HAI HELI-EXPO 2017
A Return to Optimism
Page 38

Public Safety UAS
Page 22
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About the cover: The Sikorsky S-92 has made a name for itself in VVIP transport, search and rescue, and support for offshore oil and gas production. This aircraft, photographed at HAI Heli-Expo 2017 in Dallas, will be delivered to the South Korean Coast Guard later in 2017 for use in search and rescue missions.

Features

Using Drones in Law Enforcement .............................................................. 22
Drones are Here to Stay — Now What? .......................................................... 28
Finding the Right Value for a Helicopter ...................................................... 31
Electronic Flight Bags: Going Beyond Charts and Manuals .................. 35
HAI Heli-Expo 2017: An Industry Recovers .................................................. 38
HAI Heli-Expo 2017 Photo Gallery ................................................................. 44
HAI Salutes Excellence in Vertical Lift ........................................................... 51
Determination: A Black Hawk’s Journey ......................................................... 59
Top 10 ADS-B Myths .................................................................................. 63
Autorotations: Reality Exposed ................................................................. 68
HFI Welcomes the Next Generation to Expo ........................................... 71
HFI Trailblazers: Bill Yarber, a Lifelong Career of Service ....................... 72

Departments

Chairman’s Corner .................................................................................... 4
President’s Message ................................................................................... 6
Safety ........................................................................................................ 8
Safety Outreach .......................................................................................... 10
Education .................................................................................................. 12
Membership ................................................................................................ 14
Your Aviation Lawyer ................................................................................ 16
Your AME .................................................................................................. 18
Government Affairs .................................................................................... 20
Market Trends ............................................................................................. 30
Flight Path ................................................................................................ 56
HAI Staff ................................................................................................... 70
Calendar of Events ................................................................................... 76
HFI Update ................................................................................................. 77
Last Hover ................................................................................................. 78
Index of Advertisers .................................................................................. 79
The Last Word ............................................................................................ 80

ROTOR® magazine invites its readers to submit articles about the international helicopter community for publication. The publisher reserves the right of final approval based on subject matter and space availability. Letters to the editor are also welcome. For information about submissions, please contact Gina Kvitkovich, director of publications and media, at 703-683-4646 or rotor@rotor.org.
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Chairman’s Corner

A Chief Pilot’s Life

The chief pilot role is not for everyone. There is no glory in this position whatsoever. In many cases, line pilots make more money and have less responsibility. As a chief pilot, you are never really off duty, and it seems you are included on every e-mail, which of course requires a response as soon as possible.

This is, after all, a desk job with lots of paperwork. In fact, it arrives by the truckload each day. Chief pilots deal with many issues — safety, regulatory compliance, pilot performance, flight operations, maintenance updates, to name a few. Multitasking is a requirement.

The chief pilot job is not an active flying position in many larger flight departments, but in some companies a full-time line pilot takes on the job, which adds to the stress. People have a difficult time understanding why you cannot answer an e-mail or perform chief pilot functions at the same time that you are also flying a helicopter.

An important part of the job is making decisions, each of which has consequences, often affecting the people who work for you. You won’t make everyone happy, no matter how hard you try.

As chief pilot, your priority is to protect the company, meaning regulatory matters must be taken care of first. Managing pilots is actually down the list. Just like a marine, a chief pilot on duty has no friends.

It’s lonely at the top, although very busy. The phone rings 24/7, and when you hear it in the middle of the night, it’s usually for a bad reason.

So why would anyone want this job? There are so many issues facing our industry, and some of us would like to make a difference, to help our industry thrive. That is why we choose to accept the substantial challenges that go along with becoming a chief pilot.

As a chief pilot, there are things you can do to make life easier. My first recommendation is to build a system that works. Your job then is to check that the system is being followed and never take anything for granted.

A chief pilot needs to set high standards and ensure they are met. This is where you lead by walking the walk and talking the talk. A chief pilot is the barometer of an aviation company’s compliance health — if you aren’t meeting the standards you set, why should anyone else? Taking short cuts will always come back to haunt you. The procedures are there for a reason.

It’s a real mental shift to go from flying the line, concentrating only on that day’s mission, to being the one who’s supposed to know all the answers. Knowing where to find the answers and following standard operating procedures is key — you must know the company’s operations manual better than anyone else.

A chief pilot must think ahead, always anticipating potential problems and issues. Sometimes you have to leave the e-mail and paperwork behind and get out into the field to learn from staff and customers. Otherwise you will never discover the real issues at hand.

A line pilot who has never been in a leadership role needs guidance to become an efficient chief pilot. Mentoring programs can be a valuable tool. Benchmarking other operations is also important. Sharing ideas, work methods, and best practices in the industry is critical to stay on top of our industry’s ever-changing regulatory climate.

Time management is probably the most difficult task. No matter what system I try, I just cannot get ahead of the never-ending paperwork that must be completed.

So I’m here to promote a challenging job that is 24/7. It requires you to be up-to-date on industry trends and company strategy. You also have to be on top of the down-and-dirty details of what is happening in the cockpit and hangar, and on the flight line. You’ll most likely ride a desk, lassoing paperwork into the “done” pile, while other pilots get to have all the fun of flying aircraft.

Why would anyone want to be a chief pilot? For the satisfaction of knowing that you made a difference.

This is my last column in Rotor as I end in June my year as HAI chairman, a role where I also hoped to make a difference. It has been an honor to serve you, the HAI members, and I look forward to more years of working on behalf of the industry that has given us all so much. Take care, and take care of each other.

Torbjorn “TC” Corell is the current chairman of HAI’s Board of Directors and chief pilot for Southern California Edison in Chino, California.
Congratulations to all the bidders who did their part to help the rotorcraft industry and won some great prizes along the way. A special thank-you goes to the people and organizations who donated items to HFI’s Online Silent Auction. Your generosity and support for our industry helped make this event a great success!

Visit helicopterfoundation.org for updates about the 2018 HFI Online Silent Auction
Whirly-Girls: Mentoring, the Way It Should Be

The issue of mentoring from one generation of helicopter professionals to the next has been on my radar for a very long time. We must do everything we can to avoid the lack of qualified individuals being the obstacle that prevents us from growing and sustaining our industry.

In an effort to address this issue, HAI has implemented an outreach program to the next generation via Helicopter Foundation International, along with our existing mentoring forums and Military to Civilian workshops. We have also engaged the University of North Dakota to conduct a study on our behalf to identify our future needs in terms of pilots and technicians as compared to the developing shortage, and quantify the potential gap we must deal with.

Back in the dark ages when I first became involved in helicopter aviation it was an uneven and twisting path to gain entry into the industry, either through the civilian or military gateway. Keep in mind that these opportunities existed predominately for men at the time.

You had to be around in the early days of our industry to truly appreciate the obstacles that women had to deal with in pursuing a career in helicopter aviation. While completing army flight school, I got engaged in the philosophical topic of pursuing one’s dream in life, and I happily was. This led me to the side thought that if I had been born a woman I could not have entered the helicopter job market at that time, she still had to deal with the existing prejudice and discrimination because of her gender. The then-current climate and attitude was unacceptable and inappropriate, but unfortunately the reality.

In the early 1980s I had the pleasure of meeting Jean Ross Howard, pioneering helicopter pilot who founded the Whirly-Girls in 1955. Back then, there were only a handful of women helicopter pilots worldwide. Accordingly, there were only 13 charter members of the Whirly-Girls representing the United States, France and Germany. Today there are over 1,900 Whirly-Girls in 47 countries whose mission includes the advancement of women in helicopter aviation along with the promotion of camaraderie and networking opportunities. The Whirly-Girls also provide educational and career advancement opportunities to its members to include a very robust scholarship program.

In short, I believe Jean Ross Howard and the other charter Whirly-Girls members were the right people with the right organization at the right time. The good news is that over these many decades, professional, articulate and competent women pilots, technicians, executives and owners have taken their earned place in our industry, and we are collectively better for it.

I believe that one of the major reasons for this has been the Whirly-Girls and its focus on and mentoring of young women interested in the helicopter industry. I have been impressed with how the Whirly-Girl family embraces, nurtures, mentors and provides a lifetime support network to these young women. The passion and commitment from one generation to the next is evident.

When I have attended various Whirly-Girls events, I have witnessed the discussions and developing relationships between the young ladies who attended seeking guidance and advice about the helicopter community and those women pioneers who have proudly served in the industry for decades. You could see the comfort level developing in the eyes of the young attendees as they realized that someone will walk this path with them and have their back.

There is a message here — when you see something done the right way, no need to reinvent the wheel, just implement it in your activities.

HAI is proud to be a corporate sponsor of the Whirly-Girls and have them as an Affiliate Member organization. HAI HELI-EXPO® would not be HAI HELI-EXPO without the Whirly-Girls being there.

On a personal level, it has been my honor and privilege to work and fly with, as well as learn from, some of the most professional and competent people in our industry, who just happened to be women. To them I say, “You go, girl. Happy to have you in the helicopter community.”

Let me know what you think at tailrotor@aol.com. That’s my story and I am sticking to it.

As always, fly safe — fly neighborly. R

Best Regards,

Matt Zuccaro is president and CEO of HAI.
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In baseball, when the umpire calls a strike, that could be either good news or bad, depending on which team you support. But strikes are a bigger deal for helicopter pilots, and the consequences much more serious than losing a game. Wires are always lurking in the shadows just waiting to ensnare their victims. One strike and you’re out — game over!

Recent analysis conducted by the U.S. Helicopter Safety Team (www.USHST.org) reveals that around 40 percent of wire strikes result in fatalities. In fact, nearly 1 in 5 (18 percent) of all fatal helicopter accidents are attributed to wire or obstacle strikes. This unfortunate reality has led the USHST to emphasize greater awareness among helicopter pilots about the dangers associated with low-level flight.

Airspace Needs More Space
With the exception of Class A airspace, wires are strung throughout all categories of airspace, all the way from Class B to Class G. That’s right, even Class B airspace doesn’t relieve pilots from this potential danger. Whether in controlled or uncontrolled airspace, pilots must be vigilant, because wires and other obstacles can easily go undetected by human eyes.

Complying with FAA weather minimums does not exempt pilots from run-ins with wires and other low-level obstacles. Remember, minimums are just that, minimums. Maximizing the time and space available for you to see and avoid these often hard-to-see hazards is a great idea. Sometimes the only difference between being involved in a wire strike accident and avoiding the hazard is a matter of seconds.

Cut Your Losses
Many safety devices installed on helicopters can aid situational awareness for avoiding obstacles. Wire strike protection systems, otherwise known as wire cutters, are one of the most trusted and proven of these. These wire-chomping devices literally cut through undetected wires that come in contact with the helicopter.

Unfortunately, this system is not preventive. Rather, it protects the aircraft from the worst consequences when it does strike a wire. However, even aircraft equipped with wire cutters can be damaged by wire strikes under some circumstances, such as hitting multiple wires at the same time.

Some newer detection systems use lasers to alert pilots of potential danger. These high-tech systems allow greater use and flexibility of both Part 27 and Part 29 helicopters. Several of these devices can also detect current-carrying and noncurrent-carrying wires, regardless of their composition and diameter.

Down in the Crops
Agricultural pilots operate in wire-infested environments all the time. These low-flying professionals must focus their attention every second to ensuring their jobs get done safely. Ag pilots must keep their heads on a swivel to ensure their flight paths are constantly clear of danger. The slightest distraction, and these pilots can get tangled up without warning.

During advanced training, helicopter pilots learn the importance of conducting high and low reconnaissance prior to conducting low-level missions. Sensory overload near the ground can overwhelm even highly experienced pilots. Remember, pushing personal limits is foolish and can be deadly. Take a few extra minutes at a safe altitude to review the area. Ensure it is completely clear before commencing an approach. Abort the approach if something catches your eye.

Have We MET
Meteorological evaluation towers (METs) are a major threat to helicopters. METs are used to gather wind data for developing new wind farm sites. These slender, hard-to-see structures supported by nearly invisible guy lines often are below 200 ft above ground level in height to evade compliance with FAA obstruction marking requirements.

Pilots report problems seeing METs until they have come uncomfortably close to the structures during flight. FAA personnel have investigated numerous accidents involving aircraft colliding with METs. As the United States aggressively pursues alternate energy sources, the number of METs will only intensify. If you know of any unmarked METs in your area, please report this hazard to FAA Flight Services or your local FAA Safety Team representative.

Amped Up
Helicopter pilots can follow some basic procedures to mitigate wire strike accidents. Pilots are encouraged to maintain maximum altitude as long as possible while also using conservative, well-known routes when transitioning from point A to point B. The extra minutes invested following these basic steps will help prevent unfortunate circumstances from happening near the ground.

Bottom line: high-voltage lines, guy wires, and other low-level obstacles are lethal when mixed with helicopters. When it comes to maintaining aviation safety, take the path of least resistance and leave the “shock factor” to the wires.

Steve Sparks is HAI’s director of safety and also serves as coordinator for the U.S. Helicopter Safety Team.
Versatile, cost efficient and effective, the PC-12 NG Spectre has become the go-to platform for law enforcement agencies throughout North America. With its pressurized cabin and high-altitude ceiling, it prowls undetected, standing off at safe distances and staying on station for more than eight hours. Whatever your mission – surveillance, transport, border protection, airborne patrol – the Spectre is ready.
Another View of Safety Culture

Each of us has a responsibility to make the helicopter industry as safe as we possibly can. This starts with the acknowledgment that we work in an environment that is challenging — we fight gravity every day, and sometimes it wins. Our safety programs and initiatives are designed to mitigate those risks to an acceptable level.

I wish running a safe helicopter operation was easy, but the process of mitigating risk is a complex puzzle with many moving parts. Starting with the OEMs and continuing through organizations that overhaul components right on down to your company mechanic, there is a long chain of people on whom we depend to build, overhaul, inspect, and maintain our helicopters.

Another aspect of aviation safety are the operational requirements that provide a framework for daily flight activities: the Federal Aviation Regulations. Operating within that framework is another way in which we mitigate the risk inherent in aviation.

Pilots of course play an important role in safety. On the ground, they are responsible for preflighting the aircraft and conducting flight planning. Once in flight, they must avoid complacency and continue to evaluate risks in an ever-changing environment. Carrying the ultimate responsibility for the safe conduct of the flight, pilots must look ahead to see problems before they become critical, and to recognize (and break) the chain of events that might lead to an accident.

As you can see, conducting safe helicopter operations is a complex endeavor that requires our complete attention. Even though we operate within a sophisticated set of rules that are designed to create a safe environment, the human errors and unforeseen problems that inevitably arise can best be dealt with by maintaining a robust safety culture.

If you and you alone could make your operation safe, then it wouldn’t matter what other people thought about safety. You could just rely on someone whom you trust absolutely (you) to keep a very important person safe (you). But we don’t operate in a bubble, so safety doesn’t work that way.

Even if you run a one-person operation, you are still at the mercy of the guys on the line who built your aircraft, the tech who delivered your fuel, and the controller in the tower. Then there’s the other pilots who, with a whole sky to fly around in, want to fly through the very airspace that you are currently occupying.

When it comes to aviation safety, we are all in this together. Your safety depends on the shared values of the aviation community, on others doing the right thing — even when no one is looking. Safety is really a matter of culture.

Safety culture only works when all of the people involved hold the same values. Then we can challenge each other to do things the best possible way … the way that avoids shortcuts and places value on doing it right, rather than doing it fast.

Sometimes it is hard to see our safety culture — we often only notice when it’s absent. The subject comes up a lot in accident investigations.

I recently came across a policy statement on safety culture put out by the U.S. Nuclear Regulatory Commission (NRC). It is always beneficial to look at how others view safety, and certainly the nuclear industry, just like ours, has a duty to promote a high standard of safety.

The NRC policy outlines the core values and behaviors that establish and maintain a positive safety culture:

- Leaders demonstrate a commitment to safety in their decisions and behaviors
- Maintaining safety is the priority in both planning and controlling work activities, as well as in communications
- Issues potentially impacting safety are promptly identified, fully evaluated, and promptly addressed and corrected, commensurate with their significance
- Opportunities to learn about ways to ensure safety are sought out and implemented
- All individuals take personal responsibility for safety in an atmosphere of trust and respect
- A safety-conscious work environment is maintained, where personnel feel free to raise safety concerns without fear of retaliation, intimidation, harassment, or discrimination
- Individuals avoid complacency and continually challenge existing conditions and activities in order to identify discrepancies that might result in error or inappropriate action.

Every element listed above — a commitment to safety by leaders, personal accountability, just culture, risk identification and mitigation — is a critical part of a safety management system. It seems that aviation isn’t the only industry to recognize that modern safety requires the active participation of everyone in the organization.

Do you recognize your operation in these statements? If not, you should hold off from running a nuclear power plant. You should also think twice about your level of operational safety. An aircraft accident may not injure as many people as Chernobyl did, but we in aviation also hold people’s lives in our hands.

Stan Rose is HAI’s director of safety outreach.
Learn about how Customer Advantage Plans can safeguard your direct maintenance costs and provide the ultimate in cost predictability.

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Professional education continues to be an important factor in any successful helicopter operation. Companies understand that investing in the professional development of their staff is critical to remaining competitive and staying safe in today’s rapidly changing helicopter industry.

HAI offers a variety of helicopter-specific educational opportunities for pilots, maintenance technicians, and safety and operations personnel. Some are free, some are fee-based, but all are consistently highly rated by attendees. Their popularity was underscored at HAI HELI-EXPO 2017 in Dallas: more than 2,300 people attended our Professional Education courses and Rotor Safety Challenge (RSC) sessions.

**Professional Education Courses**
The educational opportunities offered in Dallas varied in scope, from courses geared to operations and maintenance, such as helicopter maintenance management, helicopter operator management, and Part 135 operations, to courses aimed at the individual helicopter pilot or maintenance technician, including human factors and autorotations. Some courses were approved by the FAA for WINGS, AMT, or inspection authorization (IA) renewal credits.

The 28 courses selected for HAI HELI-EXPO 2017 were chosen for their ability to enhance the skill of the helicopter professional in any of five core areas: safety management, pilot skill, maintenance management, operations management, and career development. Courses varied in length from several days to one-half day.

Stay tuned for the courses that will be available at HAI HELI-EXPO 2018 in Las Vegas. If you are an educator, and would like to submit a course proposal, please email education@rotor.org to be notified when a solicitation for proposals is released in May. If you are a prospective student, the 2018 course selection will be available at heliexpo.rotor.org in late September.

**Course Highlights**
One of the most popular Professional Education courses this year was the Flight Instructor Refresher Course. This two-day course is designed specifically for helicopter flight instructors. Documentation that demonstrates successful completion of the course enables students to receive an updated flight instructor certificate.

The Military to Civilian Transition Workshop was also a resounding success. Two members of the HAI Board of Directors, Stacy Sheard and Marc Stanley, spearheaded this effort. The workshop is an excellent opportunity for veterans who are transitioning to civilian life (and those thinking about transitioning) to not only gain valuable information about the process, but to also network with industry leaders and mentors.

The success of the workshop is evidence of a gap for military personnel in information and guidance in the transition process. While the armed forces do provide transition services to veterans, more can be done to aid those looking for careers in the helicopter industry as pilots, maintenance technicians, or managers.

**Other Education at Expo**
The 62 RSC sessions were also a resounding success. Presentations were offered in safety subject areas such as safety management, flight operations, maintenance or technical issues, and safety leadership and culture. All the sessions were eligible for FAA WINGS or AMT credits and were free to registered HAI HELI-EXPO attendees and exhibitors.

Additionally, airframe and engine OEMs offered more than 20 Manufacturer Technical Briefings where attendees learned about updates or improvements to specific aircraft or powerplants. All of these briefings were approved by the FAA for IA credit.

**Looking Ahead**
HAI is working with instructors and presenters to offer a more diverse educational program. We also plan to survey the industry to determine if there are courses not currently being offered that would be beneficial. Our aim is to offer an education program that will provide the greatest benefit to you, our customers, while meeting the needs of the industry.

There are also enhancements planned for the Military to Civilian Transition Workshop, including developing a road-show version to visit selected military locations and military aviation meetings to provide additional information and mentorship on the transition process.

The biggest change on the horizon is the planned launch of an accredited certificate program. The first course to be rolled out is one for safety managers. More details will be available in upcoming issues of ROTOR magazine and ROTOR Daily.

HAI understands the important role continuing education plays in the helicopter industry and will be developing enhancements to our current educational program to ensure we meet the needs of operators, pilots, maintenance technicians, and other aviation professionals.

We value your recommendations on subject areas for future education offerings. Please send any input to education@rotor.org.

*Gregory Brown is HAI’s manager of education.*
Vector Aerospace Helicopter Services is a global provider of aviation maintenance, repair and overhaul (MRO). With Major OEM licenses from Airbus Helicopters, Pratt & Whitney Canada, Rolls-Royce, Safran and Sikorsky, Vector offers a range of MRO support services for engines, fuel accessories, dynamic components, airframes and avionics.

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The 2016–17 HAI membership year will expire on June 30, 2017. If you have not already done so, please renew your membership today. Renewal notices were sent to HAI members in May via email and postal mail. If you have not received yours, please contact the HAI membership department at member@rotor.org.

Why Renew?
Your continued support is as critical as ever, as HAI advocates on behalf of our 1,800+ organizational members and 2,200 individual members in 73 nations on legislative and regulatory issues impacting their businesses and the entire helicopter community. This includes topics such as the threat of air traffic control privatization, user fees, operational issues, and airworthiness certification procedures that affect our manufacturing, maintenance, and supplier members.

Additionally, HAI is:
- Aggressively defending helicopter access to airspace
- Ensuring that U.S. veterans’ benefits provide funding for flight school
- Advancing the safe integration of unmanned aircraft systems (UAS) into the National Airspace System
- Promoting the elimination of excise taxes for certain operations
- Opposing efforts to weaken federal sovereignty over U.S. aviation and enable states to set their own aviation regulations and requirements
- Continuing our core mission to create a level playing field for helicopters.

HAI’s voice is made stronger by the collective community of our members. Your membership counts. Renew your membership and help HAI address today’s and tomorrow’s vertical-flight challenges.

HAI Member Benefits
HAI members also have access to valuable benefits and services that will help your bottom line.

Safety Resources
HAI offers programs, tools, resources, and education to advance hazard and risk assessment, improve

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Visit rotor.org/partner-value to save on products and services for your helicopter operations.
operational decision-making, and raise professional standards. Our programs include:

- The HAI Accreditation Program of Safety helps helicopter operators reduce accident rates, improve their safety cultures, and fly to a higher standard
- The HAI Safety Awards recognize operators, pilots, and maintenance technicians who go that extra mile for safety, day in and day out
- The Land & LIVE Program, managed by our charitable arm, Helicopter Foundation International (HFI), promotes the wider use of precautionary landings
- Safety management system resources and a free online flight risk assessment tool help pilots and operators make better go/no-go decisions.

Engagement

Network with industry colleagues through HAI events and activities at HAI HELI-EXPO®, the world’s largest helicopter trade show and exposition, as well as through our 15 committees where members come together to address industry issues.

This year, HAI established a Membership Committee, comprised of a diverse mix of HAI members, to assist in the development and implementation of HAI’s strategic direction to recruit, retain, and engage members. Committee members will play a part in the development of new HAI benefits and resources to serve all our valued members.

Professional Development

HAI provides free safety forums and workshops at locations around the world, including many that offer FAA WINGS or AMT credits. HAI, in concert with HFI, also produces the HFI Rotor Safety Challenge, a free safety education program held each year at HAI HELI-EXPO.

HAI is also committed to providing professional development for active military members who are interested in transitioning to the civilian job market, and we offer a discounted membership to active military service members. Visit rotor.org/military to join HAI or to access career resources that will put you a step ahead of the competition.

Practical Information

HAI connects you to the industry through the HAI Mobile app and online Membership Directory, which lists heliports, suppliers and vendors, and HAI members. HAI also provides leading industry publications such as Rotor magazine, Rotor Daily e-newsletter, and the monthly Market Newsletter, which tracks U.S. helicopter transactions.

Technical Support

Members can speak directly to HAI staff for regulatory and technical support. HAI also provides technical resources in noise abatement through our Fly Neighborly Program. And at HAI HELI-EXPO, you can attend Manufacturer Technical Briefings and other events to earn credit toward your inspection authorization renewal.

HAI’s mission is as critical today as it was at our founding in 1948: advocating for our members, providing them with services that directly benefit their operations, and advancing the international vertical-aviation community in general.

Please contact any member of the HAI membership staff at 703-683-4646 or member@rotor.org if you have questions, and visit www.rotor.org to access many of the benefits available to you.

HAI Member Discounts

HAI members receive significant discounts on:

- HAI HELI-EXPO registration
- Professional education courses
- Advertising opportunities in HAI media
- Aviation products and services through the HAI Partner Services Program
- The helicopter flight instructor refresher course from Kings Schools
- Hertz rental cars.

HAI’s voice is made stronger by the collective community of our members.

When Safety’s at Stake

Land & LIVE
AN HFI PROGRAM
landandlive.rotor.org
BasicMed: A Voluntary Alternative to a Third-Class Medical

BasicMed is the FAA’s new voluntary alternative to a third-class medical certificate, which it is promoting as “regulatory relief.” But this new medical certification program for noncommercial pilots flying small aircraft is far from basic, and it actually adds an entirely new regulation.

Fortunately, BasicMed does not change the existing first-, second-, and third-class medical certificate program or sport pilot certification. So if you fly commercially or are satisfied with your current medical certification routine, there is no need to change anything.

Let’s look at some of the thornier details and potential legal issues embedded in the new BasicMed rule.

BasicMed also requires special issuance of a medical certificate for people who have mental, cardiac, or neurologic health conditions before they can fly using BasicMed.

The BasicMed medical examination checklist is a slightly modified version of the old FAA medical certificate application, FAA Form 8500-8, which was completely replaced by the FAA’s online MedXpress system in 2012. The medical questions are the same, but the applicant is no longer required to report flight time, drug or alcohol-related arrests, or receiving medical disability benefits. Arrests related to substance abuse are irrelevant to flying under BasicMed — it only matters if you were convicted.

Under BasicMed, no medical information is sent to the FAA. As part of the required online training course, pilots report the basic contact and medical license information for the physician who performed the examination, and they certify that the physician followed the required checklist and signed the form.

Origins of BasicMed
If you are wondering who came up with the BasicMed requirements, the people at the FAA thought you might ask. The answer, included in the FAQ section of Advisory Circular 68-1 explaining the program, is: “The FAA did not develop these requirements. The requirements are from the U.S. Congress.” That may explain why something labeled regulatory relief sure looks like a regulation.

The Aircraft Owners and Pilots Association (AOPA) has been trying to modify third-class medical certificate requirements since 1979, and it describes BasicMed as “much needed third-class medical reform after decades of work.” FAA Administrator Michael Huerta says BasicMed will make it easier for general aviation pilots to keep flying.

But AOPA and the FAA fail to recognize that a pilot is not an on-condition part. The pilot needs periodic inspections and if there’s a problem, needs to be removed from service before he fails in flight.

Pilot, Diagnose Thyself
AOPA applauds BasicMed for “putting medical decisions in the hands of pilots and their doctors, instead of the FAA.” But do we really want pilots making medical decisions, especially without the advice of a physician trained in what it takes to fly an aircraft safely?

14 CFR §61.53 prohibits pilots from flying using first-, second-, or third-class medical certificates when they know, or have reason to know,
they do not meet the requirements for the medical certificate they are flying under. The BasicMed rule has a related requirement, but it lets pilots skip the relatively objective question of whether they know they could pass a flight physical. BasicMed lets pilots jump to the broader question of whether they think they can fly an aircraft safely.

General aviation is still adjusting to operating under BasicMed, which only became effective May 1. However, this new rule has some troubling legal implications for doctors and pilots.

**No Aeromedical Training**

Any state-licensed physician can perform a BasicMed exam. Physicians must certify that they are not aware of any present medical conditions that “could interfere with the individual’s ability to safely operate an aircraft.” The BasicMed physician, without aviation medical training, must make a general certification about a person’s ability to fly safely.

In contrast, an aviation medical examiner (AME) — a licensed physician with aviation medical training — certifies that an applicant meets objective FAA-established medical standards for a particular certificate. When compared to what an AME does, a general physician under BasicMed must certify more, with less training in aviation medicine and less specific information from the pilot.

**Increased Potential Liability for Pilots and Doctors**

Like any other discretionary function, the FAA has government immunity for creating and administering the BasicMed program and cannot in most cases be sued. Similarly, an AME who issues a traditional first-, second-, or third-class medical certificate does so as a “designated representative of the FAA administrator.” Again, so as long as the AME follows the FAA’s objective standards, the AME has most likely met his or her legal obligations.

But under BasicMed, physicians with no aviation medical training are asked to certify that someone is safe to fly. These physicians may be accepting legal responsibility for something beyond their expertise — with no access to the shield of government immunity.

The BasicMed rule continues the growing trend to give pilots more authority and responsibility, but now without the benefit of advice from doctors trained in aviation medicine. At some point, self-regulation means no regulations — and BasicMed may be that point.

Jon Kettles, “Your Aviation Lawyer,” is an ex-military helicopter and fixed-wing airline transport pilot, certificated flight instructor – instrument, and aerospace engineer who for more than 20 years has been representing people injured and family members of those killed in aircraft accidents, as well as operators in product and insurance disputes. Jon can be reached at jon@kettleslaw.com.

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Post-Traumatic Stress Disorder: What You Need to Know

Helicopter operations have a rich tradition in the U.S. military. Many of the helicopter pilots I see in my practice received their training in one of the military branches. Those involved in combat operations often flew into dangerous situations and put their lives on the line.

If you are one of these veterans, thank you for your service. Our country is a better place because of you.

Besides their training and experience, some military pilots carry another relic of their military service into the cockpit: post-traumatic stress disorder (PTSD). This disorder is characterized by “intrusive thoughts, nightmares and flashbacks of past traumatic events, avoidance of reminders of trauma, hypervigilance, and sleep disturbance, all of which lead to considerable social, occupational, and interpersonal dysfunction” (J. Sareen, UpToDate.com, 2017).

This medical condition has garnered considerable attention in recent years because of U.S. service members’ exposure to battlefield conditions during the ongoing military actions in the Middle East. However, although PTSD is commonly associated with military service, any trauma can lead to the condition, and so civilians are at risk too. The trauma could stem from an on-the-job experience, such as a white-knuckle flight in bad weather, or from your private life, such as witnessing an earthquake, wildfire, or other natural disaster.

If you believe you are experiencing PTSD symptoms after a trauma in your life, it is first and foremost important to seek help. There is treatment available for PTSD, and the majority of patients report that their symptoms are lessened through treatment.

Treatment can involve trauma-focused cognitive behavioral therapy (CBT), which is usually administered by a psychologist, or medication. Some experts recommend a trial of CBT prior to using medication, but they can be used simultaneously.

More importantly, if symptoms of PTSD are making you depressed or thinking about taking your own life, there are resources for you. Call 1-800-273-TALK (8255) — help is available 24/7. Or call 911 or go to your nearest emergency room.

So how does PTSD affect your FAA medical certification? The FAA does not have much guidance for aviation medical examiners (AME) when it comes to PTSD. Here is some advice if you have a history of PTSD and are thinking about applying for or renewing your medical certificate.

Keep Records
Sometimes individuals are given a diagnosis of PTSD but might not really have the condition. Or perhaps you only experience mild symptoms.

When it comes to applying for a medical certificate, the FAA will want to see the treatment records from when you were diagnosed and any subsequent follow-up visits. They will want to review the level of severity of your PTSD and your response to treatment.

Get Treated if Needed
If you do have the condition, the FAA will want to make sure you received proper treatment. If you were or are treated with an antidepressant, please note that the FAA only accepts four of them:

- Escitalopram (Lexapro)
- Citalopram (Celexa)
- Fluoxetine (Prozac)
- Sertraline (Zoloft).

The FAA does not accept any other psychiatric medications and is especially concerned when individuals are treated with multiple psychiatric medications at once. If your doctor thinks you need multiple medications, then I would recommend following her advice. Just keep in mind that this...
might make it difficult to get an FAA medical certificate down the road — even if the treatment occurred in the past and you are no longer taking the medications.

**Find a AME with HIMS Experience**

If you are or were ever treated with an antidepressant medication, you should find an AME who participates in the FAA's Human Intervention Motivation Study (HIMS) program. These are AMEs with specialized training to treat pilots with a history of mental health conditions or substance abuse.

A HIMS AME can give you guidance about your PTSD history and what documentation might be needed prior to your FAA examination. You can get certified while taking one of the approved antidepressants, but it does take a lot of work, so find a HIMS AME who is experienced working through this process. There is a list of HIMS AMEs available online (http://bit.ly/ame-hims) if you need to find one close to where you live.

As long as your PTSD is resolved or controlled on therapy and/or approved medications, there is a good chance the FAA will approve your application. Through my work with the HIMS program, I monitor several pilots with this condition, and their history of PSTD has not been much of an issue with the FAA.

Remember, the most important thing is to take care of yourself and get the treatment you need. The FAA wants healthy pilots, as do we all. Working with a doctor to manage any medical conditions is the best way to stay in the cockpit.

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**Dr. Charles H. Mathers**
is an FAA senior aviation medical examiner and is board certified in Aerospace Medicine. He serves as medical director for the Aerospace Medicine Center at the University of Texas Medical Branch in Galveston, which specializes in the evaluation of pilots with complicated health conditions, fitness for duty evaluations, and monitoring of pilots in the HIMS program. He has been a private pilot since 2004.
In my introductory article for the last issue of ROTOR, I mentioned that I grew up in aviation. I was that kid running around the local airport, washing airplanes to fund my flight training and helping (getting in the way of) the mechanics. I came home every night dirty and tired but always excited for the next day, when school got out and I could go back to the airport and work.

I learned a lot about aviation, regulations, costs, and which pilot or mechanic had the best stories. In short, that airport was a family.

Attending my first HAI HELI-EXPO® was like coming home to a family that I’ve missed. Walking around all those impressive aircraft, I felt like an excited little kid again. Hearing the rotors of the inbound aircraft at the fly-in, who doesn’t remember the day you first soloed and then realized you were living your dream?

Aviation is a special pursuit. It is a way of life, a passion. And we have the privilege of engaging in this pursuit as our profession. How lucky are we?

I was impressed by the unity I saw at HAI HELI-EXPO 2017. At our annual Expo, fierce competitors come together to talk about safety, collaborate on industry issues, and honor the best in helicopter aviation. This unity is a powerful tool that we can use to advance the interests of the helicopter industry.

**FAA Reauthorization Looms**

America’s favorite sport, politics, is a fascinating topic. While we all may cheer our favorite team from the comfort of our broken-in sofa, politics cannot be a spectator sport. The stakes are too high.

It is easy to poke fun at the U.S. Congress and deride their seemingly inability to get things done. I highly doubt anyone would survive a year-end review with their boss if their list of accomplishments mirrored Congress’s. However, our Founding Fathers gave us a governing system comprised of checks and balances. Inefficiencies are built into the system. Your dismay at legislation not advancing is someone else’s delight in a legislative victory.

Congress is full of smart people. I work with bright, intelligent staffers every day. These staffers are busy, and it’s not fair to expect these good folks to know everything. When policies that touch on aviation are discussed and crafted, legislators need our input to inform the process. In this field, we are the experts, and we have a responsibility to share our knowledge — particularly with those legislators and regulators who have the power to shape our world.

Right now is one of those times. While Congress (theoretically) goes through a yearly process of establishing budgets and appropriating money for government operations, every few years it goes through the dance of reauthorization, which sets policy priorities and funding levels for agencies. The FAA’s current reauthorization extends through September 30, 2017.

Congress has a few hurdles to cross before meeting that deadline. For the first acts of the 115th Congress, Republicans originally proposed addressing health care before moving on to tax reform, infrastructure, budgets, and the debt ceiling. The meltdown over health care reform has thrown a wrench into this schedule.

There are deep divisions on the path for tax reform, and House Speaker Paul Ryan (R-Wisc.) noted that tax reform will take longer than health care. The White House recently announced it may propose combining infrastructure with tax reform or health care. Congress will shortly wrap up FY2017 discussions to fund the government through September while working to determine FY2018 budgets.

Don’t forget about the debt ceiling. Treasury is currently dealing with that pesky little item through “extraordinary measures,” but those accounting gimmicks expire sometime in the fall. This sets up a tense debate on raising the debt ceiling. Oh, and Congress will be on recess during the entire month of August.

Is the timeline to accomplish FAA reauthorization by September 30 suddenly looking a bit packed to you too?

**Privatization Back on the Table**

Privatization of the U.S. air traffic control (ATC) system was part of President Trump’s “skinny” budget, which is a preview of the administration’s full budget proposal expected in May. At that time, we will be able to see what their full version of ATC privatization looks like.

Under the direction of Rep. Bill Shuster (R-Pa.), the House Transportation and Infrastructure Committee is hard at work drafting an FAA reauthorization bill that will contain language to set up ATC privatization. We should see action on the bill before the August recess.

HAI fought against privatization last year, and as Yogi Berra said, it’s déjà vu all over again. Proponents are pushing for an airline-dominated corporation to operate ATC in the United States. The reason for the change is somewhat puzzling, as our ATC system is the best in the world, moving more aircraft more safely and efficiently than any other country.
Can things be improved? Of course, and we support ongoing efforts to modernize and increase efficiency at the FAA. We will work with Congress and other aviation entities to ensure our system operates for the public benefit, providing access for all stakeholders to airports, heliports, and airspace, while encouraging safety, competition, and innovation.

Removing ATC from FAA control represents a serious risk to general aviation. Placing control of ATC in a privatized system dominated by a select portion of users could steer resources and investments toward airline-dominated airport hubs at the expense of hundreds of other airports serving general aviation and rural America.

Your Voice Is Important
We in general aviation know how such a measure will impact our industry. We need to stand together to fight against misguided policy that will harm our industry. As the industry experts, you must reach out to your elected officials to educate them on how ATC privatization will harm general aviation.

Simply tell your story. As a constituent who is creating jobs, tax revenues, and business opportunities in the district or state, your voice will be listened to.

A perfect time to tell your story is during the August recess, when Congress leaves D.C. to head back home and talk with constituents. Because your spring flowers are just beginning to pop up, it may be hard to think about planning your August. But now is the time to reach out.

Invite your elected officials to your business. Let them see what you do. Explain to them your position on privatization.

I recently met with a congressional staffer who was very enthusiastic about our industry. The staffer mentioned that a member company had provided a tour of its business and operation. The ability to see firsthand how a business operates and the contributions that it makes to the community is essential.

That staffer walked away with a deeper understanding of our industry. More importantly, he saw how policy made in D.C. impacts constituents back home. More of these types of interactions are essential if we want a voice in how national policy affects our industry.

As I wrote in the beginning, aviation is our passion, our family, our way of life. We live our dream each day we go to work. Share your enthusiasm, share your knowledge, and let’s unite to share our voice with our elected officials and educate them on our position against ATC privatization.

If you have questions or want some guidance on how to do so, please reach out to me at HAI. We can help. That’s what family is for. 

Cade Clark is HAI’s vice president of government affairs. Cade can be reached at cade.clark@rotor.org.

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Spring 2017 21
That Eye in the Sky May Be Wearing a Badge
Using Drones in Law Enforcement

By Alan Frazier

Not since the commercial adoption of the gas turbine engine has such a paradigm-changing technology been introduced in aviation as unmanned aircraft systems (UAS), or drones. Although the day in which your online purchased merchandise will be delivered via drone is still years away, many other aviation missions have been successfully accomplished with UAS.

Most UAS missions utilize the drone’s camera or sensors to conduct some form of surveillance, inspection, or data collection. These are common missions for law enforcement, and many agencies are taking advantage of this relatively inexpensive technology.

Dramatically Lower Aviation Costs
The United States has more than 18,000 local and state law enforcement agencies and over 27,000 fire departments. Unfortunately, less than 375 of these 45,000 public safety agencies have traditional manned air-support units. The reason is simple: money (or lack thereof). Aircraft are expensive to buy as well as operate.

Meanwhile, industrial-grade small UAS (sUAS) can be purchased for less than 2 percent of the cost of a light turbine helicopter. Their hourly operating costs are about 3 percent of that same helicopter.

Instead of utilizing a turbine helicopter costing upwards of $500 per hour to operate and a crew of two highly trained pilots to photograph a traffic accident scene, the same mission can be accomplished by a drone piloted by a traffic officer for a total cost of less than $25. Rather than spending more than $1,500 to
orbit a barricaded suspect situation, a SWAT officer could carry out the same mission for less than $75. In both cases, use of the drone is more cost-effective.

Employing a drone for these routine surveillance missions also frees up the helicopter and crew to handle more dynamic situations such as a vehicle or foot pursuit of a dangerous crime suspect, both of which would be difficult or impossible for a small drone to successfully accomplish. Law enforcement and other public safety agencies can utilize drones to accomplish the “three D missions”: dirty, dull, and dangerous, reserving manned aircraft for more appropriate missions.

**Delivering Results**

Although incapable of performing the full range of missions of a manned helicopter, drones can complete approximately one-third of the missions performed by manned helicopters for a small fraction of the purchase and operating cost of that helicopter. And they are delivering results.

Since 2013, the Grand Forks County (N.D.) Sheriff’s Department’s Northeast Region UAS Unit has completed more than 160 missions, including the documentation of seven outdoor homicide scenes, three fatal traffic accident scenes, and the October 27, 2016, capture of startling video footage of a protestor throwing a Molotov cocktail at officers during the Dakota Access Pipeline protests near Cannonball, North Dakota.

Royal Canadian Mounted Police Cpl. Doug Green made a notable “save” on May 9, 2013, when he used a Draganflyer X4ES quadcopter to locate an injured motorist who had walked away from a motor vehicle accident near Saskatoon in near-freezing temperatures. The injured motorist was found semiconscious in a field over two miles from the crash site.

The Mesa County (Colo.) Sheriff’s Department UAS Unit’s September 16, 2011, assistance to the Grand Junction Fire Department illustrates a common application of drones by fire departments. Using a small quadcopter equipped with an infrared camera, Sheriff’s Department Pilot Ben Miller was able to direct firefighters to hot spots on a major structure fire, which likely prevented further damage to the historic building.

Given this level of mission capability and the enviable cost-benefit equation, it is not surprising that public safety agencies are acquiring and deploying drones at an unprecedented rate. One year ago, less than a dozen law enforcement agencies had operational UAS units accomplishing day-to-day missions. Today, there are more than 50 agencies using drones, and the list of public-safety users is growing daily.

Rather than viewing UAS as a threat, existing public-safety manned air-support unit personnel and commercial operators should view drones as an economical adjunct to existing operations. For commercial operators, they are a potentially lucrative new business opportunity. Low purchase and operating costs combined with much lower pilot training and certification costs make
the acquisition and deployment of UAS a low-cost, low-risk investment.

UAS Operating Requirements
According to the FAA, UAS are aircraft. Government and commercial UAS must be registered with the FAA, and anyone operating those UAS must hold a FAA remote pilot certificate or be closely supervised by someone holding such a certificate (hobbyists are exempted from the Part 107 requirement to possess a remote pilot certificate but must register their UAS). The exception to this are government agencies operating UAS as public aircraft (more on this later in the article).

The good news is that registering a UAS and obtaining an FAA remote pilot certificate are both relatively simple propositions. To register a UAS, simply visit www.faa.gov/ucas and click on the “Register your UAS” link under the “Top Tasks” header. Registration is valid for two years and costs $5. Information on obtaining a remote pilot certificate can be found in the sidebar to the right.

Public safety agencies operating UAS pursuant to 14 CFR Part 107 must comply with all aspects of the regulation, including remaining below 400 ft above ground level (AGL) in Class G (uncontrolled) airspace. In addition, UAS may operate during daytime hours only, at least 500 ft below clouds, and with 3 statute miles (sm) of visibility. UAS equipped with anticollision lights may also operate during civil twilight (approximately one-half hour before sunrise and one-half hour after sunset).

Many limitations found within Part 107, such as no night operations and no access to controlled airspace, may be waived. Agencies wishing to obtain such a waiver should complete an online application at www.faa.gov/ucas.

Public safety agencies may also operate UAS as public aircraft pursuant to 49 U.S.C. 40102(a)(41) and 40125. When operating public aircraft, government agencies are relieved of compliance with many FAA regulations, such as the requirement for pilots to possess an FAA pilot certificate (including a Part 107 remote pilot certificate). To qualify

Obtaining an FAA Remote Pilot Certificate
There are two paths to obtaining an FAA remote pilot certificate: one for current Part 61–certified pilots (a student pilot certificate does not meet the requirement) and one for non-FAA-certificated applicants.

Part 61–Certificated Pilots. Part 61–certified pilots must meet the requirements of 14 CFR 61.56, which is usually satisfied by possessing a current biennial flight review endorsement. They must also complete Part 107 Small Unmanned Aircraft Systems (sUAS), a free, two-hour online remote pilot course, which is available at www.faasafety.gov.

Upon completing the online course, applicants should download and save the pdf course completion certificate. Applicants must then log on to the FAA’s Integrated Airman Certificate and Rating Application (IACRA) site and complete an application for a remote pilot certificate. It will be necessary to upload the remote pilot course completion certificate that was previously saved.

Next, locate an FAA certified flight instructor (CFI) who is willing to inspect your proof of 14 CFR 61.56 compliance, photo identification, and remote pilot course completion certificate. The CFI will need to log on to IACRA and attest that he or she has determined that the applicant meets all requirements for issuance of a remote pilot certificate. It is best that this step be accomplished with the applicant and CFI together; after the CFI enters the appropriate online endorsement, the applicant will need to immediately log back on to IACRA and complete the application.

Approximately one hour after completion of the last step, the applicant’s temporary remote pilot certificate will be available to download from their IACRA account. A permanent certificate will arrive within 120 days. The certificate is valid for two calendar years from date of issuance. Renewal involves the completion of an online remote pilot refresher course and submission of an application for certificate using IACRA.

Part 61–certificated pilots who do not meet the requirements of 14 CFR 61.56 must complete a 60-question knowledge test at an FAA-authorized testing center, just like applicants who are not currently licensed pilots. Upon successful completion of the exam, pilots not compliant with 61.56 and nonpilot applicants should establish an IACRA account and submit an application for a remote pilot certificate.

For these applicants, no contact with a CFI is necessary. However, the Transportation Security Administration is required to vet all remote pilot applicants who do not already possess a Part 61 pilot certificate, so the downloadable temporary remote pilot certificate will not be available for 7–10 working days.

Non-Part 61–Certificated Pilots. Non-Part 61–certificated remote pilots must retake the knowledge exam to renew their remote pilot certificate. If they fail, applicants must wait 14 calendar days to retest. An endorsement from a CFI is not required for the original or retake exam.

Study Resources. Topics covered on the exam are detailed in FAA Advisory Circular 107-2 and in an FAA-produced Remote Pilot Study Guide. Both documents may be downloaded at www.faa.gov/ucas. ASA (www.asa2fly), a leading publisher of aviation books and test materials, offers several resources for the exam, including study guide and practice tests. Gleim (www.gleim.com/aviation/drones) and King Schools (www.kingschools.com) have both created online courses to prepare aspiring remote pilots for the FAA exam.

Northeast Region UAS Unit members Dep. Lee Mewes (Grand Forks County Sheriff’s Department) and Cpl. Tim Schuh (Grand Forks Police Department) conduct night operations with a Draganfly X4ES UAS.
as a public aircraft, the UAS must be owned or leased for a minimum of 90 days by a government agency.

The FAA has indicated that government agencies operating UAS as public aircraft must possess an FAA certificate of authorization or waiver (COA). UAS COAs are currently issued in two forms: jurisdictional and blanket.

A jurisdictional COA can potentially permit UAS operations day and night in a defined block of airspace. An applicant must request a COA from the FAA, which then reviews the request from an airspace compatibility and safety perspective. Approvals may be issued with special provisions, such as flying only during daylight hours. There is no guarantee that night or controlled airspace operations will be approved.

A blanket COA allows nationwide UAS operations below 400 ft AGL during daytime in Class G airspace only. Blanket COAs do not permit UAS operations within 5 nautical miles (nm) of a controlled airport, within 3 nm of an uncontrolled airport that has a published instrument approach procedure, and within 2 nm of an uncontrolled airport or heliport lacking a published instrument approach procedure.

**Mission Planning and Training**

Agencies or commercial operators wishing to establish public-safety UAS units should begin with a realistic evaluation of the types of missions that they wish to accomplish. As in any other endeavor, it’s important to use a properly trained person and the right tool for the job.

Taking a few aerial photographs of a crime scene on a calm day requires a relatively simple UAS. Searching for a dangerous suspect on a windy, rainy night demands a more sophisticated drone. Likewise, operations in Class G airspace in a rural area far away from any airport necessitates a relatively low level of pilot experience and expertise. Operations in Class C airspace in a metropolitan environment call for a more experienced pilot. These types of variables will drive decisions regarding airframe, pilot selection, training, and operational procedures.

All UAS units should have a policies and procedures manual. The manual should address common aviation unit topics such as:
- Minimum pilot qualifications and training criteria (both initial and recurrent)
- Types of authorized missions
- Weather limitations on operations
- Crew rest requirements and duty-hour limits
- Safety, including incorporation of a robust safety management system (SMS) program
- Maintenance requirements and tracking.

The manual should also contain a section on privacy implications for UAS use. For example, when is a search warrant required? How long should you keep the data gathered by a UAS? When and how should you dispose of that data? Potential operators of law enforcement UAS should also research the laws of the states and localities that they will be operating within, as many have enacted statutes or ordinances that pertain to UAS.

Adequate training, both initial and recurrent, of UAS unit personnel as well as of potential clients is essential. Factory OEM training is highly recommended. Units should plan on at least quarterly training; bimonthly or even monthly training is desirable.

Training should start with policy and regulation familiarization. This applies to the policies and regulations that govern operation of the aircraft, as well as those that guide the activities of the law enforcement agency or client.

The training should progress to systems and flight training with the UAS and culminate with scenario-based training focused on the types of missions to be performed by the unit.

Potential clients should receive familiarization training on the capabilities and limitations of the UAS unit, as well as the preferred method for requesting unit assistance. Law enforcement agencies who have not worked with aviation units may not be familiar with common aviation issues, such as the impact of low visibility on flight operations.

Finally, make a concerted effort to engage and inform the public about the UAS unit. It is vital that the community understand the UAS unit’s mission and that they be informed that significant privacy safeguards have been implemented.

The Airborne Law Enforcement Association (www.ALEA.org) is an excellent source for exemplars of existing UAS unit policy manuals, as well as specific information and training related to establishment of a law enforcement UAS unit. ALEA also offers a three-day course for law enforcement UAS operators and remote pilots.

Commercial opportunities in public-safety UAS span a wide array of possibilities from consultation and training to establishment of a standalone UAS unit providing air-support services to a large police or fire agency or several agencies within a region. In addition to actual UAS operations, commercial possibilities include sales and maintenance of complete unmanned aircraft systems as well as sensor systems, night-vision devices, radios, and mission-specific vehicles.

There is a place for almost everyone in the rapidly expanding UAS industry. Adapt and benefit from this amazing technology, or dismiss it and be left standing at the train station after the train departs. The choice is yours!

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Alan Frazier has served as a sworn officer within local, state, and federal law enforcement agencies for 38 years. Frazier is also an FAA-certified airline transport pilot with airplane (single and multiengine), rotorcraft-helicopter, glider, flight instructor, and remote pilot ratings. He currently teaches aviation courses at the University of North Dakota and serves as a helicopter stage check pilot. He also serves as a Grand Forks County deputy sheriff, where he supervises the multijurisdictional Northeast Region UAS Unit. As chairman of the HAI UAS Committee, readers with UAS questions or concerns may contact him at afrazier@aero.und.edu.
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BOLDLY GO WHERE NO HELICOPTER POWER SYSTEM HAS GONE BEFORE.
When unmanned aircraft systems — UAS, or drones — first appeared on the aviation scene, many people in the helicopter community were skeptical about the impact they would have on daily operations. However, with drone use on the rise for both recreational and commercial purposes, it is clear that not only are drones here to stay, they are changing the course of aviation.

With more than 600,000 registered drones and an estimated actual total of more than 1 million flying in the National Airspace System (NAS) today, they already greatly exceed manned aircraft in sheer numbers.

“This is the most exciting aviation technology in decades,” said HAI President and CEO Matt Zuccaro in an HAI HELI-EXPO 2017 general session that focused on the safety implications of drone integration. “It will change everything, and the helicopter industry needs to be prepared.”

Unique Challenges

UAS bring a unique set of challenges to the industry, mainly related to safety. “HAI’s first priority when it comes to UAS is their safe integration into the NAS,” said Zuccaro. “We need to achieve at least an equivalent level of safety to manned aircraft or better.”

Many UAS hobbyists are beginning to fly without experience in or an understanding of the regulations that govern aviation and the NAS. They may not understand the devastating effect their drone could have if it collides with another aircraft, like a helicopter. The general public often views drones as just harmless toys, instead of what they have been classified as by the FAA — aircraft.

But to prevent accidents, Zuccaro believes that suitable regulations should be put in place and enforced. “Why shouldn’t these aircraft have to adhere to an appropriate level of regulation that will keep everyone safe?” Zuccaro said.

UAS integration is undermining some fundamental doctrines that have been the basis of U.S. aviation for many years. Many local municipalities have already begun ignoring the FAA’s authority to regulate and administer the NAS, and instead have created their own laws and regulations about who can fly UAS, where they can fly, and even how high they can fly.

Check Your Phone – for Safety!

Safety is the top priority when it comes to drone operations. One of the safety measures the FAA has implemented is the B4UFLY Smartphone App. Available for iOS and Android, the app helps UAS operators determine whether there are any restrictions or requirements in effect at the location where they want to fly. Key features of the B4UFLY app include:

- A status indicator that immediately informs the operator about whether UAS flight is approved at the current or planned location. For example, it shows that flying in the Special Flight Rules Area around Washington, D.C., is prohibited.
- Information on the parameters that drive the status indicator
- A “planner mode” for future flights in different locations
- Informative, interactive maps with filtering options
- Links to other FAA UAS resources and regulatory information.

Even though the Airline Deregulation Act prevents local municipalities from creating their own laws governing aviation, Zuccaro predicts this will evolve into a major legal battle in the coming years as local municipalities try to expand their authority to other aircraft. “If they can get away with this for UAS, what’s to stop them from coming after helicopters next?”

The UAS community has proposed that one possible solution to the integration problem is to create a prohibited airspace that is only dedicated to UAS operations. However, they wish to create this prohibited airspace at 500 ft and below — where most helicopter operations take place. In other words, their solution to integration is actually more like theft.

Instead of reorganizing the airspace, Zuccaro’s proposed solution is to figure out a way to integrate UAS into the current airspace. “We have successfully done this for every other type of
aircraft,” said Zuccaro, pointing to the integration of aircraft such as ultralights, power gliders, and hot air balloons.

Unique Opportunities
Despite these challenges, Zuccaro urged helicopter operators to not see drones as a threat to their livelihood, but rather as an additional business opportunity. Drones equipped with cameras or other sensors have already taken over some surveillance, inspection, or data-gathering missions formerly performed by helicopters. Operators have reported losing business because of clients taking their business to a drone operator or creating their own drone department.

But by offering drone operations as a benefit to their clients, helicopter operators could tap into this rapidly expanding market. “Who better than us to embrace this industry and become the experts and purveyors of all things UAS in the commercial marketplace?” asked Zuccaro. “It has to be us because we’re the resident experts now.” With their experience in low-altitude rotorcraft missions, helicopter operators are a natural fit for drone operations.

HAI is working hard to address the challenges that UAS are bringing to the table. Some of HAI’s new UAS initiatives include: the availability of a new membership category for UAS operators; the creation of a new UAS committee; the possible expansion of HAI’s accreditation program to include UAS-accredited operators; and working with other groups to create UAS education programs. At HAI HELI-EXPO 2017, there were also UAS operators and manufacturers represented on the show floor.

“HAI is very excited about this technology,” Zuccaro said. “We support it and think it’s a great business opportunity, but we want it done the right way. And that’s going to take time and a lot of work.”

Jenna Scafuri is an editor in HAI’s Publications & Media Department.
U.S. TURBINE SALES, JANUARY–MARCH 2017

U.S. PISTON SALES, JANUARY–MARCH 2017

NON-U.S. PISTON AND TURBINE SALES, JANUARY–MARCH 2017
Finding the Right Value for a Helicopter

By Douglas Nelms

The growing availability of good, used helicopters at reasonable prices provides operators a golden opportunity to expand their fleets. With the proper research and planning, buying a used helicopter doesn’t have to be a matter of caveat emptor.

While the helicopter market is still taking a hit from low oil prices, there are growth opportunities in other industries that expand the market both for OEMs selling new aircraft and for operators looking for great deals on used helicopters.

According to HeliValue$, the largest helicopter-only appraisal company, buyer activity picked up during the third quarter of 2016. “Resale values have leveled off, and reported transactions this quarter are at or above published Blue Book values, an indication that things may be turning around,” the company said in an article on its website, “Third Quarter Blue Book Updates.”

The article went on to note that it is a buyer’s market for older aircraft. “There are still plenty of older aircraft remaining on the market, and they will likely sell at below-average values. With so many bargains out there, now is the time to buy. In addition to leveling values and increased activity in the resale market, tenders coming out are bringing some hope for many of the aircraft parked during the downturn.”

Jason Kmiecik, vice president of operations for HeliValue$, notes that escalating requirements for new aircraft in sectors such as helicopter air ambulance and search and rescue will put older equipment on the market. Also, the heavy decrease in corporate/VIP operations has created a buyer’s market, with “some excellent deals to be had.”

Another reason for the glut of used helicopters on the block, particularly for light single-turbine models, is the longevity of aircraft. As new deliveries get pumped into the market, there is nowhere for the older aircraft to go, according to Sharon Desfor, Helivaluc$ president.

“Helicopters never really die, which means that the new-generation machines continue to compete with old, very old, and even some truly antique machines. And some of those old machines are actually cheaper to
operate than the new technology, like the S-61 versus the S-92,” she says.

Finding Fair Market Value
As in any large purchase, helicopter operators need to do some research beyond the price tag before signing on the dotted line. When financing the purchase, they must convince a bank, or in some cases a leasing entity, that a specific helicopter is worth the price.

Particularly important is a determination of fair market value. This is not only important to the purchaser or lessee, but it is a requirement for nearly every helicopter funding arrangement. The aircraft’s fair market value is also used in litigation and for taxation purposes.

Another important metric is the future value projections, also known as residual value projections, which predict the helicopter’s value during the next 10 years.

In a prospectus for its appraisal services, HeliValue$ states that residual value projections “are typically used at lease inception to help the lessor determine lease termination values, and early buyout option values; to check against the amortization schedule; to help determine ‘bargain’ values in accordance with IRS rules; and to look for time frames where the asset value might fall below the amortized value of the aircraft.”

Determining the appropriate value for a used helicopter is key to making a good purchase; it could also have ramifications throughout the period of ownership. This is when you should call in the experts. In addition, an experienced appraiser not only helps an operator determine the best price for an aircraft but also if that particular aircraft is the best helicopter to be purchased.

However, just as in shopping for a car, do your homework first. Study the Helicopter Blue Book put out by HeliValue$. Find a list of helicopters that fall within your operational needs and price range. Once you have that list, then find the best appraiser for the job.

Connecting with an Appraiser
Finding someone to do the appraisal is a fairly easy task, according to Barbara Spoor, executive vice president for Asset Insight, LLC, an appraisal company covering both fixed- and rotary-wing aircraft, and a senior accredited appraiser with the American Society of Appraisers (ASA).

She suggests that an operator considering purchasing a used helicopter should consult ASA for appraiser recommendations. The operator can call ASA directly at 800-272-8258 or visit the society’s website, appraisers.org, and use the Find an Appraiser tool at the top right of the navigation bar. You can search by name, geographic location, industry, ASA specialty, or keyword.

Spoor also notes that appraisal companies often work together. “I work very closely with Sharon Desfor [at Helivalue$], so if I have a whole fleet with a couple of helicopters in it, I have her do the work on the helicopters and I do the fixed-wing.

“To find a good appraiser, look for someone who is properly accredited, who has experience in the industry, and who has appraised a few helicopters in the recent past,” Spoor says. “The appraiser should be able to advise the operator on the best price for the helicopter that he is considering for his fleet. This evaluation is primarily based on supply and demand — how many are currently on the market, how many have been sold, and how long has the helicopter been listed for sale. How sellable is it?”

Once a prospective aircraft is chosen, the appraiser’s task is to delve deeply into its financial, operational, and mechanical history, digging out the good, the bad, and the ugly.

Ownership and Utilization
The first thing an appraiser will look at is who has owned the aircraft, starting with its initial delivery from the manufacturer, and how it has been utilized, including the age of the airframe and the components. This includes looking at the ownership pedigree: how many operators have owned the aircraft and what do the records say about the aircraft’s usage.

“The records are a huge piece of the puzzle,” according to Wes Romaine, an accredited senior appraiser for Warrenton, Virginia–based ACI Aviation. “If the records are incomplete, that is a detriment to value and can really put a kink in things down the road when the aircraft is listed for sale. Any potential buyer will want to review those logs.”

Appraisals are normally done either on-site or via “desktop.” For a desktop appraisal, which is completed without actually inspecting the aircraft, the appraiser obtains the documentation directly from the owner. Kmiecik

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**1. Asset Quality Rating** is an average of the aircraft’s maintenance and financial ratings

<table>
<thead>
<tr>
<th>Maintenance Rating</th>
<th>0.000</th>
<th>3.000</th>
<th>4.000–6.000</th>
<th>7.000</th>
<th>8.000–10.000</th>
</tr>
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<tbody>
<tr>
<td>Poor asset quality</td>
<td>-5.000</td>
<td>-2.000</td>
<td>3.000</td>
<td>4.000–6.000</td>
<td>7.000</td>
</tr>
<tr>
<td>Below-average asset quality due to upcoming scheduled maintenance</td>
<td>8.000–10.000</td>
<td>7.000</td>
<td>4.000–6.000</td>
<td>3.000</td>
<td>0.000</td>
</tr>
<tr>
<td>Most aircraft will score within this range, representing good asset quality</td>
<td>Exceptional asset quality (typical of new, or nearly new, production aircraft)</td>
<td>Very good asset quality (usually associated with recent-production aircraft)</td>
<td></td>
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<tr>
<td>Good asset quality (typical of new, or nearly new, production aircraft)</td>
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</table>

**2. Maintenance Equity Value** assesses the value of available scheduled maintenance

<table>
<thead>
<tr>
<th>$0 Available Maintenance Equity</th>
<th>Typical aircraft maintenance equity range</th>
<th>Max Maintenance Equity for aircraft</th>
</tr>
</thead>
<tbody>
<tr>
<td>No maintenance equity available— aircraft is not airworthy</td>
<td>Newly manufactured aircraft</td>
<td>Newly manufactured aircraft</td>
</tr>
</tbody>
</table>

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Figure 1. The Asset Insight Index, developed by Asset Insight LLC, provides a standard framework in which to evaluate an aircraft’s maintenance condition.
notes that if HeliValue$ completes an on-site asset evaluation of a helicopter, they will be able to review all the documentation, assuming the helicopter and all the records are housed at the same location.

**Component Maintenance**

An important aspect of the documentation is the maintenance performed on a helicopter’s components. This is a huge driver in determining the true value of the aircraft, Spoor says. “The helicopter is a series of components. You have to look at the different components and where they are in their life cycle.”

Some tools utilized by appraisers are software programs used by owners and maintenance shops to track aircraft maintenance, which can assist in valuation, Spoor says. “Quite often we do not have access to the aircraft logbooks or aircraft, and much can be gleaned from the computerized maintenance run. Further, if we are performing a full audit and appraisal, comparing the maintenance run against the logbooks can help to pinpoint dates of maintenance done, and due, to ascertain compliance.”

Spoor goes on to note that, even in 2017, logbooks still provide essential data. “As helpful as these tools are, they do not replace the logbooks. As an interesting side note, I have seen logbooks that were lost or damaged, reconstructed by utilizing these tools.”

**Evaluating Maintenance Exposure**

While there is no standardized industry-wide approach for grading the maintenance exposure an operator will have in adding a helicopter to her fleet, some appraisal firms are developing their own rating index.

Asset Insight provides aircraft asset evaluation and financial optimization services. Tony Kioussis, company president, notes that that his firm has developed an Asset Insight Index, designed to provide a “simple-to-understand industry standard” that provides an objective evaluation of an aircraft’s maintenance condition, including the ability to compare ratings among aircraft. Kioussis believes this is essential information for both buyers and sellers.

The index evaluates an aircraft’s maintenance value based on two metrics. The first metric is the Asset Quality Rating, which consists of both a maintenance rating and financial rating.

The maintenance rating evaluates on a scale of -5 to 10 the asset’s maintenance status relative to its optimal maintenance condition, which the aircraft achieved on the day it came off the production line (see figure 1). A score of 8 to 10 reflects exceptional asset quality and is typically associated with a new, or nearly new, aircraft. A -5 to 2 rating reflects poor asset quality, indicating the aircraft’s need for upcoming maintenance. The normal range for a good asset rating is 4 to 6.

The financial rating evaluates the maintenance costs associated with the aircraft’s maintenance rating. This scale ranges from a 10 for a newly manufactured aircraft — meaning that in the short term no maintenance costs are anticipated — to 0, at which point all scheduled maintenance for the aircraft is now due. Again, a normal range for an aircraft is 4 to 6. As high-cost maintenance events come due, the financial rating declines in point value.

The second metric used in the index is the Maintenance Equity Value. This assesses the dollar value of available scheduled maintenance, going from the maximum available for a newly manufactured aircraft requiring no maintenance, to zero available maintenance equity, where the aircraft is basically unflyable. An aircraft’s maintenance equity decreases based on flight hours or flight cycles, and increases as maintenance is completed.

“If anyone wishes to compare an aircraft to any other aircraft of the same make and model, an accurate computation of each asset’s maintenance equity is crucial,” says Kioussis. While age is an important factor in determining maintenance equity, “maintenance analytics are complex and anything but ‘age linear,’ since an aircraft’s maintenance requirements are dependent on flight hours, cycles, the calendar or, at times, whichever of these three limits are reached first.”

**Damage History and Condition Are Key**

There is also the issue of damage history. “You’re not going to know if the aircraft has damage history unless you look at the logs and see if it has any FAA Form 337s or 8130s, and really get down to the bottom of the aircraft’s damage history,” says Romaine. “That can be a tremendous value driver. If the aircraft has a damage history, it can be an extreme detriment.”

However, Spoor notes that helicopters are component driven, so damaged parts can be easily, albeit not necessarily cheaply, replaced. “If a damaged part can be fixed or replaced, it is not a big deal.”

The general overall condition of the aircraft is also a huge component of the audit, says Romaine. “You want to ensure the aircraft condition is good, that’s another driver. There is a very loosely defined ‘good,’ ‘very good,’ and ‘excellent’ [rating]. You want to make sure the interior is in good condition and that the aircraft is corrosion free.”

And while operators tend to plan on repainting an aircraft in their corporate colors, the existing paint job can be important. “Even funky paint schemes can impact on a sale,” Spoor says. “Paint schemes are not a big deal, but who wants to buy a helicopter with big purple flowers on it?”

** Modifications Make a Difference**

Modifications can also have a notable impact on value. Helicopters are often heavily modified to fit the needs of the operator, such as helicopter air ambulance, law enforcement, or firefighters. Even helicopters intended
for personnel transport can have widely differing modifications, from the luxury interior of an executive VIP aircraft to an oil rig helicopter with its self-loading cargo.

When the aircraft will be utilized in the same sector, the modifications can be seen as a positive. But when the new owner will have no use for them, they are a liability. In that case, in addition to determining the initial acquisition cost of the helicopter, the appraiser must determine the additional cost of removing modifications for one type of usage and installing new modifications for the new owner.

However, Spoor suggests that if an operator does decide to buy a helicopter previously used in another industry and convert it to his own needs, “he should keep in storage the stuff he takes out. That way it can be replaced when he wants to sell it.” She also notes that sometimes it is advisable to have the aircraft’s OEM do the modifications or maintenance that is needed when the aircraft is being acquired or sold.

**Don’t Expect Sales Miracles**

Just as putting new hardwood floors into a house can increase its resale value, adding new modifications to a helicopter, such as a more powerful engine or advanced avionics, can add value to a used helicopter. However, just as home improvement projects often do not provide an equal return on investment, a helicopter operator planning an aftermarket modification or upgrade should not expect a dollar-for-dollar increase in the aircraft’s value.

What an upgrade does, though, is make the aircraft more sellable during times that inventories are high. The modifications may be the factor that makes an aircraft stand out from the crowd. Conversely, the absence of modifications or upgrades could diminish an aircraft’s value in a buyer’s market.

“While some modifications can add substantial value, most simply make the asset more appealing at the time of sale,” Kioussis says. “Those resulting in operating efficiency, cost savings, increased safety, and some residual enhancement may provide sufficient value for the operator to upgrade his aircraft.”

By analyzing potential modifications and the many factors relating to a helicopter’s value ahead of time, operators can purchase their “perfect” used aircraft without facing buyer’s remorse down the road.

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_**Douglas Nelms** is a former U.S. Army helicopter pilot and current freelance aviation writer based in Haymarket, Virginia. He recently retired from full-time aviation journalism after a career stretching back 40 years, including serving as senior editor of Air Transport World and managing editor of Rotor & Wing. A single/multi-engine instrument-rated pilot in both fixed- and rotary-wing aircraft, Nelms now restricts his active flying to writing pilot reports on new helicopters coming down the line._

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**It’s GA Survey Time!**

**COMPLETE YOUR 2016 SURVEY**

The FAA’s 39th annual General Aviation and Part 135 Activity Survey (GA Survey) is the only source of information on the size and makeup of the U.S. general aviation and Part 135 fleets, the number of hours flown, and the reasons people fly.

Survey data will be used to determine funding for infrastructure and service needs, assess the impact of regulatory changes, and measure aviation safety — so it’s important that you participate, even if you completed a survey last year, did not fly in 2016, or sold or damaged your aircraft.

To request a paper copy of the survey or if you have questions, email [infoaviationsurvey@tetratech.com](mailto:infoaviationsurvey@tetratech.com) or call 1-800-826-1797.

The GA Survey is conducted by Tetra Tech, an independent research firm; all responses are confidential.

Electronic Flight Bags: Going Beyond Charts and Manuals

By Jonathan Standley

In the close quarters of a cockpit, space is at a premium. With the advent of tablets such as the iPad and Android devices, all those manuals, papers, and charts scattered across your cockpit have been replaced by a single, full-color display that you can interact with in ways never before possible.

The introduction of the electronic flight bag (EFB) has created a whole new industry within aviation for information management and display. Companies like Foreflight, Garmin, Jeppesen, and many others are vying to provide applications that give pilots all the information they need right at their fingertips.

Early Capabilities

Early EFB applications were on “portable” 10-pound laptops that allowed pilots to perform their weight and balance calculations and logbook functions with the help of a computer. The first large-scale adopter of EFB was FedEx, which deployed laptops for aircraft performance calculations in the early 1990s.

The idea of using an EFB as more than just a performance calculator and logbook finds its roots in small fixed-wing aircraft and helicopters that lacked onboard GPS map displays. Equipped with an EFB, pilots flying any make, model, and year of aircraft could have the latest technology in their cockpit, providing the most recent charts overlaid on a clear-moving map display that provided position, altitude, flight plans, distances to waypoints, or airports—the list goes on and on. And while an EFB cannot be used as the sole means to navigate, it has become an invaluable tool for situational awareness and planning. As aviation embraced the tablet era, this capability became available to pilots flying any size aircraft.

There was only one downside to this marvel of modern technology: the data was only as fresh as when you left the FBO before takeoff.

One crucial item missing was the ability for EFB data to refresh during flight. Of course, there are backup information sources for NOTAMs and airports, and you always have the handy briefers at flight service to give you real-time weather updates. But sometimes there’s no time to switch frequencies and think about the weather or other constraints ahead of you while you’re actively flying the aircraft.

Real-Time Technology

A recent solution to the issue of delivering real-time information to the cockpit is the increasing availability of internet data links to aircraft. Once considered a luxury, internet service providers such as AirCell/GoGo, Iridium, Panasonic, and others are making in-flight internet access easier and more affordable to install on aircraft.

With this link to the internet comes the ability for EFBs to download the latest information in real time, starting a new paradigm for in-flight strategic planning and situational awareness.

In response, the FAA formed a working group under the Next Generation Air Transportation System (NextGen) program to study the potential uses of EFBs connected to real-time data links to retrieve information from the FAA.

Currently, the agency distributes real-time data through the System Wide Information Management (SWIM) program, which is the data distribution backbone of NextGen. The concept studied was the ability for EFBs to connect to SWIM in real time to download the latest weather, airspace, constraint, and operational information for pilots to use during a flight.

During a three-year period, the FAA conducted flight tests with airline and business aviation partners on regularly scheduled and ad-hoc flights to test the technical viability and usefulness of having a real-time data connection. The FAA determined that a real-time data link provides a foundation for potential future uses beyond the EFB applications utilized today.

In the United States, Part 91 operators and pilots can connect to internet data sources today using approved applications that follow the guidelines found in FAA Advisory Circular 120-76C. Operators under Part 135 or those whose operation is subject to approval by an FAA principal operating inspector must get approval to use internet data-link sources prior to use. Operators in Europe can refer to the EASA AMC 20-25 on the airworthiness and operational consideration for EFBs.

Some operators in the United States have begun equipping their EFB with an internet connection to download the latest weather and
advisories, as well as to provide real-time administrative functions such as block off/block on time and passenger advisories.

**EFBs and Helicopters**

The case for using EFBs in helicopters varies widely, depending on the operation. Because EFBs can be on devices as large as a 15-inch tablet to as small as a smartphone, they have the ability to discreetly fit in any size cockpit so as not to be a burden or distraction for the pilot.

While some pilots use EFBs more for area situational awareness with a moving map, others use it to enhance the administrative and logbook functions that pilots previously did on paper. Landing zone information such as location, pictures, directions, and obstacles can be easily viewed on the EFB, and with a data-link connection, those graphics can be updated in real time to account for changing conditions.

Weight and balance calculations from preflight can be stored and quickly recalled for reference when landing to review changes and ensure the helicopter is within operational limits prior to touching down. The EFB’s ability to determine its location using either a built-in GPS, or when connected to an external GPS, allows the aircraft’s precise location to be recorded and sent to the operator in real time.

Now, the question is: what more can EFBs provide helicopter pilots and operators to support their mission?

Some early adopters of EFBs, as well as a connected device to data link, were military operators. U.S. Army helicopter pilots have had EFBs since the early 2000s that connect to the military communications network. This allows pilots to coordinate with others in their flight group as well as with ground support, and to view mission information in real time.

Military operators are constantly refining their EFB programs to provide pilots with critical information to support their missions in graphical form or in a format better supported by tablets than some onboard avionics systems.

This type of information could also be of value to some helicopter operations, such as helicopter air ambulance, aerial firefighting, law enforcement, or search and rescue that often mount ad-hoc missions that operate in any terrain, conditions, and time. The amount of preflight planning sometimes lasts only minutes before flying the mission, and conditions can change rapidly depending on the environment.

The ability for real-time weather updates over a large area on a graphical display could provide enormous benefit to pilots operating on-demand missions in challenging areas, especially where the mission has an unspecified duration and awareness of changes to flight and mission conditions become critical to the success of each operation.

**The Future of EFBs**

Another key piece of information that until recently was hard to access and update is special activity airspace (SAA) status. Pilots would receive SAA data such as military operations areas and temporary flight restrictions in the form of the planned times of operations, with frequencies and phone numbers to call to inquire about the availability of flying through.

With advances the FAA and Department of Defense have made in their information-sharing infrastructure, SAA information will soon be available in real time through EFB. If you operate in close proximity to SAA, you’ll not only see the planned activity and available times but also the real-time status of whether or not the airspace is in use or available to fly through.

Air traffic controllers are connected to the same information so they will also know the status of the airspace much faster. This enhancement in coordination between pilots and controllers is one of the many benefits that having real-time information in the cockpit provides and is a key part of the FAA’s NextGen program.

Moving forward, the aviation community as a whole will continue to innovate EFBs as well as connected aircraft functions to meet the changing demands of operations and aircraft capabilities. Progress that has been made in the United States is now being discussed within the international aviation community.

A working group created under the International Civil Aviation Organization (ICAO) is specifically studying integration of air-ground data links for strategic applications such as EFB. This working group is currently writing concepts and possible standards that could be adopted on a global scale. Following the success of the various test programs in the United States and Europe, ICAO is also planning to provide guidance documentation for operators to begin using EFB programs with data-link access.

The public’s perception of EFB information and the devices used to interact with it are much like smartphones. When that technology first entered the marketplace, consumers weren’t entirely sure what its potential was. In only a few short years, these devices have become rooted in our daily lives, providing everything from health maintenance applications to virtual workplaces and more.

Pilots, operators, aircraft manufacturers, and application developers will continue to refine the use of EFBs. Their short-term goal will be to simply make everyone’s job easier and safer, but the long-term effect of this technology will be to advance aviation.
wouldn’t it
BE BETTER?

» If one provider covered your diverse fleet
» If your maintenance program transferred across models
» If your costs were stabilized and predictable

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The mood at HAI HELI-EXPO 2017 was positive as more than 17,770 people descended on Dallas to attend the show — up from 14,000 last year. Before the first visitor walked through the doors, 100 percent of a record-setting 322,800 net square feet of exhibit and display space was booked with 731 exhibitors and 62 aircraft.

“This is the largest show we’ve ever had, and I feel it’s an indication of the beginning of the recovery of the oil industry,” says HAI President and CEO Matt Zuccaro. “Enthusiasm and excitement is coming back into the industry.”

In addition to the business announced by companies and organizations both exhibiting and in attendance, education continued to remain an important aspect of the show with 750 students attending HAI Professional Education courses and more than 1,500 participating in the 62 Rotor Safety Challenge sessions sponsored by Helicopter Foundation International, the charitable arm of HAI.

Positive Outlook for Industry
Each day in Dallas, news of orders, deliveries, agreements, and new designs from major industry leaders and small businesses alike filled the show dailies and were discussed on the floor. Military and paramilitary spending is increasing. Search-and-rescue (SAR) and helicopter air ambulance (HAA) services are on the rise, as is VIP transport.

In somewhat hushed tones, as if to avoid a jinx, some attendees say they even see the beginnings of a recovery in oil and gas. “I can’t tell you anything specific to illustrate it; it’s just a feeling I have and I hear others talking about,” says Airbus Vice President of Operational Marketing Régis Magnac, whose company delivered its first H175 medium-twin helicopter in VIP configuration in 2016 and introduced a new VIP aircraft customer at HAI HELI-EXPO 2017.

“There is more buzz this year and more optimism. The impression I have is people are not only looking at yesterday but looking at tomorrow by exploring new markets. The panic of the last years pushed people to seek new opportunities, and what we’re seeing at this show is all that exploring turning into concrete markets,” says Magnac.

The feeling was much the same at Leonardo, which announced an order for an undisclosed number of AW139s by the Pakistan Ministry of Defense.
For us, this has been a good show,” says Roberto Garavaglia, senior VP, strategy and competitive positioning. “There are more people, more traction, and a much more positive mood than last year. I think we’ve seen the market bottom out and during that we have learned how to cope, finding life in new sectors. We’re looking forward with a reasonably optimistic mood after so many years of reduction,” Garavaglia says.

At Robinson Helicopter Company, the story is much the same. Kurt Robinson, company president, says he sees the market starting to recover, as indicated through orders. “Sales are already up this year over last year and that has caused us to push out production.

“It’s not just here,” Robinson says. “Economies abroad are recovering. The biggest thing we’re experiencing is a lot of countries who buy our products are seeing their economies increase and they’re buying again, like Australia, Brazil, South Africa, and Russia.”

Signs of New Growth
For Bell Helicopter, the recovery has already begun. The first Bell 505 was delivered and its new FCX-001 concept helicopter was unveiled. Never intended for production, the concept allows designers to explore future rotorcraft technologies and how to implement them.

“Bell saw growth in orders during the last half of 2016 across the board for commercial helicopters,” says Susan Griffin, the company’s executive vice president of commercial programs. “There is significant interest in the Bell 505. I can say we are definitely starting to see the beginning of a recovery, and we’re optimistic to see the final defense budget.”

Another sure sign of the strengthening global economy is airframe manufacturer reports of increased business with the world’s militaries and local police forces.

Dan Schwartz, president of Sikorsky Helicopters, reported in the Sikorsky press conference at the show that production is about to begin on the T70 aircraft (based off the UH-60 Black Hawk) in Turkey, the result of an agreement forged last year with the Turkish government. As displayed on this issue’s cover, Sikorsky also delivered the South Korean Coast Guard’s second S-92 at Dallas.

At MD Helicopters, a primarily military and paramilitary supplier, business is strong and the company is racing to keep up with demand. MD displayed its 6XX single-engine mockup featuring a Genesys Aerosystems flight deck, configured for HAA, with hopes to eventually expand further into the medical arena. “This is our third consecutive year of foreign and U.S. military growth, our largest customer base,” MD Helicopters CEO Lynn Tilton says. “And we’re seeing police forces getting budget approvals for bigger spending as well.”

Amy Romaro, director of marketing and communications for MD Helicopters, expanded on Tilton’s remarks: “As global warfare changes and the environment changes, so
do the needs of the militaries of the world. Specifically, emerging militaries need affordable, agile, light aircraft, and we see this in the increased need for our light scout-attack gunships.”

Another factor in law enforcement purchases is a change in how they utilize helicopters. “I see helicopters expanding from an eye in the sky guiding law enforcement role to more transport, insertion, and assault,” says Airbus’s Magnac.

“We’re seeing this trend worldwide— the move to interfere versus surveillance,” he says. “An example is transporting sharpshooters to shoot paintballs at a windshield of a speeding car, forcing them to stop and reducing risk of further injury or damage, where before a helicopter only followed along at 1,000 feet and reported information on the speeder.”

HAA expansion in India and China have long been areas for expected considerable expansion, but it isn’t happening as fast as the industry had initially hoped. One barrier is the payment systems to support these services.

Growth in these sectors in the United States, Canada, and Europe was easier as insurance and government payment systems for HAA were already in place. When it comes to Asia and India, the need is definitely there, with large populations, crowded roads, and rural areas far from medical services. However, without a business model in place to identify a payment system, HAA cannot get a foothold in the industry.

“For us, EMS and SAR are the largest new areas, with a lot of growth in China,” says Leonardo’s Garavaglia. During the last two years, Leonardo has sold 80 HAA and 19 law enforcement aircraft in China. “But we’re also seeing an increase in law enforcement, surveillance, and border patrol globally.”

### Three Elected to HAI Board of Directors

Besides being the world’s largest helicopter trade show, HAI HELI-EXPO is also the venue for HAI association business, such as its annual membership meeting and the conclusion of the voting for the association’s board of directors. At this year’s meeting, members heard presentations by candidates for two Regular Member – Commercial board seats and one Regular Member – Government Service seat.

Randy Rowles, of the Helicopter Institute, was selected by HAI operator members to join the HAI Board of Directors as a representative of commercial operators. Rowles’s three-year term on the board begins July 1, 2017.

James O. Wisecup of Air Methods was reelected to his seat on the board, also as a representative of commercial operators. Dan Schwarzbach of the Houston Police Department was reelected to his Regular Member – Government Service seat.

HAI also announced that the Board of Directors has established their slate of officers for the coming year. Dan Schwarzbach will take over as the chairman, James Wisecup will assume the duties of vice chairman, David Bjellos, of Agro-Industrial Management, will be treasurer, and Jan Becker, of Becker Helicopters Pilot Academy, will take on the role of assistant treasurer. The officers will assume their duties for a one-year term on July 1, 2017.

Rowles replaces current director Larry Kelley, of Helimax Aviation, who is retiring from the board this year. Rowles currently works for Helicopter Institute as director of operations, chief pilot, and chief instructor pilot. He is a two-time recipient of HAI’s Salute to Excellence award, having been honored as Flight Instructor of the Year in 2013 and as the Igor Sikorsky Humanitarian of the Year in 2005. Rowles also serves as a founding member and current chairman of HAI’s Training Committee and is actively involved in the CFI Mentoring Program.
U.S., it ultimately hurts the customer.”

When it comes to taxing imports to encourage manufacturing within U.S. borders, many OEMs are scrambling to position themselves. Many airframe and powerplant manufacturers headquartered overseas have long ago met “Made in America” government contracting standards by adding assembly and even some manufacturing in the United States.

However, U.S. manufacturers are quick to advertise their homegrown brand. MD Helicopters, with its red, white, and blue logo, booth, and aircraft on display in Dallas, recently took steps to move more production in-house, such as single-engine fuselages that were previously built in both Mexico and the company’s Mesa, Arizona, base. “Made in America” is Tilton’s trademark battle cry for MD.

The Trump administration and Congress have not yet offered solid proposals or legislation on import policies, so it’s hard for anyone to predict their effect on the helicopter industry. Aware of potential issues, HAI is keeping close tabs on new legislation in Washington, D.C.

“We’re focused on the new administration and how it affects our industry,” says HAI’s Zuccaro. “The president loves general aviation and is an advocate. He owns several aircraft. Philosophically, he believes the private sector can better manage things than the government. As such, he’s supportive of privatization of the air traffic control system, which of course we don’t agree with.”

Zuccaro says HAI is concerned about the air traffic control (ATC) issue, taking the position that the system’s current oversight by the FAA and Congress ensures fair treatment to all stakeholders. At the top of Zuccaro’s list of concerns about privatization are user fees and funding for research and development of technology for the helicopter industry. As a case in point, he says the successful ADS-B offshore system in the Gulf of Mexico would most likely not have ever materialized under a private, airline-focused ATC.

“Our industry has a deep consensus that we need more infrastructure such as heliports,” Zuccaro adds. “A private ATC board, dominated by airline executives, wants more runways and terminals. Who do you think will win in that scenario?”

The Trump administration’s proposed budget is another example of the mixed bag that the helicopter industry is finding in Washington. The good news: a proposed $54 billion increase in military spending — generally a favorable development for aerospace. The bad news: domestic programs would be cut by the same amount.

Although the presentation of the president’s budget is only the first step in a lengthy, complicated budget...
process, Trump’s proposed budget has already had an effect on the helicopter industry. Expected cuts in funding were cited by U.S. Forest Service (USFS) representatives as the reason for not exercising options on the second year of six Type 1 firefighting helicopter contracts, despite a 6 to 8 percent increase in hours flown on fires in 2016 compared to 2015.

During the March 8 Interagency Fire Briefing at HAI HELI-EXPO 2017, USFS Helicopter Program Manager Jim Edge told a standing-room-only crowd that the decision to decrease from 34 to 28 overall helicopter fire contracts came from USFS headquarters in Washington, D.C.

“The new administration said there would be a 10 percent cut across agencies,” Edge said. “What we’re doing is addressing our deficit to meet this budget decrease.”

On to Solid Growth?
As HAI HELI-EXPO 2017 drew to a close, thoughts turned to HAI HELI-EXPO 2018, taking place in Las Vegas, Feb. 26 through March 1, with exhibits open Feb. 27 to March 1. The overall feeling was hope for not only a solid recovery, but a strong upswing.

“We remained resilient in 2016 and expect 2017 to be stable,” says Safran Helicopter Engines Vice President Bettina Frey. “Our hope is to see growth in 2018 and be able to share it at the next show.”

Leonardo’s Garavaglia couldn’t agree more. “Hopefully next year in Las Vegas we will witness the rebirth of our industry.”

Jen Boyer is a 20-year journalism and public relations professional in the aviation industry, having worked for flight schools, OEMs, and operators. She also holds a rotorcraft commercial instrument license with flight instructor and instrument instructor ratings. Boyer currently runs her own public relations and communications firm and freelances regularly for aviation companies and publications. She can be reached at jen@theflyingpenguinpr.com.
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Nick Mayhew (right) receives the W.A. “Dub” Blessing Flight Instructor of the Year Award from HAI Chairman Torbjorn “TC” Corell.
Torbjorn “TC” Corell (left) and Matt Zuccaro (third from left) congratulate Rolls-Royce employees for the company’s M250 turboshaft engines achievement of 250 million flight hours.
Dan Schwarzbach, senior police officer for the Houston Police Department, will lead HAI as chairman, beginning in June.
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EVERY DAY, ON EVERY CONTINENT, members of the vertical lift community do amazing things with helicopters and other vertical lift aircraft. They get jobs done that can’t be done any other way.

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For more than 50 years, HAI has encouraged and celebrated the highest standards of professionalism within the vertical lift community through its Salute to Excellence Awards. The awards reflect outstanding achievements from across our industry.

At the 2017 Salute to Excellence Awards dinner on March 8 during HAI HELI-EXPO 2017 in Dallas, the following honorees were recognized. HAI congratulates them and celebrates their contributions to our industry. Their passion for excellence is an inspiration to us all.

Nominations for the 2018 Salute to Excellence Awards, to be celebrated at HAI HELI-EXPO 2018 in Las Vegas, will be accepted beginning August 1. Visit rotor.org/salute for more information.
Nick Mayhew
Senior Program Manager, L3 Link Simulation and Training

Nick Mayhew’s commitment to improving the safety and image of the professional flight instructor is demonstrated day in and day out. In addition to his own work as a flight instructor, he strives to instill the highest level of professionalism when mentoring other flight instructors. His dedication to detail and “doing the right thing” is a testament to his character and work ethic.

As chair of the U.S. Helicopter Safety Team (USHST) Training Working Group, Mayhew has been instrumental in leading major projects to completion. He is a strong advocate for improving pilot performance related to autorotations and emergency procedures training. Mayhew and his team have been tenacious in advising on several FAA and industry best practices for protecting pilots and instructors while performing these maneuvers.

Mayhew also helped to breathe life into the Helicopter Certificated Flight Instructor Special Emphasis Program, which is aimed at addressing safety concerns in the industry. He has collaborated with the FAA’s Orlando Flight Standards District Office, Bristow Academy, and other Florida-based flight schools in these efforts and continues to work tirelessly to promote the program nationally.

Mayhew also led efforts to set up the “Reel Safety” library of five-minute video clips on the International Helicopter Safety Team and USHST websites. The videos help pilots better understand subjects such as autorotations, risk management, preflight planning, inadvertent entry into instrument meteorological conditions, and emergency procedures training. He has sponsored the development of more than a dozen action-packed educational videos, with more to come in the future.

Rolls-Royce Excellence in Helicopter Maintenance Award

Carl Jones
Bell 205/Bell 412 Crew Chief, National Research Council of Canada

Carl Jones is described by colleagues as “a dedicated, hardworking individual who epitomizes the type of aviation maintenance engineer you want working on your helicopter.”

During one deployment on a critical contract with a tight schedule, the combining gearbox on a PT6 Twin-Pac failed. Changing this unit is not a small job, but Jones was able to source and arrange for delivery of a replacement, remove the old unit, and install the new one, leaving time to complete the contract. To make this happen, he worked evenings and weekends until the job was done.

The National Research Council’s (NRC) fly-by-wire helicopters have unique research equipment attached to the flight controls, as well as auxiliary systems such as a nonstandard 3000-psi hydraulic system. Jones is able to maintain and repair these systems and keep the helicopters operating. Jones once devised a modification to fix a problem with the pedal axis of the force-feel system on a Bell 205 fly-by-wire research system.

“Rather than sitting back happy with the status quo, Carl takes pride in his aircraft and is always looking for ways to make incremental improvements to them,” a colleague says. “Jones is a regular attendee at trade shows like those held by HAI, where he is always on the lookout for new technology to increase our capabilities.”

Examples of this ingenuity include a new step and door roller system for NRC’s Bell 412 and a cycle counter system for the Bell 205. The cycle counter system has already paid for itself through reduced maintenance costs.
MD HELICOPTERS LAW ENFORCEMENT AWARD

Jack H. Schonely
Police Officer/Pilot (Retired), Los Angeles Police Department

Jack H. Schonely spent more than 33 years in law enforcement where he dedicated his career to promoting professionalism in, and the advancement of, helicopter use in airborne law enforcement in the United States and around the world. He is a nationally recognized expert on suspect tactics and perimeter containment.

Schonely began his law enforcement career as a deputy sheriff in Berks County, Pennsylvania, before moving to Los Angeles in 1983 and joining the Los Angeles Police Department (LAPD). He witnessed the changes in daily police work firsthand and did exhaustive research on suspect tactics, culminating in his book, *Apprehending Fleeing Suspects: Suspect Tactics and Perimeter Containment*. Schonely has also been published in many industry magazines.

Working as an LAPD patrol officer, Schonely was involved in perimeter containment on a daily basis. In 1992, he became a K-9 handler within the Metropolitan Division, where he spent the next five years searching for LA’s most dangerous criminals.

He worked as a tactical flight officer in LAPD’s Air Support Division, coordinating tactical operations from a helicopter that involved foot pursuits and perimeter containments. Schonely served as chief tactical flight officer and later a command pilot, where he served until his retirement in June 2016.

Schonely has participated in more than 2,000 perimeter containments during his career, and he has seen many successes and failures. He has shared this experience with thousands of U.S. and Canadian law enforcement officers and as an instructor for the Airborne Law Enforcement Association and individual agencies. His programs set the standard for tactical flight officer training and perimeter containment operations.

AIRBUS GOLDEN HOUR AWARD

Era Search and Rescue
A Service Line of Era Group, Inc.

Era pioneered the first U.S. commercial search-and-rescue (SAR) program in partnership with Priority 1 Air Rescue (P1AR). Era’s SAR program has responded to more than 1,050 emergency calls from more than 70 companies in the Gulf of Mexico.

Operating three SAR-equipped AW139 medium helicopters from Houma, Louisiana, and Galveston, Texas, Era was the first emergency flight services provider to configure the AW139 for full SAR mission capabilities. As the only SAR provider that is medically licensed in Texas and Louisiana, Era’s program provides 24-hour offshore advanced life support medical care on the U.S. Gulf of Mexico Outer Continental Shelf (OCS).

The SAR program is supported by four certified emergency medical dispatchers; 18 pilots qualified in instrument flight rules, night-vision goggles, air ambulance, and hoist rescues; and 36 P1AR medically qualified rescue specialists — making it the most comprehensive program serving the OCS. Era’s SAR program can support local, state, and federal crisis emergency response efforts for various emergency situations.

Era SAR is considered one of the world’s premier search and rescue operations, able to conduct emergency response in extreme environments. In 2015, Era participated in the U.S. Coast Guard’s Arctic Technology Evaluation on Alaska’s North Slope to identify the benefits of integrating manned and unmanned aerial systems in search and rescue missions.

The exercise showed the capabilities and expertise of participants in support of arctic SAR efforts and other such missions. Era AW139 SAR pilots worked with P1AR crews to establish interoperability among marine and aviation assets during recovery at the rescue scene.
BLR AEROSPACE SAFETY AWARD

Bryan Smith
Pilot, Seminole County (Fla.) Sheriff’s Office; Safety Program Manager for Airborne Law Enforcement Association

Bryan Smith has dedicated countless hours to developing and advocating safety solutions for pilots and operators worldwide. A pilot since 1992, he flies helicopters for the Seminole County (Fla.) Sheriff’s Office, where he serves as safety officer and instructor pilot. He has flown both fixed- and rotary-winged aircraft in law enforcement aviation for 11 years and has been a regular instructor at aviation events around the world for the last eight years.

Smith is also the Airborne Law Enforcement Association (ALEA) safety program manager and works on the U.S. Helicopter Safety Team (USHST), where he has chaired the Safety Management System (SMS) Working Group and served on the Flight Training Working Group. He works as an instructor in aviation safety and SMS, law enforcement tactics, flight training, accident response planning, and unit management and marketing strategies.

Since 2012, Smith has supported ALEA members’ safety management and program development efforts, safety outreach and education, and development of risk management tools and resources. He also acted as liaison with other aviation safety organizations.

As chair of the USHST SMS Working Group, Smith led a volunteer team of industry experts to help cut worldwide accident rates and implement SMS. He continues to be an active contributor to this team and has published numerous articles in industry trade publications, most notably the “Real World SMS” series in Rotor magazine, as well as Law Officer, Vertical 911, and ALEA’s Air Beat Magazine. He also gives regular safety presentations and leads safety courses around the world.

LEONARDO HUMANITARIAN SERVICE AWARD

Trinidad and Tobago Air Guard

The Trinidad and Tobago Air Guard has provided an invaluable service far past its shores for the benefit of those in other Caribbean nations. Operating both helicopters and fixed-wing aircraft, the Trinidad and Tobago Air Guard has accomplished tremendous achievements since its founding in 2005. The Air Guard is looked upon by Caribbean Community nations with admiration and support for the humanitarian services it provides in response to natural disasters, medical emergencies, and security threats.

The Trinidad and Tobago Air Guard operates two Metro Merlin C-26B fixed-wing and four AW139 helicopters, and has expanded its capabilities and its achievements in the decade since it was formed out of the Coast Guard Air Wing. The unit has rescued lost hikers, airlifted victims of shark attacks and injured sailors, fought and extinguished threatening bush fires, helped vessels in distress, evacuated stranded individuals from otherwise inaccessible land, and conducted medical evacuations from vessels at sea.

The Air Guard is regularly deployed to perform complex missions both at home and in the wider Caribbean region. It has provided support to St. Lucia, St. Vincent, and Dominica during floods and natural disasters and on a regular basis transports critically ill and injured patients from the island of Tobago to the hospital in Trinidad. The Air Guard’s mission scope exceeds that of larger countries and those with much greater resources.
Robert Fournier was just three years old when he saw a Sikorsky Skycrane lift Toronto’s CN Tower antenna. From then on, he was set on an aviation career. After spending five years flying various charter assignments in northern Canada, he took a position with Helicopter Transport Services (HTS), based in Ontario.

Trent Vick’s interest in aviation was sparked by a 2008 presentation on medical careers that included a fly-in by a helicopter air ambulance. Vick joined the U.S. Air Force in 2009 to fund his helicopter flight training at Hillsboro Aero Academy. After completing his commercial rating, he was hired by HTS as a seasonal S-61 copilot. He is also a flight instructor at Hillsboro.

Fournier and Vick were paired on a call-when-needed contract, fighting fires all over the northwest. In the summer of 2016, they received an emergency dispatch to the Copper King Fire in Montana. Steep terrain and 50-knot winds made the fire difficult to control. The two pilots worked several long days dipping water from a nearby river. Their tireless efforts and outstanding professionalism helped contain the fire and kept it from progressing to nearby homes.

During their many water runs, Fournier and Vick noticed a small boy transfixed by the sight of the aircraft that was helping his firefighter dad. After their last flight, Fournier and Vick set out to find their fan. Each of them had chosen an aviation career because of a chance encounter when they were young, and they wanted to offer the little boy the same opportunity. Commenting on the pilots’ visit, the boy’s grandfather said, “I had already been impressed with their fire suppression skills. I am now more impressed with their hearts.”

Since 1958, Dr. John Leverton has worked in the helicopter industry studying and promoting helicopters. Operators, manufacturers, pilots, helicopter owners, and various government and regulatory agencies have all been beneficiaries of his considerable knowledge and efforts in addressing helicopter and heliport issues.

Dr. Leverton has a bachelor’s degree in engineering, a master’s degree in acoustics, and a doctorate in helicopter aero-acoustics. He worked for Westland Helicopters Ltd in the United Kingdom until 1984 when he moved to the United States to work with Westland, Inc. In 1996, he retired and formed his own company.

His comprehensive understanding of the technical aspects of helicopter noise makes him very effective in addressing community noise issues. He has been an advisor/consultant for many helicopter manufacturers, including Bell Helicopter, covering various aspects of noise measurement, environmental assessment issues, public acceptance of helicopters, and civil regulations.

He has published papers and given lectures on these subjects around the world and served as an advisor to the American Petroleum Institute and companies regarding development of guidelines for helidecks. Dr. Leverton also advised HAI on issues in helicopter noise and International Civil Aviation Organization (ICAO) and FAA regulations.

Dr. Leverton also served as chair of numerous HAI committees, including Acoustics, Acoustics/Environmental, Offshore, Heliport, and Fly Neighborly. He also served as director, vice president and advisor on infrastructure/environmental development for American Helicopter Society International; International Coordinating Council of Aerospace Industries Associations representative to ICAO on Annex 16; and International Federation of Helicopter Associations representative to the ICAO Aerodrome Panel and Heliport Design working group.
Kyle R. Sylvester

Springfield, Massachusetts, USA

Current Job: Dual-rated helicopter captain and airplane pilot

First Aviation Job: Flight operations specialist in the U.S. Army

Favorite Helicopters: The Bell 407/OH-58D Kiowa Warrior and the AgustaWestland AW139

Q: Your current role?

A: I’m responsible for the safe, efficient, and flexible transportation of company executives. I’m primarily a helicopter captain who’s recently transitioned into the department’s dual-rated program and flies a Falcon 2000LX/LXS.

Q: How did you get to where you are now?

A: I am where I am now thanks to a lot of hard work, dedication, support from family and friends, and a positive attitude. Once I was selected for flight school, I knew I had achieved my No. 1 goal in life. I studied hard and did lots of armchair flying, all while being positive. This continued to be my focus throughout my career.

Q: What advice would you give to someone pursuing your path?

A: For the military person, choose the mission of the aircraft over the location where the aircraft is stationed. You can always visit a place, but if you are miserable in your everyday job, that is the worst! For the transitioning military person, do your homework and start networking. Start by attending events like HAI HELI-EXPO at least three years prior to your planned exit.

Q: First helicopter ride?

A: My first helicopter ride was in December 1988 while visiting family in New York for Christmas. My grandmother’s gift to my dad, brother, and I was a sightseeing trip around New York City. The flight originated from the East 34th Street Heliport in a Bell 206L. I sat in the front seat next to the pilot. I knew it was the job for me. As I watched the pilot effortlessly fly throughout the city, I was hooked.

Q: What still inspires you about helicopter aviation?

A: Landing where airplanes can’t!
Your current role?

Med-Trans Corp. is a helicopter EMS program provider. I act as the supervisor for the maintenance records department and perform quality assurance audits of aircraft maintenance records. I will soon be moving into a position as a maintenance control specialist within the same organization.

Most memorable helicopter ride?

I would say my most memorable ride was when I was being trained as a flight engineer in the Mil Mi-8 in the Czech Republic. The instructors took us out and gave us an aerial tour of their beautiful country, complete with low-level flyovers of about a half-dozen castles.

Who inspires or has inspired you?

Early in my career my grandfather and my uncle were my biggest inspirations. They both taught me to work hard and do the absolute best you can at any task you are given. After I became a flight crew member trainer, my biggest inspiration came from my students. I always loved watching the proverbial “light bulb” come on over their head when I helped them understand a concept or idea. The feeling of satisfaction I got from teaching was euphoric and made me want to bring new concepts to my students again and again.

What advice would you give to someone pursuing your career path?

Make sure you diversify your knowledge base. It is a good thing to be an expert when it comes to a specific model of aircraft or a specific task, but if that is all you know, you are limiting your options. Take the time to learn as much as you can about your industry.
Helicopter Foundation International (HFI) offers scholarships to support those embarking on education programs to become helicopter pilots, maintenance technicians, and safety practitioners. HFI offers four different types of scholarships — up to 19 in all:

- The **Commercial Helicopter Pilot Rating Scholarship** is awarded to up to four pilots who have their private license and are in the process of attaining their commercial rating.
- The **Maintenance Technician Certificate Scholarship** is awarded to up to six students who are studying to become maintenance technicians.
- The **Michelle North Scholarship for Safety** is awarded to a pilot who has already attained his or her commercial rating and demonstrates an outstanding aptitude for safe flying and aviation best practices.
- The **Bill Sanderson Aviation Maintenance Technician Scholarship** is awarded to up to eight students in the maintenance technician field. Each winner will attend a course from a selection made available by helicopter airframe and engine manufacturers.

Beginning June 1, 2017, HFI will accept applications for next year’s Bill Sanderson Aviation Maintenance Technician Scholarship and Michelle North Scholarship for Safety. Beginning September 1, 2017, HFI will accept applications for next year’s Commercial Helicopter Rating Scholarship and Maintenance Technician Certificate Scholarships. Please encourage any deserving students to submit their applications at the website below. A scholarship review committee will select the winners, who will be notified prior to HAI HELI-EXPO 2018.

Apply for HFI scholarships at www.helicopterfoundation.org
Determining: A Black Hawk’s Journey

By Jenna Scafuri

In March, helicopters flew to Dallas from all over the country to be part of HAI HELI-EXPO 2017. However, not every journey was smooth flying.

To bring their aircraft safely into the Kay Bailey Hutchison Convention Center, the crew of the Unical Defense UH-60 N160AQ “Orca” overcame many hurdles, including multiple weather delays. The crew’s determination, teamwork, and commitment to safety were an inspiration to many at this year’s HAI HELI-EXPO®.

“Logistically, you have to be prepared for anything,” says Greg Fielder, Unical Defense project manager. “We managed to make it happen because we were willing to get the aircraft there, whatever it took — safely.”

Unical Defense, a California company, provides military aviation products and support solutions to aircraft manufacturers, domestic and foreign governments, and maintenance, repair, and overhaul stations globally. In this instance, its experience with providing creative solutions for rotary-wing aircraft really paid off.

Certainly, the resourcefulness of the crew was one reason for the story’s happy ending. Another is the company’s steadfast support for safety. A crucial part of any pilot’s skill set is being able to evaluate risk in real time and react to potential dangers before an accident occurs. Sometimes the safest decision a pilot can make is to land the helicopter.

“We thought, ‘We’re going to make this happen, but we’re not going to make it happen at the expense of safety and good decision-making,’” says pilot Benjamin Sobey. “In the end, we were able to achieve that goal.”

All along the way, the crew of Orca worked closely with HAI, keeping the operations staff up to date on their progress and intentions. “Despite the numerous obstacles thrown their way, the crew never veered from a ‘safety-first’ stance,” says Chris Martino, HAI’s vice president of operations.

Jenna Scafuri is an editor in HAI’s Publications & Media Department.

(A Black Hawk’s Journey continues on page 60)
Thursday, March 2, 12:00 PM

The Unical Defense team takes off from San Bernadino, California, in a UH-60 Black Hawk en route to Dallas. The crew includes Sobey; Fielder; Tony Foley, pilot; David Graham, Unical general manager; and Brian Ingram, UH-60 mechanic and crew chief. Unical Defense intends to bring the Orca, a restricted category (RC) aircraft, to HAI HELI-EXPO to show the industry their capabilities, which includes providing a fully restored RC aircraft with a full logistic support package. The Orca paint scheme was created by the owner to make the aircraft stand out.

Thursday, March 2, 2:00 PM

About two hours after departure, Sobey encounters an engine chip light, so he secures the #1 engine to idle. With one engine at idle, Sobey follows Unical standard operating procedures and makes a precautionary landing. He decides to land at Phoenix Deer Valley Airport, where he knows they will have maintenance support. After landing, the crew evaluates the chip detector and determines that the engine needs to be replaced. Their best option is for the Unical Defense facility in San Bernardino to send them a replacement engine. The spare engine is removed from another aircraft that afternoon, loaded onto a truck that evening, and driven through the night to get to Phoenix.

Friday, March 3, 10:30 AM

The engine arrives in Phoenix at 2:00 AM. The crew works diligently to install it so they could be on their way. “I was impressed with the capability of Unical Defense to pull an engine from an aircraft one day, then transport it, reinstall it, and have it ready to take off within 24 hours from the decision to pull the engine,” says Sobey.

Saturday, March 4, 7:00 AM

The crew departs Phoenix early Saturday morning, expecting to make it to Dallas in plenty of time to get the helicopter into the Kay Baily Hutchison Convention Center by 6:30 PM (the HAI HELI-EXPO fly-in ends at sunset). However, after a successful fuel stop in Deming, New Mexico, Sobey notices weather developing in southwestern Texas. After a second fuel stop in Midland, Texas, briefers were reporting marginal weather to support visual flight rules (VFR) flight. Based on conditions, Sobey makes the decision to depart Midland, thinking he could make it to Dallas without a hitch. But on the other side of Abilene, the weather starts to deteriorate. The cloud ceilings are getting lower, and as the Unical crew gets closer to Dallas, the rain showers became heavier. Visibility starts dropping. An RC aircraft, the Orca is restricted to VFR. With 40 minutes of flight time left to Dallas, about an hour’s worth of fuel, and no instrument flight rules (IFR) capability, the crew makes the decision to divert to the nearest airport in Eastland, Texas. While on the ground, they determine that a flight path north would take them around the weather and get them into Dallas safely. However, the aircraft’s RC certificate prevents it from flying over densely populated areas and congested airways. So not only does the crew need to avoid the weather, but they also need to find a way around the densely populated Dallas metroplex area. The ingenuity and experience of the crew lands the Orca safely in Dallas at 6:36 PM — missing the Saturday fly-in by just six minutes. The crew next works to make alternate arrangements to get the aircraft into the convention center on Sunday.
Sunday, March 5, 6:30 AM

HAI HELI-EXPO flight operations management say they will work with the Unical Defense crew to get the flight in on Sunday morning. The long-suffering crew assembles at 6:30 AM for the preflight, only to be disappointed when they are placed on standby again because of bad weather. The cloud ceiling is still too low, and the air field is IFR. Because the convention center is in Class B airspace, there is no allowance for a special VFR clearance. Foley communicates with the Dallas Love Field tower, who say they will let the Orca take off if the weather gets up to 1,000 ft. But because the ceiling is hovering around 800 ft without a chance of letting up, the crew start looking for other options to get to the convention center. Around 10:30 AM, the crew decides to drive, not fly, the helicopter in. To do this, the Orca must be disassembled and put onto the back of a flat truck. This includes removing the main rotor and tail rotor blades and lowering the struts.

Sunday, March 5, 4:00 PM

After the helicopter is disassembled, it is hoisted onto a flatbed trailer for transport to the convention center. “When the time came to make that tough decision to truck in the aircraft, the crew did so without hesitation, knowing it was the safest and surest way to complete the mission,” says Martino.

Sunday, March 5, 10:00 PM

After being trucked into the convention center, the Orca is finally offloaded Sunday evening.

At the end of a four-day journey, the crew of the UH-60 N160AQ Orca make it safe and sound to HAI HELI-EXPO 2017. Pictured below from left to right are Sobey, Fielder, Graham, and Ingram, standing proudly with the Orca at the static display in the convention center. “The skill and coordination it took to make this happen was amazing,” says Sobey. Fielder adds, “We’ve served in the army and the navy, and that’s still in us. In the army, there’s no failure. Stopping was not an option, so we made it happen.”
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Top 10 ADS-B Myths

By David E. Gray

Automatic Dependent Surveillance–Broadcast (ADS-B) is the NextGen successor to radar. Beginning January 1, 2020, aircraft operating in most controlled U.S. airspace must be equipped to transmit position, altitude, and velocity (ADS-B Out).

Aircraft operators can also choose to equip with ADS-B In, which means that the aircraft will receive Flight Information Service–Broadcast (FIS-B) and Traffic Information Service–Broadcast (TIS-B). ADS-B In avionics and cockpit displays provide pilots with real-time situational awareness of local traffic and weather from the National Weather Service, with no additional subscription fee.

Life is busy, and maybe you haven’t had time to figure out whether or how the ADS-B mandate applies to you.

Do you really have to equip your helicopter to keep flying after January 1, 2020? Is there an ADS-B solution that works for your helicopter, your budget, and your needs? Are there any good reasons to buy this equipment other than to comply with the rule?

There are a lot of concerns and misconceptions floating around today. Here are the facts behind some of the most common myths about ADS-B.

Myth #1
The FAA will extend the deadline or grant widespread waivers.

Don’t expect either of these to happen. The FAA administrator has repeatedly said that the agency will not extend the deadline beyond January 1, 2020.

Europe, Australia, and other countries have similar, or even earlier, equipage deadlines. Across the world, countries are shifting to ADS-B, and no wonder: ADS-B saves on infrastructure costs while increasing safety and efficiency for every sector of the aviation community. And ADS-B solutions are widely available. So don’t put off planning for ADS-B equipage: the 2020 deadline is real and coming.

Myth #2
The FAA will rewrite the ADS-B rules.

Nope. The ADS-B performance requirements outlined in the rule were years in the making, and they haven’t changed since they were published in 2010. They were carefully designed to
ensure the highest level of safety and reliability for our aviation system.

In addition to transforming surveillance, ADS-B enables many new follow-on applications. Some of these — like ADS-B In traffic displays and automated traffic callouts — are available today. All of these applications make use of the standards outlined in the rule.

On top of that, more than 25,000 U.S. aircraft have already been equipped, and manufacturers have made huge investments to bring rule-compliant equipment to market before the deadline. There’s no reason to wait to equip.

**Myth #3**

*ADS-B options for rotorcraft are limited and cost too much.*

This is no longer true. Today, there are many excellent rule-compliant rotorcraft solutions from the major avionics manufacturers. In fact, the FAA sponsored development of several units specifically for helicopters.

For small- to medium-lift helicopters, there are solutions for ADS-B Out only, ADS-B In and Out with WAAS (wide area augmentation system), and ADS-B In and Out dual-link with WAAS. Equipment prices range in cost from around $2,000 for a basic ADS-B Out system to $6,000 – $9,000 for a midrange ADS-B In and Out system. A high-end ADS-B In and Out system integrated with TCAS II (traffic collision avoidance system) could cost well over $10,000.

There are even “plug-and-play” solutions for those with existing Mode S transponders. Remove the transponder, and the ADS-B with Mode S fits nicely into the same space.

Check the market. You will find solutions at every price point and in every configuration to meet your needs. The FAA publishes a list of approved avionics at www.faa.gov/go/equipadsb.

**Myth #4**

*Owners must go through the FAA’s supplemental type certification (STC) process to install ADS-B.*

Not necessarily. Many approved model list STCs are now available for Part 27 rotorcraft. If rule-compliant ADS-B avionics have been certified on a similar type or model, a field approval is definitely possible.

The FAA’s flight safety district offices (FSDOs) are geared up to work with owners and operators to obtain field approvals, which can be much less costly and time-consuming than the STC process. Contact your local FSDO to find out more.

**Myth #5**

*I will have to upgrade my GPS in addition to ADS-B.*

Not necessarily. There are many FAA-approved ADS-B and WAAS GPS pairings (visit www.faa.gov/go/equipadsb to learn more).

Many manufacturers have WAAS integrated directly into their ADS-B solutions, so you won’t even need a standalone GPS, which makes for an elegant and cost-effective option.

**Myth #6**

*Very few rotorcraft have equipped with ADS-B.*

This is no longer true. More and more are equipping every day because of the significant safety and efficiency benefits, especially for rotorcraft. More than 1,000 U.S.-registered rotorcraft have equipped as of February 1 of this year, meaning those owners and operators can be confident of their ability to fly, come January 1, 2020. Can you say the same?

In the Gulf of Mexico, the entire instrument flight rules (IFR) helicopter fleet has equipped for ADS-B. These operators are functioning like airlines, with scheduled departures

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### ADS-B: Do I Need to Equip?

<table>
<thead>
<tr>
<th>Does your aircraft have an electrical system?</th>
<th>NO</th>
<th>ADS-B not required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you operate your aircraft above 10,000 feet MSL?</td>
<td>NO</td>
<td>ADS-B required</td>
</tr>
<tr>
<td>If you operate your aircraft above 10,000 feet MSL, do you remain below 25,000 feet AGL?</td>
<td>YES</td>
<td>ADS-B required</td>
</tr>
<tr>
<td>Do you operate your aircraft in Class B airspace?</td>
<td>NO</td>
<td>ADS-B required</td>
</tr>
<tr>
<td>Do you operate your aircraft in Class C airspace?</td>
<td>YES</td>
<td>ADS-B required</td>
</tr>
<tr>
<td>Do you operate your aircraft in Class E airspace above 3,000 feet MSL over the Gulf of Mexico within 12 NM of the U.S. coastline?</td>
<td>NO</td>
<td>ADS-B required</td>
</tr>
<tr>
<td>Do you operate your aircraft within a 30 NM radius of any airport listed in Appendix D to Part 91?</td>
<td>NO</td>
<td>ADS-B not required</td>
</tr>
</tbody>
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and arrivals, and saving big with shorter flight times. They are also
enjoying greater safety with real-time surveillance.

**Myth #7**
*Helicopter operators will not benefit from ADS-B.*
The entire general aviation community, including rotorcraft operators, receives significant benefits from ADS-B.

For instance, because ADS-B antenna are line-of-sight, ADS-B enables real-time surveillance and air traffic control (ATC) services in many parts of the country where radar coverage was never possible. These include Alaska, the Gulf of Mexico, the Rocky Mountains, and other areas.

ADS-B-equipped helicopters have improved ATC services at low-level altitudes. In fact, the widespread implementation of ADS-B technology offers the potential to create low-altitude, low-level IFR air routes. Search and rescue for downed aircraft with ADS-B Out is much more timely because of the system’s highly accurate last-position reporting.

With all of these benefits, pilots who have ADS-B In today report they can’t imagine flying without it.

**Myth #8**
*Equipping with ADS-B will complicate potential international sales of my aircraft.*
This is not true, as long as you purchase a system that broadcasts on 1090 MHz. The FAA’s rule mandates the highest level of performance for ADS-B avionics, both for accuracy and integrity. What this means is that any aircraft with FAA rule-compliant avionics broadcasting on 1090 MHz will meet or exceed any other country’s mandate, making it easy to sell that aircraft anywhere in the world.

**Myth #9**
*I don’t need to equip — I don’t fly in Class B airspace.*
The details of who needs to equip can be tricky. Remember, there is the

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**Your Guide to ADS-B Equipage**
[www.faa.gov/go/equipadsb](http://www.faa.gov/go/equipadsb)

Still figuring out the details of your ADS-B needs? The FAA has created a variety of online resources to help.
Visit [www.faa.gov/go/equipadsb](http://www.faa.gov/go/equipadsb) for information on:
- Who needs to equip
- Types of ADS-B installations
- FAA-certified equipment installations, including a tool to search by aircraft make and model
- What you can do with ADS-B technology
- How to verify that your installed ADS-B Out equipment is working correctly
- Frequently asked questions about ADS-B
- Additional ADS-B resources.

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airspace called the Mode C veil that extends vertically below the first tier of the Class B “wedding cake” and extends 30 nautical miles from airports at the center of Class B airspace. You must be equipped to fly in this airspace, too. Also, any operations in or above Class C airspace must be equipped.

If you still aren’t sure about whether you are required to equip with ADS-B, the FAA has prepared a decision tree that walks you through the details of who is and who isn’t required to do so (“ADS-B: Do I Need to Equip?”, p. 64).

**Myth #10**

*It will be better to wait until closer to 2020 to equip.*

Now is time to decide how ADS-B fits into your flight plans. If you need to equip, there’s no real upside to waiting. You can enjoy all the benefits of ADS-B today, and it’s doubtful that avionics costs will get any lower. Total costs may rise with mounting pressure for installations to be accomplished before the deadline.

An excellent place to begin your path to equipage is www.faa.gov/go/equipadsb where you will find ADS-B coverage and altitude maps, certified equipment lists, frequently asked questions, links to resources, and more.

**Don’t Go Halfway: ADS-B In Brings Critical Data to the Pilot**

While the FAA has only mandated ADS-B Out equipage, there are tremendous benefits to equipping with ADS-B In as well. Helicopters with ADS-B In have the potential for air-to-air situational awareness with other aircraft equipped with ADS-B Out. This can be a real game-changer in places like the Grand Canyon or the mountains and valleys of Kauai, or above a forest fire or major news event.

When equipping for ADS-B In, ask yourself if you should stop at the minimal mandated level of compliance. Consider equipping for ADS-B Out and In at the same time to take advantage of the broad range of weather, traffic, and other flight information available to aircraft equipped with ADS-B In.

Satellite-based, real-time ADS-B is transforming aviation — it’s time to figure out your place in the world of NextGen.

David E. Gray has worked in aviation for 19 years, eight of them with the FAA. He is currently program manager for the Surveillance and Broadcast Services program within the FAA. Gray has worked on a variety of projects, including airport surface surveillance (ASDE-3/AMASS, ASDE-X), wide area multilateration (WAM), terminal facilities, and ADS-B In applications (including SURF-IA, TSAA, and Interval Management).
THANK YOU TO ALL SUPPORTERS OF THE HFI ROTOR SAFETY CHALLENGE

HAI would like to recognize our presenters and volunteers who helped make the 2017 HFI Rotor Safety Challenge a success. We particularly want to thank the more than 1,500 attendees who “took the Challenge” and made learning about safety a priority at HAI HELI-EXPO®.

We wish you all a safe year and look forward to providing new opportunities in safety education throughout the year and at HAI HELI-EXPO 2018 in Las Vegas!
In modern helicopters, an engine failure is a rare event. However, improper maintenance, a contaminated or inadequate fuel supply, or other mechanical issues may put you into an emergency situation that requires you to execute an autorotation to land the helicopter safely.

Autorotations: Reality Exposed is a safety education session born from a collaborative effort by OEMs, operators, and federal agencies to uncover unique aspects of this maneuver and the errors most often discovered in accident investigations.

Over the past six years, more than 1,000 pilots have attended this presentation in many venues, including HAI HELI-EXPO®, the FAA International Rotorcraft Safety Conference, and other professional meetings.

Reinforce Autorotation Training
This initiative to reinforce autorotation training for pilots was born out of a National Transportation Safety Board recommendation that stemmed from two fatal helicopter accidents. In each of these accidents, the autorotation was not successful.

All helicopter pilots, in their ab-initio training, must demonstrate that they can successfully complete an autorotation. However, when we practice autorotations in flight training, we are in a controlled environment. We talk about the maneuver before we split the needles, and we usually accomplish a power recovery before we contact the ground.

In an actual emergency, the unexpected happens very rapidly. For example, in cruise flight, the bottom drops out, the nose yaws aggressively, and you must react immediately and correctly if you want to live to fly another day. Pilots need to review their autorotation skills and ensure they can confidently and rapidly repeat this critical maneuver in an emergency.

**Tips for Success**
Although this article is not intended to tell you everything about autorotations, let’s talk about a couple of the most important things that you should know.

**Maneuver vs. Emergency**
First, the autorotation is a maneuver; the engine failure is the emergency. Our primary goal in conducting additional autorotation education is to turn the emergency into a routine maneuver in which we pilots can protect ourselves and passengers (foremost) and the aircraft (if possible).

**Immediate, Correct Entry**
Second, the entry into autorotation must be immediate and correct. Pilots must know the characteristics of the aircraft they are operating and the control movements necessary to maintain rotor RPM and establish an aurorotative glide. In cruise flight, this means that we should always be prepared to get the collective down and apply aft cyclic.

**The Goal: A Good Autorotation**
Finally, remember that a good autorotation to a bad spot is better than a bad autorotation to a good spot. Sometimes we have to make a landing that will result in damage to the aircraft in order to protect the passengers. Protecting the people in your care (including the guy or gal in the mirror) is always the top priority.

The goal for your entry into autorotation is to make sure that when you reach 100 feet above ground level, you have the proper attitude, airspeed, and rotor RPM. From there, you should be able to execute a good autorotation, even if the landing area is not ideal.

**Reduce the Need for Autorotation**
Let’s not ignore some steps that reduce the likelihood that you will need to make an autorotation. All pilots should take extra precautions after maintenance is performed on an aircraft or before a postmaintenance test flight. Perform an advanced preflight (to learn more about the advanced preflight recommended after maintenance, see pp. 42–44 of Winter 2017 Rotor).

Do not underestimate how your skills in fuel management and performance and flight planning can affect flight safety.

**Additional Resources**
I hope you get a chance to attend an Autorotations: Reality Exposed presentation in the future. A brief, seven-minute video on the subject is available at rotor.org/autorotation. Additional information on autorotation training can be found in FAA Advisory Circular 61-140A, Autorotation Training; and the Helicopter Flying Handbook.

Safe flying — and if your autorotation skills need attention, make a plan today to get the additional training you need.
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**Superfast 150** high-speed option **YES**
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The ultimate laser wire marker

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HAI is pleased to announce the hiring of two new staff members who will make direct, substantial contributions to meeting the needs of association members. HAI welcomes Zac Noble as deputy director of flight operations and technical services, and Gregory Brown as manager of education.

“We couldn’t be more pleased that Zac and Greg are now part of the HAI Team,” says Ed DiCampli, chief operating officer for HAI. “Both of these gentlemen have exceptional credentials and experience. We recognize the value that each of them will bring to their positions and to the membership.”

Deputy Director of Flight Operations and Technical Services

Zac Noble joins HAI’s Flight Operations Department as the deputy director of flight operations and technical services, where he will support director Harold Summers in matters relating to flight operations, technical standards, maintenance issues, and heliports for HAI and its members.

Noble joins HAI from the helicopter air ambulance community where he served in various positions including line pilot, base safety manager, base lead pilot, and company check airman. Before that, he served in the U.S. Army as instructor pilot and instrument flight examiner in the AH-64 Apache helicopter. He was also a C-12 King Air 200 pilot in command.

Noble also served in the U.S. Marine Corps, where he was a helicopter mechanic on HMX-1, the presidential helicopter. He holds airline transport pilot ratings and certificated flight instructor – instrument (CFII) ratings in helicopter and multiengine fixed-wing aircraft. He is also an airframe and power mechanic and is an FAA-endorsed night-vision goggle instructor.

“I am happy to be a part of the HAI team,” says Noble. “I believe we can achieve HAI’s vision of zero accidents through the collaboration of industry leaders and attention to detail in the cockpit and in the hangar. I want to be a part of achieving that goal, and I believe my experience has put me in the right place at the right time.”

Manager of Education

As manager of education, Gregory Brown is responsible for planning the association’s education program, including Professional Education courses, safety education sessions, military to civilian transition workshops, and other professional development opportunities. He also works with other HAI staff to ensure that those opportunities align with HAI’s mission, purpose, and industry initiatives.

Brown joins HAI after a brief stint at Logis-Tech, where he was a business development analyst, and six years at Harris Corporation as a project lead and curriculum developer for the Global Combat Support System – Marine Corps. Brown previously served in the U.S. Marine Corps as a CH-53 helicopter pilot from 1988 through 2008. He held billets as safety officer, director of safety and standardization, operations officer, and maintenance officer.

His last tour of duty was at the Marine Corps Training and Education Command, Formal Schools Training Branch. Brown holds a bachelor’s degree in geography from the University of Oklahoma and a master’s in management and operations from Embry-Riddle Aeronautical University. He holds an FAA commercial pilot certificate for both helicopters and airplanes and is a certificated flight instructor (CFI) and CFI –Instrument for helicopters.

“I am thrilled about the privilege of joining the HAI team and with the prospect of developing additional educational opportunities for the helicopter industry,” says Brown. “I’ve seen firsthand what a difference education and training can make — the ear-to-ear grin on someone’s face when that lightbulb comes on. I look forward to providing those experiences and helping our folks in the industry achieve their potential.”
HFI welcomed three collegiate aviation programs to HAI HELI-EXPO 2017 in Dallas: Del Mar College from Corpus Christi, Texas; Pennsylvania College of Technology from Williamsport, Pennsylvania; and École Nationale d’Aérotechnique from Quebec, Canada. Students could tour the exhibit hall, meet with future employers at the HFI Helicopter Industry Career Fair, or stop by our Career Roundtable to talk directly with mentors about their career goals.

The École Nationale d’Aérotechnique is the largest college-level aeronautical educational institute in Canada, offering programs in aviation maintenance, avionics, and aerospace engineering. The students’ visit to HAI HELI-EXPO® “exceeded the expectations of everyone and reflects the highest standards of our industry,” says Louis Guimont, department coordinator for the school. His students especially appreciated being able to speak firsthand to mentors in the industry and gain valuable guidance on their next steps.

In addition, HFI hosted Dunbar High School, a public education collaboration by the Fort Worth Independent School District, Tarrant County College, and Bell Helicopter. Students from Dunbar’s engineering and robotics programs toured the exhibit hall. They also spent time with representatives from companies such as Bell Helicopter, Safran, and Garmin, discussing career pathways, educational requirements, and new technologies entering the market.

“We look forward each year to welcoming schools to HAI HELI-EXPO. This is a great venue to expose students to the career opportunities that exist and to give students the opportunity to talk directly with companies they hope to work for in the future” says Allison McKay, HFI vice president.
Bill Yarber: A Lifelong Career of Service

By Martin J. Pociask

William J. Yarber was born on December 18, 1934, in Nampa, Idaho, a small rural farming community in the Boise Valley. His parents were farmers who grew carrots, onions, and alfalfa. He was the youngest of four children, with two older brothers and a sister. All four children grew up with a passion for people and entered career fields such as sales, secretarial work, and waitressing. But it was Yarber’s early passion for aviation that turned into a lifelong career for him that many in the industry have admired and praised. In January 1961, he married his wife Bettie Crockett, and the couple had two daughters — Shannon in 1963, and Kirsten in 1966.

Early Aviation Interests

Yarber’s interest in aviation began at an early age, some time between four and five years old. One of his earliest memories is sitting on the front porch of his house at night, watching an airplane fly over with its navigation lights flashing. Yarber’s family lived in a very rural area that happened to be on the route of the lighted airways, a series of rotating beacons mounted on towers that stretched across the country, providing an external navigation aid to the early night-flying mail pilots.

Yarber’s first flight in an aircraft occurred in 1954. Accompanying a high school friend to Los Angeles, Yarber flew in a Cessna 170 from Santa Monica to Whiteman Airpark. He was amazed at the view from above — especially of the swimming pools. Being from a rural area, Yarber had never seen a private swimming pool before.

Navy Career

Yarber’s aviation career began when he joined the U.S. Navy Cadet program in 1957 and started his training in Pensacola, Florida. Shortly after, he had his first fixed-wing solo in a Beechcraft T-34 in 1958, and his first helicopter solo in a Bell HTL-6 was in 1959. Yarber received his commission in March 1959, and was assigned to Helicopter Anti-Sub Squadron One – HS-1 in Key West, Florida. He made two cruises on the USS Lake Champlain and flew the Sikorsky HSS-1 Seabat.

In July 1960, Yarber transferred to HS-9 in Quonset Point, Rhode Island. He made several cruises on the USS Essex flying the Sikorsky SH-34J Seabat. In November 1960, Yarber experienced his most memorable flight during his time in the navy. The ship squadron was participating with the British antisubmarine warfare forces (ASW) in a joint exercise called LIME JUG II. To learn new ASW methods, pilots from the British Navy flew in the HSS-1 with U.S. Navy pilots, and some U.S. Navy pilots flew in the British aircraft with British pilots.

In November 1960, Yarber transferred to HS-9 in Quonset Point, Rhode Island. He made several cruises on the USS Essex flying the Sikorsky SH-34J Seabat. In November 1960, Yarber experienced his most memorable flight during his time in the navy. The ship squadron was participating with the British antisubmarine warfare forces (ASW) in a joint exercise called LIME JUG II. To learn new ASW methods, pilots from the British Navy flew in the HSS-1 with U.S. Navy pilots, and some U.S. Navy pilots flew in the British aircraft with British pilots.

HS-9 squadron commanding officer Cdr. Stetson Hills was assigned to fly with the British on one of these training missions. Hills’s aircraft
experienced engine failure, plunging him and the British pilot and crew into the freezing waters of the North Atlantic. During the exercise, Yarber noticed the smoke flares sent up from a life raft. He and his co-pilot made a daring rescue and hoisted the survivors to safety.

Yarber was released from active duty in August 1962. He returned to the University of Idaho to complete his degree and immediately joined the Naval Reserve HS-892 squadron located at Sandpoint, Washington. During the winter of 1964 while on reserve duty flying a Sikorsky SH-34J, he performed a mountain rescue of two people who had crashed their light plane in blizzard conditions on Mt. Si, east of Seattle.

During the summers, Yarber flew for Clay Farnsworth, which contracted with the U.S. Forest Service and Bureau of Land Management on wildfire missions in Idaho, Nevada, and Oregon. His first civilian aviation job was spraying sagebrush with 2,4-Dichlorophenoxyacetic acid in Wildhorse, Nevada. In the summer of 1963, there were several major fires in the Oregon/Washington Bureau of Land Management district (BLM), and Yarber survived several close calls. These missions taught him about flying an underpowered helicopter and how to operate in the mountains without crashing.

Post-College Career
In 1966, Yarber graduated from the University of Idaho with a Bachelor of Science degree in Agricultural Economics. After graduation, Yarber and his family moved to Boise, Idaho, where he became a 49 percent share partner in a company called Helicopters, Inc. He was contracted to fly the Bell 47G-3B for the BLM and the U.S. Forest Service for firefighting, forestry aerial application, crop dusting, snow survey, and construction. One of his most dangerous flying jobs was powerline construction from the Hells Canyon Dam to Enterprise, Oregon. That project involved pulling sock line (power line) to the top of the ridge and over the Oregon side. He also hauled concrete and steel for the tower bases.

**Working for Bell Helicopter**

Yarber joined Bell Helicopter Textron and relocated to Bedford, Texas in March 1968. He worked as a production test pilot flying the Huey and Cobra. During this time, he was affiliated with the Naval Dallas Reserve and served on a cruise in the Gulf of Mexico with HS-64D2, flying the Sikorsky SH-34J and SH-3A. On this cruise, Yarber rescued four downed helicopter aviators in a Gulf night rescue, for which he received an Air Medal from the Navy.

Deciding to make a career shift, Yarber transferred to the Bell Helicopter marketing department in July 1969, moving his family to Vancouver, Washington. He sold to operators, corporations, the logging industry, the construction industry, and VIPs. He rejoined HS-892, and when it became decommissioned, he was assigned to NAS Whidbey Island.
flying the Lockheed SP2H with squadron VP-60T1. He later became a plank holder in VP-69 (he was present at the ship’s first commissioning).

In August 1974, Yarber was promoted to Western Division manager, relocating to Southern California. Based out of Van Nuys, California, his territory covered eleven western states. He managed five sales representatives, performed flight demos, ferried aircraft, and gave corporate, law enforcement and operator presentations.

In 1987, Bell Helicopter closed the Western Division and Yarber became the regional marketing manager until 1992. Later, Bell made another realignment and Yarber’s sales territory became Alaska, California, Hawaii, and Nevada until he retired. He worked closely with law enforcement, and sold to various fire departments and multiple industries such as oil, construction, and operators. In 1989, Yarber received the Co-Salesman of the Year Award from Bell Helicopter for the Western Division. From 1993 to 2000, he continued to sell helicopters and attend conferences and conventions. At conventions, he presented information on the various Bell Helicopter models.

Ross Fay, one of six Bell Helicopter regional marketing managers who worked under Yarber in the 70s and 80s, commented, “Bill was genuinely interested in his people and how he could help with their success. Bill became our friend and mentor, and he taught us by his example that the best sales tools are integrity and perseverance, and the relationships they cultivate.”

In December 2000, Yarber retired from Bell Helicopter. He was recognized by The Airborne Law Enforcement Industry for his support through the years. He was also the only marketing representative that the Los Angeles County Fire Department recognized upon retirement. A corporate client, Marie Callander’s, delivered a helicopter load of pies to his retirement party.

**Nonprofit Work**

During his time in California, Yarber served for several years on the board of directors for the Professional Helicopter Pilots Association of California. The organization worked to educate the helicopter community in flying neighborly, reducing noise levels in specific areas, and flight safety. He also served on the HAI Board of Directors for several years.

In between his nonprofit work, Yarber served in the U.S. Naval Reserves based out of Point Mugu, California, serving NARS U1, AirTyCom 219, VTU 7676, and as the executive officer and commanding officer of ComNavAirPac 376. Transferring to Readiness Command 19, San Diego, he served as executive officer of CincPacFlt 719. He was awarded the honorary title of Gray Eagle as the senior naval aviator assigned to the Naval Air Reserve Pt. Mugu until his retirement in 1989.

Yarber became a member of the Twirly Bird Organization in 1985 and served as treasurer from 1999 to 2011. In 2011, Yarber was awarded the Twirly Birds’ Les Morris Award for his contribution to the organization and to the helicopter industry. During this time, he established contact with the University of Texas Dallas (UTD) donating historical helicopter documents and industry information to the Eugene McDermott Library in
the Special Collections and Archives Division. He also created a Twirly Birds fund at UTD to establish a department chair position for the Department of Aviation Archives. Yarber continues to be the Twirly Birds’ historian, sending prepared documents for the Twirly Birds newsletter.

Love What You Do

Yarber and Bettie relocated to Plano, Texas in August 2002. A few of his other interests include woodworking, genealogy research, Civil War roundtable, and naval history. Bettie, his wife of 55 years, passed away in August 2016. Yarber continues to live in his home and attend Twirly Bird meetings, as well as maintain contact with many individuals in the helicopter industry. He has four grandchildren and both daughters reside with their families in Texas.

Over his career, Yarber logged more than 7,000 hours of flight time in 24 different fixed-wing aircraft and helicopters. Yarber offered this advice and encouragement to those entering the helicopter industry: “Love what you’re doing. Work hard, stay focused, and remember that you’re not always right!”

Martin J. Pociask is curator for Helicopter Foundation International.

Yarber at a naval change of command ceremony in Point Mugu, California, 1986.

Learn More …

Go online to read Martin J. Pociask’s entire interview with Bill Yarber at helicopterfoundation.org/Yarber. More interviews with aviation pioneers can be found at helicopterfoundation.org/pioneers.
Calendar of Events

2017

May 9–11
73rd Annual Forum & Technology Display
AHS International, The Vertical Flight Technical Society
Fort Worth, Texas, USA
vtol.org/events/forum-73

May 15–16
Helicopter Summit Indonesia
Helicopter Indonesia
Bandung, Indonesia
helicoptersummit.com

June 7–9
Global Connected Aircraft Summit Avionics
Arlington, Virginia, USA
gcsummit.com

July 1–6
34th Annual Reunion
Vietnam Helicopter Pilots Association
Indianapolis, Indiana, USA
vhpa.org/news.htm

July 9–1
Aviation Suppliers Association (ASA)
Annual Conference
Aviation Suppliers Association
Reston, Virginia, USA
aviationsuppliers.org/asa16overview

July 17–18
Remotely Piloted Aircraft Systems (RPAS) Symposium
International Civil Aviation Organization
Abuja, Nigeria
icao.int/Meetings/RPAS2017

July 24–29
A.LEA EXPO 2017
Airborne Law Enforcement Association
Reno, Nevada, USA
alea.org/alea-expo-2017-reno-nv
Visit HAI at Booth #413

September 5–6
JETNET iQ Global Business Aviation Summit
JETNET
New York, New York, USA
jetnetiq.com/summit2017

September 19–21
Second Remotely Piloted Aircraft Systems Symposium
International Civil Aviation Organization
Montreal, Canada
icao.int/meetings/RPAS17

October 10–12
NBAA Business Aviation Convention & Exhibition (NBAA-BACE)
National Business Aviation Association
Las Vegas, Nevada, USA
nbaa.org/events/bace/2017

October 14–16
National Training Aircraft Symposium
Embry-Riddle Aeronautical University
Daytona Beach, Florida, USA
commons.erau.edu/ntas

October 16–18
Air Medical Transport Conference
The Association of Air Medical Services
Fort Worth, Texas, USA
aams.org/events/amtc
Visit HAI at Booth #1300

October 17–18
Tangent Link
Aerial Firefighting Europe 2017
Nimes, France
tangentlink.com/event/aerial-firefighting-europe-2017

October 24–26
African Airshow
Ghana Airport Company Ltd.
Accra, Ghana
africanairshow.com

November 7–9
6th ARF & Heli Japan 2017
AHS International
Kanazawa, Ishikawa, Japan
vtol.org/arf

November 12–16
Dubai Airshow
F&E Aerospace
Dubai, United Arab Emirates
dubaiairshow.aero

December 4–7
51st Annual NAAA Convention & Exposition
National Agricultural Aviation Association
Savannah, Georgia, USA
agaviation.org/convention

2018

February 26 – March 1
(Exhibits open Feb. 27 – Mar. 1)
HAI HELI-EXPO 2018

Helicopter Association International (HAI)
Las Vegas, Nevada, USA
heliexpo.rotor.org
Navy Vet Takes on the Challenge of Aviation

Patrick Jaegar, a 2017 HFI Commercial Pilot Scholarship winner, grew up in Champlin, Minnesota, and enlisted in the U.S. Navy in 2008, straight out of high school. He was on active duty for eight years, eventually becoming a navy SEAL, that service’s elite special operations team.

While in the navy, he worked with many helicopter pilots and witnessed what it takes to be a professional pilot, as well as the different missions that a helicopter was capable of accomplishing. This is what inspired him to pursue a career in aviation.

In May 2016, Jaegar left active duty and immediately started flight school at Texas State Technical College in Waco, Texas. The school offers associate’s degrees in both fixed- and rotary-wing piloting.

He completed his private and instrument ratings in the first two semesters. He is currently working to complete his commercial rating, with a target completion date of April of this year. Jaegar plans to go straight into preparing for his certificated flight instructor (CFI) and CFI – Instrument ratings and to graduate with a two-year associate’s degree by spring of 2018.

Jaegar uses his VA benefits to pay for his helicopter ratings, but they currently do not pay for any other additional training. He was awarded the 2017 HFI Commercial Pilot Scholarship and plans to use it toward a night-vision goggle transition or possible long-line training to better prepare him for the industry and improve his career options.

As part of his HFI scholarship award, Jaegar was able to attend HAI HELI-EXPO 2017 in Dallas. He attended the HAI Annual Membership Meeting & Breakfast, several Rotor Safety Challenge sessions, the HFI Career Roundtable, and the Salute to Excellence Awards dinner. He valued his time at the show, saying it enabled him to capitalize on the “mentorship that some pilots provided, along with their willingness to help a lower-level pilot get into the industry. Most industries do not have this mentality, so it was really motivational to see.”

Once Jaegar graduates, he plans to instruct at a flight school to build hours, as well as to gain the considerable knowledge and experience that comes from teaching. After flight training, his ideal job would be working in the utility sector, but he is keeping his options open.

“For those who are considering a career in aviation, it will unquestionably be one of your biggest challenges,” Jaegar says. “However, if you put the time and effort in, it will pay dividends in setting you up for a prosperous aviation career.”

Meyer was born in Bakersfield, California, on September 23, 1941. After an honorable discharge from the U.S. Air Force in 1965, he began a career in civil aviation by crop-dusting in California. By June 1969, he was working as a bush pilot in Alaska.

About a year later, Meyer left the United States to work in oil exploration in Singapore and Indonesia. During the next few years, he supported oil production in several Asian countries, including Borneo, Burma, and Thailand, as well as in Alaska.

In 1974, Meyer accepted a job in New Zealand, where he met his future wife, Judith, whom he married in 1975. Over the next 15 years, the couple moved frequently as Meyer worked for oil companies in India, Sudan, and the Caribbean, as well as the U.S. Geological Survey.

In June 1980, he started working for ERA Helicopters as a line pilot. When Meyer retired in 2004, he was senior vice president, manager of ERA Aviation. He held an airline transport pilot rating and had more than 9,000 hours in helicopters and over 800 in fixed-wing aircraft.

After retirement, the Meyers spent 10 years touring the United States and Canada in their motor home, as well as visiting their daughters in Australia. Al is sadly missed by his loving family, including his wife; daughters Natalie Walsh and Juliet and Emily Meyer; son-in-law Jie Walsh; and grandchildren Jack and Amelia Walsh.
# Index of Advertisers

<table>
<thead>
<tr>
<th>Company Name</th>
<th>Phone Number</th>
<th>Fax</th>
<th>Website</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALEA</td>
<td>301-631-2406</td>
<td></td>
<td>alea.org</td>
<td>25</td>
</tr>
<tr>
<td>Arkema, Inc.</td>
<td>610-205-7000</td>
<td></td>
<td>plexiglas.com</td>
<td>31</td>
</tr>
<tr>
<td>Becker Avionics</td>
<td>954-450-3137; 877-56-BEVERY</td>
<td>Beckerusa.com</td>
<td></td>
<td>21</td>
</tr>
<tr>
<td>Bell Helicopter, a Textron Company</td>
<td>817 280 2011</td>
<td></td>
<td>bellhelicopter.com</td>
<td>11</td>
</tr>
<tr>
<td>BLR Aerospace</td>
<td>800-257-4847</td>
<td></td>
<td>BLR Aerospace.com</td>
<td>77</td>
</tr>
<tr>
<td>Bristow Group</td>
<td>713-267-7600</td>
<td></td>
<td>bistrongroup.com</td>
<td>3</td>
</tr>
<tr>
<td>Capewell Aerial Systems LLC</td>
<td>276-952-2006</td>
<td></td>
<td>capewell.com</td>
<td>41</td>
</tr>
<tr>
<td>CHC Helicopter Services</td>
<td>214-262-7426</td>
<td></td>
<td>chcheli.com</td>
<td>17</td>
</tr>
<tr>
<td>DeVore Aviation Corporation</td>
<td>505-345-8713</td>
<td></td>
<td>devoreaviation.com</td>
<td>59</td>
</tr>
<tr>
<td>Falcon Crest Aviation Supply, Inc.</td>
<td>800-833-5422</td>
<td></td>
<td>falconcrestaviation.com</td>
<td>43</td>
</tr>
<tr>
<td>General Aviation Survey</td>
<td>800-826-1797</td>
<td></td>
<td><a href="mailto:infoaviationsurvey@tetractech.com">infoaviationsurvey@tetractech.com</a></td>
<td>34</td>
</tr>
<tr>
<td>HAI Accreditation Program of Safety</td>
<td>703-683-4646</td>
<td>703-683-4745</td>
<td><a href="mailto:hai-aps@rotor.org">hai-aps@rotor.org</a></td>
<td>19</td>
</tr>
<tr>
<td>HAI: Advertise with HAI</td>
<td>703-683-4646</td>
<td>703-683-4745</td>
<td>rotor.org/media</td>
<td>66</td>
</tr>
<tr>
<td>HAI: Exhibit at HAI HELI-EXPO 2018</td>
<td>703-683-4646</td>
<td>703-683-4745</td>
<td>heliexpo.rotor.org</td>
<td>C2</td>
</tr>
<tr>
<td>HAI Firefighting Safety Conference</td>
<td>703-683-4646</td>
<td>703-683-4745</td>
<td>rotor.org/firefightingconf</td>
<td>74</td>
</tr>
<tr>
<td>HAI Gift Store</td>
<td></td>
<td></td>
<td>HAILGiftStore.com</td>
<td>62</td>
</tr>
<tr>
<td>HAI HELI-EXPO 2018</td>
<td>703-683-4646</td>
<td>703-683-4745</td>
<td>heliexpo.rotor.org</td>
<td>C4</td>
</tr>
<tr>
<td>HAI HELI-EXPO Sponsors</td>
<td>703-683-4646</td>
<td>703-683-4745</td>
<td>heliexpo.rotor.org</td>
<td>50</td>
</tr>
<tr>
<td>HAI: Join HAI</td>
<td>703-683-4646</td>
<td>703-683-4745</td>
<td>rotor.org/join</td>
<td>1</td>
</tr>
<tr>
<td>HAI: Land and Live</td>
<td>703-683-4646</td>
<td>703-683-4745</td>
<td>landandlive.rotor.org</td>
<td>15</td>
</tr>
<tr>
<td>HAI Military Membership</td>
<td>703-683-4646</td>
<td>703-683-4745</td>
<td>rotor.org/military</td>
<td>78</td>
</tr>
<tr>
<td>HAI Partner Services</td>
<td>703-683-4646</td>
<td>703-683-4745</td>
<td>rotor.org/partner-value</td>
<td>14</td>
</tr>
<tr>
<td>HAI Social Media</td>
<td>703-683-4646</td>
<td>703-683-4745</td>
<td>rotor.org</td>
<td>29</td>
</tr>
<tr>
<td>HAI: Subscribe to Rotor and Rotor Daily</td>
<td>703-683-4646</td>
<td>703-683-4745</td>
<td>rotor.org/subscribe</td>
<td>71</td>
</tr>
<tr>
<td>Hertz</td>
<td>800-654-2200</td>
<td></td>
<td>hertz.com/hai</td>
<td>65</td>
</tr>
<tr>
<td>HFI: Donate to HFI</td>
<td>703-683-4646</td>
<td>703-683-4745</td>
<td>helicopterfoundation.org</td>
<td>75</td>
</tr>
<tr>
<td>HFI Golf Tournament Thank-You</td>
<td>703-683-4646</td>
<td>703-683-4745</td>
<td>rotor.org/golf</td>
<td>42</td>
</tr>
<tr>
<td>HFI Online Silent Auction Thank-You</td>
<td>703-683-4646</td>
<td>703-683-4745</td>
<td>rotor.org/auction</td>
<td>5</td>
</tr>
<tr>
<td>HFI Rotor Safety Challenge</td>
<td>703-683-4646</td>
<td>703-683-4745</td>
<td>rotor.org/takechallenge</td>
<td>67</td>
</tr>
<tr>
<td>HFI Scholarship Program</td>
<td>703-683-4646</td>
<td>703-683-4745</td>
<td>helicopterfoundation.org</td>
<td>58</td>
</tr>
<tr>
<td>Jet Support Services, Inc. (JSSI)</td>
<td>312-644-4444</td>
<td>312-644-4440</td>
<td>jetsupport.com</td>
<td>37</td>
</tr>
<tr>
<td>KING Schools</td>
<td>703-683-4646</td>
<td>703-683-4745</td>
<td>rotor.org/SaveOnFIRC</td>
<td>19</td>
</tr>
<tr>
<td>Milestone Aviation Group</td>
<td>614-233-2300</td>
<td></td>
<td>milestoneaviation.com</td>
<td>7</td>
</tr>
<tr>
<td>Pacific Southwest Instruments</td>
<td>951-737-0790</td>
<td></td>
<td>psilabs.com</td>
<td>C3</td>
</tr>
<tr>
<td>Pilatus Business Aircraft Ltd.</td>
<td>303-465-9099</td>
<td>303-465-9190</td>
<td>pilatus-aircraft.com</td>
<td>9</td>
</tr>
<tr>
<td>Precision Fuel Components LLC</td>
<td>425 513-6789</td>
<td>425 513-6788</td>
<td>precisionfuel.com</td>
<td>39</td>
</tr>
<tr>
<td>Rolls-Royce</td>
<td>317-230-8287</td>
<td></td>
<td>rolls-royce.com</td>
<td>73</td>
</tr>
<tr>
<td>Tri-Star Technologies</td>
<td>310-536-0444</td>
<td></td>
<td>tri-staritechnologies.com</td>
<td>69</td>
</tr>
<tr>
<td>Vector Aerospace</td>
<td>888-729-2276</td>
<td></td>
<td>vectoraerospace.com</td>
<td>13</td>
</tr>
<tr>
<td>Wysong Enterprises, Inc.</td>
<td>423-325-6900</td>
<td></td>
<td>wysongusa.com</td>
<td>29</td>
</tr>
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