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N223KR

Stacy Sheard

HAI's 2020–21 Chair
Builds Connections
Around the World



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ON THE COVER: Aviation photographer Dan Sweet (who also has a day job as HAI's director of public relations and communications) photographed HAI Board of Directors Chair Stacy Sheard at the Fanatics hangar at Philadelphia International Airport (KPHL) on Jun. 8, 2020. An AW139 captain who flies corporate transport, Sheard is also an energetic networker with a passion for helping veterans and, well, just about anybody. She has a personal message to HAI members on p. 6, and her profile begins on p. 26.

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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 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.



Jen Boyer

Jen Boyer is a 20-year journalism and public relations professional in the aviation industry, having worked for flight schools, OEMs, and operators. She holds a rotorcraft commercial instrument license with CFI and CFII ratings. Jen now runs her own public relations and communications firm.



Cade Clark

HAI's VP of government affairs, Cade Clark has directed association advocacy programs for nearly 20 years. Growing up, he worked at an FBO where Cade learned to fly, washed planes, got in the mechanics' way, idolized the old-timers and their stories, and deepened his love for all things general aviation.



Jaasmin Foote

Jaasmin Foote joined HAI as the association's social media manager in March, just a week before the COVID-19 pandemic lockdown. She holds a bachelor's degree in English and is currently pursuing her master's in marketing. Jaasmin is responsible for all the cool posts on HAI's social media platforms. Follow us, drop by, and say hi!



Chris Hill

After an aviation career in the US Army and Coast Guard, Chris Hill oversaw aviation safety management systems throughout the USCG as aviation safety manager. He holds an ATP rating and has logged more than 5,000 flight hours, primarily in military and commercial helicopters. Chris joined HAI in 2018 as director of safety.



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 AOPAs Air Safety Institute, where he authored eight editions of its *Joseph T. Nall Report* and nearly 500 articles. He'd rather be flying.



Gina Kvitkovich

Gina Kvitkovich joined HAI as director of publications and media 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.



Zac Noble

Zac Noble joined HAI as its deputy director of flight operations and technical services after 11 years of flying in the air medical sector. A US Army veteran, Zac's aviation career spans more than 35 years. He is a dual-rated ATP, a dual-rated CFII, and an A&P with IA privileges.



Dan Reed

Dan Reed is an award-winning journalist and author who has covered aircraft manufacturing, aviation, and airlines for more than 30 years. Currently, he's a freelancer for *Forbes* and other publications, writes books, and operates his own communications consulting firm. Dan is based in Fort Worth, Texas.



Paul Seidenman

Paul Seidenman has been an independent aviation journalist since 1980, following staff positions in public television and print journalism in the Washington-Baltimore area. A native of Washington, D.C., Paul and David Spanovich, his longtime partner in life and writing, have made their home in San Francisco since 1987. In 2019, Paul and David won the Aerospace Media Award for Best Propulsion Submission for an article on electric aircraft engine developments published by *Aviation Week*, to which they are regular contributors.



John Shea

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



Dan Sweet

Dan Sweet joined HAI as director of communications and public relations in 2017. He previously served in the US Navy as a photojournalist. After leaving the Navy, he worked for Oregon-based Columbia Helicopters, performing public relations, communications, and trade show management work for more than 22 years.

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By Stacy Sheard

Finding Your Next Opportunity

Pandemic or no, these job-hunting tips will pay off.



Stacy Sheard's aviation career began as a US Army Huey and Black Hawk pilot. After leaving the military to pursue a commercial flying career, Stacy flew in the charter, tour, news-gathering, air ambulance, and corporate aviation sectors; she was also a production test pilot for Sikorsky. She is currently an AW139 corporate captain with Fanatics/EJM. Stacy was first elected to the HAI Board of Directors in 2016 and is the 2020–21 chair.

LOW OIL PRICES AND THE WIDESPREAD DISRUPTION caused by COVID-19 have created tough times for many in our industry. I'd like to pass on some sage advice from a few people who've experienced hiring, firing, and furloughs during the pandemic.

Never miss an opportunity to interview. Don't cancel an interview because things look promising with your first-choice company (and never, never be an interview no-show). Take that interview and do your best to make a good impression for future opportunities. Your first choice may not be a good fit, or your position may be cut—keep as many doors open as possible.

Don't ghost prospective employers. So you've gotten a job offer—great. But don't burn bridges with the other companies you're talking to. Reach out and let them know your decision. Thank them for their interest and leave the door open to future encounters. Even after I'd accepted a job with Company A, I thanked Company B for the opportunity to interview with such an outstanding organization. I explained that I'd chosen Company A because it fit my needs at the time (I could build more flight time there). When Company A unexpectedly laid me off, I still had a solid connection at my second choice, Company B, and I was immediately picked up.

Work on your resume. Don't make recruiters wonder if you meet the job requirements. In your email to HR, detail how you meet the required qualifications, using the exact wording from the job posting. You should also list that information in the top one-third of your resume; assume that HR won't read any further unless they see most of what they need. Check out these [aviation resume templates for both pilots and maintenance techs](#) for ways to improve yours.

Keep your email address professional. Don't let your email address reference your age or your preferences in politics, religion, or sports. Avoid using vintage email services, such as aol or Hotmail; many older email domains are more prone to be labeled as spam.

Avoid making offensive or negative comments on social media. Even when you're in the most private of social media groups, making negative, tasteless, or offensive comments online tends to be noticed. Being the moderator of—or even being associated with—a group with an unprofessional reputation can harm your job opportunities.

Be available, not desperate, and explain the difference. Applying to all six of a company's open positions may look desperate. However, a call or an email to HR can explain that you're geographically ready to relocate anywhere (or that you consider them to be a destination company, or whatever the case may be). That personal explanation can make all the difference. Of course, applying for jobs you don't actually want is a waste of the company's time and yours.

Know that HR personnel will ask about you in the industry. They're incredibly well connected and will reach out to their HR, pilot, and maintenance connections at your previous places of employment or school. They'll quickly learn your colleagues' assessment of your professionalism, work history, ethical standards, and attitude. Assume your HR contact knows your reputation better than you do.

HAI will host its annual Military-to-Civilian Transition Workshop and Helicopter Industry Job Fair at HAI HELI-EXPO 2021 in New Orleans. Both events are free for job seekers. Explore your options so we can all get back to keeping the rotors turning. [🔗](#)

Looking forward to seeing all of you at Expo!



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By James A. Viola

Seeking Translational Lift

Use this moment to prepare for better times.



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, Jim holds ATP ratings in both airplanes and helicopters and is a CFII. Jim can be contacted at president@rotor.org.

C OVID-19 HAS MEANT FEWER FLIGHTS AND TIGHT FINANCES throughout our industry. HAI has taken this time to focus on how we can help our members, and we've also looked internally to see how we can improve our processes. You also should plan for improvements in safety and efficiency, so when the fast pace of flight operations picks up again—and we all know it will—you'll be ready to pull pitch and accelerate safely to the new challenges of 2021.

While the pandemic has certainly affected our translational lift for 2020, it hasn't eliminated it. My two priorities are to enhance HAI's ability to deliver services that our members need and want, and to deliver those services more efficiently. To meet those goals, we're establishing a vision for HAI and reviewing our mission statement. With that guidance, the HAI Board of Directors and staff will draft a five-year strategic plan for the association by the end of the year.


Your input is vital too. We'll be reaching out to the membership to ensure that the HAI strategy will help you solve your biggest problems; drop me a line at president@rotor.org if you already have some thoughts on this. I want to have a clear understanding of what HAI wants to accomplish for you, our member, and then work from a strategic plan that aligns our everyday activities with that vision and mission.

We're also wrapping up a reorganization of staff and department leadership that's aligned with what we call Workforce 2021. What this means to you is that the staff at HAI has been reduced to numbers that reflect the minimum needed during the current operating environment.

Now that I've cut back our staffing levels, I want to plan for expansion. But future staff growth must be tied to providing the member services you need from HAI. If I've cut too far and you feel the pain, please tell me how HAI is no longer meeting your needs. Also, let me know your views on where the industry is going: What can HAI do to ensure your prosperity five years from now? Where's the growth potential in the vertical flight community?

As part of Workforce 2021, we're also evaluating how we manage our office space. HAI currently occupies a four-story building in Alexandria, Virginia, right outside of Washington, D.C. Tenants occupy most of the first and all of the second floors; HAI offices are on the fourth floor and third floor, which includes meeting rooms and a classroom available for HAI members to use. Please pay us a visit when you can, and if you know aviation-friendly businesses in the D.C. area that need space, give them my email. The more efficiently I can run HAI, the more return I can provide in resources and programs to support and help lead the industry.

I hope you're as excited about HAI HELI-EXPO 2021 as I am. The aerial recon of New Orleans was conducted in early August, and we're reaching max torque as we continue to put plans in place for a safe HAI HELI-EXPO®. We've instituted more flexible policies for exhibitors and presenters, and our preparations will follow public health guidelines, such as scheduling extra time for cleaning between education sessions. New Orleans is excited to host our industry, and we're doing all we can to ensure that you have a safe and successful show.

Thanks for all you're doing to keep our community safe during these demanding times. It's not quite like the challenges of dissymmetry of lift that we deal with every day, but I'm hoping 2020 is more like we're in a hover, waiting to move forward and enjoy that feeling when we pick up translational lift. We're in this together: let me know how HAI can keep your rotors turning. 

A handwritten signature in blue ink that reads "James".

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By Jennifer Homendy



Jennifer Homendy was sworn in as a member of the NTSB on Aug. 20, 2018. From 2004 to 2018, she served as the Democratic staff director of the Subcommittee on Railroads, Pipelines, and Hazardous Materials under the US House Committee on Transportation and Infrastructure. She previously held positions with the Teamsters, the AFL-CIO (TTD), and the American Iron and Steel Institute.



WATCH the NTSB meeting on the Survival Flight crash



WATCH the NTSB meeting on the East River crash

Safety Needs a Safety Culture

SMS works when people are empowered to act on safety.

I ONCE ASKED ONE OF OUR VETERAN AVIATION INVESTIGATORS what the toughest part of his job was. His response: seeing in accident investigations the same safety deficiencies over and over again that, for some reason, haven't been addressed.

I can relate. In an effort to prevent crashes and injuries and save lives, the US National Transportation Safety Board (NTSB) has repeatedly urged operators across all modes of transportation to develop and implement a safety management system (SMS) and called on federal regulators to mandate SMS in operations. A key component of the most basic SMS is fostering a positive safety culture. Without a healthy safety culture, there's no way an operator can actively manage and improve safety consistent with an SMS.

This past May, the NTSB held a public meeting to consider the tragic Jan. 29, 2019, Zaleski, Ohio, crash of a [helicopter air ambulance operated by Survival Flight](#) that killed three heroes: the pilot and two medical personnel. Our investigation revealed numerous safety deficiencies at Survival Flight—including their failure to perform comprehensive preflight risk assessments, which would have identified prior flight refusals or required obtaining forecasts of en route weather information. In fact, one pilot said he expected the accident pilot to complete the so-called preflight risk assessments *after* the flight.

Other deficiencies we identified at Survival Flight included noncompliance with regulations and procedures, pressure from management to complete flights in poor weather, and a safety culture described to investigators as so "damaging" and "toxic" that employees were afraid to report unsafe conditions. In fact, current and former employees reported negative consequences for speaking up, verbal abuse from management when flights were declined, and a complete lack of concern by management to learn about, much less address, pervasive safety problems.

I don't think this is the norm; I think most commercial helicopter operators, including helicopter air ambulance operations, are safe. However, what the NTSB has learned about both the Zaleski accident and another accident, in New York, give me a great deal of pause.

In December 2019, we held a public meeting on the Mar. 11, 2018, crash of a [doors-off flight in New York's East River](#) that tragically killed five passengers. The crash was preventable; in fact, aspects of it were predicted by Liberty pilots, who repeatedly raised safety concerns that were disregarded by the NYONair CEO and management. Pilots raised concerns about the difficulties passengers would have in accessing the carabiners on their harness/tether systems in an emergency and the inadequacy of the passengers' cutting tools to quickly sever their tethers. Some pilots were also aware of the potential for entangling the harness/tether system with the helicopter's floor-mounted controls and the possibility that the emergency flotation system would only partially inflate. All of these issues played a part in this crash and the loss of life.

Had these safety issues been addressed by management, tour operations could have continued with safer equipment and procedures, likely preventing the crash or loss of life. That's why the NTSB continually focuses on safety culture as part of a comprehensive SMS program. In a healthy safety culture, employees aren't just casually encouraged to "be safe"; they're empowered to report unsafe conditions without fear of reprisal. Their concerns are taken seriously by management, thoroughly evaluated (and then constantly reevaluated), and resolved before an accident chain has the chance to form. In our Zaleski report, the NTSB reiterated our recommendation to the FAA that all Part 135 operators implement an SMS program. But don't wait for federal action: operators should implement this recommendation now to save lives. 📢



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LEGISLATIVE UPDATE

AS THE HAI GOVERNMENT AFFAIRS

team, John Shea and I represent your interests to your elected representatives, advocating for a legal and regulatory environment that will enhance the growth and stability of our industry. I find the inner workings of congressional committees or the tortuous path of a bill through the system to be fascinating. However, I'm often told that I'm using that word incorrectly; I probably meant "frustrating" or "incomprehensible" or "dysfunctional."

However, with a global economy and political systems reacting to a pandemic and less than 90 days until a US national election, it's only natural if your interest in politics is heightened (maybe not to the level of "fascinating") in recognition of these legislators' very real ability to enact laws that affect us. For some recent examples of how the US government COVID relief programs have benefited the vertical flight industry, please see Figure 1 or visit the [Legislative Action Center](#).

As of this writing, Congress is in the middle of intense negotiations over what the next COVID relief package will look like (see the "Legislative Spotlight" section, opposite). However, as important as that is, there's some other vital work Congress must address in a very short time frame. One must-do is averting a government shutdown.

Congressional spending is authorized through the end of September. The House has finished its work on the majority of the 12 FY 2020–21 appropriations bills (Homeland Security and legislative branch appropriations have made it out of committee but haven't yet received a House vote). Due to partisan disagreement, however, those bills aren't expected to reach the president's desk.

In the Senate, the appropriations process has stalled because of disagreements over proposed amendments to the bills. As a result, it's increasingly likely that Congress will need to pass a continuing

resolution to keep the government funded past Sep. 30, 2020. With the recent deliberations on the next COVID relief package stalled, Congress very well could be coming back from August recess with just weeks to deal with funding the government and the relief package, making for a very complicated September.

While the COVID relief and appropriations bills inch forward, politicians are also deep into reelection activity. In the Senate, 35 seats are up for election: 12 Democrat and 23 Republican. However, if Democrats net just 4 of those 23 Republican seats without losing any of their own, they'll take control of the Senate.

Over in the House, election politics are making for some interesting races. Several incumbents face high-profile primaries, with some already out of a job. The GOP released a list of more than 50 targeted seats, including 30 districts that President Donald Trump won in 2016. Democrats aim to protect their freshmen, listing 42 competitive seats they intend to aggressively defend. Most of these freshmen seats are in suburban areas that have experienced rapid, diverse population growth in recent years. Democrats are also recruiting top-tier candidates to take on Republican incumbents.

The census provides a fascinating angle of political intrigue. Based on the recent analysis of the census count, 17 states may see a change in their number of congressional seats. It's likely Texas, Florida, and North Carolina will gain seats while Michigan, Ohio, and Pennsylvania will lose a seat. This situation will come into play in the 2022 midterm congressional elections.

If this process isn't fascinating, I don't know what is. Congress is in the middle of deciding important policies that will impact our industry. HAI continues to advocate on your behalf to keep the rotors turning. 🌀

– Cade Clark

Figure 1. HAI Actions on COVID Relief for US Members

Air Carrier Loans and Air Carrier Payroll Support Program	HAI strongly advocated for general aviation air carriers as the Treasury Department implemented the Payroll Support Program: <ul style="list-style-type: none"> ■ To date, over \$76 million has been provided to HAI members ■ HAI resolved technical legislative language that threatened access for members engaged in intrastate operations only.
Air Transportation Tax Relief	HAI supported the suspension of all federal air transportation excise taxes that apply to commercial operations (Part 135 flights) effective Mar. 27, 2020, through Jan. 1, 2021: <ul style="list-style-type: none"> ■ This includes all taxes that a commercial operator pays, including the 7.5% tax on amounts paid, applicable domestic and international segment fees, and the 4.3 cents per gallon portion of the fuel tax.
Paycheck Protection Program (PPP)	HAI advocated for changes to the PPP to allow greater flexibility in funds for small businesses: <ul style="list-style-type: none"> ■ The Paycheck Protection Program Flexibility Act (PPPFA) provides borrowers more freedom in how and when loan funds are spent while retaining the possibility of full forgiveness.

LEGISLATIVE SPOTLIGHT

Phase 4: HEALS Act vs. HEROES Act

UNLIKE THE CARES ACT, which passed unanimously in both the House and Senate, the current COVID-19 relief proposals have become highly politicized. Despite some similarities, the HEROES Act passed by House Democrats and the HEALS Act sponsored by Senate Republicans have significantly different priorities and price tags.

Further complicating matters, Senate Republicans themselves are divided over the HEALS Act. Key fiscal hawks have announced their opposition to many central elements in HEALS as well as the \$1 trillion-plus price tag. Conversely, their colleagues from swing states who are up for reelection in 2020 are motivated to support growing the HEALS package to at least \$1.5 trillion or more.

Comparing Significant Provisions

Airport Funding. HEROES includes tens of billions of dollars to support every portion of the transportation sector, including \$10 billion for the continued operation of our nation's airports. HEALS provides \$10 billion only to airports. HAI supports the airport grants and is advocating for clear direction to be provided on rent abatement for tenants as they attempt to recover from the impact of the pandemic.

Air Carrier Payroll Support Program. Notably absent from both bills is an extension of the air carrier Payroll Support Program (PSP), which many HAI members qualify for and have received grants from. The day the HEALS bill was introduced, 223 House members signed a letter of support for the PSP. The following week, 16 Republican senators also sent a letter of support for extending the program. HAI, along with many other aviation associations, continues to advocate for inclusion of a PSP extension in the final package.

Paycheck Protection Program. Both HEROES and HEALS extend authorization for the PPP through Dec. 31, 2020, while


providing additional funding and expanding eligibility. HEALS includes a proposal to allow for a second loan for small companies that have suffered major financial losses and expands approved uses of funds for loan forgiveness.

The Path Forward

After two weeks of daily meetings between top Democrat congressional leaders and White House officials that failed to produce an agreeable path forward on the two COVID relief proposals, President Trump issued four executive actions that extended unemployment benefits and student loan relief as well as providing eviction protections and deferring payroll taxes.

Negotiations over the next relief

package will continue as pressure mounts from the unrelenting economic effects of the pandemic. Congress, currently in August recess, has 13 legislative days scheduled before the November elections to pass funding legislation and a relief package. However, lawmakers could be called to return to Washington with 48 hours' notice if a deal is reached before they're scheduled to be back in session.

While the halls of Congress may be empty, the HAI government affairs team remains in constant contact with lawmakers and their staffs. We'll continue to advocate on our members' behalf for policies that strengthen the vertical flight industry and the workforce that supports it. 

– John Shea



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ROTORWASH

INDUSTRY DATA, TOPICS, ADVICE, HAPPENINGS, ISSUES, AND NEWS TO KEEP THE ROTORS TURNING

HAI BRIEFS

AHIA Signs On as HAI International Partner

HAI IS PLEASED TO ANNOUNCE THE launch of the International Partnership Program to enhance safety and cooperation across the worldwide vertical lift community. This program will benefit the entire rotorcraft industry by promoting common safety and operational standards and best practices, and by facilitating a collaborative approach to building and sustaining the global industry.

"We are very excited to strengthen HAI's ties with other vertical lift organizations," says HAI President and CEO James A. Viola. "Aviation is a global industry in both manufacturing and operations, and this is reflected in our challenges. By working together, the international industry can better leverage our finite resources to pur-

sue common priorities and goals."

The program was launched on Jun. 30, 2020, with the signing of an agreement by Viola and Australian Helicopter Industry Association (AHIA) President Ray Cronin. "We launched this program with our close partners in Australia, but we will continue to expand to other vertical lift associations around the world," says Viola.

"AHIA is committed to use all resources to ensure its members are fully informed on safety and innovative programs that enhance the use of rotorcraft. Partnering

with HAI through the IPP is a firsthand opportunity to achieve this goal," says Cronin. "In addition, with the second-

largest fleet in the world, Australia has a broad cross section of rotorcraft activities operating in sometimes challenging climatic conditions, as was evidenced in the 2019–20 wildfire season. We

need to communicate lessons learned and safety outcomes to the international community in a timely manner, and the IPP will be a conduit for this."

"Thanks to the efforts made by my predecessor, Jan Becker, and Jim Viola, ▶



Reach the beach! According to comments on social media, challenging landings at austere locations, like this one performed by an Airbus H145 operated by [Scandinavian AirAmbulance](#), occur more often than we might think.



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Are You Prepared for Flight after COVID?

OPERATIONS BOTH SMALL AND LARGE HAVE

experienced a lower volume of flights because of the COVID-19 pandemic, as well as layoffs and furloughs. In this environment, keeping your skills current can be challenging.

To learn what pilots are doing now to get ready for flight after the pandemic, we surveyed our readers anonymously. Specifically, we inquired about their companies'—and their own—investment in training and the effect the virus has had on their employment and proficiency status.

Company-Sponsored Training. Of the 47 respondents, about 60% (28) have remained employed during the crisis and have maintained their required

qualifications or desired proficiency; 47% (22) say their companies have provided them with the resources needed to complete individual in-aircraft flight training. Individual classroom training was provided to 26% (12), and 13% (6) reported receiving high-fidelity simulator training through their company.

Personal Investments in Training. A high percentage of pilots responding to the survey reported making a personal investment in keeping their skills sharp. In most categories, the number of pilots who completed training on their own was very close to those reporting receiving company training (see Figure 1). This was true even for high-end simulator training. The number of pilots obtaining classroom training on their own (20) was almost twice that of those who attended this type of training through their company (12).

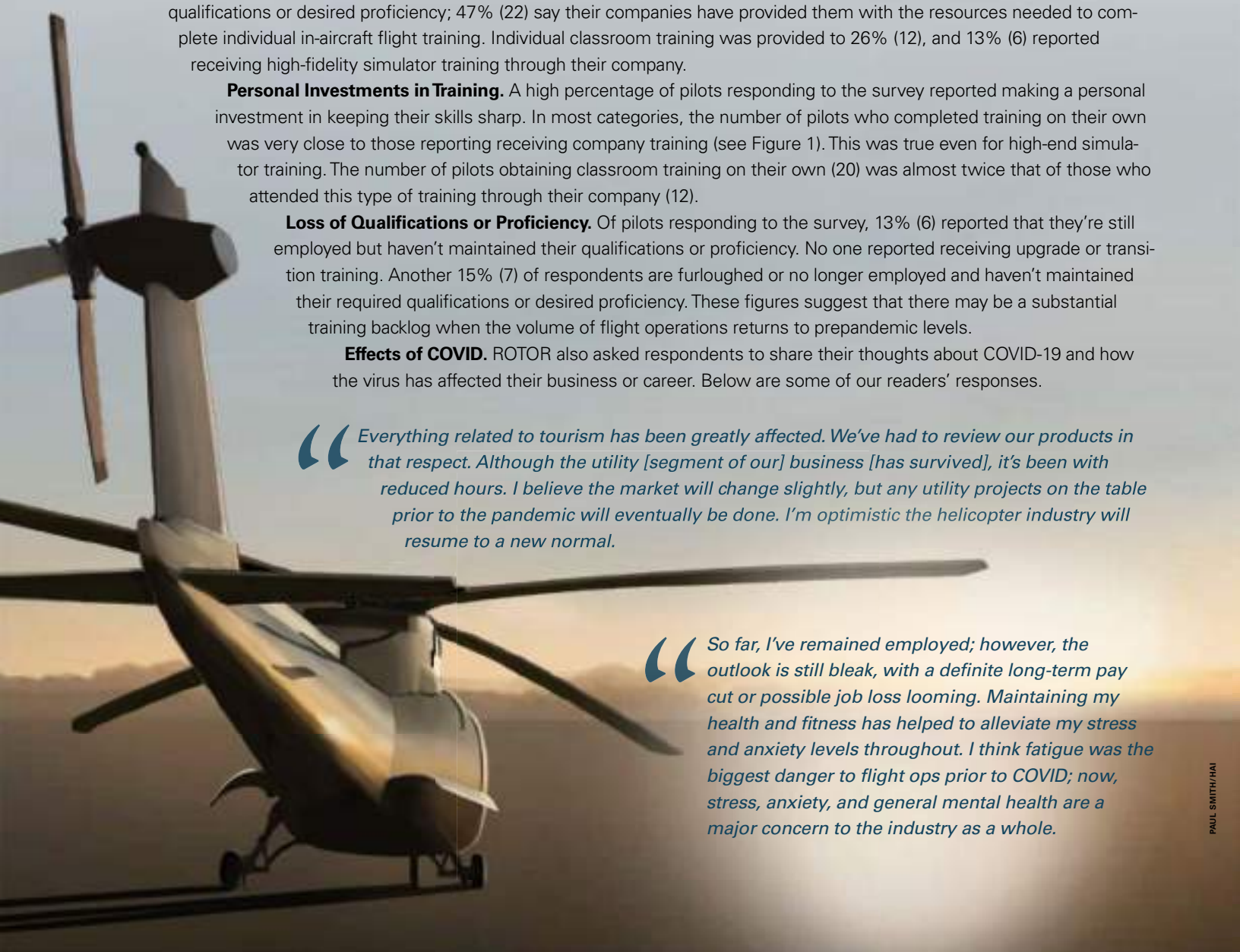
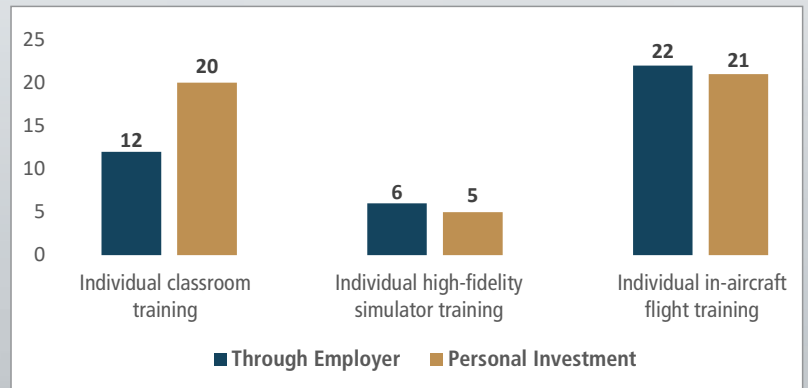
Loss of Qualifications or Proficiency. Of pilots responding to the survey, 13% (6) reported that they're still employed but haven't maintained their qualifications or proficiency. No one reported receiving upgrade or transition training. Another 15% (7) of respondents are furloughed or no longer employed and haven't maintained their required qualifications or desired proficiency. These figures suggest that there may be a substantial training backlog when the volume of flight operations returns to prepandemic levels.

Effects of COVID. ROTOR also asked respondents to share their thoughts about COVID-19 and how the virus has affected their business or career. Below are some of our readers' responses.

“Everything related to tourism has been greatly affected. We've had to review our products in that respect. Although the utility [segment of our] business [has survived], it's been with reduced hours. I believe the market will change slightly, but any utility projects on the table prior to the pandemic will eventually be done. I'm optimistic the helicopter industry will resume to a new normal.”

“So far, I've remained employed; however, the outlook is still bleak, with a definite long-term pay cut or possible job loss looming. Maintaining my health and fitness has helped to alleviate my stress and anxiety levels throughout. I think fatigue was the biggest danger to flight ops prior to COVID; now, stress, anxiety, and general mental health are a major concern to the industry as a whole.”

Figure 1. Training Options Reported by Surveyed Pilots



► HAI is making great strides in furthering its international reach,” says Stacy Sheard, chair of the HAI Board of Directors. “Stepping up our international collaborations through the IPP will help us to see other perspectives from around the world, open global lines of communication, and learn from each other’s experiences. Supporting the worldwide vertical lift community will bring immeasurable returns, both to our industry and to HAI.”

- Through the IPP program, HAI and its partners agree to work together to:
- Provide members with services that directly benefit their operations
 - Promote, produce, and deliver programs that improve industry safety
 - Collaborate with regulatory and legislative authorities to promote industry objectives
 - Educate key stakeholders on the unique contributions vertical flight offers society, and foster public confidence in the value and safety of vertical lift operations
 - Facilitate an open exchange of information between rotorcraft owners, operators, customers, pilots, aeronautical engineers, and other stakeholders
 - Promote professionalism, economic viability, and integrity within the industry.

HAI BRIEFS

COVID Clean Program Helps HAI Members Promote Safe Operations

MANY ASPECTS OF OUR PREPANDEMIC lives, such as shaking hands or drinking from public water fountains, may never return, and there can be confusion about what activities are OK. To help its members reassure the public about their commitment to safe practices, HAI has introduced the [COVID Clean Program](#).

The program helps HAI members—particularly those who carry

passengers—demonstrate their efforts to protect customers and employees from the COVID-19 virus and other infectious diseases. HAI assists participating companies by providing them with tools to promote their efforts at their locations, on their websites, in local media, and in social media and other digital channels.

Participating companies must agree to a set of recommended COVID cleaning standards and policies (see box below). “Most of our members were already taking these steps to protect themselves and their customers,” says James A. Viola, president and CEO of HAI. “Committing to the COVID Clean Pledge provides these operators with the tools to demonstrate their commitment to the health and safety of passengers and crew in a visible and reassuring way.

“Tour, charter, and air ambulance operations are the likeliest users of this program,” adds Viola, “but it has value for any

company that interacts with the public. In our new normal, making a public commitment to protect customers and employees is a standard expectation. The sooner we can build public confidence in our high standards, the sooner our industry can return to prepandemic operational levels.”

HAI members can visit rotor.org/covidclean to take the COVID Clean Pledge. Below are participating HAI members as of late July:

- [Blue Hawaiian Helicopters](#) (Hawaii)
- [Boston MedFlight](#) (Massachusetts)
- [Butterfly Aviation](#) (California)
- [Novictor Helicopters](#) (Hawaii)
- [Panhandle Helicopter, LLC](#) (Florida)
- [Paradise Helicopters](#) (Hawaii)
- [Rotorworks LLC](#) (Georgia)
- [Southern Utah University](#) (Utah)
- [Summit Helicopters, Inc.](#) (Virginia)
- [Timberland Helicopters, Inc.](#) (Oregon)
- [Trans Aero Limited](#) (Colorado and Wyoming). ►

HAI COVID Clean Pledge

As a helicopter operator, we affirm that our highest priority is the safety of our customers, our crew, and the public. We are committed to ensuring that our passengers are protected in every possible manner. Therefore, we pledge to:

- Meet or exceed any applicable federal, state, or municipal regulation introduced to prevent the transmission of infectious diseases
- Disinfect our aircraft, according to manufacturer recommendations, between every flight
- Conduct a deeper cleaning of our aircraft every night, according to manufacturer recommendations, or as often as necessary
- Continuously clean or disinfect our waiting area, our counters, our restrooms, and any other publicly accessible area of our facility
- Require our flight and ground crews to use masks and gloves as long as recommended by the US Centers for Disease Control and Prevention (CDC) and/or the World Health Organization (WHO)
- Avoid transporting anyone who is visibly ill during our check-in process
- Recommend the use of masks and gloves to our passengers, making these personal protective equipment (PPE) items available to those who need them.



HAI BRIEFS

HAI Board of Directors Elects Officers, Adds Directors and UAS Adviser

HAI IS PLEASED TO ANNOUNCE THE ELECTION OF three new members to its Board of Directors, selected by HAI members during HELI-EXPO 2020 in Anaheim. Additionally, the board created the role of special adviser for unmanned aircraft systems (UAS) to consult on shaping the safe integration of UAS into our shared airspace.

The Board of Directors also established its slate of officers for the 2020–21 year, which began on Jun. 30. Stacy Sheard took over as board chair, Marc Stanley assumed the duties of vice chair, Randy Rowles serves as treasurer, and Jeff Smith is assistant treasurer.

“The board members all come together to ensure our industry stays relevant and maintains its path to supporting all our members in the global helicopter and VTOL industry.”

An Additional Director This Year

The HAI Board of Directors typically has nine members but will have an extra member this year. Directors are elected to represent one of three industry sectors—commercial aviation, government service, or general aviation—and seats are allocated based on the number of HAI members in those sectors. The board routinely adjusts the apportionment of seats to match the current population of HAI members. However, rather than removing a seated director, an extra position is added until an existing director reaches the end of his or her three-year term.

Leaving the board this year were Dan Schwarzbach of the Houston (Texas) Police Department and James Wisecup of Air Methods Corp. At a June ceremony, both men were honored for their many years of service to HAI and the industry. Additionally, Rick Domingo, executive director, FAA Flight Standards Service, honored Wisecup with the Wright Brothers Master Pilot Award. (For more about Wisecup, who died Jul. 30, see p. 61.)

The new board members are business owners and managers from across the United States. “The newly elected directors are exciting additions to the team, and we welcome their backgrounds and experience,” says Sheard. “The board members all come together to


ensure our industry stays relevant and maintains its path to supporting all our members in the global helicopter and VTOL industry.”

New for 2020–21

Filling a board government service seat is B. Adam Hammond, manager of helicopter services for the Tennessee Valley Authority (TVA), the largest US public utility. In that role, he manages five pilots and nine helicopters that fly power-line patrols and perform power-line maintenance and construction over a seven-state region. The aviation team also supports TVA’s economic development team and executives. On the board, Hammond says, he’ll advocate for the needs of public aircraft operators and for safe and effective operations.

New HAI director Mark Schlaefli is the director of operations for Las Vegas tour operator Sundance Helicopters, where he is responsible for all day-to-day operations, from flight activities to customer experience and beyond. Filling a commercial aviation seat on the board, Schlaefli is passionate about mentoring the next generation of pilots and promoting the industry as a whole. “I look forward to working with industry professionals and stakeholders outside the industry to highlight the benefits of helicopters worldwide,” he says.

Also filling a commercial aviation seat is board member Nicole Vandelaar, owner and chief pilot of Hawaiian operator Novictor Helicopters, where she leads the business and daily flight operations. Serving on the HAI board, Vandelaar says, is a way to “use my experience as a business owner to help our operators improve relations with their communities through our Fly Neighborly program and other community relations initiatives. Everything we do as operators must be done safely, so I also want to use my position on the board to expand education to our members on safety management systems and help them grow their safety cultures.”

The board also appointed Scott Burgess, PhD, as its special adviser on UAS issues. An associate professor of aeronautical science at Embry-Riddle Aeronautical University with 35-plus years of experience in military and civil aviation, Burgess conducts research in helicopter and UAS safety. He’s a founding member of the HAI Unmanned Aircraft Systems Working Group and a US Helicopter Safety Team member. In his work for the HAI board, Burgess says, he’ll consult on the “integration of UAS in our industry as it pertains to safety, training, operations, regulations, and other relevant areas.” 

HAI 2020–21 Board of Directors



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Commercial Aviation



VICE CHAIR

Marc T. Stanley

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General Aviation



TREASURER

Randal R. Rowles

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Jeffery Smith

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CHIEF EXECUTIVE OFFICER**

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Helicopter Association International
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**CHIEF OF STAFF
AND CORPORATE SECRETARY**

Roxanne R. Fox

Helicopter Association International
Alexandria, Virginia, USA



DIRECTOR

Douglas K. Barclay

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Commercial Aviation



DIRECTOR

Nicole L. Vandelaar

Novictor Helicopters
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Commercial Aviation



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SPECIAL ADVISER – UAS

Scott Burgess, PhD

Embry-Riddle Aeronautical University
Rule, Texas, USA

By Dan Reed

Randall Rochon, Vice Chair, Organization of Black Aerospace Professionals

When black students see people like them succeeding in aviation, then they know they can do it too.

IN 1976, 38 BLACK US AIRLINE pilots—roughly half of all black pilots then employed by US carriers—met for two days in Chicago to discuss how they might increase the number of minority young people seeking to enter the field of aviation; the group ended up founding the Organization of Black Airline Pilots.

In the 44 years since, the group has renamed itself the Organization of Black Aerospace Professionals (OBAP) and embraced a broader focus: to increase

minority participation in aerospace through exposure, training, mentoring, and scholarships. OBAP's staff, volunteers, and mentors have touched hundreds of thousands of lives through the organization's outreach and education programs.

Still, less than 3% of US commercial pilots are black,

and the number of black executives and engineers in aviation barely registers on the percentage scales. So much more work remains to be done.

Randall Rochon, a United Airlines 757/767 first officer and OBAP's vice chairman, is the best kind of ambassador for the group: someone who has directly benefited from its work. Rochon had fallen in love with flying as a kid, choosing a career as a pilot over the FBI. He attended OBAP's Aerospace Career Education Academy and benefited from OBAP mentoring and networking during college. Thanks to that support, Rochon received a Diversity in Aviation Scholarship from Western Michigan University in conjunction with the W.K. Kellogg Foundation, earning a bachelor's degree in flight.



ROTOR: How involved is OBAP in promoting rotorcraft careers?

Rochon: A number of minority pilots enter the helicopter side of the business from the military. That's the primary source of black and minority pilots in the commercial helicopter world.

But one of the things we've identified is the need to promote helicopter flying as an option to minority students. We don't have numbers yet, but it's pretty obvious that minorities are a very small percentage of the employment base there.

At OBAP Aerospace Professionals in School (APIS) events at elementary schools, students get to talk to the

pilots and other rotary aviation people we bring out, and to check out the helicopters. For most of our kids, it's the first time they've ever seen a helicopter up close or thought about possibly flying or working with helicopters.

Have you seen any positive results?

Yes, a little. And it's growing. Just this year we were able, with the support of Airbus Helicopters, to provide two full scholarships for students to go to Airbus's facility in Grand Prairie, Texas, and get their type ratings there in an Airbus helicopter. That was generous of Airbus.

Those two scholarship slots were filled within a week of our first announcing their availability, so demand was surprisingly high. There are lots of opportunities in the rotary world between the military, police, medical, and offshore operators. And I now have more and more students coming to me who are interested in helicopters.

Are there still barriers for minority kids trying to get into aviation?

Definitely. Aviation is something minority kids usually don't think much about. And even if they do, they don't know how to be involved in it.

That's why we started the APIS program: to introduce elementary kids to the idea that there's this whole big field that they've never thought about before in which they can, if they put their minds to it, build a very nice career.

But getting that career isn't easy, and it's not cheap.


Once students get serious about it and discover that becoming a pilot is going to cost \$150,000, OBAP is here to help them think through the options. Are there ways to help them pay for it? Do they want to start looking at working in management instead of flying? Things like that.

And that's really our No. 2 focus: mentorship. We talk with them about their

options: going into the military sector, the cargo sector, aerial survey work, flying for police departments or medical operators, or engineering or management. OBAP is here to open their eyes to all the possibilities and opportunities available to them in the aviation world.

At the end of the day, it's important to black students—especially those who don't see others like them doing this, who begin thinking that maybe there's not a place for

them in this world—to see that there are people who do look and speak like them who are doing it. That communicates that they can do it too.

Not long ago, 80% of our students who entered college aviation programs wanted to be pilots. Now the split is about 60/40, with about 40% of them looking to become engineers, executives, or air traffic controllers or to get some other challenging and good-paying jobs in aviation. 

OBAP Outreach to Minority Youth

OBAP has four primary initiatives aimed at encouraging minority participation in aviation careers. Learn more or get involved at obap.org.

School Events. OBAP volunteers visit with about 60,000 students during each school year through the Aerospace Professionals in School (APIS) program. APIS has materials designed for all ages, ranging from a basic introduction to aviation for children ages 6–10, often with a helicopter landing on the school's playground as the “wow” moment of the visit, to more in-depth education on aviation and related careers aimed at middle-schoolers. The high school curriculum includes mentoring students and extracurricular programs on conflict and time management and decision-making skills.

Summer Programs. Working closely with the FAA, OBAP conducts about 30 or so weeklong Aerospace Career Education (ACE) Academies around the United States. To date more than 30,000 minority middle and high school students have attended. Topics range from the fundamentals of aerodynamics to aerospace careers. In addition, around 20 students ages 16–19 each year attend OBAP's Solo Flight Academy. In this two-week program, students receive 40 hours of ground school and at least 10 hours of flight time. Once they meet FAA requirements, they're cleared to solo.

Professional Training. The Luke Weathers Jr. Flight Academy, named for the first black air traffic controller for the FAA, offers Part 141 and Part 61 flight training to students from local schools in the Memphis, Tennessee, area. The program is designed to take students from zero time to the airline hiring minimum of 1,500 hours in two to three years.

Scholarships and Mentoring. Each year OBAP helps several dozen black or other minority students attend colleges with professional aviation degree programs, providing scholarships and personal mentoring from OBAP members. Through its Aerospace Professional Development Program, OBAP helps coach around 4,000 mostly minority young adults seeking or already holding jobs in the industry. Participants receive coaching on subjects such as job interview techniques and career planning as well as personal mentoring from OBAP members in defining their career goals and staying on track to reach those goals.

Implementing Flight-Data Monitoring



The US National Transportation Safety Board recommends that all Part 135 operators install flight-data monitoring (FDM) technology. But every operation can reap FDM's safety and operational performance benefits. Best of all, modern FDM equipment is lighter, less expensive, and easier to use than legacy models, placing the technology within reach of small and medium-sized operators. Below are five best practices to help you on your FDM journey.

WATCH the FDM webinar

1 DON'T invest in FDM equipment without making an equal commitment to build an ongoing program to analyze and act on the information. Installing equipment without a plan to constructively use the data will waste time and money and provide no benefit.

2 DO seek help from others when starting your FDM journey. Ask other operators about their FDM installations and how they overcame early challenges. Reach out to industry organizations like HAI and AAMS to research FDM options. The answers you seek are just a call or click away.

3 DON'T make FDM a substitute for a safety management system (SMS). Yes, FDM will provide you with data about hazards, but only SMS will provide you with the complete tools to manage safety effectively, including a systematic approach to ongoing hazard analysis and risk mitigation. Without a foundational SMS, stand-alone safety initiatives, including FDM, will likely be exposed as costly half-measures and fail.

4 DO follow FDM product and service markets closely. As technologies and capabilities continue to mature, your barrier to implementing FDM technology may be lower than you thought. There are multiple options and price points available; you can start small and plan for expansion as your FDM program grows (and as you start reaping the benefits).

5 DON'T allow FDM to become a mechanism for a gotcha! mentality; instead, use it within the framework of a just culture. While you mustn't ignore egregious violations, the bulk of your FDM data should be used to improve operational safety and performance by finding and closing gaps in policies, procedures, training, and skills.

Thanks to Chris Hill, HAI director of safety, and the panelists on the Jul. 9, 2020, HAI@Work webinar, "Harnessing the Value of Helicopter Flight-Data Monitoring": Jeff Currin, FOQA manager, Life Flight Network; Pete Henrikson, president and founder, Truth Data; Zach Powers, FOQA program manager, Air Methods Corp.; and Ryan Smith, flight safety manager, PHI Americas. Listen to [the recorded webinar](#) to learn more about FDM.



Take the HAI COVID Clean Pledge

Don't take a chance with your reputation.

Show staff and customers your commitment to be COVID Clean.



The COVID Clean Program is designed to help HAI members build trust and demonstrate in a highly visible and reassuring way their commitment to meet or exceed regulatory standards intended to prevent the transmission of COVID-19 and other infectious diseases.

Take the pledge at rotor.org/covidclean



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NOVICTOR



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*As of July 30, 2020

FLY OVER

BONNEVILLE DAM, COLUMBIA RIVER, OREGON

AND WASHINGTON | AUG. 8, 2019

WILSON CONSTRUCTION | MD 500E

PILOT: RON STEWART

PHOTO BY MARK BENNETT





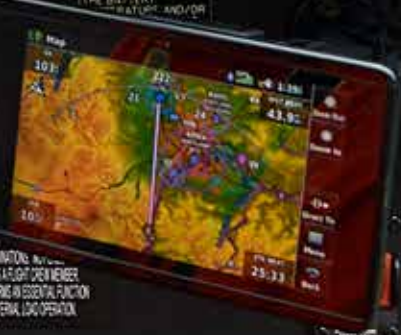
EMERGENCY CALL
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CLASS A B/C/D/COMBINATION. PASSENGERS
MAY BE CARRIED UNLESS HE IS A PILOT OR CREW MEMBER.
RIGHT CREW MEMBER OR PERFORMING AN ESSENTIAL FUNCTION
IN CONNECTION WITH THE EXTERNAL LOG OPERATION





Stacy Sheard

All In for HAI

Incoming HAI chair focuses on coming together to overcome challenges.

By Jen Boyer

Opposite page, top left: As a UH-60 Black Hawk pilot, Stacy was assigned to Fort Irwin, California, where she provided desert training to US Army forces.

CORPORATE HELICOPTER CAPTAIN STACY SHEARD BEGAN HER ONE-YEAR TERM AS CHAIR of Helicopter Association International on Jul 1, 2020. Her interest in helicopters as a young girl sparked an aviation career that has taken her around the world, preparing her to represent a global industry as it navigates its way back from the COVID-19 pandemic.

Stacy's imagination was first captured by helicopters while growing up in Clovis, California, a small agricultural town at the base of the Sierra Nevadas. Every spring and summer, helicopters flew from the nearby Fresno Air Terminal to the mountains, drawing her eyes skyward.

"I was about 11 or 12 when I really started taking notice," she recalls. "They were always flying by to fight fires, and I thought, 'Wow, I want to do that!' The show *Airwolf* was on TV about that time too. That was a huge part of growing up and really inspired me. I loved that show and helicopter."

It was the early 1980s, and flight schools were few and far between. The money needed to learn to fly was even harder to come by. Undeterred, a young Stacy rode her bike to the Fresno Air Terminal (since 1996 the Fresno Yosemite International Airport, KFAT) and offered to sweep hangar floors at Rogers Helicopters as a way to be around the machines and learn more. The helicopter operator declined her offer.

DAN SWEETHAI



“I knew I wanted to fly, but I didn’t know how I was going to pay for it,” she says. “Then my mom gave me a book full of Black Hawks. I think that was what helped me decide that I would join the army and learn to fly there.”

In 1990, Stacy enlisted in the US Army. Her initial assignment was working as a Russian linguist and analyst for the National Security Agency. Four years in, she applied for the warrant officer program and flight school. She graduated in 1995 and flew Hueys and Black Hawks for six years before leaving the army in 2001.

Finding Her Superpower

It was during her last year in the army that Stacy discovered the skill that has propelled her career. Based at Fort Irwin in California, she began to research post-army job prospects. She traveled to Las Vegas to meet with helicopter tour operators, including Sundance Helicopters. She asked questions about transitioning to civilian flying, handed out her resume, and did the most important thing a job seeker can do: made a positive impression.

“I was due to get out in November 2001, then September 11 happened,” Stacy says. “It was really hard to get a job, and it was a rough couple of months. But because I took the time to talk to employers, I landed a job when they started hiring again in January. That’s when I really learned and understood the power of networking.”

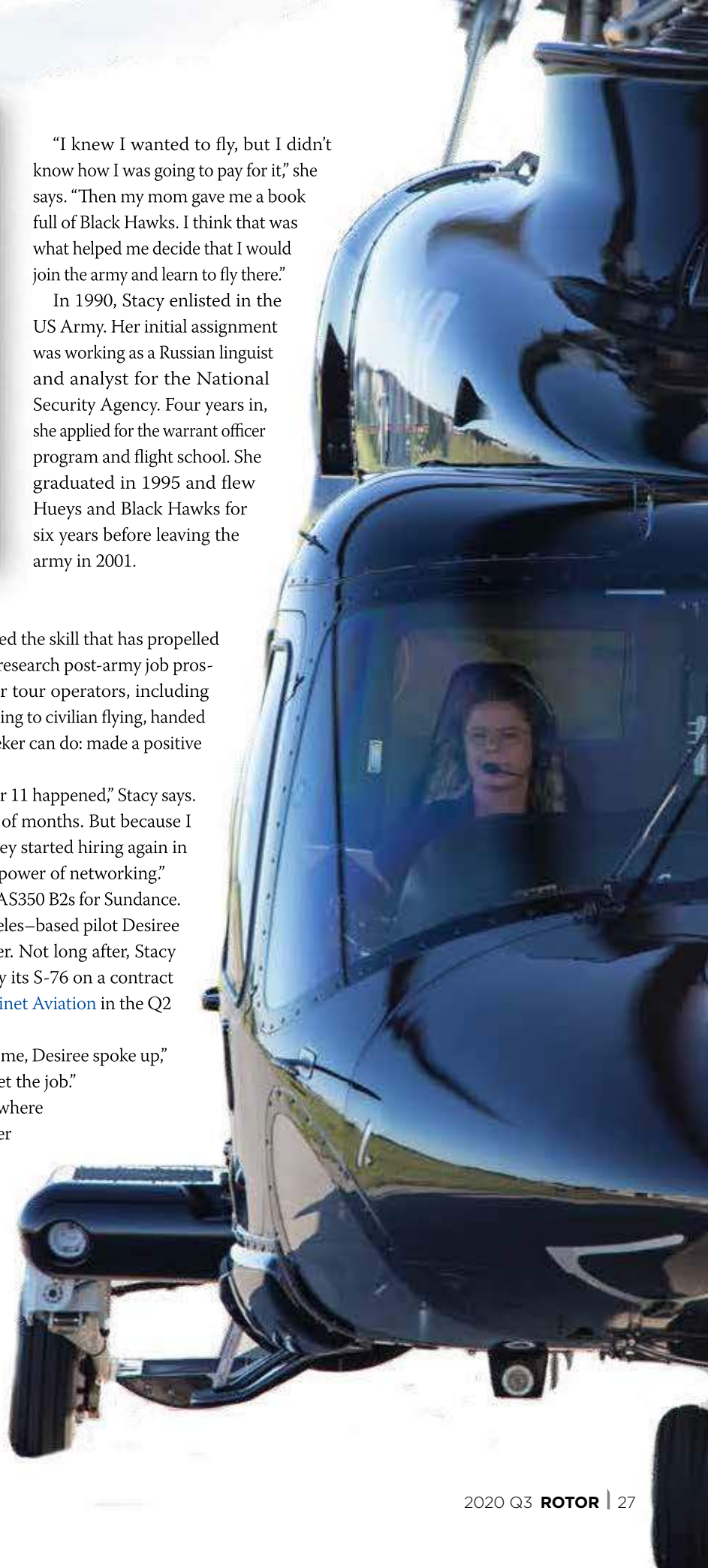
Stacy flew tours of Las Vegas and the Grand Canyon in AS350 B2s for Sundance. One day while out flying, she crossed paths with Los Angeles–based pilot Desiree Horton. The two made a strong impression on each other. Not long after, Stacy applied to Helinet Aviation, in Van Nuys, California, to fly its S-76 on a contract for Children’s Hospital Los Angeles ([read more about Helinet Aviation](#) in the Q2 2020 issue of ROTOR).

“When the chief pilot asked his employees if they knew me, Desiree spoke up,” she says. “I honestly believe that networking helped me get the job.”

Stacy later moved to Elite Aviation, also in Van Nuys, where she flew single-pilot IFR as a corporate Bell 430 captain. Her main assignment was corporate transport, with a little flying for film production on the side. When Elite sold its aircraft in 2007, Sikorsky hired Stacy as a production test pilot for S-76 and S-92 helicopters. Stacy again credits networking for the move.

“Three years before, when I was flying for Children’s Hospital in the S-76, I’d started talking with people at Sikorsky,” she says. “The timing was right when a job opened there.”

Stacy’s people and piloting skills expanded while at Sikorsky. Her duties included production test-flying in Coatesville, Pennsylvania, delivery flights, and flight



TOP: PHOTO COURTESY STACY SHEARD; SIDE: DAN SWEET/HA

Pay it forward: Helping fellow veterans negotiate their transition to the civil helicopter industry, as shown here during the Mil2Civ Transition Workshop at HAI HELI-EXPO 2020, is a passion for Stacy.



The Power of Networking: Advice from Stacy Sheard

To a hiring manager, aviation professionals may all look the same on paper. It's your personal connections that will make the difference in landing that first job or keeping your career moving.

"Someone may be extensively experienced, have the perfect resume, and their social media is on point, but ultimately the deal is always rooted in the personal connections made along the way," HAI Chair Stacy Sheard says. "Think of every single interaction you have with someone in the helicopter industry as a potential job interview. It's a small industry—that new pilot you're training could someday connect you with your dream job."

Here's what Stacy recommends to ensure you stand out.

- **Start Early.** Reach out to potential employers early. Even if you're several months to years from meeting the requirements to work at an employer, you can lay the groundwork by making that first connection.
- **Make It Personal.** Visit in person whenever possible. Asking questions, showing your positive personality, and listening go a long way in helping them to remember you.
- **Listen and Learn.** Follow advice if it's offered. Your future employer will notice your focus when you're eligible for their jobs.
- **Stay in Touch.** Once you've established a connection, keep it going. See the next three tips for ways to build and strengthen your bonds with other aviation professionals.
- **Attend Industry Events.** Attend networking opportunities like HeliSuccess, HAI's Military-to-Civilian Transition Workshop, HAI HELI-EXPO, career fairs, and even local social gatherings of fellow aviation professionals to make meaningful, genuine connections.
- **Be Part of the Community.** Participate in helicopter and aviation organizations, volunteering when you can. The experience gained and connections you make will serve you throughout your career.
- **Give What You Get.** Networking is about building genuine connections, not scoring the most business cards. Keep it real, and take every opportunity to help or mentor others.

instruction around the world. It was during this time she experienced the global helicopter industry firsthand.

"It was eye-opening to learn most places don't know how to treat helicopters," she recalls. "There were so many countries learning to embrace the helicopter industry and so little knowledge about how to do so. For instance, at one airport in India, I was lined up on the taxiway behind seven jets waiting to take off. They had no helicopter takeoff procedures. Experiences like these showed me how HAI can be of real value overseas."

By 2014, Stacy's reputation in the industry was growing. An insurance company, MassMutual Financial Group, recruited her from Sikorsky, offering her the chance to fly the AW139, an aircraft that piqued her interest. In 2015, she was recruited again, this time by Michael Rubin, majority owner and CEO of Kynetic, a holding company for e-commerce retailers Fanatics, Rue La La, and ShopRunner.

Today Stacy has flown more than 9,000 hours and holds an ATP helicopter rating and type ratings in the S-70, S-92, and AW139. In addition to her helicopter training, she found the time to earn both a bachelor's and a master's in aeronautics from Embry-Riddle Aeronautical University.

Stacy continues to fly for Rubin's Fanatics as an AW139 captain, transporting Rubin and other executives to multiple offices, sporting events, and business meetings around the northeastern United States. Fanatics also owns a Gulfstream 550. The company directly employs four helicopter and three



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airplane pilots, relying on Executive Jet Management to manage all other aspects of the aircraft, including support staff.

Making Genuine Connections

The secret to all of her opportunities in the civil helicopter industry, Stacy believes, is the willingness to network and make genuine connections with people. After her visit and the positive impression she'd left, the chief pilot of Sundance made sure that when jobs opened up again, she was one of his first hires. Stacy never forgot this lesson and has since dedicated her volunteer time to helping others learn how to do the same.

Stacy's first HAI HELI-EXPO® was 2004 in Las Vegas, and she hasn't missed a show since. She was first invited to participate in the events sponsored by the Whirly-Girls, the international organization for female helicopter pilots, and then, being Stacy, found her way to other opportunities there.

"I soon began participating in the HAI Pilot Mentoring Committee and in *Rotorcraft Pro's* HeliSuccess Career

Development Seminar and Job Fair," she says. "My subject was networking and how important it was to make genuine connections—the kind that help us support each other. But I really felt there was a need for military-to-civilian transition support. You really need the introduction to the civil industry and mentoring to help bridge that gap."

In 2012, Stacy was invited to speak to military aviation personnel at Fort Belvoir, Virginia, about transitioning to the civilian world. HAI staff were also present and invited Stacy to develop the Military-to-Civilian Transition Workshop (Mil2Civ) at HAI HELI-EXPO. She has since led the Mil2Civ workshop as coordinator and presenter while also helping to recruit mentors to support military pilots in their transition.

"I really wished I had that kind of support when I was transitioning," Stacy says. "Now that I know what it takes, I can tell others and help them be successful in their civilian careers. It feels good to give back."

As a woman, Stacy believes making positive connections with others in the industry was even more important. "When

As part of the 2012 Sikorsky Legacy of Heroes world tour, Stacy and colleagues visited India, where they took the opportunity to introduce these schoolchildren to the S-92 before taking them for a flight.



PHOTO COURTESY STACY SHEARD

I was starting out, it didn't really register to me that just meeting people and making an impression would serve me down the road," she says. "What you want is to improve the atmosphere of your workplace.

"Women are only 5% of our industry. Unfortunately, the attitude toward women is different from men. There is more emphasis on us having to show we're an enhancement to the workplace, not a disruption. I try to partner with that 95% to strengthen the acceptance of capable female pilots and mechanics. I hope to come across as a good hire, someone who strengthens the team," Stacy says.

Becoming an HAI Leader

By the time Stacy was elected to the HAI Board of Directors in 2016, she had already developed



Stacy in 2010 with Wan "Peggy" Qiuwen (left) and Song Yin, China's first two female search-and-rescue pilots.

considerable connections that would help her guide and support the organization. She built on this knowledge and experience throughout the next four years. She was elected to another three-year term in 2019 and has been a member

of the board's Executive Committee since 2018. Her fellow board members selected her as the association's next chair in January 2020 in Anaheim.

"The single most valuable thing I feel I've experienced since joining the board is Jan Becker's leadership," Stacy says. "I have been so fortunate to have been on the Executive Committee with her, learning from her guidance and being involved

in the incredibly important HAI president search. I am so proud I was involved in bringing Jim Viola onboard. He's a great hire, and I'm truly excited about what he's going to accomplish."



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HFA-909

Stacy takes the reins of HAI during one of the industry's most turbulent years. Never one to shy away from a challenge, she's ready to take it head-on.

"My primary focus right now is returning the industry to service," she says. "The novel coronavirus has set us back, and the entire industry around the world must recover. I believe it will be a slow, progressive recovery that will last longer than the one following 9/11."

Stacy wants to facilitate HAI's support for its members during this recovery. How can the association help through information, education, resources, and other support?


"I'd like to ask HAI members to help with this goal," she says. "Jim has asked the membership to tell him what they need, and I encourage everyone to write to president@rotor.org and tell him. He's the real deal. He's listening and will tackle all he can, but he needs to hear from the membership. If there is a webinar you need, people you need to talk to, programs you need, speak up. If we're not tackling things you need, please speak up."

Stacy also supports developing HAI's international

presence. From her firsthand experiences, she understands the benefit of developing a standardized, global helicopter community.

"Expanding the 'I' in HAI is a huge endeavor I believe in very much," she says. "We don't want to be US-centric. It's going to be work. Countries can't unite, so getting the industry to unite is a real challenge. We should start with being more standardized with what we do and help other countries to build helicopter industries using standard global practices."

When it comes to the continual scrutiny facing the helicopter industry around safety, Stacy takes a moment to compose her thoughts.

"My vision of safety is it should be naturally intertwined in everything we do," she says. "It has to be in our culture and in everything we do. I've been a safety manager in the military and in the civilian world. I want to change attitudes so we don't think of safety as a separate thing. We should consider it a natural part of every single thing we do every day. Until we all can get to a place like that, we will continue to have issues around safety." 

Stacy and some Executive Jet Management colleagues: from left, Bill Rhoads, aviation maintenance technician; Kyle Pope, AW139 captain; Adrian Schippers, AW139 captain; and Blair Payton, lead helicopter pilot.



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HUMS

Not Just for Heavy Iron Anymore

By Paul Seidenman

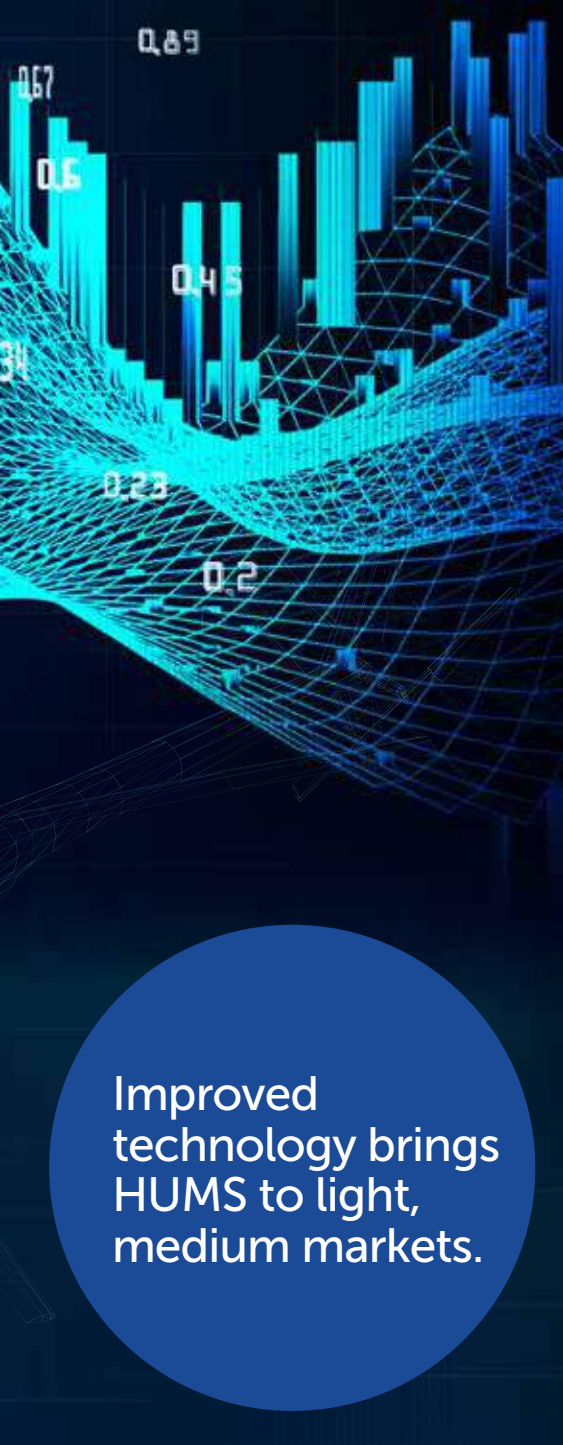
WHAT IF AN OPERATOR COULD TELL—just by looking at a computer screen—that a particular bearing on an aircraft was showing signs of premature wear? How would that change how maintenance is planned and conducted?

Heavy civil and military helicopter operations have had that capability for decades through onboard HUMS (health and usage monitoring systems), but adoption of that technology by operators of smaller aircraft had stalled. But that's changing, as the next generation of HUMS equipment is evolving to meet the needs of the light and medium rotorcraft markets.

Early Challenges for HUMS

"The core of HUMS is probably component-vibration monitoring and maybe engine monitoring," explains Nick Mayhew, industry cochair of the US Helicopter Safety Team (USHST). "But some systems include rotor track and balance (RTB), and other systems build in both RTB and flight-data monitoring [FDM]—specifically, the ability to pull flight parameters off the aircraft."

Mayhew calls HUMS "a great concept" but concedes that the original products had challenges. "In the early days, the technological building blocks just weren't there yet. On the shipboard side, sensors, cables, and computers were heavy and didn't have the horsepower to do acquisitions fast enough. Wi-Fi and cellular were in their infancy, so



Improved technology brings HUMS to light, medium markets.

you had to get the data off manually. The cloud wasn't around, so the aircraft data could only be accessed from a local PC. And the user interfaces were terrible, so you needed experts in signal processing for interpretation."

First-generation HUMS were also questioned, fairly or unfairly, after some high-profile accidents, according to Andrew Swayze, head of strategy and marketing for GPMS, a HUMS developer and manufacturer in Cornwall, Vermont. Specifically, Swayze cites two accidents—one in 2009 and one in 2016—involving

two Airbus Super Pumas in which the HUMS apparently didn't clearly identify component breakdown. At the same time, he notes, early HUMS were famous for false positives.

"As a result of these issues and the fact that some systems weighed in excess of 120 lb. and could cost several hundred thousand dollars, adoption was limited to large helicopters in military and offshore energy segments," Swayze says. He points to a 2013 *RotorHub* article titled "Bad Vibrations" in which an engineer is quoted as saying, "It would be fair to say that HUMS has not lived up to early expectations."

After roughly 25 years since HUMS was introduced, GPMS estimates that approximately 85% of commercial helicopters in service still aren't HUMS equipped.

HUMS Technology Matures

By the 2000s, the technology that HUMS depended on began to change, coupled with the proliferation of smart connected devices and shifting customer expectations.

"The technology is now available to enable quick and reliable remote download," says Mayhew. "This also offers opportunities to incorporate the collection and harvesting of FDM with HUMS information."

"We saw an opportunity to modernize HUMS, address its earlier shortcomings, and make the technology accessible to all operators," says Eric Bechhoefer, PhD, founder of and chief engineer at GPMS. "The initial HUMS systems were designed for heavy aircraft and for operators that had staff dedicated to data interpretation. But today's systems are lightweight and designed so that the average maintainer can use them to solve everyday problems."

Bechhoefer and his team put their HUMS system, Foresight MX, through extensive hardware and software development. To address false positives and improve detection, sensor processing and threshold settings were greatly modified. "Our health algorithm typically improves the signal-to-noise ratio by 3 to 4.5 dB. Its fault-finding capability is about 5 to 10 times more sensitive than in other systems," he notes. "In practice, this means we can identify individual components showing wear, see faults at an earlier stage, track their propagation, and then layer in estimates of remaining useful life

to simplify logistics planning and reduce unplanned aircraft downtime."

Foresight MX was certified on the Bell 407GX in 2019, under an amendment to the prior 407GX certification. This August, it is slated to be certified on another light utility helicopter, the Airbus AS350 AStar.

Bell confirms that it's moving HUMS technology into its lighter aircraft. "Bell is the only OEM to offer a HUMS for a light single-engine helicopter," says Brian Tucker, manager for Connected Fleets at Bell. "Currently, we're working to make HUMS a part of the type design for the larger Bell 525 when that aircraft is certified."

Asked about the advantages that the new-generation HUMS will offer, Tucker cites the automated alerts to help users know immediately—whether in flight or upon landing—if something needs attention. "Foresight's prediction of remaining useful component life is truly unique and helps operators plan for maintenance," he says.

Tucker also notes Foresight's bused smart-sensor architecture. This, he explains, puts the data acquisition and processing into the sensor itself, so all data can be acquired simultaneously. "While older systems might acquire data once per hour, the HUMS on the Bell 407GX acquires data 20 times per hour. In addition, the wiring is simplified," he says. "The data bus wires string among the sensors like Christmas tree lights, unlike analog systems with dedicated wiring for each sensor. This results in lower weight—just 8.8 lb."

Using HUMS to Solve Problems

Prior to using Foresight, Jeff Byrne, a helicopter pilot and aircraft maintenance engineer for Municipal Enterprises Ltd. in Halifax, Nova Scotia, had no experience with HUMS, but he's now a fan.

"The Foresight system is too easy," he says. "When you land, it uploads the aircraft data automatically, and within two seconds the new information is there on your tablet screen. You look at the component dashboard and if you see all greens, you know you are good to go." The system's troubleshooting and diagnostics features, says Byrne, take the guesswork out of formerly complex diagnostic procedures,



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such as addressing rotor vibration.

David Poe, who heads a crew maintaining a Bell 407GX at Hill Air Corp. in Dallas, Texas, agrees. "RTB traditionally requires that operators attach specialized equipment, take dedicated flights to manually acquire readings, make adjustments, then re-fly the aircraft to validate the solution, often multiple times," he explains. "Foresight is designed to change this paradigm. The system is 'always on' and takes RTB acquisitions automatically, so that a predictive solution is there every time the aircraft lands."

In late 2019, Poe received a high-vibration alert via Foresight's email notification feature, which indicated that the helicopter's main rotors were showing a vibration velocity of 0.4 inches per second (IPS) in vertical forward flight, an orange-level measurement that displayed as "Attention Needed" on the Foresight dashboard. Poe implemented the recommended solution, and the average vibration velocity for hover went from 0.35 IPS to 0.06 IPS, and for 120 knots, from 0.4 to 0.03 IPS.

The advantages of modern connectivity make HUMS a driver for improved efficiency in maintenance, explains Reuben Mann, head of marketing for SKYTRAC Systems, an aviation data hardware and software provider headquartered in Kelowna, British Columbia. His company is collaborating with helicopter OEM Leonardo and CHC Helicopter of Irvine, Texas, to certify SKYTRAC's Real-Time HUMS (RTH) System as a retrofit install on the medium-twin AW139 helicopter—with line-fit coming soon. Work is also in progress to certify RTH on the Leonardo AW169 and AW189.

"Innovative product features for our HUMS solution include real-time in-flight exceedance notifications of HUMS parameters that monitor critical helicopter components, including the drivetrain, engines, and gearboxes. These can then be transmitted directly to the ground when exceedance limits are reached," says Mann. "This gives maintenance crews an alert at the detection of anomalies in vibration patterns before the aircraft lands. When frequency vibrations are detected that deviate from the rest of the fleet, maintenance crews can look into the severity of the alert, order replacement parts, or swap out the damaged component at the earliest possible date."

HUMS CASE STUDY

Enabling Predictive Maintenance

At Duke Energy in Charlotte, North Carolina, the GPMS Foresight system warned of an emerging problem with an ACC duplex bearing on the company's Bell 407. According to a report from the Duke maintenance team, the predicted remaining useful life estimate indicated that the component had about 50 hours before risking collateral damage.

Because the aircraft was coming in for a 2,500-hour inspection, the team decided to replace the bearing proactively. Following disassembly of the main gearbox, scuffing was noted on the ACC ball element and metallic fuzz on the chip detector.

Although the degraded bearing may not have caused a safety event, Foresight's capability to detect a problem and provide prognostics enabled maintenance to optimally schedule the part's removal and move from a reactive to a predictive footing.



HUMS CASE STUDY

Amplifying Efficiencies

Reuben Mann of SKYTRAC Systems explains how his Real-Time HUMS product helped one operator solve several challenges resulting from his legacy HUMS installation, including:

- A 20- to 25-minute download process to get the data card from the aircraft to the station, including sign-off
- A loss of up to 15% of weekly data per aircraft
- Approximately 100 man-hours each week to collect FDM data fleetwide.

"On this one project," says Mann, "we were able to eliminate this time-consuming HUMS and FDM data download process and complete it within minutes after landing. At the same time, we enabled the HUMS data to be analyzed while the aircraft was flying, as we now host the Leonardo HUMS library on the aircraft. It monitors all defined HUMS parameters in real time and, if an exceedance occurs, it immediately lets someone on the ground know."

Mann says the data that's automatically downloaded after each flight helps operators plan for parts and repairs ahead of time. "SKYTRAC reduces both turnaround and unscheduled maintenance downtimes while also improving the safety of flight."





A technician consults the Foresight dashboard for this Bell 407GX; see the opposite page for a closer look at the types of data available through Foresight.

Mann says that email and text message alerts, combined with the data that is automatically downloaded after each flight, help operators plan for parts and repairs ahead of time. The flow of real-time data from the aircraft reduces turnaround times and unscheduled maintenance downtimes while also improving flight safety.

HUMS and FDM

According to GPMS's Bechhoefer, integrating the functionalities of HUMS and FDM is key to gaining greater value for both systems.

"FDM and HUMS have always been closely related," he explains. "You might say that HUMS is information about how your aircraft is operating. FDM is information about how your aircraft is *being* operated. The first focuses on the machine; the second, typically, on the pilot, but the two are highly interrelated." For example, Bechhoefer says, if a pilot has a hot start, that will be captured by FDM and the exceedance recorded by HUMS. He points to a specific case involving a GPMS customer.

"The pilot called, hundreds of miles from base, complaining of low power and rotor vibration," he says. "The maintainer was able to look at the aircraft in Foresight and confirm—in the 'Mechanical Diagnostics' view—the drop in engine performance and confirm—in the 'RTB' view—that the rotor was at 0.3 IPS. But he was then able to use FDM information to see that the outside air temperature was -10°C for the trip."

As Bechhoefer explains, the maintenance technician was able to attribute the loss of engine performance to the

fact that the pilot was using bleed air. He concluded that the RTB imbalance was specific to an elastomer that would recover as the temperature rose. "That, in fact, saved the maintainer a surprise trip to diagnose the problem on the aircraft."

Other vendors also see the value of a single-unit, integrated HUMS/FDM system. In fact, Honeywell Aerospace's new RECON incorporates both helicopter vibration-health monitoring and FDM, according to Pat Nuanez, Honeywell's senior offering manager.

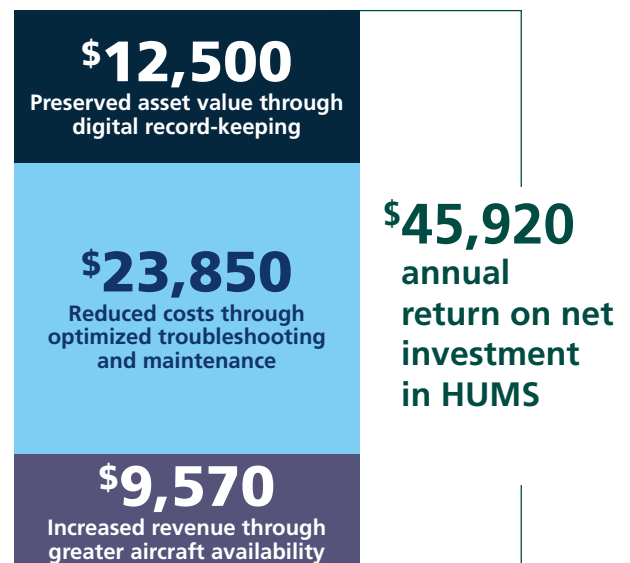
"RECON could, and should, be a central FDM system. We're currently monitoring many assets within the helicopter that are used to provide valuable maintenance data," says Nuanez.

Decreased downtime, lower costs, and improved safety due to the greater predictability of part failure or items needing main-

tenance are the advertised benefits of RECON, which is targeted to the medium and heavy helicopter operator. The data can be downloaded to a PC or a quick-access recorder—an airborne flight recorder designed to provide quick and easy access to raw flight data via USB, cellular network connections, or standard flash-memory cards. Data analysis can be done on a PC or web tool.

"Modularity is a key innovation to RECON. Using modularity, we can significantly reduce the need for long cables

Figure 1. Estimated Annual ROI on HUMS Investment for a Light Single Aircraft*



*Estimate prepared using Bell 407GX and GPMS Foresight MX system
Source: GPMS in collaboration with Conklin & de Decker, 2019

throughout the aircraft,” Nuanez explains. “RECON uses power over Ethernet (POE), so a single Cat 5 cable is used to communicate between the modules. Each module within the RECON system has its own dual core processor and memory storage, giving RECON the power and capability to meet today’s needs and the requirements of the future.”

Safety advocates also note the advantages of using both HUMS and FDM. “FDM and HUMS both use a flight-data recorder,” says Bob Sheffield, a member of the International Helicopter Safety Foundation’s executive committee, “so it’s efficient for manufacturers to provide them as an integrated package.”

HUMS Return on Investment

With HUMS now becoming available for the small and typically price-sensitive operator, the obvious question is whether this is a tool that can be financially justified, even considering its many advantages.

GPMS’s Swayze reports that in 2019, the company sought to answer that question by working with Arlington, Texas–based aviation consulting firm Conklin & de Decker. Using customer experience as a reference point and basing the model around the single-engine Bell 407, three distinct areas of value were identified (see Figure 1), providing a \$45,920 annual return on the operator’s HUMS investment.

“This financial return exists outside of maintenance credits and extended time between overhauls,” Swayze explains. “In other words, we found substantial return on investment in a product that allows operators to perform both scheduled and HUMS-dependent condition-based maintenance in parallel.”

“HUMS pays for itself,” says Sheffield, “not just in identifying equipment that’s about to fail but in routine maintenance work like RTB.

“An operator’s existing workforce is usually sufficient to integrate both FDM and HUMS in its work practices because FDM calls on pilot resources and HUMS

calls on maintenance resources.”

Going forward, says Swayze, GPMS anticipates that there will be more demand to incorporate both FDM and HUMS into all helicopter operations. “The [US] National Transportation Safety Board has recently pushed for FDM and recording devices,” he says, “and several OEMs have or are moving to include FDM as standard equipment.” At

the same time, he says, “if the value of FDM plus HUMS is greater, we think many operators will choose to have both capabilities on board and working in parallel.

“These technologies enable data-driven decision-making,” Swayze adds. “Once operators have seen for themselves how they can use the data coming off of their aircraft, I don’t know of anyone who’d want to do without it.”





Life Flight Network

Connecting Community with Care

By Jen Boyer

This rural HAA service goes beyond mere transport.

A PICTURESQUE RURAL TOWN OF 14,000 in northeastern Oregon, La Grande is nestled in a fertile farming and ranching valley surrounded by snow-tipped mountains. The community is fairly isolated, an hour's drive from the next town of similar size, Pendleton, Oregon, and hours away from larger communities. La Grande is the county seat for Union County, which has a total population of about 25,700 occupying slightly more than 2,000 square miles.

Just west of the popular Hells Canyon National Recreation Area on the Snake River, the region attracts serious outdoor enthusiasts year-round. Warm in the summer and snowy in

the winter, it's a haven for those who hike, bike, camp, climb, and operate all-terrain vehicles (ATVs), off-road motorcycles, and snowmobiles.

La Grande's rural, isolated location, paired with its attractiveness to outdoor recreationists, makes helicopter air ambulance (HAA) service a necessity here. The ability to quickly respond and transport out of rugged and remote locations to appropriate medical care is fundamental to the community's health and well-being.

Vital Link to Timely Care

Health-care services for La Grande and the surrounding area are provided by Grande Ronde Hospital. A Level IV trauma

center and designated critical-access hospital for initial emergency care located within La Grande, it provides patients with evaluation, stabilization, and advanced-trauma life support services prior to transport to a center offering more-advanced care (trauma centers range from Level I, which provides the highest level of care, to Level V).

A quick look at the map demonstrates the La Grande community's need for helicopter air ambulance services. The next-highest-level trauma centers, both Level III, are 42 miles northwest in Pendleton, Oregon, and 50 miles north in Walla Walla, Washington. The closest Level II is 129 miles southeast in Boise, Idaho, while the closest Level I trauma centers are more than 195 miles to the west, across the Cascade Mountains in Portland, Oregon.

To meet the need for faster access to higher-level care, Life Flight Network began serving La Grande in 2011 as the region's first HAA operator. Fixed-wing operator AirLink Critical Care Transport had previously operated out of the Eastern Oregon Regional Airport (KPDT), 7 miles south of the hospital. Grande Ronde Hospital supported the new air ambulance provider by constructing a \$1.2 million helipad at the hospital in 2012, increasing immediate access to the facility for airlifted patients. The results were immediately evident.

"When you choose to live in a rural community, you accept that specialized services available in larger communities are not as quickly available to you," says April Brock, emergency

department manager at Grande Ronde Hospital. "Having Life Flight Network allows us to get people in our community to that care. Since the service started, we're seeing patients getting to the lifesaving interventions they need, whether that be here or at a higher-level-of-care facility, in a more timely fashion."

Community-Based HAA Transport

Based in Aurora, Oregon, Life Flight Network operates more than 25 bases across the Pacific Northwest and Intermountain West regions, mainly supporting, with 33 helicopters and 9 airplanes, small communities in Oregon, Washington, Idaho, and Montana. The air ambulance operator employs approximately 650 people, including all clinical and aviation teams, providing a complete HAA solution to communities. It's accredited by the Commission on Accreditation of Medical Transport Systems and the HAI Accreditation Program of Safety for helicopter air ambulance operations.

Life Flight Network began operating out of Portland's Legacy Emanuel Hospital in 1978, often flying out to rural areas. From this experience grew a new idea: the community-based HAA program. Placing bases in remote areas rather than urban centers improved response times and made maximum use of the Golden Hour.

"We realized the value of having critical-care transport directly in rural areas," says Peter Benjamin, Life Flight Network customer service manager. "By placing the aircraft

Life Flight Network flight nurse Justin Jackson checks equipment after a flight.



in rural communities, we considerably reduce the response time to not only 911 [calls] but also critical-care transport from critical-access hospitals to higher levels of care.”

Today, Life Flight Network’s bases are strategically placed throughout the region, with an average 175-mile range per base, in order to provide rapid access to intensive care. Helicopters can fly farther if needed. Bases with airplanes utilize those resources for facility-to-facility transport beyond a helicopter’s range.

Because of the remoteness of the communities and potentially limited resources at the closest hospital, Life Flight Network’s teams have the ability to perform a comprehensive array of intensive-care medical functions during flights. Each aircraft acts as a mobile intensive-care unit, equipped with a Zoll Propaq MD cardiac monitor/defibrillator, an LTV 1200 or ReVel ventilator, an Alaris MiniMed infusion pump, a Belmont Buddy Lite fluid warmer, two units of blood, circulatory support devices (intra-aortic balloon pumps), and a C-MAC PM video laryngoscope.

In addition, Life Flight Network maintains dedicated teams

of neonatal and pediatric registered nurses and respiratory therapists on continuous standby. These teams provide neonates and children with care equivalent to what they would receive as patients on a specialty critical-care unit.

“Additionally, our teams recognize the unique needs children bring to the transport environment and are adept at making patients feel comfortable, safe, and well cared for during what can be a challenging time,” says Greg Plenert, Life Flight Network director of marketing.

Life and Trauma in La Grande

Based at the La Grande/Union County Airport (KLGD), the Life Flight Network La Grande base operates an AW119Kx Koala in VFR-only conditions and a Pilatus PC-12NG turbo-prop airplane. The staff includes four helicopter and four fixed-wing pilots, four critical-care nurses, four flight paramedics, two maintenance technicians, a director of clinical operations, and a customer service manager.

A helicopter pilot, fixed-wing pilot, nurse, and paramedic are on shift at all times, with the medical crew trained to

A Life Flight team: from left, Justin Jackson, flight nurse; Alec Leetch, flight paramedic; and Mike Martin, pilot.





work on both aircraft. Pilots typically work 12-hour shifts while medical crews work both 12- and 24-hour shifts, depending on schedule needs. The Life Flight Network heated hangar provides protection for the aircraft and housing for the crew during shifts. The living quarters offer a common room with full kitchen, dining room, living room, workstations, and individual private rooms with beds.

Folks living in La Grande and the surrounding area generate their share of typical HAA scene calls: cardiac arrest or distress, strokes, respiratory distress, and automobile accidents. In addition, the teams see a great deal of farming injuries (typically mangled limbs or crushing trauma from farming machinery) and recreational accidents. The latter are mainly head-and-limb injuries and heat- or cold-exposure cases among those taking advantage of the area's wide variety of recreational opportunities. And then there's hooky bobbing.

"I had no idea what this thing was until I moved here," Life Flight Network Pilot Mike Martin says. "Hooky bobbing is pulling any sliding thing behind a moving vehicle—car, ATV, tractor, you name it. Usually there's someone either holding on to the vehicle or in the sliding thing. Think tractor pulling a bathtub. We get a few responses to those kinds of accidents each year." [Editor's note: please don't try hooky

bobbing; any activity in which practitioners commonly require air ambulance services is dangerous.]

Because of the remoteness of the terrain, the La Grande Life Flight Network base partners with local search-and-rescue (SAR) efforts. Life Flight Network crews can transport SAR team members to a location and then aid in the search from above, even using night-vision goggles when appropriate. When the missing person is found, the crew can insert rescuers and wait in a safe location for the SAR teams to bring the patient to the aircraft. Once secured, patients can be taken to a number of medical facilities, depending on need, thanks to the helicopter's range and speed.

Service Beyond Transport

When responding to the most remote areas, Life Flight Network crews can often find themselves on their own, a situation not uncommon for rural HAA operators.

"There are many times where we're the first responder in more remote calls, arriving before any ground rescue or an ambulance has reached the patient," says Life Flight Network Pilot Emily Hiller. "We experience how very vital helicopter EMS is here all the time. Sometimes we're literally the difference for a positive outcome."

It can take hours for ground rescue to get to some locations.

A Life Flight AW119 MkII on approach to La Grande/Union County Airport (KLGD).



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While Life Flight Network personnel must receive permission to leave the immediate helicopter area and the crews aren't trained to extract or carry victims any great distance through rough terrain, they can immediately administer aid and transport if the patient is nearby and easily reached.

Where Life Flight Network takes patients depends on the patients' needs. Cardiac patients are flown directly to Walla Walla, the closest cardiac intervention center. Automobile accident victims typically go 75 miles north to Richland or Kennewick, Washington, or south to Boise, Idaho. Stroke victims will be taken to the closest facility with CT or thrombolytics capabilities, which includes most critical-access hospitals.

"We can't bypass a facility with an appropriate level of care, but we can be asked to stand by while a patient is stabilized so we can provide further transport," says Benjamin. "The hospitals in this region do a really good job of using the resources they have to determine when to send patients on."

Although the majority of Life Flight Network's flights entail inter-facility transport to higher-level hospitals, a helicopter is often requested to respond to accident scenes and other ambulance calls, says Benjamin.

"We would rather be en route to help get service to the patient as quickly as possible," he explains. "We're equipped with more lifesaving equipment on board than most ground services. We can meet an

ambulance on the way or at the hospital, shortening the time to the final medical facility."

Life Flight Network's vital role in rural community health care extends beyond airlift capabilities alone. The team participates in Grande Ronde's annual mass-casualty drill, helping to streamline and identify ways to improve procedures for such an event. Life Flight Network also trains the hospital's emergency teams on hot load and unload procedures, helping shave further precious minutes off transport time.

When the weather closes in and the helicopter is grounded, Life Flight Network continues to support advanced care. The service's nurses and medics often go with local ground-transportation partners on critical calls when the helicopter can't respond.

"The Life Flight Network medical teams' skills are much more advanced than those [of the responders] on board our partner ground-transportation services," Grande Ronde's Brock says. "With them, we can provide an even higher level of service than otherwise, even if we have to go by ground."

"Rural communities are special in that the relationships we develop between our transport and medical partners are like no other," Brock adds. "We know each other at a level that's not common in larger communities, that allows us to improve process on a regular basis and share our resources to support our communities. Life Flight Network is a very big piece of that here in La Grande." 

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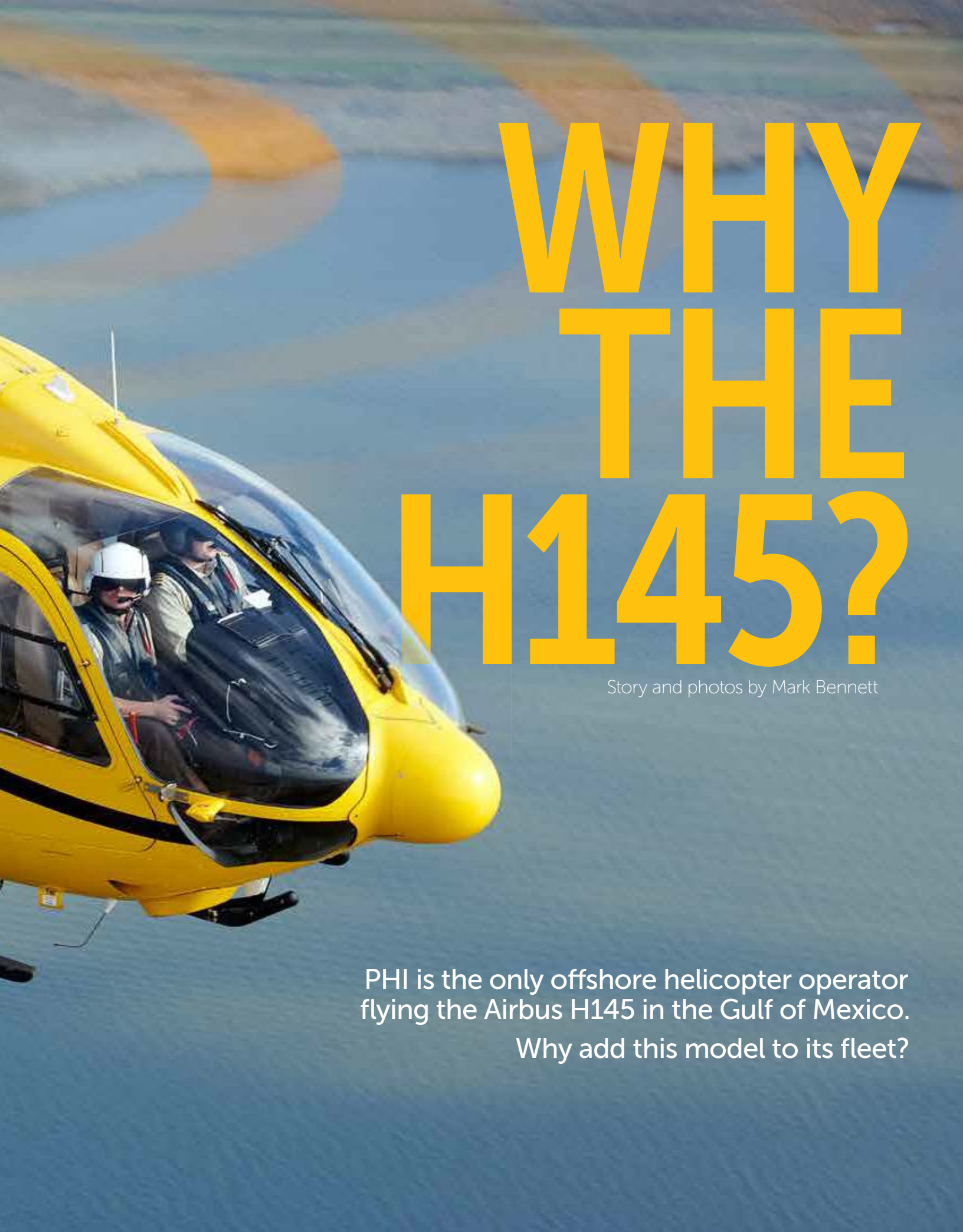


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WHY THE H145?

Story and photos by Mark Bennett

PHI is the only offshore helicopter operator flying the Airbus H145 in the Gulf of Mexico.

Why add this model to its fleet?

The Gulf of Mexico is home to nearly 2,000 offshore oil and gas platforms, from production rigs with a handful of personnel to sprawling drilling platforms. As oil fields are explored and exploited farther offshore, operators must respond to the challenges.

PHI responded with this.





Above: The most obvious difference between the H145 and an earlier model, the EC145, is the Fenestron tail rotor, which reduces noise and improves safety.

The company formerly known as Petroleum Helicopters Incorporated has been involved in fossil-fuel discovery and production since 1949, starting with three Bell 47 helicopters. While it officially trimmed its name to simply PHI in 2006, over the years the company has expanded its fleet and range of missions. PHI now operates 220 aircraft at bases around the world, supporting oil and gas production, wind farms, onshore mining, air medical, search-and-rescue operations, and maintenance, repair, and overhaul services.

Despite its expansion into other missions, PHI's core business remains offshore support for energy production, and it is a leader in that competitive sector, experienced in delivering safety and efficiency to its customers. The company's strong safety culture has produced industry-leading performance in the areas of flight and occupational safety. So when PHI added the Airbus H145 to its Gulf of Mexico fleet, industry observers saw the move as a big plus for the twin-engine light utility helicopter.

Why the H145?

As oil and gas fields are discovered farther offshore, aircraft must be up to the challenge. Extended distances mean extended flight times and, if you're familiar with Gulf of Mexico operations, you know visibility can be limited and, more critically, changeable.

Together, these factors require fast aircraft that can operate in degraded visual environments while carrying enough passengers, cargo, and fuel to not just make the trip—including to alternate landing sites if needed—but also to make the trip worthwhile for both client and operator.

According to Scott Clancy, PHI H145 airframe project lead, "Airbus has captured all of the great elements and lessons learned from the BK 117 family and brought them forward with numerous modern improvements to make the H145."



More specifically, while working closely with its customers, PHI chose the H145 for its payload, range, and speed, coupled with its single-engine performance, even at maximum takeoff weight, and its dual-pilot IFR capabilities.

Clancy specifically cites the performance of the H145's Arriel 2E engines, manufactured by Safran: "Hot-and-heavy takeoffs don't require incredible feats of skill; in fact, we rarely, if ever, use full takeoff power. Engine controls are a simple three-position switch, and the full-authority digital engine control takes care of the rest."


For avionics, Clancy credits the Helionix system from Airbus, plus dual Garmin GTN 750 touchscreens, augmented by an integrated synthetic vision system—a first for PHI—with both lowering pilot workload and increasing operational safety. Add in full autopilot and autohover, and you'll begin to see why the H145 was a great match for PHI's operations.

Ron Workman, PHI H145 oil and gas line training captain, has more than 700 hours flying the type in the Gulf of Mexico. He's effusive about the aircraft: "The H145 checks all the boxes, being an incredibly safe and capable multiengine platform with great OEI [one engine inoperative] performance." Workman adds that the performance of the Helionix avionics coupled with the dual GTN 750 screens is "most impressive, especially during challenging IFR weather in the Gulf."

Another PHI colleague, Chris Lemoine, who has piloted H145s offshore for three years for the company, sums up his impressions of the aircraft this way: "It has the best avionics and autopilot of anything I've flown, and the power to do anything we ask of it."

Offshore and Beyond

PHI ordered its first two H145s in 2016 and put them into service in late 2017. It now operates those in the Gulf of Mexico and, since May 2019, flies two more in Australia, conducting marine pilot transfers supporting offshore energy operations. The company is also evaluating, in coordination with potential customers, the H145's suitability in other sectors.

Cory Latiolais, VP of commercial and business development for PHI, says, "We continue our efforts to innovate, evolve, and invest in new platforms that drive a safe, quality, and efficient service. The H145 fits well into our strategy plan aligning with these core values and driving financial performance." 

Above: In addition to its H145 helicopters, the PHI base at Houma, Louisiana, hosts a range of other aircraft, including Bell 407, Sikorsky S-92, and (not shown) Eurocopter EC135, Sikorsky S-76, and Leonardo AW139 models.

H145 Specifications

Cruising Speed 129 kt/148 mph

Range* 651 km/352 nm

Useful Load 1,781 kg/3,926 lb.

Standard Fuel 728 kg/1,605 lb.

* At cruising speed, no reserve, standard fuel tank



FLIGHT PATH

QUICK FACTS

Samantha Bean

Ansbach, Germany

CURRENT JOB

Boeing AH-64 Apache Longbow armament/electrical/avionics system repairman

FIRST AVIATION JOB

Bell OH-58D(R) Kiowa Warrior armament/electrical/avionics system repairman

FAVORITE HELICOPTER

Bell OH-58D(R) Kiowa Warrior



“At the end of the day, the work you produce and the systems you repair—a person’s life depends on it.”

How did you decide helicopter aviation was the career for you?

I enlisted in the aviation field of the US Army with little to no knowledge of helicopters. However, the moment I saw an aircraft that I had worked on take off and return successfully, I knew being a helicopter technician was for me.

Who’s inspired you?

There were a couple of maintenance test pilots in the OH-58D(R) community that I looked up to. Although they were aviators, they assisted with what they could on the maintenance side and would stay past their regular work hours to learn more about the helicopter systems. They strove to be more knowledgeable about the aircraft they flew.

What are your career goals?

I plan to obtain my A&P license and work as an avionics technician in the civilian world, as well as continue my education in electrical engineering and progress in the field of avionics.

What advice would you give to someone pursuing your path?

At the end of the day, the work you produce and the systems you repair—a person’s life depends on it. That piece of machinery gets flown by another human being and if something were to go wrong, it’s not like a car where the person can simply pull off to the side of the road. Be proud of what you do.

What still excites you about helicopter aviation?

Watching an aircraft take off that I had taken apart almost completely, or one where I troubleshoot for hours to fix an important system, excites me—even more so when that aircraft returns safely with no issues.

What challenges you about helicopter aviation?

The avionics systems—no matter how much you think you know about your airframe, there is always something that crosses your path that you have never dealt with in the past.



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

People get too comfortable, whether an aviator or a mechanic/technician. They do the same path or the same task day after day, and they get complacent. That’s when something goes wrong—a turn is missed, a step is overlooked.

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

I had a pilot come up to me after his flight about an issue with the FM radios. After I asked a couple of questions, the pilot and I walked out to the aircraft. I went straight to the tail fin and tugged ever so gently on a coax cable. It popped right out, and I told him, “There’s your problem, sir.” I can still remember the look on his face that I had found it that fast. 📍

WAI Scholarship Winner Diana Stearns

Award carries special meaning for first female aviator in her family.

GROWING UP IN Frenchtown, Montana, Diana Stearns was intrigued by her mother's career as an emergency room / air ambulance flight nurse. But it was a pivotal experience as a teenager that ultimately led her to pursue a job in aviation.

During her junior year of high school, on a fluke Diana took an aviation class, where she discovered she enjoyed learning about engines and conducting simulator flights.

"I took the class because one of my friends wanted to take it, and I wanted to get out of chemistry," recalls the 2020 winner of the HAI Foundation-sponsored Women in Aviation International (WAI) Maintenance Technician Certificate Scholarship. "My friend ended up hating it, but I absolutely loved it and kept going from there. At the end of the class, a



"In maintenance, it can be difficult to find straightforward answers, so listen to those who have experience and ALWAYS follow the manuals."

private pilot who flew in the area offered to give us a ride, and I knew that was the career for me."

Diana graduated from high school in May 2016 and started flight lessons, obtaining her private pilot's license that December.

After graduation, Diana was determined to find meaningful work that combined compassionate missions with aviation. As she researched potential employers, she noticed a common theme: the organizations preferred their pilots to be aircraft maintenance technicians (AMTs), as well.

In looking at educational programs for becoming an AMT, Diana realized she might have to leave Montana to pursue the best training. She made the difficult decision to relocate when she discovered the School of Missionary Aviation Technology (SMAT) in Ionia, Michigan. There, she says, she overcame her lack of maintenance and hand tool knowledge by asking questions and taking advantage of additional opportunities to learn from instructors and peers.

Diana values her WAI scholarship not only because she's the first woman in her family to pursue aviation maintenance and

pilot training, but also because she's a woman working in an industry dominated by men. The award, which comes with a \$2,500 prize, will allow Diana to complete her training at SMAT with less debt while helping her obtain her airframe and power plant (A&P) license.


"I'm very honored [to win the WAI scholarship] because I know there are few women in aviation,"

Diana says. "Realizing there's this kind of support for female mechanics and female pilots is just amazing."

As it has for so many students this year, the COVID-19 pandemic has presented another unforeseen obstacle for Diana to overcome as she works to become an AMT. Because her courses are necessarily hands-on, it was difficult for her to transition to an online learning environment. Then, on May 4, the SMAT campus reopened, enabling her to resume in-person classes and stay on track to finish the AMT program in exactly one year.

In addition to completing her A&P license, Diana's goals for the future include pursuing her instrument rating and commercial license. She also hopes to obtain her Inspection Authorization (IA) certification, as it would enable her to return aircraft to service after their annual inspections.

Diana urges other students pursuing aviation careers not to be afraid to ask questions.

"In maintenance, it can be difficult to find straightforward answers, so listen to those who have experience and ALWAYS follow the manuals," she advises. 



RECENT ACCIDENTS & INCIDENTS

THE ROTORCRAFT ACCIDENTS AND INCIDENTS listed below occurred between Apr. 1 and Jun. 30, 2020. The accident details shown below are preliminary information, subject to change, and may contain errors. All information was obtained through the official websites listed below, where you can learn more details about each event.

Australia – Australian Transport Safety Bureau (ATSB):
bit.ly/ATSBpub

Britain – Air Accident Investigation Branch (AAIB):
bit.ly/AAIBUK

Canada – Transportation Safety Board of Canada (TSBC):
<https://bit.ly/TSBofCanada>

New Zealand – Transport Accident Investigation Commission of New Zealand (TAIC):
bit.ly/NewZealandTAIC

United States – National Transportation Safety Board (NTSB):
bit.ly/NTSBrep

April 2020

Robinson R22
Seymour, TX, USA
Apr. 6, 2020 | [NTSB CEN20CA144](#)
0 injuries, 0 fatalities | Agricultural flight

Helicopter sustained substantial damage after tail rotor struck tree branch during agricultural operation.

Robinson R44
Hillsboro, OR, USA
Apr. 6, 2020 | [NTSB WPR20LA119](#)
0 injuries, 0 fatalities | Personal flight

Helicopter sustained substantial damage after loss of engine power and autorotation to paved taxiway.

Aérospatiale SA 341
Fort Myers, FL, USA
Apr. 9, 2020 | [NTSB ERA20CA181](#)
0 injuries, 0 fatalities | General aviation flight

Helicopter sustained substantial damage consistent with hard landing.

Garlick UH-1H
Curepto, Chile
Apr. 20, 2020 | [NTSB ERA20WA154](#)
0 injuries, 1 fatality | Flight type unknown

No description available.

Sikorsky S-61
Camp Dwyer, Afghanistan
Apr. 20, 2020 | [NTSB DCA20LA100](#)
3 injuries, 0 fatalities | Air taxi flight

Helicopter experienced loss of control in flight and rolled onto its side during emergency landing.

Bell 206L-1
Moa Island, Queensland, Australia
Apr. 22, 2020 | [ATSB AO-2020-023](#)
3 injuries, 0 fatalities | Commercial flight

Helicopter sustained substantial damage after impacting terrain for undetermined reasons.

Robinson R22
Caldwell, ID, USA
Apr. 22, 2020 | [NTSB WPR20CA140](#)
0 injuries, 0 fatalities | Instructional flight

Helicopter experienced hard landing during autorotation training.

Bell UH-1H
Mesa, AZ, USA
Apr. 24, 2020 | [NTSB WPR20LA130](#)
1 injuries, 1 fatality | General aviation flight

Helicopter impacted terrain after in-flight separation of tail rotor and loss of control.

Hughes 369
Pylesville, MD, USA
Apr. 25, 2020 | [NTSB ERA20LA160](#)
0 injuries, 0 fatalities | External load flight

Helicopter sustained substantial damage after loss of engine power and an autorotative landing and rollover.

May 2020

MD Helicopters MD 369E
Houston, TX, USA
May 2, 2020 | [NTSB CEN20LA167](#)
1 injury, 1 fatality | Search-and-rescue flight

Helicopter impacted building and terrain during evening search-and-rescue mission.

Bell UH-1N
Baghdad, Iraq
May 10, 2020 | [NTSB ERA20CA191](#)
Injuries unknown, fatalities unknown | Flight type unknown

No description available.

BELL OH-58C
Livingston, NY, USA
May 14, 2020 | [NTSB ERA20CA184](#)
0 injuries, 0 fatalities | Personal flight

Helicopter struck a tree and impacted terrain while performing nighttime low-altitude maneuvers.

RotorWay Exec
Rochester, IN, USA
May 16, 2020 | [NTSB CEN20CA180](#)
1 injury, 0 fatalities | Personal flight

Helicopter experienced loss of control in flight, resulting in dynamic rollover and main rotor damage.

Bell OH-58A
West Branch, MI, USA
May 20, 2020 | [NTSB CEN20LA187](#)
0 injuries, 0 fatalities | Personal flight

Helicopter sustained substantial damage during precautionary autorotative landing.

Bell 206
Elko, NV, USA
May 30, 2020 | [NTSB WPR20CA162](#)
0 injuries, 0 fatalities | General aviation flight

Helicopter struck a fence, impacted terrain, and rolled over following loss of control in flight.

Schweizer 269C-1
Ozark, AL, USA
May 30, 2020 | [NTSB ERA20LA197](#)
0 injuries, 1 fatality | Instructional flight

Helicopter lost power for undetermined reasons, impacted terrain, and was destroyed.

June 2020

Bell 206
Fairfield, CA, USA
Jun. 2, 2020 | [NTSB WPR20LA163](#)
0 injuries, 3 fatalities | External load flight

During human external cargo operation, helicopter struck a power line, impacted terrain, and rolled downhill.

Enstrom 480
Murphy, ID, USA
Jun. 4, 2020 | [NTSB WPR20CA171](#)
Injuries unknown, fatalities unknown | Agricultural flight

No description available.

Bell 47G

Atoka, TN, USA

Jun. 14, 2020 | [NTSB ERA20LA216](#)

0 injuries, 0 fatalities | Personal flight

Helicopter sustained substantial damage following total loss of engine power and autorotative landing.

Robinson R22

El Campo, TX, USA

Jun. 16, 2020 | [NTSB CEN20CA230](#)

0 injuries, 0 fatalities | Agricultural flight

Helicopter impacted terrain during low-altitude aerial application.

Bell 206

Gauteng, South Africa

Jun. 17, 2020 | [NTSB WPR20WA186](#)

0 injuries, 2 fatalities | General aviation flight

No description available.

Robinson R66

Pikeville, NC, USA

Jun. 18, 2020 | [NTSB ERA20LA220](#)

0 injuries, 1 fatality | Agricultural flight

Helicopter struck nonenergized wire and impacted terrain during low-altitude aerial application.

Leonardo AW139

Dayboro, Queensland, Australia

Jun. 20, 2020 | [ATSB AO-2020-031](#)

0 injuries, 0 fatalities | Air medical flight

Helicopter sustained substantial damage when its main rotor blades struck a tree during winching operations.

Schweizer 269C

Sheffield, TX, USA

Jun. 21, 2020 | [NTSB CEN20CA240](#)

0 injuries, 0 fatalities | Aerial observation flight

Helicopter sustained substantial damage after striking a fence and impacting terrain during low-altitude inspection flight.

Bell 407

Long Marston, England

Jun. 24, 2020 | [NTSB CEN20WA246](#)

0 injuries, 0 fatalities | Commercial flight

No description available.

Bell 206

Coconut Creek, FL, USA

Jun. 25, 2020 | [NTSB ERA20LA229](#)

1 injury, 0 fatalities | External load flight

Helicopter sustained substantial damage after complete loss of engine power and forced landing into trees.



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Practice Makes Perfect

Three ditching survivors acknowledge owing their lives to underwater egress training.



WHEN THERE ARE ONLY SECONDS in which to respond, thorough drilling in the appropriate procedures can be crucial to successfully confronting a life-threatening emergency. With no time to puzzle out a response or even read a checklist, survival depends not just on remembering the correct sequence of steps but on having practiced it recently and often enough to execute it precisely and without hesitation—in a situation certain to be more chaotic and frightening than the typical training environment.

In its final report on the Jan. 28, 2019, ditching of a Sikorsky S-64E during firefighting operations in Victoria, the Australian Transport Safety Bureau (ATSB) noted that

each crewmember recalled the rehearsed drills from their helicopter underwater escape training (HUET). They identified their seat belt and nearest exit to orientate themselves in the aircraft. They all waited until the last moment to draw a breath, and did not unbuckle and exit the helicopter until [its] motion had ceased. The crew reported that it was not possible to see anything underwater, and that jet fuel contamination was present.... HUET enabled the crew to act rationally and decisively when submerged in the cockpit and to use the regularly-practiced drills to escape the aircraft.

The report also credits the provision of a helmet cord-release mechanism with facilitating their escape, as

neither pilot unplugged their helmet. However, the extension cords from the aircraft to the helmet plug allowed the plug to release, preventing the helmets from snaring the pilots.

Both pilots and the crew chief in the rear-facing aft-stick seat were able to inflate their life jackets, reach shore under their own power, and hike through “dense bush” to a road, where they were rescued.

The Aircraft and Crew

Built by Sikorsky as an S-64 in 1969, the accident aircraft had been upgraded to an S-64E Airplane. Subsequently operated by Erickson Inc. and registered as N173AC, it boasted two 4,500-shaft horsepower Pratt & Whitney engines and had been fitted with a 2,650-gallon water tank and flexible pond snorkel for water-bombing missions. The snorkel’s dedicated high-pressure pump could fill the tank in about 30 seconds, requiring only about a 45-second hover. Erickson’s website advertises that the S-64E can drop up to 25,000 gallons per hour from a dip site suitably close to the drop site.

Describing the crew as experienced would be a substantial understatement. The more senior of the two

pilots had flown helicopters for 44 years, including 20 years operating the S-64 and 20 years fighting fires in Australia. On the accident flight, he was serving as second-in-command (SIC), the pilots having switched positions at the end of every two-hour duty cycle. The pilot-in-command (PIC) had 18 years of helicopter experience, 4 of them in the S-64, and the crew chief's 34 years as a helicopter engineer included 26 "maintaining and developing the S-64."

The Mission

At about 10:00 am, N173AC, nicknamed "Christine," left Melbourne's Essendon Fields Airport (YMEN) for the Latrobe Regional Airport (YLTV) 125 kilometers (km) (67.5 nautical miles [nm]) to the east. The helicopter had been dispatched to drop water on a bushfire on the west side of Thomson Dam near the town of Aberfeldy.

The fire team's aerial attack supervisor had already identified a dip site, subject to the flight crew's approval, 7 km (3.8 nm) west of the fire front at an elevation of 3,480 feet above mean sea level. The site, on the west side of the Wood Creek Dam, was at the bottom of a steep, narrow valley. The crew judged it to be confined but within their operational limits. These included a minimum obstacle clearance of half a main rotor diameter; while hovering to refill its tank, the Aircrane would have one rotor diameter's clearance from the dam and two from the trees on the opposite bank.

The Flight

After breaking for lunch, the crew was detailed to an area toward the north end of the fire. On each pass, they approached the dip site on a westerly heading from the south, making a descending right turn into a high hover to align the ship next to the dam before descending vertically to the surface.

In addition to obstacle clearance, Erickson's external-load operating procedures required bank angles of no more than 30 degrees, a landing attitude of no more than 10 degrees nose-high, and a descent rate of less than 800 feet per minute (fpm) within 200 feet of the surface. Airspeed was left to the pilot's discretion.

Satellite data showed that on the first series of flights, the Aircrane crossed the tree line at the southern edge of the dip zone at an average speed of 30 knots, descending at an average 630 fpm along a final approach segment that measured 300 to 400 meters.

The initial drop sites were almost due east of the Wood Creek Dam, allowing each circuit to follow a near-rectangular ground track. As the afternoon progressed, the drop sites edged incrementally farther north. The crew completed two two-hour shifts without incident, with the two pilots exchanging seats and responsibilities (PIC vs. SIC) at the end of each.

"After a number of water drops" (the ATSB's report wasn't more specific), Christine's crew was reassigned to fight another flame front farther north and west, east-northeast of the dip site and slightly closer. The change required the helicopter to approach the dip site on a southwesterly heading, tightening the turn to final from roughly 90 degrees to at least 135 and shortening the final approach segment. A steeper descent profile, with a sharper flare to arrest it, was required as a result.

On the accident approach, a steep nose-high attitude prompted the SIC to warn his colleague to clear the trees to ensure tail rotor clearance before descending further. Once past the trees, the pilot tightened the flare. A witness characterized this approach as a rapid nose-high descent.

Satellite data indicated that the helicopter banked about 30 degrees during its right turn to the lake; nearing the water, its descent rate increased from 650 to 750 fpm. The crew told investigators that neither the bank angle nor the rate of descent seemed excessive, though both were "at the higher end of their normal range." Once clear of the tree line, however, "the aircraft generated no lift and fell into the dip site, colliding with water" tailfirst.

The accident aircraft takes on water from Wonderland Lake to fight a mountain wildfire near Boulder, Colorado, USA, in 2010.



Their Escape

The tail rotor separated when it hit the water, and the fuselage spun through one and a half right turns. The main rotor blades likewise separated after striking the water, and the right cockpit door was torn off. The helicopter then rolled onto its left side, submerging the cockpit.

The crew executed its HUET drill as soon as the rotation stopped; the SIC evacuated through the missing right door and helped the PIC through the same exit. The rear door was jammed, but the crew chief was able to knock out a window to make his escape.


Two other helicopters—a Sikorsky S-76 and S-61N—were on the scene to assess the possibility of using the same dip site for night operations. Neither was “equipped or able to offer direct assistance” but did report the accident to an incident controller who triggered the emergency response plan. The Aircrane’s crew used hand signals to advise that they were safe and not seriously injured.

The Takeaway

The ATSB concluded that Christine entered vortex ring state, otherwise known as “settling with power,” a condition in which a helicopter descends into its own main rotor’s downwash:

The air recirculate[s] back up and over the rotors instead of ... flowing down and away. This causes the same parcel of air to circulate around the rotor. As a result, the rotor system no longer has the steady stream of air required to produce lift and the helicopter will descend despite the application of additional power.

Adding power only intensifies the downwash, so even a helicopter as capable as a lightly loaded Aircrane can’t just muscle its way out. The pilots were trained in the Vuichard recovery technique, currently considered the fastest means of escape; it uses lateral cyclic and opposite pedal to kick the helicopter sideways out of the downflow. But it still requires both lateral and vertical maneuvering room, neither of which was present at the accident site, and the crew’s accounts suggest that the accident developed almost instantaneously.

The ATSB concluded that the ongoing shift in the drop sites led to an incremental shortening of the helicopter’s final approach path, eventually requiring the crew to operate it at “the upper margins of allowable speed and angle of bank.” However, well-rehearsed evacuation procedures enabled them not only to survive an emergency that could easily have been fatal but to escape without severe injuries. Experience cuts both ways. 




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Putting safety first isn't as hard as it looks.

ONE OF THE WORST PARTS about reading accident reports is seeing how the accident chain was forged, link by link, especially as you know what the final result will be. If it were a horror movie, you would yell at the screen, “Stop scud running!” or, “Find a landing site now!”

I recently witnessed the opposite, where an accident chain unraveled before my eyes. I saw an aviator gather facts and then make an informed decision to not go flying that day—despite his own desire to fly, and a little joshing and peer pressure from an airport comrade.

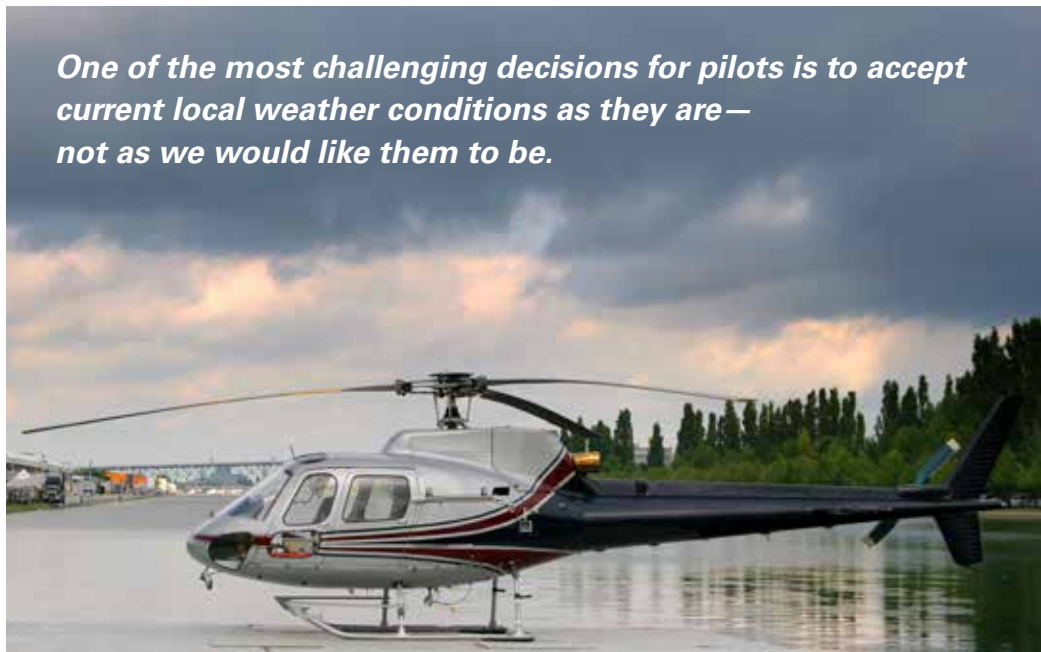
Aeronautical decision-making is the cornerstone to safe flight operations. There are many components to it, but it's ultimately where the pilot in command measures his or her ability and confidence to successfully complete a safe flight against the risks of that flight. Although we talk about the go/no-go decision, there are actually many decisions involved, because a pilot is always evaluating current conditions and considering options or adjustments to the flight plan.

Changing flight conditions can be mechanical items such as a sudden drop in oil pressure or loss of electrical power. Pilots also have to evaluate adjustments to their environment, such as changing weather conditions or transitioning from day to night. To help determine the risks involved in continued flight, we use tools such as experience, airman ratings, aircraft capability and equipment, and weather forecasts. And there are additional safety tools that we sometimes don't use enough, such as ATC assistance, PIREPs, and preflight risk assessments.

One of the most challenging decisions for a pilot is to accept current local weather conditions as they are—not as we would like them to be, not as they are 5 miles away, and not as they will be in one hour's time. I don't know why that is. It should be an easy decision.

When I was a new helicopter air ambulance pilot, I

One of the most challenging decisions for pilots is to accept current local weather conditions as they are—not as we would like them to be.



was eager to prove my worth to the company. On my first day shift after completing company-required training, I was relieving the base lead pilot who was coming off the night shift. We discussed the night's activities, and he passed me the handheld radio and told me to have fun.

Not long after, I received a flight request for a hospital transfer patient. I answered that radio call, “Stand by, I'm checking wx.” However, having recently reviewed the weather as part of the shift change, I already knew what conditions were: absolute crap, with summer fog in Virginia along the Potomac River.

The lead pilot, who was still in the room, walked over, took the radio from me, and said, “This is how you do this.” He responded, “[Call sign] declined for weather.”

It really is that simple. It's hard to say no, but it doesn't have to be.

Back to my good aeronautical decision-making moment a few weeks ago: The weather from the AWOS was 1,400 feet overcast and greater than 6 miles visibility, with a light breeze. By all accounts, it was OK weather, although probably not what you want for a long

cross-country trip.

I wanted to fly my aircraft because I had upgraded some avionics and was eager to try them out. My machine is IFR certified and nicely equipped with all kinds of pilot information systems and a fully coupled autopilot. I am IFR trained, current, and proficient.

My airport comrade didn't feel as confident as I did. His aircraft is a nice machine also and well equipped, but he doesn't have an autopilot. He is IFR trained but not current or proficient.

I told him I'd send a PIREP when I got airborne to confirm or deny the AWOS report. The numbers were accurate as reported.

My pilot friend declined to fly that day. After considering all the data he put into his decision-making machine (his brain), he came

Make your go/no-go decision by taking into consideration the weather, your machine, your ratings, your ability, and mostly, your confidence in a safe outcome.

up with a solution that recommended not flying.

When I returned from flying, we discussed his decision. I did rib him a little over it because that's what we army and marine vets do. But in the end, I made a point to tell him, "Good job on sticking to your decision and what's right for you."

On that day, my faith in how the aeronautical decision-making process can work was restored. My airport comrade had made his go/no-go decision by taking into consideration the weather, his machine, his ratings, his ability, and mostly, his confidence in a safe outcome.

He wasn't afraid to say the conditions weren't right for him to fly that day. It really is that simple.

Fugere tutum! 🌀

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James O. Wisecup

Retired Air Methods Pilot, 2018–19 HAI Board Chair




FORMER HAI BOARD CHAIRMAN AND RETIRED AIR METHODS CORP. (AMC) Assistant Chief Pilot James O. Wisecup, 71, died Jul. 30, 2020. Wisecup, a 16,000-hour dual-rated pilot, retired from his post with AMC, a helicopter air ambulance (HAA) operator, in July 2019. In June of this year, he was awarded the FAA’s Wright Brothers Master Pilot Award in recognition of his 50 years of professional, safe flight.

Growing up in the Houston, Texas, area, Jim knew as a teenager that he wanted to fly for a living, so he joined the US Army when it was recruiting high-school grads to fill helicopter pilot positions in Vietnam. During his year in-country, Wisecup flew for the MACV-SOG unit on special ops missions. Characteristically, he turned his year of living dangerously into a funny story, remarking that he had had three engine failures caused by FOD (foreign object damage). The first was caused by a mortar round, the second by an artillery shell, and the third by a rocket-propelled grenade. He earned a Purple Heart, Silver Star, Bronze Star, and multiple air medals.

Wisecup was discharged in April 1971 and used his GI benefits to get his fixed-wing ratings, but his real goal was to get a job in the helicopter industry. He started as a line pilot in 1974, flying for Offshore Helicopters in Texas and five years later was chief pilot for Bristow Helicopters US operations. After a stint at Arctic Air, Wisecup moved to the HAA sector in 1987, working for Rocky Mountain Helicopters and, after 2002, AMC. In a 2018 interview with ROTOR, he explained his long tenure in air ambulance this way: “It felt like the right place to make a difference—helping pilots to be better pilots, our managers to be better managers, and my check airmen to be better check airmen. Because if we can help each other, it’s a whole lot easier.”

Throughout his career, Wisecup shared his knowledge and experience with the rotorcraft community. He was an active HAI volunteer, serving on various committees, and served as chair of the HAI Board of Directors from 2018–19. His last term on the board ended on Jun. 30, 2020.

Wisecup was also active in the SUU College of Aerospace Sciences and Technology. There, he served as chairman of the Aviation Advisory Board, advanced flight instructor, and FAA designated pilot examiner, while mentoring hundreds of pilots. 

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LAST LOOK

By Mark Bennett

Van Horn Aviation
Bell 206B

Van Horn Aviation, founded in 2001, designs and manufactures tail and main rotor blades for a number of Bell helicopter models. Seen here is the company's 206B during a ground stop in Superior, Arizona, while otherwise on the final test flight for its new main rotor blade.



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