE the Rainbow Helicopters team's efforts to airlift supplies to Maui

I WOKE UP ON THE MORNING OF WEDNESDAY, AUG. 9, to the news of devastating wildfires in Lahaina, Maui, which is a little over 100 miles from the Hawaiian island of Oahu, where I live. In those first hours, the desire to help our greater *ohana,* or family, was overwhelming, but it was also difficult to know how best to assist.

By Thursday afternoon, my team at Rainbow Helicopters had connected with local authorities and charities on Maui who told us how we could help. We immediately mobilized, purchased supplies, and planned a relief flight for Friday, Aug. 11. Focusing on providing critical supplies for mothers and babies, such as diapers and formula, we loaded as much as we could fit into one of our Rainbow AS350 B2 aircraft and flew to the Kapalua Airport (PHJH) on Maui, near Lahaina. After unloading the helicopter, we flew to Maui's Kahului Airport (PHOG) to take on more supplies and make a return flight to Kapalua.

The flights into Kapalua made clear the desperate situation in and around Lahaina. A charred landscape with flattened homes and burned-out cars stretched for miles. The beautiful, historic seaside town was covered in a thick layer of ash and lingering smoke and surrounded by blackened, drooping palm trees. When we were offloading supplies at Kapalua, the sense of need among the people there was palpable. There was also, though, a sense of hope—their *ohana* had come to help.

Experiences like this are a stirring reminder to me and my fellow Hawaiian tour operators of just how vital vertical aviation is to our communities. We aren't specialists in humanitarian assistance, but we know what our helicopters can do. Not needing roads or major supporting infrastructure, helicopters ferry supplies to where they are needed. We provide authorities with up-to-date photos and videos of affected areas and enable them to conduct their own damage surveys. We transport officials and other relief workers to areas accessible only by air. In short, we provide vital assistance at times of great need.

For my first column as chair of the HAI Board of Directors, I didn't expect to write on this topic, but it directly touches on Initiative 1 of HAI's Strategic Industry Plan: to unify the industry around a new vision of vertical aviation and to continually promote community compatibility.

The many disaster relief and humanitarian assistance missions that our industry undertakes demonstrate what vertical aviation achieves for our communities. While I'm very proud to be a small-business owner, a vertical aviation operation is not just any business. We are a vital part of our communities' disaster preparedness infrastructure. In times of crisis, we provide emergency services as well as rapid, on-demand vertical lift solutions.

During my term as HAI chair, I look forward to talking to our members and hearing how you provide vital vertical lift services in your communities. I want to know all the ways that you support the places where you live, work, and call home. I also hope to understand how vertical aviation is perceived—or misperceived—where you are operating. It is HAI's goal to ensure that all communities recognize the critical importance of their vertical aviation assets. That effort begins by helping them understand all that our industry does to make them safer, prosperous, and more resilient.

Nicole

The New Enstrom

With a reinvigorated passion and renewed spirit, Enstrom is back in production and determined to re-establish itself as one of the world's elite helicopter manufacturers.

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By James A. Viola

Aviation's Past, Present, and Future

EAA AirVenture Oshkosh never disappoints.

James A. Viola is HAI's president and CEO. After a career as a US Army aviator, he joined the FAA, where he served as director of the Office of General Aviation Safety Assurance before joining HAI. A dual-rated pilot, James holds ATP ratings in both airplanes and helicopters and is a CFII. Contact him at president@rotor.org.

WATCH cool footage of EAA AirVenture Oshkosh 2023

AS A GENERAL AVIATION PILOT, I LOOK FORWARD to the annual celebration of flight that is EAA AirVenture Oshkosh. More than just an air show, the event gathers more than 650,000 aviators, aviation enthusiasts, manufacturers, and others from all over the world. Oshkosh, as everyone calls it, is a fixture on my calendar, and this was my 11th year in attendance.

My first Oshkosh was in 2012 while I was working for the FAA. Seizing this opportunity to help my government colleagues better understand the role of general aviation (GA) in our country's aviation industry, I flew decision makers to the show in my private aircraft so they could see the professionalism and focus on safety that is on display each year at Oshkosh.

This year, I flew my Robinson R44 from my home airport, the Montgomery County Airpark (KGAI), to the show. Planning for the worst—as every pilot should—I had allotted two days for the cross-country flight, but the weather was great and I was able to do it in one. I made several stops on my flight to refuel, including at the Indianapolis Downtown Heliport, which is a great facility for vertical aviation aircraft that we are fighting to keep open.

On approach to the Wittman Regional Airport (KOSH), I was grateful, as always, for the team of volunteer air traffic controllers who safely manage the landing and takeoffs of the 10,000 aircraft on-site. Their professionalism and dedication are truly remarkable.

Enstrom Helicopter Corp. generously loaned us a 480B turbine to put on static display at the HAI tent. There is nothing like a beautiful helicopter to draw people in. Luckily, we had HAI staff and industry experts on hand to answer questions and promote vertical aviation. I want to thank Enstrom owner Chuck Surack and Dennis Martin, VP of sales and marketing for the company, for loaning us the helicopter for the week.

Oshkosh celebrates aviation history, showcasing vintage and warbird aircraft, each with its own unique story, each serving as a tribute to the pioneers of flight. Although vintage, many of these aircraft still take to the skies to show off their true capabilities—an unforgettable sight.

What started as an exposition of experimental aircraft has turned into an all-out display of innovation. Over the years, Oshkosh has seen the introduction of electric aircraft, cutting-edge avionics, and more recently, developments in advanced air mobility. This year didn't disappoint! Wisk demonstrated its fully autonomous electric vertical takeoff and landing (eVTOL) air taxi.

A highlight for me was participating in a town hall organized by Rep. Sam Graves, who chairs the US House of Representatives Transportation and Infrastructure committee. Chairman Graves happens to be an avid aviator and former professional pilot, and the US general aviation community is fortunate to have a fellow GA enthusiast in his position. I spoke at the town hall alongside five other GA executives, where we all stressed the important aspects of the House version of the FAA reauthorization bill that strengthens GA for the benefit of all of aviation.

I am already looking forward to next year's Oshkosh—this event is truly the grass roots of aviation—and I hope to see you there too!


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By Cade Clark, John Shea, and Katia Veraza

An Exciting Time

FAA reauthorization bill represents a unique opportunity to define US stance on crucial aviation policies.

DEDICATED ENTHUSIASTS of Advocating for You have undoubtedly read our discussions about the lead-up to congressional action on the 2023 FAA reauthorization bill. Imagine selecting your most-cherished championship game in sports, whether it's the World Cup, World Series, Super Bowl, or NBA Finals. To aficionados of aviation politics, the reauthorization bill encompasses the excitement of all those games combined.

Every few years, Congress must pass legislation reauthorizing the FAA. During this period, stakeholders advocate for their priorities and address FAA policies that will shape the US aviation industry's trajectory for the duration of the bill, which, in this case, is five years. This bill presents a unique opportunity to define the nation's stance on crucial aviation policies.

Matters like advanced air mobility (AAM), workforce development, infrastructure, safety—and more—take center stage as Congress debates incorporating policies related to these issues into the bill. This is our opportunity to ensure that the voice of vertical aviation is an integral part of the conversation.

A Triumph of Bipartisanship

Amid discussions about these significant policy issues, HAI received welcome news that the House of Representatives had reached bipartisan approval and passed its version of the FAA reauthorization bill, the Securing Growth and Robust Leadership in American Aviation Act. This bill comprises a comprehensive array of provisions that affect all aspects of aviation, including the agency's structure and functions.

The significance of this bill's bipartisan nature should not be overlooked. Preceding its endorsement of the bill on the House floor, the US House Transportation and Infrastructure Committee provided a remarkable bipartisan vote of 63–0 approving the bill.

This triumph of bipartisanship owes its realization to the guidance of the committee's leadership. HAI extends its gratitude to the House leaders for their commendable bipartisan cooperation, including Sam Graves (R-Mo.-06) and Rick Larsen (D-Wash.-02), the committee's chair and ranking member, respectively, as well as Garret Graves (R-La.-06) and Steve Cohen (D-Tenn.-09), who respectively hold the positions of chair and ranking member within the Aviation Subcommittee.

The general aviation (GA) industry is fortunate to have these House leaders as champions. Their backgrounds and experience have allowed them to shape provisions that bolster general aviation.

Chair Sam Graves, a longtime general aviation pilot, possesses a Piper PA-11 Cub Special, is currently restoring a Beechcraft AT-10, and co-owns a North American T-6 Texan and a Vultee BT-13 Valiant. He also flies the Curtiss P-40 Warhawk and other classic vintage aircraft in air shows. Rep. Graves has stated, "GA is foundational to our aviation system. It is where many of our pilots, mechanics, and others begin their careers, gaining valuable experience on their path to professions throughout the industry." With his deep understanding of aviation, Rep. Graves added the first-ever General Aviation–titled section to the reauthorization bill.

Ranking Member Rick Larsen hails from the Pacific Northwest, a region steeped in aerospace heritage. He expresses his dedication as "committed to ensuring aviation safety, fostering innovation in the US airspace, improving US competitiveness in the global market,

and enhancing the air travel experience for passengers." The committee's efforts will have a substantial impact on jobs and the economic landscape of his district.

Garret Graves, chair of the Aviation Subcommittee, represents the southern Louisiana region, a major hub for the vertical aviation sector. He is interested in advancing technologies and co-chairs the Congressional Unmanned Systems Caucus.

Representing Memphis, Tennessee, Ranking Member Steve Cohen's constituency aligns with his history of collaborative work on bipartisan transportation bills aimed at enhancing the nation's infrastructure—work he continues to do in the current Congress.

The leadership jointly crafted a bill designed to address the shortage of pilots, streamline the agency's regulatory procedures, tackle operations beyond visual line of sight (BVLOS), and incorporate numerous provisions that reinforce safety and training—each of these being significant priorities for HAI. This legislation adopts a forward-looking approach, empowering the FAA to swiftly embrace innovation, including initiatives within AAM.

In a press release endorsing the House bill, James Viola, president and CEO of HAI, remarked, "The success of all air operations is built on the foundation of a strong general aviation sector. The House bill strengthens America's general aviation and includes specific provisions that support vertical aviation. These will be critical to securing our industry's long-term success."

Prioritizing General Aviation

This legislation takes long-overdue steps to prioritize GA by:

- Increasing Airport Improvement Program (AIP) funding to help improve infrastructure at GA airports, including a combined $50 million set-aside for the development of GA aircraft hangars and the development of transient ramp parking
- Expanding the specifications for BasicMed–eligible aircraft
- Reinforcing the FAA's partnership in the Eliminate Aviation Gasoline Lead Emissions (EAGLE) initiative, including ensuring the continued availability of aviation gasoline
- Addressing the ongoing shortage of designated pilot examiners (DPEs) by requiring the FAA to establish a program or office to provide national coordination and oversight of DPEs to ensure examiner supply meets local demand of pilot communities
- Investing in the next generation of aviators, mechanics, manufacturers, and other aviation professionals through the establishment of the National Center for the Advancement of Aerospace
- Establishing processes by which private aircraft owners or operators may request the FAA to block certain flight data or information of their aircraft from any public dissemination or display for noncommercial flights
- Requiring the FAA to apply all policies, orders, and guidance issued equally and consistently to regulated persons, which includes ensuring that administration officials properly document findings and decisions throughout a project to avoid disruptions when personnel change
- Addressing both the aircraft registry backlog and the Part 135 air carrier certification backlog
- Prohibiting FAA investigations into any regulated person or entity from remaining open for more than two years without a determination being made.

A deeper dive on some of the provisions follows:

Sec. 221, ADS-B Safety-Enhancement Incentive Program

- Establishes a rebate program to incentivize certain general aviation aircraft owners and operators to purchase and install safety-enhancing ADS-B technology on their aircraft.
  - The amount of a rebate is equal to the lesser of the cost of purchasing such technology or $2,000, and the owner or operator must redeem or present the rebate for payment within 180 days of issuance.

Sec. 261, Required Consultation with National Parks Overflights Advisory Group

- Requires the FAA administrator and other agencies to consult with the National Parks Overflights Advisory Group and consider all advice, information, and recommendations that the advisory group provides.

Sec. 265, Low-Altitude Rotorcraft and Powered-Lift Operations

- Requires the FAA administrator to establish or update low-altitude routes and flight procedures within three years after the date of enactment to ensure safe rotorcraft and powered-lift aircraft operations within Class B airspace of the National Airspace System.

Sec. 301, Extension of Aviation Workforce Development Programs

- Amends Section 625 (Aviation Workforce Development Programs) of the FAA Reauthorization Act of 2018 to reauthorize funding levels of $15 million each for the aviation maintenance program and the aircraft pilot program for each of fiscal years 2024 through 2026.
- Authorizes funding for an aviation manufacturing workforce development program at $15 million for each of fiscal years 2024 through 2026.

Sec. 531, GAO Study on Expansion of the FAA Weather Camera Program

- Directs the Government Accounting Office (GAO) to conduct a study regarding the feasibility and potential safety benefits of expanding the FAA's Weather Camera Program to locations in the United States that lack weather camera services.

Sec. 535, Crash-Resistant Fuel Systems in Rotorcraft

- Directs the FAA administrator to task the Aviation Rulemaking Advisory Committee (ARAC) with reviewing and updating the 2018 report of the Rotorcraft Occupation Protection Working Group by reviewing National Transportation Safety Board (NTSB) data from 2016 to 2023 on post-crash fires in helicopter accidents and determining to what extent crash-resistant fuel systems could have prevented fatalities.
- Mandates ARAC to develop recommendations to encourage helicopter owners and operators to expedite installation of crash-resistant fuel systems regardless of original certification and manufacture date and requires the FAA to implement the recommendations or work with the US Helicopter Safety Team, as appropriate, to implement the recommendations.

Sec. 609, Beyond Visual Line Of Sight Rulemaking

- Mandates the FAA administrator to issue a notice of proposed rulemaking (NPRM) no later than four months after the date of enactment of this act, with a final rule no later than 16 months after the date of enactment, for uncrewed aircraft systems (UASs) that operate beyond visual line of sight and primarily at or below 400 ft. above ground level (agl).
  - The rulemaking is required to include airworthiness standards for uncrewed aircraft, standards for associated elements of such aircraft, and criteria related to how remote pilots of such aircraft will be qualified to operate these UASs.

Sec. 652, Powered-Lift Aircraft Rulemakings

- Requires the FAA to publish by the beginning of 2025 an NPRM and a final interim regulation for the operation of powered-lift aircraft.

More to Do

Although the FAA reauthorization bill has secured passage in the House, the journey to enactment remains incomplete. As of this writing in late August, the Senate had yet to deliberate on its own iteration of the bill.

The next steps involve the Senate Committee on Commerce, Science, and Transportation taking up its version and advancing it for Senate approval, followed by a reconciliation process in which the House and Senate resolve the variations between their bills. Upon congressional approval of the reconciled version, the bill will move on to the president for his signature.

This entire process must conclude by Sep. 30, 2023. If Congress fails to finalize the bill before this date, an extension of the current authorization will become necessary via a continuing resolution.

For enthusiasts of aviation politics, this is truly an exciting time!

HAI BRIEFS

HAI Celebrates 75 Years Serving Members, Vertical Aviation

WHAT TYPE OF PRESENT do you get for a trade association that celebrates its 75th anniversary this December? That's really a trick question, because HAI already has everything it needs to host its own celebration, and no gifts are required. The celebration will highlight the present with an eye toward the future.

"Instead of commemorating HAI's past, we are choosing to celebrate our industry and where it stands today," says James Viola, HAI president and CEO. "That said, we are truly grateful for the past staff and board members whose leadership brought HAI to where we are today."

On Dec. 13, 1948, a handful of operators and Art Fornoff, a representative from Bell Helicopter, met at the offices of AF Helicopters in Burbank, California, to form a helicopter association for the collective benefit of the industry. The group initially chose the name Helicopter Council but changed it the following year to California Helicopter Association (CHA). In 1951, the group's 17 members voted to change the organization's name yet again, to Helicopter Association of America, but the change didn't officially take effect until late 1954. The current name, Helicopter Association International, was adopted in 1981.

"Our industry has evolved significantly since HAI was founded and since we last changed our name, in the 1980s," says Viola. "Last year, I announced that we were weighing new options. I can say now that part of our anniversary celebration in Anaheim will include a special announcement about that name change."

HAI will celebrate the industry and the association's 75th anniversary in two phases. During the month of December, around the date of the actual Dec. 13 ➤

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Mosquito Generates Buzz. Our followers were impressed by the maneuverability of this Mosquito XET, an experimental-category kit helicopter manufactured by Composite-FX and flown by Dave Storey, aka the "Traffic Cone King," at the 2023 EAA AirVenture Oshkosh show. With the post reaching nearly 250,000 people and gaining over 14,000 engagements, this Facebook Reel reminds us that great things come in small packages!

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➤ anniversary, HAI will publish a special edition of ROTOR magazine that will be unlike any previous version. It will honor more than 40 types of helicopter missions and include profiles of industry leaders and others who work in vertical aviation every day. HAI is also working with Ned Dawson of Kia Kaha Media to produce a special anniversary aircraft identification poster.

During HAI HELI-EXPO 2024, Feb. 26–29 (exhibits will be open Feb. 27–29) in Anaheim, California, activities will include a special 75th anniversary video, events at special functions, the distribution of anniversary pins, and an announcement regarding HAI's name change.

HAI/SKY BLISS

HAI BRIEFS

EUROPEAN ROTORS Returns for 3rd Edition

EUROPEAN ROTORS, Europe's largest vertical flight trade show and exposition, is nearing the final planning stages for its third edition. For the first time, the event won't be held in Cologne, Germany, but instead will travel to Madrid, Spain, Nov. 27–30, with the show floor open Nov. 28–30.

The show's organizers, the European Helicopter Association (EHA) and the European Union Aviation Safety Agency (EASA), are applying lessons they learned in 2021 and 2022 to expand the 2023 show and make it even better for both attendees and exhibitors.

"The attendees and exhibitors from the first two shows taught us that we need to think bigger," says Christian Müller, EHA chair. "In addition to providing exceptional business opportunities, the purpose of EUROPEAN ROTORS is to bring the community together to exchange knowledge, learn from one another, and debate with one shared goal: to improve safety in vertical aviation operations."

The first day of EUROPEAN ROTORS 2023, Monday, Nov. 27, focuses solely on safety, with the renowned EASA Rotorcraft and VTOL Safety Symposium presented as a stand-alone event. The symposium is an exclusive benefit for show attendees, and admission requires a separate ticket.

"EASA's primary focus is safe flight throughout the European Union," says David Solar, head of the general aviation and VTOL department at EASA. "This event allows us to work directly with the industry's manufacturers, suppliers, operators, and individuals. We use this show to collaborate with everyone on developing the latest and smartest safety programs."

The symposium will provide attendees with several networking opportunities, including two coffee breaks and an evening social event.

Besides show organizers EHA and EASA, Spanish Helicopter Association ATAIRE is strongly supporting this year's event, which will be held in Hall 9 of the IFEMA MADRID convention center, which is approximately 10 minutes from the Adolfo Suárez Madrid–Barajas Airport (LEMD). HAI serves as show producer for EUROPEAN ROTORS, leveraging its vast experience with its own show, HAI HELI-EXPO®.

EUROPEAN ROTORS benefits from the strong support of market-leading VTOL OEMs Airbus, Bell, Leonardo, and Safran. Boeing, Pratt & Whitney, Robinson, and others have already registered as exhibitors.

Attendees can expect a dynamic show floor in Madrid. In a recent interview with Europe's *Cockpit* magazine, Müller noted that early numbers for the 2023 event are promising. "We are overwhelmed by the interest in this show. This has to do with the fact that we have a platform in Madrid that not only appeals to the European helicopter industry, but also has a lot of interest from North Africa and South America, which we haven't seen over the past few years."

HAI President and CEO James Viola notes that the ticket sales shop is now open for online attendee registration and

that exhibit spaces are still available on the show floor. "We are a global industry, and this event dovetails perfectly with our own show."

Interested exhibitors and attendees can visit the EUROPEAN ROTORS website, europeanrotors.eu, for additional information.

HAI BRIEFS

ROTOR Magazine Photo Contest Open for Entries

YEP. WE GET IT COMPLETELY.

The vertical aviation industry is insanely cool, with deft pilots flying beautiful aircraft through stunning scenery. We marvel at the work of highly trained craftspeople who maintain these complex machines. Most of us have watched or participated in these amazing activities. So, one question remains: have you taken pictures of them?

Over the association's 75 years, the staff of HAI has learned that people in the vertical flight community love looking at photos of aircraft almost as much as seeing them in person. Since we can't be everywhere to watch rotorcraft and rotorcraft professionals and enthusiasts in action, it's time for you to share your images of them with the industry, and maybe even earn some cash doing it.

Don't miss the opportunity to enter your best stuff in this, the 12th annual ROTOR Magazine Photo Contest! We'll share your images throughout the year across various ROTOR media products.

The 2024 ROTOR Magazine Photo Contest accepts entries in the following categories:

- **Helicopters/Drones at Work:** This category highlights aircraft in action; no aircraft on ground (AOG) shots, please. Show us the amazing things you do with your aircraft!
- **Helicopters/Drones in the Military:** Here, we pay tribute to the aircraft and aviators serving their country.
- **People and Their Helicopters/Drones:** In this category, we show aircraft and the people who love them.
- **Helicopter/Drone Digitally Enhanced Photos:** This is your chance to show off your photo-editing skills.
- **Wrench Turners:** We'd like to see pictures of the unsung heroes who keep our aircraft flying. Let's see you or your maintenance technicians turning ➤

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THROUGH A PARTNERSHIP with HAI, Purdue Global is offering HAI members, member employees, and their immediate families a 20% tuition reduction on undergraduate programs and a 14% tuition reduction on graduate programs. The programs are available across a variety of fields, including aviation, business, public safety, technology, and many others. All courses are accessible online, and textbooks are included for undergraduate programs.

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Purdue Global also offers reduced tuition rates for military service members, including active-duty military, US National Guard and military reserve, veterans, and military spouses.

- wrenches inside and outside your hangar, as well as cool shots of mechanics/engineers with the helicopters they keep running.
- **NEW! How We Serve:** This category illustrates the profound impact of our industry by showcasing the sectors that serve their communities from the air, including firefighting, law enforcement, air ambulance, and search-and-rescue (SAR) operations—and the exceptional individuals, dedicated to public service, who fly, maintain, and crew these aircraft.

This year's ROTOR Magazine Photo Contest opened Aug. 1, 2023, and will close Dec. 1, 2023, at midnight eastern standard time (UTC-5).

Visit photo.rotor.org to enter and win cash prizes for your helicopter and drone photos!

HAI BRIEFS

HAI Aerial Work Safety Conference: A Great Value for Operators

FOR LOW AND SLOW AERIAL WORK operators, keeping up with the latest developments in safety training, technology, and best practices is crucial to success. The HAI Aerial Work Safety Conference (AWSC), Dec. 9–11, 2023, in Boise, Idaho, aims to help make that happen, offering attendees a big return for a modest, HAI-members-only $50 registration fee that includes breakfast and lunch for all three days.

Held at the Boise Centre West convention center in downtown Boise, the conference provides an in-depth look at key issues essential to aerial work operations as well as topics that touch on all aspects of vertical aviation. The event includes breakout sessions on firefighting, restricted category aircraft, and utility, patrol, and construction operations. Attendees can learn about

HAI Aerial Work Safety Conference

ROTORCRAFT EVENTS

2023

SEP. 23
9th Annual Girls in Aviation Day
Women in Aviation International
Worldwide event
Learn more at wai.org/giad

OCT. 9–10
16th Annual HeliSuccess Career Development Webinar & Job Fair
Rotorcraft Pro Media Network
Las Vegas, Nevada, USA
Learn more at justhelicopters.com

OCT. 17–19
2023 NBAA Business Aviation Convention & Exhibition (NBAA-BACE)
National Business Aviation Association
Las Vegas, Nevada, USA
Learn more at nbaa.org
Visit HAI at Booth #C7120

OCT. 23–25
The AMTC23 Air Medical Transport Conference
Association of Air Medical Services
Columbus, Ohio, USA
Learn more at aams.org
Visit HAI at Booth #1814

NOV. 27–30
EUROPEAN ROTORS 2023 The VTOL Show and Safety Conference
Madrid, Spain
Learn more at europeanrotors.eu

DEC. 4–7
NAAA Ag Aviation Expo
National Agricultural Aviation Association
Palm Springs, California, USA
Learn more at agaviation.org

DEC. 9–11
HAI Aerial Work Safety Conference
Boise, Idaho, USA
Learn more at rotor.org

risk-management and safety strategies, view vendor exhibits, hear updates from industry experts, and network with peers and operators in the rotorcraft community.

"We think it's important not only for our management staff, but for our people in different departments, to attend the conference and hear from the subject matter experts in the various fields of aviation safety, and safety in general," says Duke Puharich, safety director for Siller Helicopters, a heavy-lift and aerial firefighting operator based in Yuba City, California. "When our people go to the AWSC, they come back with a larger understanding of all the different avenues of safety."

Register Early for the Best Price

The HAI Aerial Work Safety Conference is $50 for HAI members and $150 for nonmembers who register by Monday, Oct. 30. After Oct. 30, the rates increase to $100 for HAI members and $200 for nonmembers.

HAI Aerial Work Safety Conference Schedule

Day 1, Dec. 9: HAI Working Group Meetings
These working groups will meet to discuss safety, operational, and support issues, including aerial firefighting and natural resources, restricted and experimental category aircraft (RECA), and utilities, patrol, and construction (UPAC) operations.

Day 2, Dec. 10: Exhibits and General Interest Sessions
Safety and informational sessions will feature presentations relevant to the vertical aviation and aerial work communities from aviation industry experts, organizations, and companies, as well as the FAA.

Day 3, Dec. 11: Exhibits and Agency Updates
Representatives of the US Department of the Interior and the US Forest Service will provide important updates to operators.

Helicopter Association International

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The 2024 Salute to Excellence Awards will be presented at HAI HELI-EXPO 2024 in Anaheim, California, Feb. 26–29 (exhibits open Feb. 27–29).

2024 HAI HELI-EXPO
BY HELICOPTER ASSOCIATION INTERNATIONAL

By Andrew Parker

Managing Fatigue and Maintenance Duty Cycles

Establish and maintain appropriate limits and procedures to protect your people and your aircraft.

THE US NATIONAL TRANSPORTATION SAFETY BOARD (NTSB) has identified personnel fatigue as a critical issue in aviation, and sleep deprivation is one reason why, notes Tarek Loutfy, senior operations and flight safety manager at GE Aviation and a former chair of the HAI Safety Working Group. "Losing even an hour of sleep over the course of a week will produce conditions that negatively affect performance," he says.

Below are five dos and don'ts for line managers to mitigate operational risks associated with fatigue.

1 DO understand the many causes of fatigue, and familiarize yourself with the physical, mental, and emotional signs people exhibit when tired. Loutfy recommends making a fatigue risk-management plan part of every operator's safety management system. Duke Puharich, director of safety for Siller Helicopters, explains the risk of fatigue in aerial firefighting operations particularly. "Fatigue comes from weather, from stress, from the length of the fire season, and access to resources," he says. "We make sure everything is available to our mechanics, that they have enough nuts and bolts in stock, because it's important to make sure nothing is holding them back."

2 DO implement fatigue countermeasures, including working in teams (especially mixing experienced personnel with less-experienced colleagues), limiting hours, rotating tasks, and following checklists. "Often, you can have someone who's done something for 20 years … and sometimes they'll skip a step or two that can be crucial to the process," Loutfy says.

3 DON'T ignore compliance and disclosure regulations. "The FAA recognizes that mistakes happen," says Robert Lakind, an aviation attorney formerly with Szaferman, Lakind, Blumstein, & Blader and now with Fields Howell. "If the mistake's inadvertent and you come forward and voluntarily disclose it and work to prevent it from happening again, usually it's unlikely the FAA will issue you a violation. Conversely, if you make a mistake and put your head in the sand and just hope the FAA's not going to find you … then they're going to have a much different reaction."

4 DO align company leadership with your operational goals. Behind a well-functioning team, you'll find strong support from management. "You've got to get leadership's buy-in," Puharich says. "You're going to be asking for things you need out in the field to help you deal with fatigue. And fatigue comes all sorts of ways. [In aerial firefighting,] you're out there 12 to 14 hours a day minimum. It takes a lot out of you."

5 DON'T let an employee skate by impaired at work. Line managers need to help their teams recognize the effect even a slight impairment might have on their work while creating a supportive culture.

"If you had an evening where you've had more going on than normal, whether it's a baby up all night or you were out too late with friends—at some point, you need to be fair to yourself and your company," Loutfy says. "I'd prefer you take the day off, recuperate, and we start over the next day, and I'll deal with the ramifications of missing that individual that day."

Thanks to HAI President and CEO James Viola, HAI Director of Flight Operations and Maintenance Zac Noble, and the panelists in the Jul. 8, 2021, HAI@Work webinar "Fatigue and Maintenance Duty Cycle Management." To learn more about how to mitigate the risk of fatigue in your operations, watch the recording of the webinar at hai.rotor.org/Vx45u9.

ISTOCK/SVITLANA HULKO

Photos and text by Dan Sweet

Rear Admiral Melvin W. Bouboulis, District 13 Commander, US Coast Guard

The Coast Guard's longest-serving aviator reflects on opportunities in the service for meaningful work, transferable skills.

BEFORE RETIRING THIS YEAR after 36 years of service in the US Coast Guard (USCG), Rear Adm. Melvin Bouboulis served as commander of Coast Guard District 13. There, he was responsible for all USCG operations throughout the Pacific Northwest, which includes more than 4,400 miles of coastline, 600 miles of inland waterways, and a 125–nautical mile (nm) international border with Canada.

As a Coast Guard aviator, Bouboulis flew all his aviation field assignments as an operational pilot and participated in the historic Hurricane Katrina response in 2005. He is qualified on the MH-65 Dolphin (A, B, and C models), MH-60 Jayhawk, and HC-130 Hercules aircraft, accruing more than 4,000 total flight hours. He holds private, commercial airplane, helicopter, and airline transport pilot licenses.

At the time of his retirement, Bouboulis was the longest-serving Coast Guard aviator, earning him the distinction of being the service's 26th Ancient Albatross.

ROTOR: What, if any, issues related to rotorcraft is Coast Guard District 13 facing today, and are other districts facing the same issues?

Bouboulis: The issues facing rotorcraft in District 13 are similar to the issues in other districts and, really, the Coast Guard at large. We're looking at our asset laydown, our aircraft are aging, and we're talking about future vertical aviation. The Department of Defense's solution to future vertical aviation is still in progress. So, maintaining our aircraft and siting them in the right places is probably the biggest challenge we have today. We're not doing anything in District 13 to change the siting, but the Coast Guard is looking at how we maintain our fleet of rotary-wing assets and how we put them in the best places.

There's also going to be a concerted effort to change the structure of the Coast Guard or the fleet status where we're going to increase the number of Sikorsky H-60s we have and decrease the number of 65s. The H-60 has greater endurance and capabilities in some areas, and the Airbus MH-65 is now 35 years old, so we're going to maintain it for another 15 years. I think decreasing the number of assets we're trying to maintain will help us, as we can use the current inventory of parts and airframes we have to sustain those lower numbers.

How are you dividing your fleet between ship-based and land-based aircraft?

All of our new cutters—the national security cutter, the polar security cutter, offshore patrol cutters that are shipboard capable—will be designed to handle the H-60. We initially bought a Navy variant of the H-60 that had blade-fold and tail-fold capability. But due to the lack of use we had on those systems and the maintenance and sustainability challenges, we

removed most of those capabilities. Now, we're putting that tail-folding capability back in. Whether the aircraft have the equipment and can actually do that will depend on where they're stationed or are aboard ship.

The MH-65s will continue to deploy, I expect, throughout their lifetime. We're using 60s for airborne use of force and are looking for them to perhaps take on some of those other armed missions that we've used the 65 for in the past.

How long might it be before the fleet change takes place?

I don't have particular time frames. I would say the MH-65 is still planned to be flown into the mid-2030s. It's going to be close to a 50-year-old aircraft when we're done flying it. And we'll drift the number of MH-65s down as we bring more H-60s into the fleet, which I see staying indefinitely.

As we expand the fleet, we do have older airframes, but we're getting new, 20,000-hour airframes. And we're doing a modified service life extension program [SLEP] where we get used airframes from the Navy, and then we convert those to Coast Guard airframes. So we do have a means of refreshing the 60 fleet. And again, future vertical aviation will inform what we're going to do beyond the 2030-to-2035 time frame.

Your district includes Oregon and Washington, known for treacherous seas and weather. The Coast Guard used to have the mentality that you have to go out on a mission, but you don't have to come back (survive). How have you changed that mindset in the Coast Guard?

I've been doing this for 30-plus years and flying well over 20 years. And I've had my fair share of harrowing cases, events, and weather situations. That mantra really is old-school. I think we've matured as an organization as we've endured some mishaps along the way.

We have a robust and committed safety management system within the Coast Guard, particularly within aviation. We took a real hard look at ourselves, I would say in the 2007 to 2015 time frame, where we had a rash of mishaps that was a little surprising for us. We looked hard at aviation and purposefully changed that philosophy.

As an aviator, I always approached every case like it was my mom or brother out there, and I can say, I've lived the change of that mantra.

We were authorized to press the limits of the aircraft, even damage the aircraft if there was a likelihood of saving lives or reducing pain. But then, the underlying responsibility you have to your crew and really to the American public is to be good stewards of those resources, bring the crew back, bring your aircraft back so you can go out and go again.

If you go out and lose an aircraft and a crew, you're done—and I would consider that a mission failure. There'd be those times, too, where I'd have to look critically, and I'd say, even if it was my mom or my brother, "Not today. We have to live to fly again."

One of the biggest problems facing commercial rotorcraft aviation is pilots who fly into IMC. Coast Guard pilots are known for being safe. How does the Coast Guard prepare its pilots to work in adverse weather, and what can the commercial industry learn from you?

It's interesting, because I think we're learning as much from the commercial

continued

industry [as they are from us]. [That being said], just by our mission profile, we're probably exposed to the risk of going inadvertent IMC more than some others. We train pretty rigorously on that.

Like the commercial industry, we have annual proficiency checks where we test things that we can't do in the aircraft. We get our instrument tests done, and then we practice some instrument flight and navigation off radar and those types of things. And we have procedures in place for when you go inadvertent IMC.

Obviously, the situational awareness depends on your action. But you turn around and try to get back and establish VMC, or you have some type of exit strategy where you know to climb on a safe bearing, get up to a certain altitude, and pick up an approach or get radar handling to help. Maybe you work with air traffic control or the [mission] controllers to get you back to VMC.

For some of our missions, we plan on going in instrument conditions.

I think we probably need to practice a little more often purposefully going into IMC out to a point with ATC coverage, establish a radar scan, and then do a due-regard letdown and descend, and step down until hopefully you can make visual conditions again.

Does it help that you're dual-crewed so that the pilots can bounce thoughts back and forth between each other and work different parts of the panel?

Oh yeah, I think so. The H-60 is designed for dual crew, so we fly them all the time. The MH-65 is designed for single-pilot operations, but we require dual pilots in instrument conditions.

And I will tell you, it's highly beneficial, if not critical, to have that other trained pilot, who's there to help distribute the workload with radar, radio communications, monitoring conditions, or just backing you up on your approaches.

We do some interesting stuff. We'll do IMC approaches down to the water into a coupled hover, and bring an aircraft down and break out at a hundred feet, or come into a hover at 50 ft. and then see if we can see the water. That's pretty intense stuff. And while we have a lot of automated systems that will help with that, it's always good to have somebody backing you up and maintaining that awareness.

How does the Coast Guard interact with other government or law enforcement agencies?

The Coast Guard has 11 statutory missions. We do everything from law enforcement to environmental protection to protecting living marine resources. Of course, search-and-rescue is one of those vital missions. And in all those, we work with other federal, state, and local agencies.

We operate globally, but for most of our operations, particularly in District 13, we work with all the federal partners, state, local folks, and tribal organizations. I can think of numerous examples where we've either worked for or helped an agency, such as finding lost climbers in Olympic National Forest. Law enforcement agencies have also asked for our help providing surveillance of nefarious activity.

We also work with Canada on a regular basis, for search-and-rescue, environmental response, and law enforcement. We've helped evacuate firefighters from encroaching fire.

The USCG is starting to do much more with simulators. How have you used simulators in training your crews?

We've been using them since I entered aviation. Their quality and fidelity have only improved over time, to the point where they're on par with commercial simulators. We've expanded their use to not only our helicopters but our fixed-wing fleet, as well.

We can now use simulators for airborne use-of-force missions to couple the flight mechanic or air gunner position with the cockpit or pilot portion of the simulator, so you can have two simulators running at one time and conduct practice runs, intercept maneuvers, fire warning shots, and those types of things.

The commercial industry is experiencing a shortage of pilots and mechanics. Is this affecting the Coast Guard, and what's the service doing to maintain the level of staffing needed to conduct missions?

We've had challenges, but the Coast Guard is an exceptional organization that has meaningful, important missions. I'd encourage anyone who wants to do something meaningful, to seek adventure and opportunities, to consider the Coast Guard.

But there's no way around it. The shortage in commercial aviation is growing. We continue to try to incentivize people to come into the service, and we train well, but retention is a concern.

I think the Coast Guard—and all the armed services—needs to look at its compensation systems and make sure we're continually competitive on the commercial side. Again, I think the value or the importance of the mission helps us with retention.

One of the other things we try to do is train people and—it may sound counterintuitive—get them their civilian credentials so they can transition to the commercial workforce after leaving the Coast Guard. The idea is, if we keep people through a full 20-year career or even beyond and they're still young enough to go out into the commercial world, we can actually be a feeder into the commercial aviation industry.

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PHOTO BY MARK BENNETT

LA County Fire Department Air Operations

Teamwork in Action

By Paul Gottwig

Crews across the operation must join together to save lives on the line.

LOOK BACK at the 61-year history of LACFD Air Operations

EVERY HELICOPTER OPERATOR has the same goal: to ensure their aircraft and crews depart and return safely with the mission accomplished. Between that departure and return is the essence—and promise—of rotorcraft operations: there are no limits to what a well-trained crew in a well-maintained aircraft can accomplish.

Los Angeles County, California, comprises the city of Los Angeles and a wide variety of terrain, including mountains, forests, desert, Pacific coastline, and Santa Catalina Island. The Los Angeles County Fire Department (LACFD) has many different missions, including providing more than 9 million county residents and visitors with air ambulance, search-and-rescue, and fire protection and response services. The LACFD Air Operations section operates 10 aircraft: 5 Sikorsky S-70s and 5 Bell 412s.

Air Operations missions run the gamut from landing on a highway to pick up a person injured in a traffic accident to conducting high-mountain hoist rescues to fighting wildland fires. Each of these missions—and I could list many more—has its own set of risks and technical challenges. To be safely and successfully completed, each requires a slightly different set of skills from LACFD personnel. Molding these dedicated public servants into a smoothly operating team is essential to safety as well as to efficient mission completion.

Air Operations Organization

In Air Operations, the typical daily staffing consists of three air squads who each crew, respectively, an aircraft assigned to calls from north, west, or east sections of Los Angeles County, with the east county air squad responding to calls from Santa Catalina Island when needed.

The type of aircraft assigned to an air squad depends on several factors, such as time of year, weather forecasts, and of course, maintenance availability. During a typical fire season, Air Operations will field an additional crew and aircraft to fulfill helicopter coordinator duties, and the county will lease two Canadair CL-415 "Super Scoopers" and a Type 1 helitanker. During times of extreme fire danger, an additional aircraft dedicated to water drops may also be used. At times, the Air Operations team has as many as five aircraft with full crews operating in a single day.

Each aircraft is typically crewed with a single pilot and two firefighter paramedics; based on mission requirements, additional personnel may be added. Like most fire departments running 24-hour operations, the LACFD uses a shift-based schedule. Beginning at 8:00 am, three shifts operate on a rotating basis to accommodate scheduled days off and rest periods for the firefighters. Air Operations operates on the same schedule, only with the pilot staff working a four-shift schedule to accommodate additional crew rest days, if needed. The aircraft maintenance staff

operates on a daytime schedule, five days a week, with on-demand overtime available if needed to support operations.

Maintaining Readiness

Maintenance personnel are at the Air Operations hangar first thing in the morning, at 6:00 each day. They begin with a planning meeting to coordinate maintenance priorities and individual assignments, followed by daily maintenance inspections of the three aircraft on call that day. Once the inspections are completed, the aircraft are released to the assigned aircrews for preflight and mission preparation.

This emergency rescue of a person who fell from a cliff onto the rocky Pacific shoreline is a prime example of some of the challenges LACFD Air Operations faces: rugged conditions for aircrews and ground crews alike. *(Mike Leland Photo)*

However, completing the daily inspections is only one tiny part of the work the maintenance section is responsible for. LACFD Air Operations performs the vast majority of its helicopter maintenance in-house. On any given day, you'll find one or two aircraft in various states of teardown, undergoing an annual or five-year inspection. Other common sights are maintenance technicians rebuilding a turbine engine in the engine shop or sanding down and repainting rotor blades in the paint shop.

Every LACFD maintenance technician attends multiple schools, resulting in a maintenance team with a wide range of capabilities. This gives the maintenance chief the ability to rapidly transition people from one job to another, which is essential in a multimission operation that requires 24/7/365 readiness.

During any mission, an issue can arise with a specific piece of mission equipment, or the aircraft itself, that limits or prevents its ability to continue. Typically, that aircraft is replaced by a spare aircraft. However, during a long fire operation in which all assets—aircraft and staff—are stretched to their limits, fixing a specific squawk or issue as quickly as possible is essential and, at the same time, very difficult.

The dedication of the Air Operations maintenance section cannot be overstated. I have personally experienced coming off a fire and calling in to the base to alert them of a squawk. As I landed, I was greeted by one or two of our maintenance techs running to the aircraft, parts in hand, ready to complete a fix and get the aircraft back up and running as soon as possible. This kind of dedication and teamwork is what makes LACFD Air Operations a special place to be and an incredibly fulfilling place to work.

Maintaining Awareness

While the maintenance crew is conducting the daily maintenance inspections on the aircraft, the aircrews conduct a lineup meeting. Led by the assigned air captain, this meeting is an opportunity for the aircrews to discuss any pertinent department business, conduct continuing education, brief any temporary flight restrictions in the area, and coordinate any follow-on support missions or aircraft training requirements. This is also when aircrews discuss at the unit level any prior completed missions and pass on any lessons learned.

Ensuring that all Air Operations team members have the same level of mission readiness, including procedural, situational, and risk awareness, is a high priority. Achieving a consistent flow of information in a shift-based organization is an ongoing challenge.

To ensure coverage across the entire Air Operations team, every piece of knowledge and all training must be duplicated and disseminated for each of the three shifts. If someone has taken a day off and missed a shift where training took place, follow-up training must be coordinated. Lessons learned that are passed on during one day's lineup meeting must be communicated to all personnel who were not present.

Learning to operate effectively and consistently in a constantly changing environment is difficult and can require

Daily lineup meetings are important in disseminating a broad range of information, from administrative to flight-critical, among all the flight crews. *(HAI/Mark Bennett)*

a great deal of training time. Air Operations depends heavily on the expertise and dedication of its pilots, mechanics, and paramedics. The hiring criteria for pilots and mechanics are high, as are the expectations for its firefighter paramedics. These exacting standards are necessary, given that the majority of flight time and effort in Air Operations goes toward completing actual missions and maintaining aircrew proficiency. This leaves little room for initial pilot or crew member training.

A new hire must be able to learn and adapt quickly, understand and decipher complex situations, and apply on-the-fly risk-management principles to safely accomplish missions in rapidly changing and/or harsh environments. It is not unusual for a single flight to begin with a night-vision goggles overwater mission to Santa Catalina Island—often in adverse weather—and end with a wind-buffeted hoist operation in a narrow canyon at altitude in the mountains.

Given these mission complexities and the rapidity and frequency of in-flight mission changes, the synergy of the aircrew is essential. Maintaining a high level of trust, respect, and mutual cooperation between each team member is critical. When operating in extreme close proximity to obstacles or other aircraft, often from other agencies, a quick, concise word from a crew member can mean the difference between success and disaster.

A "Standard" Hoist Rescue

The number of variations an aircrew may have to contend with when showing up on-scene for a seemingly routine hoist is too many to list. Every operation has different

Continues on p. 34

It's a multiperson project removing the twin Pratt & Whitney Canada PT6 engines from one of the unit's Bell 412EP helicopters. Engines requiring time-based maintenance are sent back to the manufacturer for complete overhaul. *(HAI/Mark Bennett)*


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terrain, altitudes, weather, and victim considerations, each one potentially raising the risk to an unacceptable level.

Once on-scene, the topside paramedic, who typically rides in the left seat of the cockpit during flights, moves to the cabin to operate the hoist that lowers the downside paramedic to the ground. The pilot is then alone in the cockpit, in true solo flight.

In the midst of a long day of flying, training, responding to calls, and sitting on watch, crew chief paramedic Mike Nelson previews the location of an incipient callout on his mobile phone while the author guides the Sikorsky S-70i away from its base at Barton Heliport (KPAI) in Pacoima, California. *(HAI/Mark Bennett)*

During hoist operations, the pilot must divide his or her attention between monitoring the aircraft's systems, a particularly important task when operating the aircraft at the limits of its performance, and maintaining a stationary out-of-ground-effect hover. The pilot depends on the topside paramedic operating the hoist to communicate clearly and succinctly about the movement of the aircraft in and around the hoist location, at times down to 1-ft. increments. The topside paramedic must also communicate to the pilot about the location and movement of the downside paramedic dangling from the hoist cable.

After inserting the downside paramedic into the scene, the topside paramedic performs a radio check to ensure that communications between the aircraft crew and the downside crew are operational. While the aircraft circles the response area, the downside paramedic assesses the needs of the victim, communicates to the aircraft crew any additional needs for equipment or support, provides any on-site treatment, prepares the victim for extraction, and then calls for extraction.

While this process is taking place, the paramedics determine the appropriate destination hospital, and the pilot calculates routing, fuel, and weather considerations. After being called in by the downside paramedic, the aircraft will extract the victim and downside paramedic and fly directly to the destination hospital. Once the aircraft has landed

In the mountains northeast of Malibu, fire suppression aides (FSAs) from Air Attack 8-1 file back to their facility, LACFD Camp 8, after a short flight that launched on what turned out to be a false alarm. *(HAI/Mark Bennett)*

and the victim has been transferred, the aircrew normally completes a quick debrief of the operation on the helipad before returning to base.

A "Standard" Wildland Fire Insertion

The Air Operations team also services other LACFD missions. In the wildland fire season, Air Operations is often tasked with transporting a team of fire suppression aides (FSAs) to a brush fire and inserting them tactically somewhere near the fire line.

FSA insertions often require Air Operations pilots to land in remote areas, sometimes using a single-wheel landing or landing in a very small area. When selecting landing zones and during the insertion, good communication among aircrew members is, again, extremely important. During the landing and off-loading sequence, the aircrew must maintain a quick but comprehensive scan that extends all around, over, and under the aircraft to enable the pilot to maintain his or her focus on steady aircraft control.

After insertion, the FSA crew hikes to their assigned area on the fire and begins "cutting line." By cutting or scraping away any vegetation that would fuel the fire, the FSAs create a fire line that will stop or slow the fire's spread.

Before proceeding to the next assignment, which will most likely entail dropping water on areas as indicated by the LACFD incident commander, the aircrew first checks in with the FSA crew to ensure that the two crews can communicate.

While conducting water drops, the aircrew will occasionally check in with the FSA crew to get an update on their status. The aircrew is prepared at any time to recover the FSA crew from a hastily selected landing area should evacuation be needed.

This type of interdependency requires a high level of mutual trust and cooperation. The LACFD builds this relationship by encouraging the aircrews and fire suppression crews to work, dine, and participate in physical fitness activities, such as group sports, together while waiting to be called into action.

Maintaining Quality

Regardless of what was accomplished or how well the response was completed, each mission conducted by an Air Operations crew is debriefed after landing. The aircrew reviews the mission for adherence to standard practices, lessons learned, and any other pertinent information that should be brought forward to the larger organization.

No detail is unimportant, nothing is taken for granted, and personal egos are left behind. The team maintains a constant eye toward improving operational efficiency, risk management, and the public service ethos that form the foundation of the Air Operations section of the Los Angeles County Fire Department.

FAA–VA Disability Probe SNAGS Military Vet Pilots

Differences between FAA medical records and veterans disability ratings jeopardize aviators' certificates, livelihoods.

By James T. McKenna

US HELICOPTER PILOTS ARE TRYING TO MAKE sense of a yearslong government examination of airmen medical certifications and military disability benefits that has ensnared veterans in records-falsification accusations, jeopardizing their flying careers.

The FAA's cross-checking of former military pilots' medical-certificate applications with US Veterans Affairs (VA) Department disability-benefit records has raised concerns about exacerbating the current pilot shortage and invading pilots' privacy while highlighting confusion over disability-related red tape.

Veteran Helicopter Pilots under Scrutiny

Greg Reigel, a partner at Shackelford, Bowen, McKinley & Norton, a law firm based in Dallas, Texas, has been helping pilots respond to the ongoing investigation and says the FAA's investigative efforts are wide-ranging and likely to grow.

HAI/PAUL SMITH

Reigel has heard from pilots throughout the United States who've received FAA notices, noting he gets multiple calls a week from aviators who have either been identified by the FAA or otherwise become aware of the issue. He's "fairly confident" the agency will send a letter asking every pilot holding a medical certificate who is also receiving VA disability benefits to supplement their medical records with information regarding the disability.

The FAA, responding to industry pleas, in June laid out a path for pilot veterans to reconcile medical records that triggered reviews. But that response, which can include emergency certificate revocations and criminal prosecutions, falls short of the amnesty sought by the aviation industry and offered in past investigations, and can leave pilots ineligible to fly for months or more. Moreover, more pilots are at risk of being investigated.

In a Jun. 15 letter, FAA Deputy Administrator Katie Thomson said several thousand pilots appeared to have questionable medical records. (The FAA said that figure represents "just under 1%—just under 4,800—of the country's 600,000-plus certified pilots.") Roughly 2,550 cases had been resolved, she wrote, with some 60 pilots told to "cease flying unless and until" they address disqualifying medical conditions.

Thomson was responding to Aircraft Owners and Pilots Association (AOPA) President Mark Baker's call for amnesty, similar to requests made in the late 1980s for airmen amending medical certificate applications to report driving-while-intoxicated/under-the-influence (DWI/DUI) convictions and, in 2010, use of antidepressants.

"Airmen need a clear pathway to correct their FAA medical records," Baker said in a Mar. 30, 2023, letter to the agency.

HAI is working with AOPA to address the FAA's actions and answer pilots' and operators' concerns about the potential impact of the medical-records scrutiny on their livelihoods and businesses.

"Military veterans are significant contributors to the civil helicopter industry's effectiveness and success," says HAI President and CEO James A. Viola, a 24-year US Army aviation veteran.

HAI Director of Flight Operations and Maintenance Zac Noble says the medical-records scrutiny, "whether it's intended or not, is putting a big fear into the helicopter community."

Military helicopter pilots spent a great deal of time over the past two decades in combat and support operations in Afghanistan and Iraq. Much of that flying was in conditions, such as at low altitudes, wearing night-vision goggles, and in close contact with the enemy, that contribute to VA disability claims. "A large number of those folks who were engaged in that stuff over the last couple of decades are out there wiggling sticks for our industry right now," Noble says.

The current probe may indeed involve many helicopter pilots, says Lakeland, Florida–based aviation attorney Anthony Ison. "My perception is that it's more helicopter pilots [than fixed-wing]," he says. "It seems like I've talked to more helicopter pilots over the last several months than I ever have before just because of this issue."

Question 18y

The scrutiny hinges on how a pilot answers Question 18y of the FAA Form 8500-8, "Application for Airman Medical Certificate." Question 18 concerns a pilot's medical history and lists 23 conditions, with yes or no checkboxes next to each to indicate whether the applicant has ever had the condition. The condition for 18y is "medical disability benefits."

If an applicant checks no for 18y but is found to have received any disability benefit, several lawyers explain, that person is vulnerable to an FAA charge of falsifying a record. Under 18 USC 1001, providing false statements to any branch or agency of the federal government is against the law.

And proving falsification there is easy, lawyers add. "That's really low-hanging fruit for the FAA," Reigel says. The combination of an 18y checkbox marked no and disability receipts or direct-deposit payments are all that is necessary to meet the legal requirements of proof.

If the FAA proves that an applicant made a false statement, even if he or she did so unintentionally, the agency can still revoke the applicant's medical certificate. If it can prove intentional falsification, the agency can revoke all the applicant's airman certificates as well as the medical certificate.

US agencies have long investigated pilots' medical certificate applications, says Kathy Yodice, a former FAA managing attorney who is now in private practice in Potomac, Maryland, and handles cases involving the FAA and VA benefits.

"The FAA wants to know if there are medical issues associated with the disability benefits," Yodice says. "This is just another way to get that medical information revealed so the FAA can consider it and then determine if the individual is qualified for a medical certificate or a special issuance medical certificate." (The latter covers 15 medical

If the FAA Requests Information on Your Military Disability Records ...

... HAI recommends that you do the following:

- Reply to the FAA within the timeline indicated, even if your response is to request additional time
- Allow sufficient time for the time-consuming, painstaking process of correcting any inaccuracies in your military medical records
- Keep your military medical records and your Veterans Affairs disability award letter in a safe, convenient location so you can easily access those details.

conditions that would otherwise be disqualifying.) "The FAA legal office gets involved if they can establish that there was either an inaccuracy or an intentional falsification of information provided by the pilot on the medical application form."

Reigel agrees. "The FAA's initial priority is determining medical certification," he says.

There seems good reason to investigate. One veteran we spoke with says he intentionally avoids updating his 8500-8 out of fear of creating problems with the FAA. Another estimated that, while a great number of veteran disability claims resulted from US operations in Afghanistan and Iraq, "75% to 80% of the claims out there are inflated at best and fraudulent at worst."

Adds Yodice, "The FAA is disturbingly finding that there are many veterans who have not disclosed the medical conditions for which they're receiving compensation. Some of those conditions and their treatment (or avoidance of it) are pretty concerning from an aviation safety perspective."

Where There's Smoke ...

Past investigations into pilot records have uncovered behavior that led to revocation of medical certificates or criminal prosecution. In 2003, Yodice says, the inspector generals (IGs) for Transportation and the Social Security Administration launched Operation Safe Pilot, a joint investigation of pilots claiming Social Security disability benefits but not including that information on their medical certificate applications. Joined by the office of the US Attorney for Northern California and the FAA's Western-Pacific Region Office of Aerospace Medicine, the 18-month probe looked at 40,000 pilots living in northern California. (Yodice was heavily involved in that operation.)

The probe found 3,220 pilots holding current medical certificates and collecting disability benefits, including 48 receiving full-disability payments for conditions that should have disqualified them from holding those certificates. More than 40 pilots were prosecuted. A similar investigation followed on the East Coast.

Spearheaded by the VA IG's office, the scrutiny around VA benefits has been going on for several years. In August 2018, for example, a San Francisco federal grand jury indicted four airline pilots for making false statements by denying medical conditions for which they received such benefits. One was convicted and two pleaded guilty. The status of the fourth case couldn't be determined.

Ison opened his aviation law practice with his brothers (one also a lawyer, the other a chiropractor) in 2016. From the start, they've been dealing with VA disability issues relative to the FAA. "This isn't something new to us," Ison says. "The VA will show up at somebody's doorstep and start asking about discrepancies between their VA disability benefits and their medical applications. Then it turns into a medical question at the FAA."

For their clients, Ison says, he and his brothers would work with the FAA to sort out the issue before it became a problem. "It's something that was fairly common," he adds, "but wasn't at a level of catastrophe, which is where it went."

The scrutiny of medical certificates and disability benefits moved from "common" toward "catastrophe," Ison says, in mid-2022. Airmen began receiving Letters of Correction or Letters of Investigation from the FAA that referred to an "AAM special project." AAM is the FAA's designator for its Office of Aerospace Medicine.

"'Special project' indicated to me that there was a task force that was maybe going to make this a larger-scale issue," Ison says. "The next thing you know, it was on a much larger scale than we had ever seen."

That made the Isons concerned "that pursuit of airmen receiving VA disability benefits will go beyond a few isolated airmen."

Indeed, lawyers are skeptical of the FAA's estimate that the probe will affect only around 4,800 pilots. "They do not seem to equate to what we're seeing in our practice," Yodice says. "We, alone, have seen at least a dozen revocation actions and a few dozen who have been able to simply correct their applications.

"It's unclear, and the FAA isn't telling us, how it's making the decision in each case to allow the pilot to make the necessary correction and provide medical information or proceed with enforcement action," Yodice continues.

A practical policy for ensuring that a pilot safely holds a medical certificate (and for protecting the system's integrity) "and having the FAA share their policy for handling these cases would make for a more just administration in getting these matters cleared up quickly," Yodice adds.

Another change came earlier this year when airmen began to receive what Ison calls "letters of reconciliation." Holders of first-class medicals (air transport and airline pilots) had until Jul. 31, 2023, or the expiration of their current certificate to submit a new application and visit their aviation medical examiner (AME) for a new physical exam. Holders of second-class medicals (commercial pilots) must take those steps by Jan. 3, 2024, or the expiration of their current certificate. The same applies to third-class medical holders.

These letters warn airmen that their new applications need to report all VA disability benefits. Ison says failure to do so could lead to enforcement action. "Now, rather than a knee-jerk reaction to prosecution and revocation, they're giving airmen an opportunity to amend their applications," Reigel says.

But the AME may be unable to issue a new certificate to an airman under investigation. Reigel and Ison say the application may go to the FAA's Aerospace Medical Certification Division in Oklahoma City, Oklahoma, for review.

Privacy Concerns Unfounded

Many pilots are troubled by an apparent invasion of privacy in these cases, believing that federal law—specifically, the Health Insurance Portability and Accountability Act (HIPAA)—limits use of their medical information without their authorization.

Privacy was a significant issue in Operation Safe Pilot. In that initiative's wake, the FAA in 2008 changed Form 8500-8 to provide notice that it will compare data with that of other agencies regarding disability benefits paid to the applicant. Another 2008 change was the addition of Question 18y.

Likewise, VA regulations (38 CFR 1.506) state that the department shall furnish "all records or documents required for official purposes by any" US department or agency.

In other words, it is the stated policy of both the FAA and the VA that they share data with other federal agencies and, since 2008, the FAA has notified all applicants for airman medical certificates of that fact.

Quantifying Disability

A complicating factor is confusion among veterans, the FAA, and the VA about the meaning of disability benefits. The FAA stance, at least initially in an investigation, appears to be that any amount of disability payment dictates that the answer to Question 18y be yes.

Some veterans say the VA doesn't consider someone disabled unless impairment exceeds 30% of physical or mental capacity. That threshold is the trigger for a veteran to be placed on the so-called "disabled roster," which brings an individual greater VA benefits.

"If you're 30% or less, you're not on the disabled roster," says a veteran who flew military helicopters for 19 years. "They use the disability roster as a litmus test for whether or not you're considered to have a disability."

This veteran suffered bulging cervical spine discs and spinal stenosis, a result of years of flying in a vibrating cockpit, often under the weight and counterweight of night-vision goggles. Periodic brachial plexus has caused numbness and tingling in one of his arms and two of his fingers.

"I was only 10%," he said. "I always checked no [on 18y]."

"There are many different explanations from veterans as to why they answered no to this question," Yodice says. For instance, a lot of veterans consider VA payments compensation for service to their country. "The individuals helping these veterans when they exit the military are saying, 'This is something you are entitled to. You served your country. You deserve to be compensated for that.'"

Yodice adds that 18y is subject to interpretation. "A lot of veterans don't consider disability benefits to be the result of any existing medical condition that affects anything they do," she says. "If the FAA really wanted to know about programs such as workers' compensation, VA disability programs … put it in the instructions. Give the individual a fighting chance to answer the question yes before jumping to an accusation of intentional falsification and revoking all the certificates they spent a lot of time and money earning."

Another unfortunate effect of the FAA's decision to probe veteran pilots' disability records? "I've had a number of clients with a condition they needed to disclose that was not going to be disqualifying," Reigel says. "For whatever reason, they didn't check the box. Now, they're stuck."

"It is imperative that the FAA and VA use a transparent, fair process to resolve any discrepancies in the disability records of veteran pilots," says HAI's Viola. "That is what we owe our veterans—and it is also essential for the vitality of our aviation community."

My Land & LIVE Story

Palma Bay, Alaska

Plan for the worst and watch out for bears.

By Trever Walker

MY COMPANY, WINCO POWERLINE SERVICES, was recently awarded a small job in Alaska. Getting there was no small feat. Getting back, it turns out, was a much larger feat.

Preparation

As the pilot in command on this trip, I spent weeks preparing—setting up my eAPIS and DTOPS accounts with US Customs and Border Protection and filing a firearms declaration with the Canada Border Services Agency, to name just a few things on my to-do list. I was getting acronyms thrown at me that I had never heard of in my 28-year career as a helicopter pilot.

Next step was survival gear. I thought long and hard about what I and one passenger would need if we ended up stuck somewhere.

On Jul. 13, 2023, my coworker and I loaded up near-max gross weight and departed Oregon's Aurora State Airport (KUAO) for Alaska. We made it to Anchorage in two days' time. The weather was beautiful. We had timed the brief Alaskan summer perfectly.

On the way up, I noticed that we were not receiving the SiriusXM Aviation channel, but we were using ForeFlight extensively for

weather briefings (METARs and TAFs) and ICAO flight plans through Canada. We also used FIS-B weather in flight when available, as well as weather cameras when we had cell service. I asked our director of maintenance to check into the availability of the SiriusXM channel, and, sure enough, SiriusXM Aviation is not currently offered in Alaska.

We completed our little job after sitting in instrument meteorological conditions (IMC) for a few days and began our trip back to the Lower 48. The weather briefing looked great. The low-pressure system that had created the IMC a few days earlier appeared to have moved offshore.

The Journey Back

We landed at Yakutat Airport (PAYA) for one of our planned fuel stops and grabbed a quick bite to eat at the restaurant on the field. There are many places where cell coverage is not available, and Yakutat is one of them. No cell, no XM weather, but blue sky in Yakutat—I figured the weather would be good for the next leg, which would be another 200-plus mi.

We were approximately 80 nautical miles (nm) from our destination when we started noticing overcast weather and then rain. We continued on course down the coastline. About 70 nm from our destination, the ceilings started to come down: 1,000 ft., 500 ft., and getting lower as we inched along.

At that point, I knew we had to land. From what I saw during the flight up in clear skies, we didn't have many options for landing zones—glacier, timber, and salt water, in that order. I saw very few beaches that offered suitable landing sites.

RON on the Beach

I came to a stop at Palma Bay on the Gulf of Alaska, which offered a beach landing up by the tree line and far enough from salt water at high tide. This was a rocky beach—in fact, the only wet sand we saw, near the shore, had fresh bear tracks in it.

I managed to get out a text message via a satellite tracking system to our director of maintenance. I'm religious about checking in with him about our location and status. I'd turn on the aircraft's battery about every hour and 15 minutes for METAR and TAF reports and a look at the weather cams.

We waited patiently, hoping for a break in the weather, until 9 pm, when conditions worsened. At that point, we knew we were RON (remain overnight).

The first order of business was to get a fire going. I've built plenty of fires in my time—although my wife is better than me at this skill—but none were built out of waterlogged wood. And with all the bears we saw before we arrived at our anything-but-cozy beach, I wasn't about to go hiking through the forest looking for tinder.

Luckily, we brought our own fire starter—in our fuel tank. I sumped approximately 8 oz. of Jet A into our sump jar. If you're not in the habit of sumping your fuel, it's never too late to start. This skill comes in handy in a variety of situations!

We then cut strips of a microfiber towel and soaked it in the Jet A to use for kindling. It worked quite well.

Now that we had a blazing fire, it was time to settle in for the night. I brought a .45-70 rifle with me for wildlife protection, hoping that I wouldn't have to get it out of the

case. Needless to say, I slept maybe an hour and my coworker didn't fare much better.

In the morning, I turned on the satellite tracker and checked my texts. The weather was still garbage at our destination. However, another airport that was approximately 40 nm away from our destination was showing 1000BKN.

Is that 1,000 ft. broken or 10,000 ft. broken? I wish I'd paid better attention during that weather class.

I confirmed with my director of maintenance (aka my flight follower) that the weather at that nearby airport was 10,000 ft. broken and 7 mi. visibility. Unfortunately, that didn't matter much because it was dense fog where I was. I knew I didn't have the fuel to dillydally, and when the weather broke, I wanted to make a straight shot.

Around 10 am, the weather finally broke enough to where I could make out a defined overcast. I could also see some mountainous peaks that hadn't been there when I landed on that wonderful beach. We fired up and got one last confirmation that the weather at the adjusted destination was still good. I aimed for the clear spot near the mountain peak and, *poof*, we were above a sea of thick fog for the next 40 nm.

We didn't see ground until we were nearly directly over our destination airport. I personally hate flying over water and am not a fan of over the top—flying over the weather is a risky maneuver, particularly in a single-engine aircraft. We fueled up the aircraft, put her to bed, and then found lodging while that low pressure took its sweet time moving farther out to sea.

Lessons Learned

I have acquired more than 11,000 accident-free hours of combined rotorcraft and fixed-wing time. But as is clear from my story, pilots must always be open to continual learning.

Here are my lessons learned, in order:

1. Listen to your gut. Don't let anything or anyone influence your decision to fly.
2. Don't ever be afraid to Land & LIVE. I've done that twice now and lived to talk about it. That's better than the alternative—when someone else must tell your story.
3. Expect the unexpected.
4. Plan for the worst.
5. If you want a job done right, do it yourself, especially when it comes to trips like these. Don't let someone else pack your survival equipment or your aircraft. Do it yourself. Sump your own fuel.
6. Be happy and enjoy the experience. Think about what a great story it will make—and take every step to ensure that YOU will be the one to tell the story.

The day after spending the night on our lovely beach, I received a call from our FAA inspector regarding other matters. I told him my story and was expecting to be told, "You should have done a better job of checking weather." I was shocked at what he did say: "Right on. Congratulations! Land & LIVE."

That statement of support has stuck with me. I thought, You know what? I did make the right decision, and I'm proud of that.

This is my story, one that I lived to tell. I want to share my lessons learned, as well as the bigger lesson that it's important to talk about experiences like this.

Out in the field, the right thing to do isn't always obvious—if it were, everyone would do it!

I hope my good outcome will help other pilots and that our industry will hear more stories FROM those who have chosen to Land & LIVE, rather than stories ABOUT those who chose the other route.

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How to Prepare for Medical License Loss as a Helicopter Pilot

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THERE ARE FEW OCCUPATIONS AS DEMANDING as a professional helicopter pilot. There are even fewer that impose the stringent health requirements demanded of every pilot. Due to these regulations, indefinite grounding can be caused by a variety of minor and major medical situations, including:

- Untreated high blood pressure
- Vision impairments
- Prescription of certain medications
- Slight medical deficiencies
- Hearing loss
- Mental or emotional disorders

Often, health professionals can help pilots work through these situations, but that does not always stop the FAA from taking medical certificates and pilot's licenses, leaving you grounded for months or even years.

Medical license loss can greatly impact the livelihoods of pilots due to the loss of income and resulting financial hardship. That's why it is critical to prepare for the event of medical license loss, even if you are generally healthy and fit.

Preparing for Medical License Loss as a Helicopter Pilot

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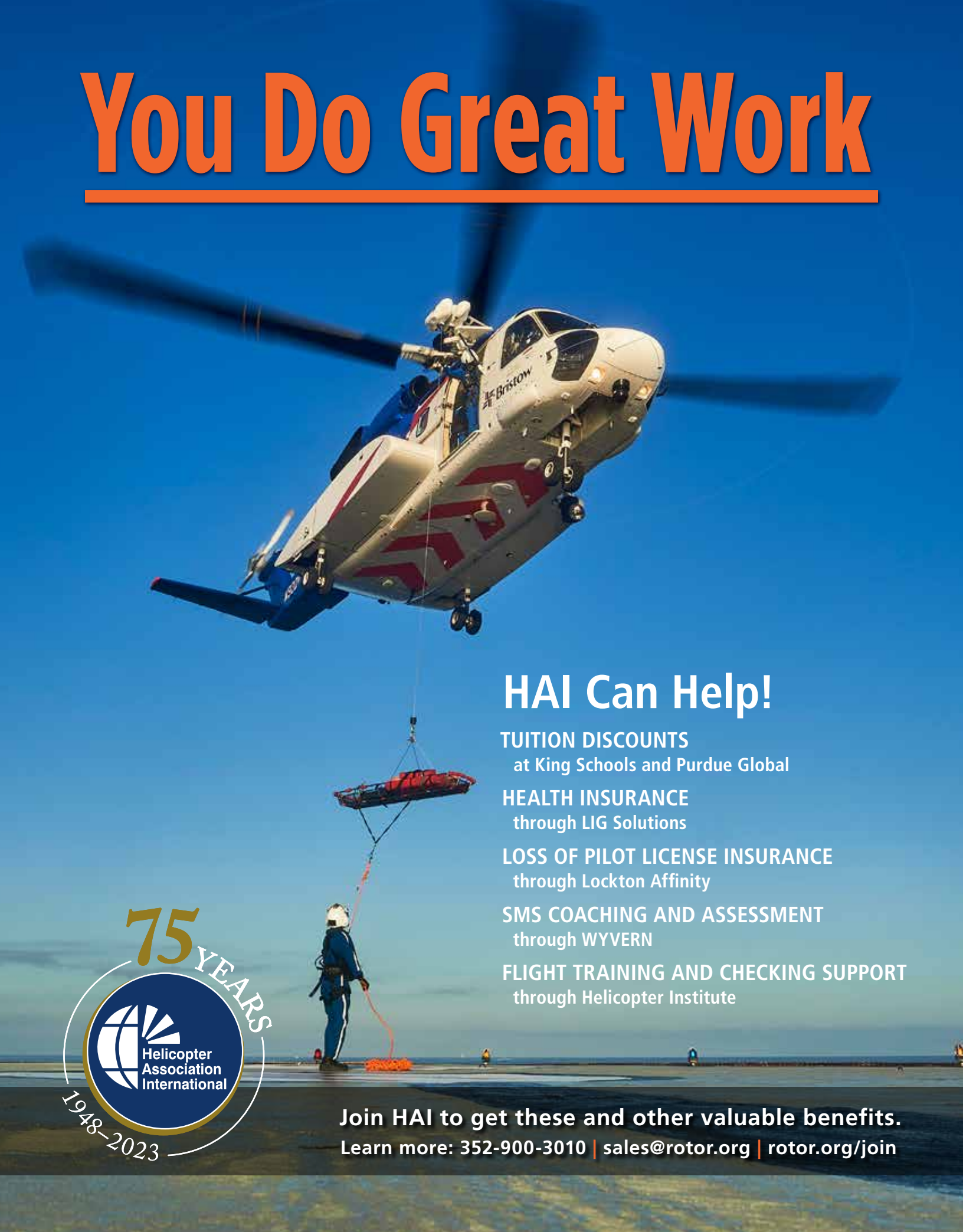

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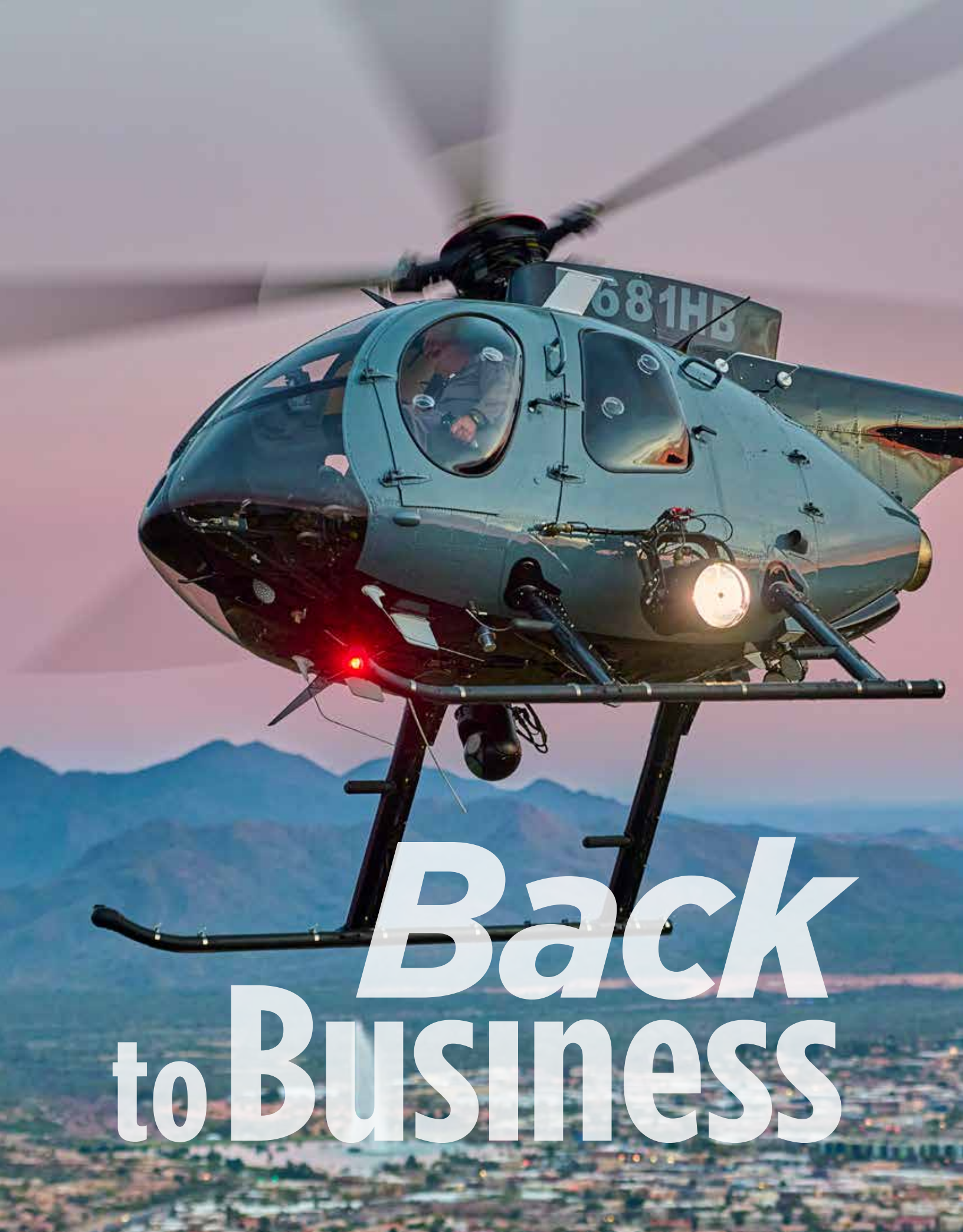

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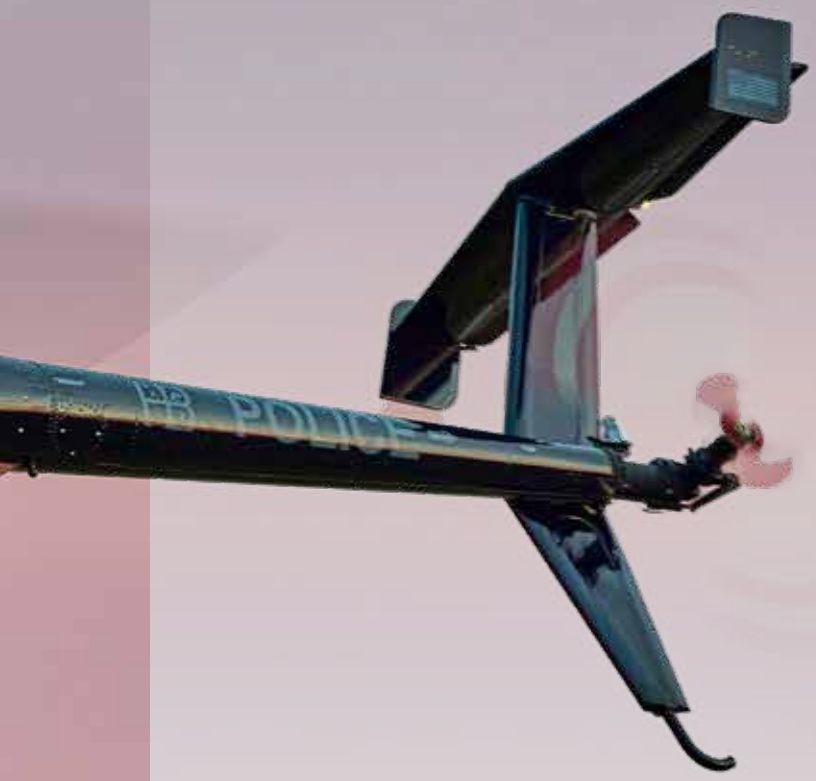

TOUR
MD Helicopters' factory in Arizona, and watch a demo flight in an MD 500

Bankruptcy behind it, MD Helicopters is determined to put customers first.

By Stacey Hershauer
Photography by HAI/Mark Bennett

WHEN IT COMES TO ROTARY-WING testimonials, few can best that of MD Helicopters, whose aircraft have been called the "Ferraris of helicopters." Pilots who fly MDs say "it feels like you wear this aircraft."

Customer feedback like this has fostered a sometimes cultlike following for the brand. But as the company itself will attest, reclaiming the OEM's position as a trusted service provider following its emergence from bankruptcy in August 2022 won't happen overnight.

The company did power-boost itself toward that goal, however, with a substantial mid-2022 leadership overhaul, installing new president and CEO Brad Pedersen, new VP of Aftermarket Sales and Support Ryan Weeks, and other critical leaders in areas such as sales, finance, marketing, and customer support.

Now, one year later, this leadership group, in partnership with more than 300 MD employees, has accomplished much—but has much left still to do.

Deep Roots, High Achievements

MD's heritage can be traced to 1932, when Howard Hughes established Hughes Aircraft Co., which was part of the Hughes group of companies for five decades, until its 1984 purchase by McDonnell Douglas. A merger with Boeing followed in 1997, followed by several additional ownership changes before the company evolved into the MD Helicopters of today.

Along the way, the company developed the OH-6 Cayuse, a single-engine light helicopter produced for the US Army. With a distinctive teardrop design that provided excellent visibility and a four-bladed rotor system prized by pilots for its agility, the OH-6 set world records for speed, endurance, and time to climb. Its civil variant, the Hughes 500, is the basis for today's MD 500 series of aircraft, which over the decades has developed a host of steadfast users.

One loyal MD customer is the Huntington Beach (California) Police Department. "We were the fifth helicopter agency established in the US and have literally grown up with MD," says Jerry Goodspeed, a sergeant in the department's Air Support Unit. "We were one of the first to receive a NOTAR [aircraft] in 1998, and we purchased a total of five before launching our search for replacements in 2021. We found that an MD—the 530F this time—was still the perfect platform for our mission.

"We fly at 800 to 1,500 ft., and sometimes up to 3,000 ft. at night to limit the sound, usually doing rotations over a

target," Goodspeed continues. "The MD keeps us agile in our airspace and gives our tactical flight officer strong visibility so that he can accurately update teams on the ground."

Brad Pedersen had worked for nearly every prior incarnation of what is now MD Helicopters, from Hughes to McDonnell Douglas to Boeing, returning when the opportunity to guide the company arrived in 2022.

A New Era

When Pedersen took the helm of MD Helicopters last year, he brought more than 35 years of aviation experience, from test pilot to C-suite, and a track record of rescuing struggling organizations. Pedersen worked at Hughes Helicopters in 1983 and lived through the McDonnell Douglas acquisition and the Boeing merger.

"When I heard MD went into bankruptcy, I wanted back in," Pedersen says. "I love this product—its performance, its quality, its technology, its style. The day I got the offer to return was one of the best days of my life. Now I'm laser focused on getting MD back on its feet."

Step one, Pedersen shares, was surrounding himself with smart people who had a common vision and then getting out of their way so they could apply their expertise, enhancing the efforts that are earning the company success and making changes where they're needed.

"We are a team with expanded industry intel, and we call on each other's expertise daily," says Pedersen. "We're not emotional. We're not angry. We're not looking to the past. We listen, we identify challenges, we seek out opportunities, and we pursue those opportunities step-by-step. It's not magic. It's commitment applied daily."

Level 5 mechanic Mike Gayler installs a main-rotor transmission into the test cell in the company's aftermarket operations center.

Another cornerstone of Pedersen's management style: communication.

"Most people come to work and want to do a good job," he says. "By keeping our employees informed about where we're going, why we're going there, and how we plan to get there, we empower them with information that helps them to achieve their best."

Parts of the Whole

One thing that quickly became clear to Pedersen was how poorly MD was supporting customers in the field. "If we can't support our helicopters, nobody will buy them," Pedersen says. "If our customers aren't flying, they're not making money, completing missions, serving communities. Comprehensive service and support are required for us to run on all cylinders."

He immediately made support priority one, hiring Weeks to reestablish and maintain long-term stability on the service-and-support side of the organization.

"In the past, customers have had a hard time getting spare parts from us, or even getting in touch with us to find out if we *have* a particular part and what that part's price is," says Weeks. "We're not going to solve all of those problems overnight, but our improvements are moving ahead based on annual timelines, and they're aggressive."

According to Weeks, MD has just over 1,700 aircraft located around the world: about 40% in North America and 40% in the Asia-Pacific region. It also has about 30,000 unique part numbers. In a single year, MD sells around 3,000 of those parts, with 700 of those ordered 80% of the time.

Weeks and his team began by focusing on the 700 parts identified as key. In less than a year, the company has determined how many of these parts it needs annually and has placed orders to ensure adequate inventory.

By the end of this year, Weeks expects to be "healthy" on approximately 80% of MD's most common part numbers, meaning that there will be enough parts on the shelf to handle the orders that come in.

The Huntington Beach Police Department is already seeing the improvements. "When we were considering switching helicopter brands, MD service wasn't at its best, but its leadership was changing," says Goodspeed. "Now, even when we have issues with a part, we have it in hand within several days. And MD wants to be faster. They take it personally."

MD also has a five-year demand plan in play and has shared that plan with its supply chain as it works to reestablish relationships and place orders for broader future need. According to Weeks, some of those orders

are already coming in, even with lingering pandemic challenges such as a lack of raw materials, labor shortages, and high price points.

"It's going to take blocking and tackling to fully recover from the pandemic and have all of our parts—and their pricing—available at a moment's notice," says Weeks. "That's the long game, but we'll get there, with a 24/7 network portal that reflects our understanding that time is money."

Additional improvements are rolling out for exchange parts and expanded repairs. Weeks's goal is to have exchange parts one dozen deep on the shelf. "When I joined MD, we didn't have this, but we hope to be in a healthy position on our rotating inventory by the end of the year," he says.

MD has also adopted more strategic practices for expanded repairs. "In the past, MD would often replace slightly worn parts on customer aircraft with new parts. But that consumes new-parts inventory," says Weeks.

A crew installs the myriad wire harnesses, not unlike those found in any modern aircraft, as part of the in-house completions process.

"Now, we're working with partners to develop expanded repairs, and our overall process, our parts inventory, and our profitability are all trending up because of it."

Taking It to the Field

The MD service network has 40 members: 35 Authorized Service Centers (ASCs) located across the globe and 5 supporting parts retailers. The ASCs employ mechanics who are trained on MD aircraft and use MD parts, while its parts retailers sell MD parts to customers who aren't near an ASC.

Pedersen and Weeks agree there aren't enough ASCs, and they're working to change that. One example: There are currently 106

Above: Receiving inspector Matthew Chavez, foreground, and Jamikel Yarbrough, material coordinator, pull parts from MD Helicopters' ever-growing stocks in its main warehouse.

MD helicopters in New Zealand, but until this year, the country had only one ASC—on the North Island. New Zealand now has a service center on the South Island, as well, maintaining aircraft for a community that's been flying MDs since the 1970s.

"We're looking at the premier service centers that haven't joined our network. We're sharing our vision with them and working to bring them into the MD family," says Weeks. "We want them to benefit from things that will put more profit in their pocket, like our training resources and parts price discounts."

The MD team is now determining where other ASCs are needed to align with MD helicopter populations. According to Weeks, several new centers are near signing. Another goal: using ASCs to install upgrades in the field to alleviate the need for customers to send aircraft back to MD's Mesa, Arizona, headquarters, a move the company hopes will keep its fleet modern and its aircraft relevant.

As a reflection of the OEM's new straight-talking style, the company has launched a "World Apology Tour." An MD 500 fly-in featuring 63 aircraft was held in New Zealand in February. The company looks forward to holding additional fly-ins in the future.

"That has brought real moments of clarification," says Weeks. "When we went to New Zealand, someone told me it was the first time they'd seen an MD face in 10 years. I was glad to be that face. To show them that we're not just talking; we're doing."

Planning for MD's Future

Collectively, the MD team is determined to move the needle. Within a year, they expect to announce new products in the pipeline. Within 5 years, they want to have the best customer service in the industry. Within 10, they want to be a significant player in the light-single market forecast.

"We're glad we're able to continue to fly an aircraft we love," says Goodspeed. "Staying with MDs also meant we didn't have to retool or retrain. That, combined with MD's overall affordability, saved us about 20% over switching to a new helicopter company. That allowed us to purchase three new MDs instead of only two aircraft from another helicopter brand."

Comments like this remind Weeks of all the customers who are rooting for MD to stick around. "We're careful not to work an inch deep and a mile wide," he says. "We identify our top priorities, and we progress week by week so that we're somewhere new at the end of the year."

"MD has had many iterations—some great, some not so great," says Pedersen. "But our product is strong. It will outlive me. It's an honor for all of us to be entrusted with the future of this company."

Right: The production line is a hive of activity, with aircraft moving from sheets of aluminum, awaiting forming and riveting, to near-flight-ready aircraft.

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QUICK FACTS

Nick Mayhew

CAE USA Defense & Security
Arlington, Texas

CURRENT JOB

I'm the international business development lead for Europe and NATO for CAE USA Defense & Security in Arlington, Texas. I cover all domains (air, land, sea, space, and cyber) and advise on any rotary training opportunities globally.

FIRST AVIATION JOB

I joined the UK Royal Navy (RN) as a pilot in 1977 at age 18, and after training on the Chipmunk, Bulldog, Gazelle, and Sea King Mk.2, I was appointed to 824 Naval Air Squadron "A Flight" in 1980 (a flight of two Sea King Mk.2 antisubmarine aircraft). We embarked on various Royal Fleet Auxiliary ships and deployed around the globe supporting and protecting the RN fleet.

FAVORITE HELICOPTER

My favorite must be the Sea King. I flew this aircraft throughout my 28-year career with the Royal Navy, and it always served me well. Fun to fly by day or night, reliable and versatile, the Sea King helped me "keep it in the green."

How did you decide to pursue a career in helicopter aviation?

I've been fascinated by helicopters since I was 4 years old. My mother would drive me to school and cut through this very narrow road capable of only single-lane traffic. At the time, I decided I would widen the lane when I was older and able. I had the idea that I would transport the bricks and material by helicopter and land on the back of "lorries." My path to joining the navy as an aviator was born.

How did you reach your current position?

When I left the navy in 2005, we moved my family to Florida, where my American wife, Kathy, had lived. I worked as the Joint Aviation Authorities (JAA, predecessor to the European Union Aviation Safety Agency, or EASA) chief flying instructor for Helicopter Adventures Inc. When Bristow Helicopters purchased the flight school in 2007, I was promoted to general manager (GM) for the Bristow Academy, Titusville, Florida, campus.

I remained at the academy until 2016, when I was recruited to Arlington, Texas, by L-3 Communications, which offered me a position I couldn't refuse, to set up and run the company's simulation training center. I worked as the center's GM and as a senior program manager with L-3 Link Simulation & Training, which became L3Harris, until CAE acquired the business in 2021, and I was moved to business development.

What are your career goals?

My career goals are to support my family and safely reach retirement. Safety is the operative word! I've always had a passion for promoting aviation safety. I've been involved

with the International Helicopter Safety Team (IHST) and the US Helicopter Safety Team (USHST) since 2007. In 2019, I was honored to be asked to take on the role of industry cochair for the USHST. This meant continuing the Helicopter Safety Enhancement (H-SE) work we had underway and working with the USHST Steering Committee looking for new approaches to influence the industry to "keep it in the green!"

What advice would you give someone pursuing your path?

I learned a great deal about safety, discipline, and the importance of friendships from my time in the military. I learned to be a safe and effective team member, always be respectful, do the right thing even if you think nobody is watching, never cut corners, and keep asking questions. In the air, you should set personal minimums and abide by them; never say, "Hey, watch this." And stay away from quick and impulsive actions. Lastly, believe that we can achieve zero accidents, so that you can go home to your family every evening.

In the air, you should set personal minimums and abide by them; never say, "Hey, watch this." And stay away from quick and impulsive actions.

Who inspires or has inspired you?

I've always admired Winston Churchill, who has influenced my approach [to leadership]. Good leaders listen to ideas generated by their teams, admit when they're wrong, and never ask a subordinate to perform a task they couldn't or wouldn't perform themselves. They always know their team and how to use their experience and talents. When they say no, they're prepared to explain why. Last, but certainly not least, good leaders maintain [a positive attitude] and never stop giving authentic praise to their team.

Tell us about your most memorable helicopter ride.

My most memorable flight was on the evening of Oct. 1, 1982, when I was a young SAR [search-and-rescue] first pilot on 819 Naval Air Squadron. We were called out from Prestwick, Scotland, to pick up a guy with a broken back off the Isle of Arran. The man had been in a nasty car accident. It was dark with strong winds and low clouds—typical SAR weather.

We picked up the casualty and set off to Southern General Hospital low level and transited up the Firth of Clyde and then along the River Clyde into Glasgow. However, when we reached the Erskine Bridge (a suspension bridge over the Clyde) we saw the top of the bridge in cloud cover. Without an IFR route into the hospital, we slowed down and discussed our options among the crew before deciding to safely fly under the bridge (and under the power lines on the other side) to deliver the patient safely to the hospital … which we did and then flew the reverse route out. I was glad nobody was fishing from the bridge that night!

What challenges you about helicopter aviation?

Getting everybody on the same page when it comes to safety. (See the answer to the next question!)

What do you think is the biggest threat to the helicopter industry?

Safety culture … or the lack of it! The industry has such variation in the interpretation of the rules that it generates different approaches to mitigating risk. Many people are stuck in their ways and don't accept when there may be a safer way of approaching a risk using newer technologies, for example. If we want to achieve the vision of zero accidents, our safety culture needs to be taught to all [from the beginning] and reflect a more considered approach to mitigate the inherent risks of operating our vertically capable machines.

Complete this sentence: I know I picked the right career when ...

… back in 1979, I was authorized to fly a Gazelle HT1 solo for 1:30 for the first time down to 100 ft. above ground level in the low-level military environment. I was just 20 years old, and although I had achieved a civil private pilot license (airplane) at 17, this was entirely different flying altogether. I will always look back on that memorable flight knowing I was on the right path.

Complete this sentence: I love my job, except when ...

… my boss or organization doesn't share my safety values and I don't feel I can say no without consequences, retaliation, and repercussions. We must be able to work in an environment of just culture if we are to improve safety in the industry.

 By David Jack Kenny

Lessons Not Learned

Why do pilots continue to press on into instrument conditions while flying by visual references?

ISTOCK/MASSMEDIA-

IF IT'S NOT A PUZZLE AS OLD AS AVIATION itself, it's at least as old as the introduction of gyroscopic attitude instruments to light civilian aircraft: Why do pilots continue to press on into instrument meteorological conditions (IMC) while flying by visual references? And why do pilots who've learned how to fly by instrument references continue to succumb to spatial disorientation once they lose sight of the ground?

The Flight

At about 8:10 pm local time on Thursday, Apr. 22, 2021—13 minutes after sunset—a Robinson R44 lifted off from the Queen City Municipal Airport (KXLL) in Allentown, Pennsylvania. The pilot requested flight following to the Bradford County Airport in Towanda, Pennsylvania, a straight-line distance of 82 nautical miles (nm) to the northwest, at a cruising altitude of 3,000 ft. He did not contact Leidos Flight Service for a weather briefing or consult ForeFlight weather software, and there is no record of him checking weather information from any other source. The route was a familiar one, as he had been using the helicopter to commute to work since buying it the previous summer. According to his wife, his departure that evening was later than usual, but "flying at night was not an issue" for him. Conditions were dark, with the moon obscured by a higher overcast layer.

At 8:28 pm, five minutes after the end of evening civil twilight, the air traffic control (ATC) tower at KXLL handed him off to ATC at Wilkes-Barre/Scranton International Airport (KAPV). Thirty-five minutes later, radar tracking data showed that the helicopter began an initially gradual right turn that tightened into a

descending spiral. Radar contact was lost at 9:04 pm. ATC did not receive any distress calls.

Initial press reports suggested that an air medical helicopter crew passing overhead first spotted the burning wreckage. Emergency responders included the Pennsylvania State Police, the Pennsylvania Game Commission, and volunteer firefighters. Reaching the "remote, wooded" area required them to hike in from the point that the landscape became impassable for all-terrain vehicles; one state trooper estimated that it was a two-hour to two-and-a-half-hour round trip from the nearest road. By the time responders arrived, most of the helicopter's fuselage and tail cone had been consumed by the fire. The pilot's remains were later recovered from the wreckage.

The Weather

The National Transportation Safety Board (NTSB) final report noted that while there were no high- or low-pressure systems near the accident site, a trough running from north central to southwest Pennsylvania provided lifting action for whatever moisture was in the vicinity. While KAPV, 23 miles to the southeast, reported 10 miles visibility under a 7,500-ft. overcast, the Greater Binghamton Airport (KBGM) in East Maine, New York, 44 miles north, recorded just 1.5 miles visibility in light snow and mist, with broken ceilings descending from 4,300 ft. 10 minutes before the accident to 2,900 ft. 18 minutes later.

At 7:53 pm, more than 15 minutes before the pilot took off, the National Weather Service office in Binghamton, New York, had issued an area forecast that included lake-effect snow showers moving through the area, and AIRMETs (AIRman's METeorological Information) for mountain obscuration, moderate icing, and moderate turbulence were in effect across the route. Archived Doppler radar data showed snow showers moving across the accident site at the time of the crash.

The Pilot

The 54-year-old private pilot was an anesthesiologist who routinely flew to his practice in Sayre, Pennsylvania, after buying the R44 less than a year earlier. He was rated for single-engine airplanes and seaplanes and held an instrument airplane rating. He had

not obtained an instrument helicopter rating. Of his total 2,278 hours of flight experience, 2,070 were in airplanes. His 208 hours of helicopter time were equally divided between the Robinson R22, in which he'd completed his initial training, and the R44 he had bought in June 2020 to commute to work. His logbooks showed 30 of the 104 R44 hours in the preceding 90 days, with 19 of them recorded in the previous month.

The Helicopter

NTSB investigators noted that the 2020-model helicopter "was not approved for flight in instrument meteorological conditions." The NTSB's probable-cause report and supporting documentation didn't specify the exact panel layout of the helicopter; however, R44s of that vintage are equipped with the minimal set of basic attitude instruments (including either electronic or gyroscopic attitude and heading indicators), enabling an instrument pilot to maintain altitude and heading or execute a level 180-degree turn to escape from an inadvertent entry into IMC.

The post-crash fire consumed not only the cabin and fuselage, including the flight-control tubes, but also most of the tail cone and empennage. Although the crash destroyed the bladders and outer shells of the fuel tanks, the caps were secure and the finger strainers were clean and unobstructed. The main-rotor hub remained attached to its driveshaft, and damage to the main- and tail-rotor blades was ascribed to either initial impact during descent or first responders' efforts during recovery operations.

Damage to the engine, chiefly a sheared crankshaft-gear dowel pin, was attributed to impact forces. The NTSB concluded that "there was no evidence of any pre-impact mechanical malfunctions or failures that would have precluded normal operation" of the airframe or the engine.

The Takeaway

Not surprisingly, the NTSB attributed the accident to

… the pilot's inadequate preflight weather planning, which resulted in an inadvertent encounter with instrument meteorological conditions at night, spatial disorientation, and collision with terrain.

"VFR-into-IMC" accidents—those resulting from attempts to continue flying by visual references in instrument meteorological conditions—plagued aviation even before the first attempts to institute airmail services in the 1920s. It was a major reason life expectancy among those first airmail pilots was measured in weeks. VFR-into-IMC accidents typically end with flight into terrain, either controlled (think collision with a ridgeline) or uncontrolled (think graveyard spiral). The chances of a lethal result are high either way.

"VFR-into-IMC" accidents plagued aviation even before the first attempts to institute airmail services in the 1920s. It was a major reason life expectancy among those first airmail pilots was measured in weeks.

The invention of reliable attitude instruments and training programs to use them effectively have broadened the options available to both professional and non-occupational pilots, but these efforts haven't begun to solve the problem. Combined across all aircraft categories and types of operations, about one-third of pilots involved in VFR-into-IMC accidents earned an instrument rating at some point but failed to use those skills effectively when they were most urgently needed. Two-thirds of VFR-into-IMC accidents are fatal, a figure that hasn't changed much in at least the past 70 years.

As a first cut, these accidents can be sorted into three distinct categories: those in which the pilots never learned to fly by instrument references, those in which the pilot was qualified but the aircraft wasn't appropriately equipped, and those in which an instrument-rated pilot failed to use those instruments to avoid catastrophe.

Because relatively few helicopters are certificated for flight in instrument conditions and, consequently, relatively few helicopter pilots pursue the instrument rating, spatial disorientation accidents in rotorcraft largely fall into the first category. The present case is less straightforward: the pilot had enough instrument training to have successfully passed that checkride—in an airplane—and the helicopter had enough instrumentation to enable him to maintain airspeed, altitude, and heading while requesting assistance from ATC. But instrument flight is a highly perishable skill dependent on consistent, recurrent practice. The pages of the pilot's logbook recorded in the NTSB's docket file begin in August 2020 and show no instrument (or fixed-wing) flights during the eight months preceding the accident.

It is therefore fair to suggest that he was not only no longer legally current in, but also out of practice at instrument flight while also still relatively new to flying helicopters. The combination of lost visibility in snow squalls and a dark, overcast night would have challenged both his instrument and his cyclic-and-collective skills in a low-altitude setting that left little margin for error either way.

Dark-night conditions are most prudently treated as effectively IMC, regardless of reported ceilings or visibilities. In the end, this pilot's crucial mistakes began with his failure to recognize and appreciate that the evening's weather posed potentially lethal hazards. Neglecting to consider alternative routes or prepare for escape from unfavorable conditions left him with no options beyond hope once things began to go wrong.


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 By Christine Knauer

When Objects Go Airborne

How eliminating FOD can save lives and aircraft.

WATCH
how ingestion of a fire extinguisher cover substantially damaged an EC135

IT'S HARD TO IMAGINE that a rotor-ingested ball cap, towel, piece of rope, or, as in the recent case of an Airbus EC135 P2+ landing at an Illinois airport, a cloth fire extinguisher cover, could result in hundreds of thousands of dollars in damage and months of downtime. But in the wake of such misfortune, there's good news: the US National Transportation Safety Board (NTSB) investigations show that accidents from foreign object debris (FOD) can often be avoided.

An Airbus EC135 P2+ sustained substantial damage to its Fenestron assembly when a cover was blown off of a fire extinguisher and ingested into the tail rotor. The entire tail boom had to be replaced. *(NTSB Photo)*

A Hazard on and above Ground

The EC135 P2+ accident offers a great example of a lesson in preventing FOD. Shortly before touchdown, the main rotor wash blew the cover off a fire extinguisher sitting on the nearby mobile fueling station. As the helicopter's Fenestron ingested the cloth cover, its metal hub cover detached and was also ingested, causing substantial damage. While industry experts have formally requested that Fenestron hub cover securement be redesigned by the manufacturer, the fact remains that FOD created the hazardous situation in the first place.

"The helicopter was down for four or five months for repairs. The whole tail boom had to be replaced, and because of the sudden stoppage, we had to deal with potential transmission damage," says Tony Bonham, VP of aviation for Air Evac Lifeteam, which operates 175 air ambulances from 160 bases across 18 states. "Plus, we had delays in getting parts."

When conducting hundreds of flights every year, it's easy for crews to overlook something or momentarily misjudge the power of a rotorcraft's vortices. In a 2014 accident in California, a high-time commercial pilot put his jacket inside an unzipped backpack and placed a stowed door on top of it. The jacket was "sucked from the back seat of the aircraft and out the window," catching in the tail rotor, according to the NTSB's accident investigation report.

In that case, the pilot was seriously injured, and the Hughes 369D he was flying was substantially damaged. The tail boom severed, the left-side landing gear collapsed, multiple window panels broke, and all main rotor blades, aircraft doors, and the belly of the helicopter incurred damage.

Digging deeper into the NTSB's investigation reports shows that FOD ingestion doesn't always happen midair or immediately before touchdown. It can occur after landing during engine cooldown, as it did in two notable cases in 2012, one involving an AS350 B2 in Alaska and the other an R22 Beta in Minnesota. Both times, a tarp lifted into the tail rotor just prior to shutdown and substantially damaged the aircraft. In the Minnesota accident, a fire erupted and the pilot suffered burns to his face and head.

Learning from FOD Accidents

For Air Evac Lifeteam and every other vertical lift operator, FOD accidents are a stark reminder that even small unsecured objects can gravely compromise safety.

"It was a very expensive event but, thankfully, no one was hurt and there was no loss of life. We learned from it. When something like this happens, we work with other air ambulance operators and share information, because every accident affects all of us," says Bonham.

In the case of the EC135 P2+, opportunities to avoid the accident existed at several points. The person last inspecting the fire extinguisher could have secured the cloth cover under the metal band as was common practice for the organization. The crew member at the landing site could have checked that items on the fueling station were fixed in place or securely

tethered instead of playfully waving at the helicopter. (For more best practices, see "How to Reduce Risk from FOD," below.)

"I think the big lesson learned from the [Air Evac Lifeteam] accident is that foreign object debris can be all around us in the helicopter community," says Mike J. Hodges, NTSB aviation accident investigator. "It's an all-hands effort to be cognizant of FOD and to address and remove FOD in the operating environment. It involves everyone—the mechanics working on the helicopters, the pilots and other crew members flying in the helicopters, the line personnel servicing the helicopters, the senior leadership team running the operation, and so on."

When the FOD accident happened in Illinois, Air Evac Lifeteam's leadership made a small but important change across their entire operating network, ultimately increasing safety and potentially saving enormous repair costs.

"We pretty quickly made the decision to replace all of the cloth covers so we won't ever have to deal with that happening again," says Bonham. "Since it was a canvas cover, we could envision other FOD issues. It could potentially dry rot in the sun and weather, allowing a piece to come off, so we replaced them with a hard plastic container that's mounted to the fueling station."

Hodges praises that decision. "It was outstanding that, after the accident occurred, Air Evac Lifeteam addressed the safety issue," he says. "They deserve big kudos for their actions to help improve safety."

How to Reduce Risk from FOD

Damage from FOD costs the US aviation industry $474 million annually and the global aviation industry $1.26 billion annually, according to the FAA, plus much more in indirect costs related to delays and downtime. Personnel working with aircraft and near landing sites play an important role in the safety of the aircraft and its crew and passengers.

Based on decades of accident investigations, the NTSB offers operators these helpful ideas for eliminating FOD:

- **Educate everyone working in and around your landing site** about the importance of keeping the area free of FOD. Make it part of their responsibility to look for loose objects, and give them time to do so. This includes groundskeepers, construction workers, mechanics, volunteers, law enforcement, National Guard members, first responders, flight crews—anyone working near your rotorcraft and landing sites.
- **Strongly secure everything,** especially hats and caps, cell phones, jackets, and other clothing and gear inside the helicopter and at the landing site. Accident investigations have revealed that items such as tarps, for example, can easily break free from tethers.
- **Designate personnel to conduct a thorough walk-around** of the landing site prior to the helicopter's arrival.
- **Pilots: Scan for FOD** during your high and low reconnaissance checks before landing. If in doubt, err on the side of caution and land elsewhere.
- **Avoid landing close to construction activities and trash storage.**
- **Consider the effects of wind, rotor downwash, and rainwater drainage** on FOD migration when selecting a landing site.
- **Report FOD to management** so action can be taken to reduce the risk to personnel and aircraft.

For more information, read the NTSB's FOD safety alerts for working near landing sites and on rotorcraft.

 By Zac Noble

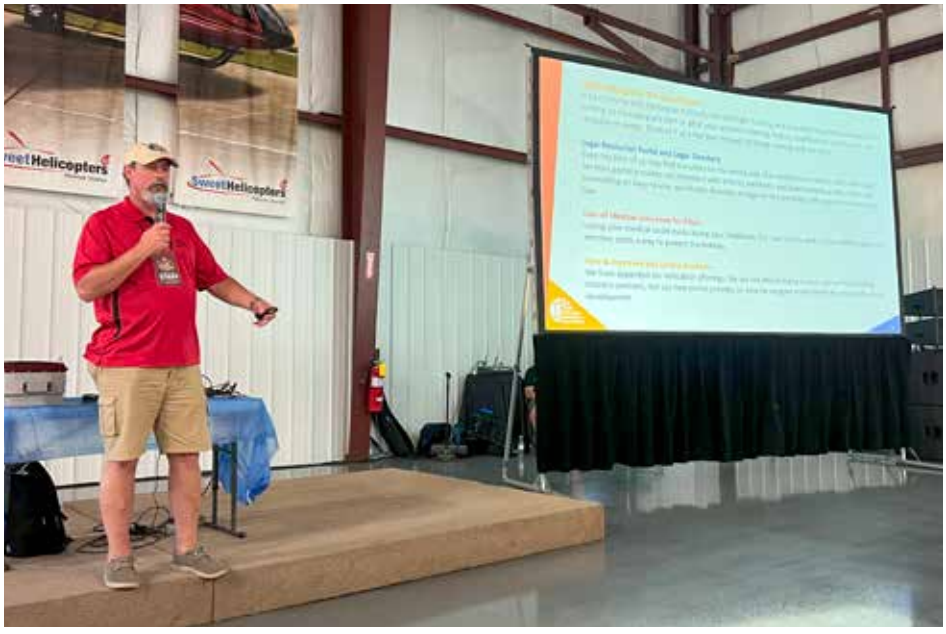
SEE scenes from this year's Rotors 'n Ribs Fly-In

Rotorcraft and Safety Go Hand in Hand

Rotors 'n Ribs fly-in combines fun with vital safety messages from industry experts.

IN EARLY JULY OF THIS YEAR, I had the opportunity to take part in the annual Rotors 'n Ribs helicopter fly-in in Goshen, Indiana. Last year was my first time attending the show, and I was so impressed with the crowd and the overwhelming generosity of the locals that I recommended to HAI leadership that we continue to support and sponsor this fantastic gathering of rotorcraft lovers in the upper midwestern United States.

Nearly 40 helicopters across various brands and models flew in for the event. There was an assortment of Airbus, Bell, Leonardo, and even homebuilt rotorcraft products on display. They came from as nearby as Fort Wayne, Indiana, but also originated in the farther-away Chicago, Illinois, and Detroit, Michigan, areas.



Safety Optimization

Several industry experts spoke at the show about safety issues important to all of us in helicopter aviation, including Chris Holder, eastern US sales manager at Concorde Batteries. Chris spoke to the crowd about how to prepare a new aircraft battery and then maintain it for maximum durability and longevity.

Afterward, I took the stage to talk about an alarming trend I see from my seat at HAI: poor fuel management (photo above). I've been watching this issue for a few years, and occasionally I'll request data from the US National Transportation Safety Board (NTSB) on the topic. Current NTSB statistics show that US operators have crashed more than seven general aviation aircraft *each month* over the past five years due to poor fuel management: namely, fuel exhaustion, fuel starvation, or fuel contamination.

To clarify, fuel exhaustion means the aircraft is depleted of fuel, whereas fuel starvation means the aircraft has run out of fuel on the selected tank. In the latter situation, there's still fuel in the aircraft, but the fuel selector switch hasn't been placed on a tank with fuel available. Fuel contamination, of course, means simply that the fuel isn't pure or capable of combustion. (See my September 2022 Work Safe column, "Fuel for Thought," for more on fuel contamination.)

We in the general aviation industry have to do better.

I've had an engine fail while flying because a fuel-line "B" nut backed off in flight. Had the flight ended in a crash, I'm sure it would have been cited as a fuel-related accident. During preflight, put your hands on the fuel lines to check for

anything that might be loose. If your aircraft uses avgas, look for blue staining from the dye indicating a fuel leak.

Mechanics and pilots, please keep an eye on your fuel and fuel-delivery system. We take fuel for granted. We should not. Do your due diligence. Sump your aircraft tanks, and ensure that your airport FBO folks are sumping their airport tanks, as well.

Back to Rotors 'n Ribs. Our final educational session at the event was reserved for Bruce Webb, director of aviation education and community outreach for Airbus. Bruce doesn't need much of an introduction for most readers of ROTOR. He is an absolutely fabulous speaker. His ability to make us think is worth the price of admission to any event at which he's appearing.

Bruce spoke about "flying blind," demonstrating how every pilot has a central blind spot that literally prevents them from seeing other aircraft or objects in plain view. Bruce showed how being distracted can cause a pilot to miss what's clearly right in front of them. Good scanning and a willingness to observe what isn't normal will get you in the right mindset to see what you don't expect.

A Grand Finale

The 2023 Rotors 'n Ribs grand finale was a drone light show (photo opposite, bottom). I hadn't seen such a display before, and I was totally amazed at the precision and organization required to create such artwork in the sky. The light show lasted about 12 minutes and had the crowd of about 4,000 people looking up in awe!

If you want to take part in a very entertaining and educational event, circle Jul. 13, 2024, on your calendar to attend the next Rotors 'n Ribs show. That event will include America's Freedom Fest, which celebrates America and aviation, and is estimated to draw more than 20,000 spectators as well as numerous aircraft for both static display and the air show.

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MEMBER FOCUS *By Mark Bennett*

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For 12 years, AC AIR Technology has been developing and manufacturing diminutive tugs that slide themselves under the nose or tail wheels of light airplanes or, more recently, under the skid gear of light helicopters. The historic Sud Aviation SA 341F2 Gazelle helicopters pictured here are well suited to showing off AC AIR's one-handed remote-controlled T1H2 Helicopter Tug, which brought the former military aircraft out of their hangar and easily tugged them back in afterward.

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