

Winter 2017

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BY THE INDUSTRY
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10 Ways to Mess Up Your Helicopter Deal (and How to Avoid Them)

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The Basics of BasicMed

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2017 Photo Contest

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→ Direct to Dallas

March 6–9

Exhibits Open March 7–9

Kay Bailey Hutchison
Convention Center
Dallas

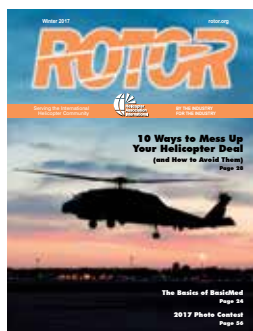
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SIMON BARTLETT/HAI

About the cover: An aircraft lands at Charleston International Airport (KCHS) — one of the hundreds that land each day. Photographer Simon Bartlett of SiFoto Photography turned this mundane moment into an Honorable Mention in this year's ROTOR Magazine Photo Contest.

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Visit the U.S. Forest Service and Department of the Interior at HAI HELI-EXPO 2017

Aerial Firefighting Sessions at HAI HELI-EXPO 2017

- **Aerial Firefighting Committee Meeting**
Wed., Mar. 8
10:30 AM – 1:00 PM
D174
- **Annual DOI/USFS Interagency Fire Briefing**
Wed., Mar. 8
1:00 PM – 3:00 PM
D162

You can also visit representatives of the U.S. Department of the Interior (Booth #8660) and the U.S. Forest Service (Booth #8661) on the HAI HELI-EXPO 2017 show floor.

Visit heliexpo.rotor.org for updated information or check your *Program & Exhibit Guide* on site.



Continuing Education

One of the most important subjects in the helicopter industry is continuing education. Pilots and maintenance technicians who have been in the industry for a longer period of time can become complacent in what they are doing, which can lead to some serious mistakes. You might think that safety performance would only improve with experience, but sadly, the statistics don't always bear that out.

I have my own concerns about the benefits of experience. As chief pilot for Southern California Edison, many resumes land on my desk, containing variations on this statement: "I have 15 years of experience flying an [aircraft]." What does that mean exactly?

For some, 15 years in a position is a time to build proficiency and expertise. It's when they acquire a solid background in the basics and then go on to learn all the details and intricacies that provide the challenge to any job.

For others, 15 years is an opportunity to get into a comfortable rut and build bad habits. It turns out that the quality of your experience is relative to your accomplishments and is not simply a function of time served.

This is why continuing education is critical: we need to keep learning and adding to our experience level. If you ask the best people in any field — the leaders in business, technology, medicine, science, sports, and the arts — few would say that they are done learning and now just go through the motions. Instead you'll hear that there is always more to learn and ways to grow, even when you are at the top of your profession. That's the kind of pilot I aspire to be, and that's the kind of pilot I want to hire.

Of course, training and education are expensive. Many companies simply



cannot afford to send their pilots or technicians to schools or courses, even though the return on that investment is a safer and more productive operation.

Consider the education opportunities available at HAI HELI-EXPO®. The HAI Professional Education courses are excellent, and the cost is relatively low, especially for HAI members who receive additional discounts. Companies need to take advantage of these courses to make sure their pilots and maintenance personnel stay on top of a demanding industry.

But making sure you keep up with the latest trends and techniques in the field is not just your company's responsibility. As individuals, we have a duty to study on our own. We have to seek education opportunities and consciously make the effort to be proactive and learn as much as we possibly can. At HAI HELI-EXPO, there are many free educational opportunities for attendees, including the Rotor Safety Challenge and the Manufacturer Technical Briefings.

Of course, you don't have to be at an industry conference to learn. It's something you can build into your daily or weekly routine.

If you haven't gone through the operating handbook of the helicopter

you fly lately, then pick it up. Don't wait until your annual training — it is your responsibility to fly that aircraft safely today. And I would say the same to a maintenance technician. What prevents you from reviewing the instructions for continuing airworthiness for every piece of equipment installed under a supplemental type certificate?

Reading a helicopter magazine — like this one — cover to cover is another way to stay on top of the industry and pick up new information. There is more to it than just looking at the pictures.

The International Helicopter Safety Team and HAI have discovered that recreational and personal flying is the industry sector with the highest accident rate. These are infrequent flyers who don't have access to the detailed operational procedures and safety protocols used by those of us who fly for commercial operators or other businesses. That is why HAI has outreach programs for this segment: these pilots need regular educational opportunities that reinforce good habits and help them grow.

I encourage everyone to start learning. Pick up that manual, read that article, register for a course, attend a safety seminar. Make these activities regular events.

As aviation professionals, we have specialized knowledge and skills that set us apart and make us proud. We owe it to ourselves to sharpen those skills and update that knowledge. Be proactive and plan now for how you can develop and learn this year. Your professional growth is good for your co-workers, customers, and business, and frankly, it's good for you too. **R**

Torbjorn "TC" Corell is the current chairman of HAI's Board of Directors and chief pilot for Southern California Edison in Chino, California.



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Zero Accidents: Yes, We Can

Call me crazy, call me insane — I don't care. I truly believe we can achieve zero accidents in the helicopter industry. Maybe not tomorrow, not in the next few years, or not even in my lifetime. But ultimately we can and will accomplish this goal.

At a recent safety forum, I was challenged by an audience member who expressed his opinion that any time humans engage in the operation of machinery, in this case with helicopters, it is a statistical certainty that an accident will occur.

Well, there we have it. Let's all pack up our tents, go home, and just wait for the inevitable accident to happen.

Just checking to see if you were paying attention. I am not ready to surrender — not now, not ever. There is only one safety goal we should work toward, and that is zero accidents in the helicopter industry.

With this thought in mind, I think we should reconsider how we set safety goals. Does it really make sense to say "let's reduce accidents by 20 percent"? That's just another way of saying "we had five accidents this year, and next year we want to have four." While improving safety is always a commendable goal, we are indirectly stating that we are willing to accept a certain number of accidents — and that is a statement I am never willing to make.

The way I see it, our industry is on a journey, traveling down a highway toward Zero Accidents. We may not know how long the trip is going to take, but we can post mile markers during the journey and identify various milestones of accident reduction while making adjustments as necessary to speed our journey.

Some elements that will assist



in creating a safer environment and help achieve our goal of zero accidents include technological advancements, enhanced reliability of equipment and systems, appropriate training, and more operations conducted under instrument flight

rules. However, I believe our greatest challenge in achieving zero accidents is our industry culture. We must change the philosophy of "Safety First, Above All Else" from a slogan to a reality that is practiced every day, for every flight.

Decision-making and risk assessment must focus on one question: can we complete this operation safely? Stop worrying about disappointing the boss or customer, risking the contract, or even saving a life — let's just focus on conducting a safe operation. The only plan worth sticking to is a plan to conduct a thorough preflight, assess and mitigate flight risks, and practice good aeronautical decision-making, with a safe landing as the goal.

One significant program that has started to move the industry culture in the right direction is the HFI Land & LIVE initiative or, as I like to advise, "When safety is in question, land the damn helicopter!"

We land helicopters everywhere and anywhere all day long — it's literally what our industry does. Yet when the flight isn't going well and we should land to address deteriorating weather, low fuel, mechanical concerns, or another issue, we do not. Instead, pilots push on, with grave results.

Why don't we make precautionary landings when we need to? We worry that the landing was not part of the original plan, the passengers or company will get mad, the FAA will have something to say, or that local

authorities on the ground will be upset with us.

HAI looked into what really happens when precautionary landings are made. In the majority of instances, passengers, operators, regulators, and others express support and appreciation for the decision to land.

Frankly, the opinions of those who weren't supportive don't matter. Do their concerns justify not making the precautionary landing and instead continuing the flight, possibly resulting in the deaths of all on board the aircraft and some people on the ground? I think not.

I would rather make the precautionary landing. If the FAA, my company, customer, or local authorities have either compliments or complaints about the landing, we can discuss them on the ground, over a cup of coffee. (By the way, you can learn more about precautionary landings, including resources for pilots, operators, and first responders, at landandlive.rotor.org.)

As good as we think we are and as committed to each flight, we will not transport every patient, tourist, company executive, news reporter, family member, or friend. Nor will we fight every fire, do every external load, or film every event. Not if our industry truly puts safety first above everything else.

Help me achieve the dream: no helicopter accidents. We can do it if we really want to.

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

As always, fly safe — fly neighborly. 

Best Regards,

Matt Zuccaro is president and CEO of HAI.



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FAA Enforcement: The Blanket or the Brick?

As you may know, I have been working with the FAA Safety Team (FAASTeam) for many years. The team has been tasked with providing safety education for aviators and maintenance technicians. HAI works with the FAASTeam to provide helicopter-specific safety courses for the WINGS and AMT programs and to provide continuing education on safety topics for small helicopter operations.

Recently, the FAASTeam has taken on a new role: helping airmen and operators comply with the Federal Aviation Regulations (FARs). This new function is part of the FAA Compliance Philosophy, which was first announced in 2015 by FAA Administrator Michael Huerta. In order to encourage the “open and transparent exchange of safety information,” the FAA is changing the way it deals with deviations or noncompliance with the FARs.

The Compliance Philosophy has no tolerance for those who engage in willful misconduct or inappropriate risk-taking behaviors — the FAA expects compliance with the FARs, and when necessary, it will still conduct enforcement actions, including the suspension and revocation of certificates and the imposing of civil penalties.

However, the FAA now recognizes that most deviations or noncompliance are unintentional. They occur because of simple mistakes, flawed systems and procedures, lack of understanding, or diminished skills on the part of airmen and operators. Rather than enforcement actions, the FAA believes that these situations should be dealt with through a compliance action.

Compliance actions are not adjudications and do not constitute a

finding of violation. The goal is not to punish, but to correct the conditions that led to the deviation and improve the overall safety of the National Airspace System.

In the new model, FAASTeam representatives will use compliance actions, such as on-the-spot corrections, counseling, and additional training, including remedial training, to resolve deviations from the FARs and to restore compliance. Absent willful misconduct or inappropriate risky behavior, airmen who are willing and able to resolve issues will be able to avoid an enforcement action in most cases.

The Compliance Philosophy offers all of us an opportunity to change our relationship with the FAA for the better.

“Willing and able.” Let’s look more closely at what that means. *Willing* means that the airman acknowledges the issue and will collaborate with the FAA to fix the problem in a sustainable way. *Able* means the airman has the skills or the qualifications needed to comply with the rules.

As John Duncan, director of the FAA’s Flight Standards Service, wrote in the November/December 2016 issue of *FAA Safety Briefing*, “If there is a deviation, we expect you to acknowledge responsibility, share information to help determine cause, and promptly take corrective action.”

One of my FAASTeam friends calls the Compliance Philosophy a “warm, fuzzy blanket ... with a brick in it!” And the FAA has made a point of saying that compliance actions (the “warm, fuzzy blanket”) will be the first tool to be used rather than the “brick” of enforcement actions.

The Compliance Philosophy is a real change in how airmen and operators will interact with the FAA. Instead of an adversarial, “gotcha” relationship, which is how many in our industry see it, we are now being asked to collaborate with the FAA to improve helicopter safety.

In case you don’t recognize it, the Compliance Philosophy is the result of the FAA’s embrace of safety management systems (SMS). Yes, rather than just telling the industry that SMS is the way to improve safety, the FAA is walking the walk, as well.

Instilling a just culture, where hazardous conditions or unsafe behavior can be reported without retribution, is one of the most important aspects of SMS. In addition, safety experts now see failures in training, process, or culture at the root of most noncompliance, as opposed to evil intent.

Punishing unintentional rule-breakers does not usually improve safety. Instead, safety is improved by making it possible for them to acknowledge their actions while addressing the underlying factors that led to the unsafe behavior or condition.

The Compliance Philosophy offers all of us an opportunity to change our relationship with the FAA for the better. But change isn’t easy, either for the FAA or for airmen and operators.

Operating under the Compliance Philosophy requires the development of a collaborative, trusting relationship where we work together to improve helicopter safety. Are you willing and able to participate? **R**

Stan Rose is HAI’s
director of safety
outreach.



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HAI HELI-EXPO Professional Development for Maintenance Specialists

Looking at the event schedule for HAI HELI-EXPO 2017, it's easy to see a variety of programs available to business owners, pilots, and safety personnel. Actually, HAI HELI-EXPO® is also an exceptional opportunity for wrench-turners — from experienced directors of maintenance to the newest line mechanics — to build up their education and training.

Look to the right to find seminars, meetings, and classes that would benefit any aviation maintenance professional. More information about these events is available at heliexpo.rotor.org.

I also strongly recommend these courses for current airframe and powerplant students. The courses can supplement what you are learning in your classrooms, including providing helicopter-specific instruction. Many of the courses, such as those in the HFI Rotor Safety Challenge, are free for registered attendees and exhibitors; others require an additional registration fee. Keep in mind that HAI membership is free to students, and students also receive discounts on HAI HELI-EXPO registration.

These courses and seminars are created and led by industry professionals. One of the greatest parts of aviation is when a person takes all that they have learned and experienced, and uses that expertise to help train the next generation of aircraft mechanics. In turn, attendees of these classes can go back to their shops, offices, and classrooms to share their new knowledge with coworkers.

If you have time between courses or seminars, there is a new section on the show floor called HAI Connect, which is open during official show floor hours, March 7–9. This is a location for product demonstrations, presentations, and meetings on a

Professional Development for Maintenance at HAI HELI-EXPO 2017

- All events will take place at the Kay Bailey Hutchison Convention Center. Please note that some events take place before the show officially opens on Monday, March 6, and before the exhibit floor opens on Tuesday, March 7.
- Courses marked (PE) are part of the HAI Professional Education series and require a separate registration fee in addition to your HAI HELI-EXPO registration; visit rotor.org/takeacourse to learn more.
- Sessions marked (RSC) are part of the HFI Rotor Safety Challenge and are free to all registered HAI HELI-EXPO attendees and exhibitors. Go to rotor.org/takethechallenge to learn more about the individual sessions or the Rotor Safety Challenge.

HAI HELI-EXPO 2017 for Maintenance

Friday, March 3 – Monday, March 6

Helicopter Maintenance Management	PE (4-day course); 8 a.m. to 5 p.m. each day location available upon registration
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Sunday, March 5

Regulation 101: Law for the Aviation Professional	PE; 8 a.m. to 5 p.m. location available upon registration
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Monday, March 6

Technical Committee Meeting	8:30 a.m. to 4 p.m., D161
Regulations Affecting Aircraft Parts, Purchase, Sale, Stocking and Installation	PE; 1 p.m. to 5 p.m. location available upon registration

Tuesday, March 7

Manufacturer Technical Briefings	10 a.m. to 5 p.m., C143/149 & C145
Huey Owners and Type Certificate Holders Forum	12 p.m. to 2 p.m., D161
BowTie Method for Safety Risk Management	3:30 p.m. to 4:30 p.m., C142
HFD 101: Helicopter Flight Data Monitoring "Unplugged"	RSC; 3:30 p.m. to 4:30 p.m., C146

Wednesday, March 8

Manufacturer Technical Briefings	8 a.m. to 5 p.m., C143/149 & C145
Applying BowTie Analysis to Audits and Investigations	RSC; 10:30 a.m. to 11:30 a.m., C142
Fuel: The Lifeblood of Your Aircraft	RSC; 1 p.m. to 2 p.m., C142
Analysis Techniques for Helicopter Flight Data	RSC; 3:30 p.m. to 4:30 p.m., C141

Thursday, March 9

FAA: Face to Face General Session	8:30 a.m. to 10:30 a.m., Ballroom D
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variety of subjects. Many of these will also be of interest to maintenance personnel. I suggest you look through the official printed schedule that you will receive when you sign in at the registration desk. If you prefer, you will also find the updated schedule on the official HAI HELI-EXPO show app for your smart phone (download at rotor.org/expoapp).

There is also a new section of the show floor, the "Meetup Lounge." Stop here if you need a place to relax and recharge. There's a pretty good chance there will be other maintenance people there doing the same thing. Start up a conversation and make a new connection in the industry.

Finally, for those who are looking for work, be sure to pack copies of your resume and visit the HFI Helicopter Industry Career Fair on Tuesday, March 7, from 10:30 a.m. to 5:00 p.m. Attendance for job-seekers is free, but you'll still need to register at rotor.org/careerfair.

If you feel like there's not enough time to make this year's show in Dallas, it's not too early to start planning for HAI HELI-EXPO 2018 in Las Vegas (Feb. 26 – March 1; exhibits open Feb. 27 – March 1). By starting to plan now, you'll be able to include registration and travel expenses in upcoming budgets. In addition, registration for the show, professional education courses, and housing are all discounted when you register early. **R**

*Harold L. Summers
is HAI's director of
flight operations and
technical services.*



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HFI Career Roundtable

Tuesday, March 7 • 1:00 PM – 3:00 PM • D167

Looking to go places in the rotorcraft industry? Attend the **FREE** HFI Career Roundtable, where you can speak directly with industry professionals from a variety of sectors, career paths, and experience levels. Learn what you need to get to the next level.



HAI Forms New Membership Committee

At its Fall 2016 meeting, the HAI Board of Directors unanimously approved the formation of an HAI Membership Committee. This committee, a first for HAI, will contribute to the development and implementation of HAI's strategic direction to recruit, retain, and engage members. It will also make recommendations on other membership-related issues to the Board of Directors.

Who Should Join

The committee will include up to 20 voting members representing a variety of missions, international geographic locations, and HAI membership classifications.

Committee members must

demonstrate a strong commitment to the industry, be knowledgeable about issues and challenges, and act as change agents within their organization or the industry. Committee members must also be able to devote the necessary time and effort to attend meetings and contribute to the work of both the full committee and an assigned working group. The committee will meet two times per year, including once at the HAI HELI-EXPO® annual meeting.

Benefits of Serving

By serving, committee members will have the opportunity to exchange information and ideas with peers, promote the value of helicopters and vertical aviation, and contribute to

the work of HAI and its Board of Directors.

An invitation to serve on the committee was emailed to HAI members in January. Interested members were asked to submit a letter of interest and resume/CV. The committee will meet for the first time at HAI HELI-EXPO 2017 in Dallas.

If you are interested in learning more about the HAI Membership Committee, or in joining, please visit rotor.org/committees or email me at louise.martin@rotor.org. 

Louise Martin is HAI's director of membership.



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Self-Regulation: “With Great Power Comes Great Responsibility”

Regardless of whether you attribute the phrase “with great power comes great responsibility” to Voltaire or Spiderman, it has practical application in aviation. The FAA grants manufacturers, maintainers, and operators great power to regulate themselves.

This is done through a designee system where private individuals are appointed to inspect, test, evaluate, and certify all facets of aviation on behalf of the FAA. The individuals act on behalf of the FAA but are paid by the people and organizations they are evaluating.

Volumes of FAA regulations and manuals give extensive guidance to curb the conflict of interest inherent in this system, but because a great deal of a designee’s work is done in private, the situation relies heavily on the integrity of the individual designees. If that control fails, there is always legal responsibility.

Designees and their organizations are legally responsible for complying with the regulations and guidance that control their work, as well as for acting as a reasonably prudent person. And in some situations, the designee is required to act as a very careful, cautious, and prudent person.

It sounds like a tough situation for designees, but anything less than meeting those standards risks the safety of the people who are forced to rely on the FAA’s designee system — in other words, the people who operate and fly aircraft, as well as their co-workers and customers.

The FAA Designee System

The FAA has an entire system for delegating its regulatory authority to individuals who must then regulate

Your Aviation Lawyer

“Your Aviation Lawyer” is a quarterly column to answer your legal questions about the helicopter industry and take the mystery out of aviation law. The goal is to reduce the chance of your involvement in an accident, incident, or even a disagreement, but if that fails, you should know your rights and responsibilities.

themselves. A federal statute, 49 USC §44702, authorizes the FAA to delegate examination, testing, inspection, and certification to private individuals.

Most of us are familiar with designated pilot examiners (DPEs) or designated airworthiness representatives (DARs), but there are another two dozen specialty areas

become a designee, such as “a high degree of integrity ... a cooperative attitude, and ... the ability to exercise sound judgement.” It also prohibits anyone from becoming a designee who has been convicted of a felony in the preceding seven years. Aside from recruiting Boy Scouts and banning recent felons, the handbook does not give a lot of guidance to designees on how to *do* their jobs, while trying to *keep* their jobs.

Fortunately, those individuals regulating themselves can be held accountable for their decisions. Whereas

government employees generally have immunity for discretionary functions, such as judging and certifying everything from aircraft design to pilot qualifications, private individuals performing the same functions do not. Personal responsibility, when applied correctly, keeps the FAA’s self-regulation system in check.

The FAA Organization Designation Authorization Program

Besides individual designees, the FAA also has an Organization Designation Authorization (ODA) program where companies such as manufacturers, operators, and maintainers have internal units that perform regulatory functions on behalf of the FAA on a larger scale. Those functions relate

Designees act on behalf of the government but do not have the legal protections that a government employee doing the same job would have.

that have designees who are also paid by the very companies they inspect. Most of that self-regulation is done in private, out of view of the people betting their lives that it is being done correctly.

The FAA’s 444-page *Designee Management Handbook* (8100.8D) reads like a typical government procedure manual, with a touch of the *Boy Scout Handbook*. It requires designees to “maintain the highest degree of objectivity while performing authorized functions,” but gives no advice on navigating the treacherous waters of making decisions that determine the success or failure of their employer.

The *Designee Management Handbook* includes a comprehensive list of character traits necessary to

to engineering, manufacturing, operations, airworthiness, and maintenance. An organization with an ODA unit self-regulates — somewhat like a company having its own group of FAA employees on site and on the organization's payroll.

The ODA program has its own extensive inspection and reporting requirements, as if each ODA unit were its own FAA enforcement office. An ODA unit must perform self-audits and self-disclose violations. If it self-discloses violations in a timely manner, it can avoid civil penalties for those violations. The ODA program also requires organizations to "investigate any suspected unsafe condition" for any products and report the results of the investigation and any action taken or proposed to the FAA.

These requirements create an opportunity for operators — or anyone else — to have their safety concerns addressed directly by manufacturers. When you inform a manufacturer of a "suspected

unsafe condition," it is then required to investigate and report back to the FAA.

Senior management in an organization with an ODA program must sign a memorandum of understanding that they understand and accept their regulatory obligations and will "notify the FAA if they violate the terms of the memorandum."

How to Make Self-Regulation Effective

The FAA and its employees have legal immunity for discretionary functions such as inspection and certification of aircraft and pilots. But a designee is not considered an employee of the U.S. government and is not federally protected for the work performed or the decisions made as a designee; nor are ODA holders protected. So acting on behalf of the government does not give that person governmental immunity.

A judge or jury will evaluate a designee's conduct the same way they would evaluate anyone else's conduct:

by considering compliance (or noncompliance) with Federal Aviation Regulations, industry standards, and any company standards, as well as considering what a reasonably prudent person would have done in the same or similar circumstances.

While limited resources may be a valid argument for the FAA being slow to act, private organizations have no such excuse. When it comes to safety, there is very little room for error. Organizations are held legally accountable, especially when they accept the great responsibility of regulating themselves. **R**

Jon Kettles, "Your Aviation Lawyer," is an aerospace engineer and ex-military helicopter and fixed-wing pilot with fixed- and rotary-wing airline transport pilot and certificated flight instructor – instrument ratings who has been practicing aviation law for more than 20 years. Jon can be reached at jon@kettleslaw.com.



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A Fresh, Whirlwind Start to 2017

The impacts of the 2016 U.S. elections are on full display as President Trump begins his term. And it's been a whirlwind start.

Trump's First Days

Republicans now control the White House, Senate, and House, and have promised to make good on an aggressive wish list of priorities and policies. While Republicans do control the Senate with 52 seats, because of Senate rules requiring most legislation to garner 60 votes for passage, any significant bill would need to peel off the support of at least eight Democrats.

Many mused that Trump's election rhetoric was just that and his governing style would soften. However, in his first few days in office, he has followed through on a number of election promises with executive orders on immigration, trade, and health care.

Republicans met in Philadelphia in late January for their annual GOP policy retreat. They reportedly fell short of reaching agreement on plans for moving forward a tax reform package, overhauling the Affordable Care Act (ACA), and other policy goals.

Tax reform has long been a desire of Republicans, and Trump has repeatedly noted the high U.S. tax rate for corporations. Republicans initially planned to tackle this top priority before the congressional August summer recess.

Republicans also initially sought to address health care overhaul through a combination of ACA repeal and replacement at a later date. The

timing of the replacement has now taken center stage as Trump and other Republicans have publicly stated that a replacement should be crafted before a repeal vote.

We have already seen Trump use his modern-day bully pulpit — his Twitter account — to take on his own party and win. He has likewise singled

over the next few weeks as the Senate holds hearings on the final nominees for Trump's cabinet. The House will take up a number of votes on resolutions to overturn Obama administration regulations. The Congressional Review Act allows Congress to undo any regulation finalized within the last 60 legislative days of the previous Congress. In the Senate, Democrats will be unable to block these votes as it only requires a majority, and not the typical 60-vote threshold, to pass.

Politics will surely be spun to hyperdrive as Trump nominates Neil Gorsuch to fill the vacancy on the Supreme Court. While Cabinet members only require a majority vote in the Senate, confirmations for the Supreme Court require 60 votes. Republicans may be tempted to pull out the "nuclear option" previously considered

by Democrats. The nuclear option would change the Senate rules so that confirmation for the justice becomes only a simple majority vote.

So what does this mean for you? A new administration is in town, and one party controls all three branches of government. However, Trump's methods and strategies represent uncharted territory for traditional politics. House Speaker Paul Ryan (R-Wisc.) himself noted, "This is going to be an unconventional presidency. That's something we're just all going to have to get used to."

The Next Year for General Aviation

The issues our industry fought in the last Congress are here with us in the



out companies he disagrees with, creating a new demand for public affairs professionals who specialize in responding to negative social media.

Trump is pushing for a new infrastructure spending program with a preference for public-private partnerships that provide revenue, like toll roads. Initially, congressional Democrats supported this proposed trillion-dollar program, and it enjoyed strong bipartisan allies in the nation's governors. Fiscal conservatives have voiced concern over the price tag, but their actual level of opposition remains to be seen. The list of infrastructure projects ranges from modernizing the grid to fixing dams, airports, and highways.

Action on the Hill will accelerate

115th Congress. House Transportation and Infrastructure Committee Chairman Bill Shuster (R-Pa.) will continue to push his proposal on privatizing air traffic control. Before we know it, September will be here and with it, legislation for the FAA reauthorization bill. Policy on integrating unmanned aircraft systems, or drones, into the National Airspace System, flight training benefits for veterans, and a host of other policies important to general aviation and the helicopter industry specifically will be moving forward.

Maybe the person whom you voted for won. Maybe they didn't. Regardless, we have a new president and new Congress. Now is the time to put down our campaign signs, roll up our sleeves, and continue the good work HAI has done on behalf of the helicopter industry.

Make Politics Personal

As you may have noticed looking through this edition of ROTOR, there are a number of new faces at HAI.

I am one of those, and I couldn't be more pleased to join the team here at HAI.

My great-grandfather was a pilot in World War I; my grandfather was a pilot, as is my father. I grew up at the fixed base operation my dad managed, working on the flightline and listening to all the old-timers tell their war stories. I love everything about aviation and earned my pilot's license when I turned 17. Aviation gets in your DNA, so I naturally jumped at this great opportunity to join HAI working on government affairs and returning to my roots.

I encourage you to get involved in the political process. Maybe it's a little intimidating at first, but don't fret. That is why you have your association here to help guide you.

It's still early enough in the year to include this as a New Year's resolution. Maybe you already broke your diet resolution (I did). So replace it with a resolution that will benefit the entire industry.

Commit to reaching out to your

elected officials with your opinion. Let them know about the solutions that will best address the issues we face.

If you run a business, invite your representatives for a tour. Show them the value you provide to your city, county, district, or state. This includes tax revenue, as well as the benefits you bring to the community — good jobs, economic activity, and in many cases, public service or community involvement.

There are many legislative and policy issues confronting general aviation and those who work in and around helicopters. Working together, we can unite our voices and advance the position of our industry. I look forward to working with all our members and allies in the fresh, whirlwind start of the 115th Congress. **R**

Cade Clark is HAI's vice president of government affairs.



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ANNOUNCING CANDIDATES FOR ELECTION TO THE HAI BOARD OF DIRECTORS

The following candidates for the HAI Board of Directors were nominated by the HAI Nominating Committee and by members-at-large. Candidates elected to the HAI Board of Directors will serve a three-year term, beginning July 1, 2017.

Candidates for the TWO Regular Member – Commercial Seats		Candidates for the ONE Regular Member – Government Service Seat
 David McColl Pilot, Air 2 Titusville, FL	 Randal R. Rowles Director, Helicopter Institute Fort Worth, TX	 Dan Schwarzbach Senior Police Officer, Houston Police Dept. Houston, TX
	 James O. Wisecup Regional Aviation Director, Air Methods Corp. Englewood, CO	 Morrie Zager Sergeant and Pilot, Los Angeles Sheriff's Dept. Los Angeles, CA

Visit rotor.org/election to learn more about the election, including a message from each candidate and their résumé or CV. Remember, the HAI Board of Directors governs the organization to meet the needs of the helicopter industry throughout the year. Please take time to select the candidates you feel will best serve in this role.

VOTING FOR THE HAI BOARD OF DIRECTORS

Who can vote?	The designated member representatives of HAI Regular – Operator members are eligible to vote in Board of Director elections.
Where can I vote?	Designated member representatives can vote: Online: Check your email for an online ballot that was sent from member@rotor.org on Feb. 5, 2017. If you have not yet received any voting materials via email, please contact member@rotor.org. In Person: Membership representatives may instead vote in person at the HAI Annual Membership Meeting & Breakfast at HAI HELI-EXPO 2017: Tue., Mar. 7, 8:00 AM – 10:00 AM • Ballroom D, Kay Bailey Hutchison Convention Center Voting will continue at the HAI Membership Desk, Lobby D, Exhibit Level, from 11:00 AM until 3:00 PM, at which time voting will close.



ALL PHOTOS COURTESY RTE

Utility Flying the French Way

By Torbjorn "TC" Corell

Sometimes I test my friends' knowledge of the electrical grid. I ask, "When do you think the electricity was made that lit the light bulb you just switched on?" I get all kinds of answers, everything from a few days to a year.

Many people don't know that the electricity that lights a room or makes a fan run was created a microsecond prior to you flipping the switch. The grid is always alive, with a power-generating utility creating electricity on demand and transporting it through powerlines to your house or business.

Our modern world operates on power, and people have an expectation of 24/7/365 access to it.

Electric utilities must continually maintain and grow their infrastructure in order to keep up with the ever-increasing demand.

It takes an army of people and equipment to make sure the electrical infrastructure — which in addition to a power-generation facility includes miles and miles of wires, as well as towers, substations, transformers, and other equipment — is in working order. Few know that helicopters are one of the most important tools that utilities use to maintain the grid, performing either construction or regular maintenance.

My own company, Southern California Edison, has utilized helicopters for 57 years as an aid in

providing dependable electrical service to now 14 million people in Southern California. We have come a long way in the utilization of helicopters and the work methods associated with them, and we are always working to improve.

Learning from the Best

In October 2016, I had the opportunity to visit the premier flight department in the world of utility flying: Réseau de Transport d'Électricité (RTE), the electricity transmission system operator of France. RTE is responsible for the operation, maintenance, and development of the French high-voltage transmission system, which at approximately 62,000 miles is Europe's largest. RTE is a wholly



Airtelis, a for-profit group within RTE, owns the only two class C-certified H225 helicopters in the world used for line-stringing operations.

owned subsidiary of the partially public-owned French generator Électricité de France (EDF).

STH, or Services et Travaux Héliportés, is an RTE division that provides helicopter services to assist the company in building and maintaining its electrical grid. Their headquarters are located in Salon Provence, just north of Marseille. In order to maintain the grid in an efficient manner, STH has bases throughout France that provide

flight operations and maintenance services to RTE.

Another RTE division, Airtelis, is a for-profit unit that utilizes its H225s for construction and maintenance work throughout Europe. With the exception of two H225 helicopters owned by Airtelis that are used for heavy-load work, all helicopters belong to RTE.

RTE's fleet for the most part consist of twin-engine aircraft, including Airbus H225, AS355, and

H135 models. They also fly Airbus single-engine H125s. The utility is in the process of modernizing its fleet, where H135s will replace its aging AS355 aircraft.

External Cargo, with a French Accent

RTE has developed some innovative helicopter work methods for operations where linemen are suspended below the aircraft in order to work on hard-to-access equipment, a method that in the United States is called human external cargo (HEC). The utility has created special lightweight baskets for linemen. These baskets are suspended below the helicopter when linemen need to work on energized lines ranging from 64,000 to 400,000 volts.

This HEC work method is different than the one used in the United States, where we utilize a harness or a bosun chair for the linemen to be suspended in for either inspection or midspan work. I observed RTE crews installing bird diverters — devices that discourage birds from flying, resting, or nesting on or near powerlines — in the Pyrenees using the suspended-basket method, and they completed 40 installations in about two-and-a-half hours, which by any standard is very efficient.

The suspended baskets made by RTE are connected to the helicopter via two synthetic long lines having dielectric properties. This means the lines will not transfer electricity to the helicopter — an important quality when you are hovering inches away from a wire carrying 400,000 volts.

HEC work demands a high level of safety — we are, after all, carrying priceless cargo — so secondary safety devices are used to mitigate the risk of a failure of the primary safety device. In the United States, we use either a dual-hook system or a single hook with a belly band that wraps around the aircraft.

RTE suspends its basket with a single hook, but as RTE replaces its AS355 models with H135 aircraft, a new dual-hook system will be utilized. It's still in the testing phase but will be implemented in late 2017.

One of the two synthetic long

lines that connect the basket to the helicopter is a continual rope that extends through the cabin inside a specially made channel. RTE developed a cutting mechanism with explosive bolts that will cut this rope in case of an emergency. This line also provides enough anti-spin that the basket will face the powerlines at all times, which is critical in this type of work.

The basket itself has two extended arms, which the pilot uses to lift the transmission conductor — the bundle of wires that carry the electricity. This work method provides additional stability to the basket without placing additional demands on the pilot. In the HEC method used in the United States, the pilot must hover and try to hold the basket in place, which is difficult and demanding. I have flown many HEC hours myself and know the intensity of the work involved.

RTE's most ingenious development is their "ILS" system. Just as pilots sometimes use an actual instrument landing system (ILS) to obtain



TC Corell (right) and some of his RTE hosts: from left, Delphine Depestele, director, international affairs, Airtelis; Bruno Baronian, project manager, RTE-STH; and Stephane Delaye, CEO, Airtelis.



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horizontal and vertical guidance right before and during landing, RTE pilots use a similar system to hold their position during HEC work.

Two accelerometers are placed on the aircraft belly hook, feeding data into the cockpit. The resulting lateral and longitudinal data provides the two pilots with sufficient positional information to hold the suspended basket in place below them. This means that the pilots do not need to

use vertical references throughout the work, which in turn assists in fatigue management.

Besides their technical developments, RTE has put into place standard operating procedures aimed at managing the risks of HEC work. First, they always utilize two pilots for their HEC work. This type of flying is extremely demanding, and having two pilots provides extra safety and fatigue management.

RTE also strives for a high level of standardization in their operations, including maintenance, training, and field equipment. They have dedicated linemen and work crews assigned to their helicopter operations. This level of standardization reduces errors and contributes to the utility's high level of safety.

Another way in which RTE manages the risk of HEC work is its use of twin-engine aircraft. The company requires at a minimum one-engine performance at all times while performing HEC work.

While single-engine aircraft are fine for many missions, HEC work is generally done in close proximity to wires or other structures at very low altitudes, which makes performing a successful autorotation impossible. If an aircraft's single engine quits under those circumstances, linemen and pilots stand little chance of survival.

RTE is not alone in using twin-engine aircraft to manage the risks of HEC. Although single-engine aircraft are still widely used for HEC work in the United States, Southern California Edison also exclusively uses twin-engine aircraft for HEC missions. RTE's choice of only using twin-engine helicopters for HEC is just one more example of the effort that they have put into creating a safe and efficient HEC work method, unique in the world of utility flying.

Helicopters Doing the Heavy Lifting

The H225s owned by Airtelis are used for heavy lifting in powerline construction. Airtelis Director of International Affairs Depestele Dauphine, who did a fantastic job in arranging all of our field trips, took us to Saint-Crepin in the southern Alps where RTE is rebuilding a power line. We had the opportunity to observe the Super Puma in action, lifting heavy tower sections without the use of ground crews.

Normally, ground crews help to guide the placement of transmission towers. But RTE builds specially developed guides on top of each section of the tower that assists the pilot in lifting them in place. The result is that RTE has minimized



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the use of ground crews in tower construction, which again increases safety and efficiency. On this project, 90 percent of the work will be done by helicopters during a three-year period.

Airtelis owns the only two class C-certified H225 helicopters in the world used for line-stringing operations, where helicopters string the wire conductors that carry the electricity for the grid. Even this work method has been fine-tuned in house. In the United States, line-stringing is often done with smaller, lighter helicopters using a side-mounted hook. By utilizing a heavy-lift aircraft such as the H225, RTE pilots can lift an entire reel of wire, which is more efficient.

RTE's approach to utility flying is impressive, and they are the leaders in this industry worldwide. Spending time at RTE's base in Salon Provence and visiting some of its field operations, I was truly impressed by the professionalism and dedication of everyone in the company, from top to bottom. They support the heavy utilization of helicopters in their industry and understand the important role of these aircraft in maintaining France's electrical infrastructure.

Airtelis CEO Stephane Delaye, an engineer by background, is pushing for even more development of utility flying work methods. I would not be surprised if their business model and work methods expand worldwide.

Learning from Others Is Good Business

Benchmarking, where we learn best practices in the industry and take some of that newfound knowledge back to our home base, has become an important tool in keeping businesses competitive. The utility flying in support of our growing infrastructure in the United States is evolving. By expanding our search for improved helicopter work methods, we can make our industry even safer. **R**

*Torbjorn "TC" Corell is
the current chairman
of HAI's Board of
Directors and chief
pilot for Southern
California Edison*



in Chino, California.



Two RTE linemen in the basket developed by their company for HEC missions.

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The Basics of BasicMed

On July 15, 2016, the FAA Extension, Safety, and Security Act of 2016 was enacted by Congress. What garnered the most media attention was section 2307, Medical Certification of Certain Small Aircraft Pilots. This section “directed the FAA to issue or revise regulations to ensure that an individual may operate as pilot in command of a covered aircraft without having to undergo the medical certification process under 14 CFR Part 67 if the pilot and aircraft meet certain prescribed conditions.”

On January 10, 2017, the FAA released new guidelines that allow pilots who were formally required to carry a third-class medical certificate to fly certain types of aircraft under certain conditions without a medical certificate. The FAA is calling this new rule “BasicMed” (<http://bit.ly.com/faq-basicmed>).

This is big news if you have been following third-class medical reform. But it’s not a blank check for pilots. As stated above, pilots must meet certain conditions to fly under BasicMed. Let’s look at what you should expect when this rule becomes effective on May 1, 2017.

Aircraft Requirements

Pilots who want to operate under BasicMed are restricted as to the type of aircraft they are allowed to fly. To be eligible to fly under BasicMed, their aircraft must have:

- A maximum certificated capacity of six occupants, including the pilot
- A maximum certificated takeoff weight of not more than 6,000 lbs.

Operating Requirements

In order to fly under BasicMed, a pilot needs to follow certain operating

By Charles H. Mathers, MD, MPH

requirements. These restrictions apply to the entire flight or to any portion of that flight, so pilots need to plan properly to avoid any deviations, such as excessive altitude.

Number of Passengers

In addition to the pilot in command (PIC), only five occupants can be present in the aircraft. If the aircraft requires two pilots, then only four passengers are allowed.

Operating Environment

All flights must be operated:

- Under visual flight rules or instrument flight rules; this, of course, does not remove the requirement of holding an instrument rating while operating in instrument meteorological conditions
- Within the United States
- At less than 18,000 feet above mean sea level
- At an indicated airspeed not to exceed 250 knots.

Compensation or Hire

The pilot may not fly for compensation or hire and no passenger or property on the flight can be carried for compensation or hire. However, pilots can operate as flight instructors under this rule.

The FAA specifically states: “A person may receive flight training from an FAA-authorized flight instructor while the person receiving flight training is acting as PIC and operating under this rule. Alternatively, an individual may receive flight training from a flight instructor while the flight instructor is acting as PIC and operating under this rule.”

Requirements for Pilots

A pilot will need to abide by certain stipulations in order to operate under BasicMed.

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Pilots who want to fly under BasicMed must have a current valid U.S. driver's license. Each state determines what medical requirements apply to issuance of a driver's license, so check with your state's issuing agency if you have concerns. You will need to have your driver's license in your personal possession when operating under this rule, so don't forget it in case you get ramp-checked.

Have Held a Medical Certificate at Any Time After July 15, 2006

This can be a first, second, or third-class medical and also applies if you hold a special issuance. If you have never held a medical certificate since July 15, 2006, you will need to apply for a medical certificate by seeing your aviation medical examiner (AME) as you do now.

If your last medical certificate has expired, how do you know if you can still operate under BasicMed? This gets pretty tricky, so I recommend checking with your AME. The FAA recommends you refer to the date of examination displayed on your medical certificate. If you were age 40 or over on that date, then your medical is good for two years after that date.

For example, let's say you were 40 years old when you went for your last third-class FAA exam on July 15, 2004. Your medical was good until July 31, 2006, so you would meet the eligibility requirement to operate under BasicMed.

Prior to 2008, a third-class medical certificate was only valid for three years for pilots under 40. If you were under the age of 40 when you went for your last third-class exam on July 15, 2003, your medical would have expired on July 31, 2006, so you would be good to go.

If you held a special issuance, use that expiration date to determine your eligibility for BasicMed. If your special issuance expired on or after July 15, 2006, you are also good to go.

Have Not Had Your Most Recently Held Medical Certificate Revoked, Suspended, or Withdrawn

There is an important nuance to this requirement. Even if you had your

last medical certificate revoked, suspended, or withdrawn and then subsequently gained it back, you cannot use this medical certificate to operate under BasicMed. In this circumstance, you would need to apply for a new medical certificate through your AME. Once you receive a new medical certificate that has not been revoked, suspended, or withdrawn, you can then operate under BasicMed.

Have Not Had the Most Recent Application for Airman Medical Certification Completed and Denied

Pilots should be giving a "three cheers" for this statement. Denials have always been a big deal because once you get one, you could no longer fly under light sport rules. Under BasicMed, it is only your most recent application that cannot have been denied.

Why is the word *completed* included? It is to remind pilots that an FAA exam is considered complete once the AME uploads your MedXPress data into the Aerospace Medical Certification Subsystem. So if you miss your appointment or decide not to go, your application never gets uploaded and the exam is not completed.

However, if you show up at the AME's office, even if you hear something you don't like and decide to leave before the exam is over, your AME is required to import your application and transmit the findings to the FAA.

Many AMEs will give you guidance prior to coming in for your exam, but if you want to check with someone who doesn't report directly to the FAA, there are several pilot advocacy groups that offer medical support. These include the Aircraft Owners and Pilots Association (aopa.org/go-fly/medical-resources) and the Aviation Medicine Advisory Service (aviationmedicine.com).

Have Taken a Medical Education Course Within the Past 24 Calendar Months

Several groups are already working towards developing courses that will enable pilots to comply with this requirement. The courses will cover

topics such as conducting medical self-assessments, the warning signs of potentially serious medical conditions, and medications that could impair your ability to fly.

Have Completed a Comprehensive Medical Examination Within the Past 48 Months

This comprehensive medical examination will be conducted by your primary care physician, not your AME. The FAA is developing a checklist that you will take to your doctor that outlines how to take a history and perform a physical necessary to satisfy this requirement.

It is still a bit up in the air whether or not AMEs will do BasicMed physicals, as these exams will not carry the same liability protection the FAA provides. There are concerns that many physicians will not be willing to sign off on this statement: "I certify that I am not aware of any medical condition that, as presently treated, could interfere with the individual's ability to safely operate an aircraft."

I am sure there are physicians who would be willing to sign this statement. However, if there is an accident in the future that can be attributed to a medical cause, no one really knows how the legal aspects will play out.

Be Under the Care of a Physician for Certain Medical Conditions AND/OR Have Been Found Eligible for Special Issuance of a Medical Certificate for Certain Specified Mental Health, Neurological, or Cardiovascular Conditions

I'm going to discuss both of these requirements together. There are a few conditions that will still require a special issuance.

Under mental health, they are any of the following:

- Personality disorder that is severe enough to have repeatedly manifested itself by overt acts
- Psychosis, defined as a case in which an individual: has manifested delusions, hallucinations, grossly bizarre or disorganized behavior, or other commonly accepted symptoms of psychosis; or may reasonably be expected to manifest the symptoms listed above

- Bipolar disorder
- Substance dependence within the previous two years, as defined in CFR §14 67.307(a)(4).

For neurological disorders, they are any of the following:

- A history of epilepsy
- Disturbance of consciousness without satisfactory medical explanation of the cause
- A transient loss of control of nervous system functions without satisfactory medical explanation of the cause.

If you have one of these conditions and do not currently have a special issuance, you will need to obtain one through the FAA medical certification process. Once you have it, all you'll need to do is see your personal physician for a comprehensive medical examination every two years.

If you have one of these conditions and already have a special

issuance, you'll only need to do the comprehensive medical examination every two years. If your special issuance expired for one of these conditions, it looks like you might have to obtain it again prior to exercising BasicMed privileges. We'll learn more as this process evolves.

Regarding cardiac conditions, the great news is that these specified conditions only require a one-time special issuance. In addition, there is no longer any mandatory waiting period for certain cardiac conditions: myocardial infarction (that is, heart attack), coronary artery disease that has required treatment (for example, stents or bypass), cardiac valve replacement, and heart replacement.

The BasicMed Learning Curve

I hope this article provides you with a clear first look at this new rule. Since it is brand-new, we're still digesting how this will work and will certainly learn a lot more once the rule goes into effect

on May 1, 2017.

Until that date, the current medical certification process remains in place, so be sure to comply with whatever medical requirements you may currently have. Also, continue to abide by 14 CFR §61.53 and medically self-certify before every flight, even after BasicMed goes into effect. **R**

Dr. Charles H. Mathers is an FAA senior aviation medical examiner and is board certified in Aerospace Medicine



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Top 10 Legal Mistakes to Avoid During a Helicopter Deal

By Al Givray

We all make mistakes. It's human to err, but it's foolish to repeat those mistakes — especially legal ones.

In the helicopter industry, there are many potential legal missteps that can occur when buying, selling, leasing, or financing a helicopter. The following are some of the most common mistakes that could be made in a back-to-back deal where a U.S. buyer purchases a helicopter for cash, overhauls it in the United States, and then exports it in a financed sale to a foreign buyer.

Let's see how many you can avoid in your next deal.

10. Using Your Agreement as Just a Legal Risk Tool

Using your agreement as just a legal risk tool and leaving your deal documents to your broker, lawyer, or business leader can result in wasted time and money. You may think *The experts know what they need to do, so what's the worry?*

However, the longer it takes to secure an agreement, the more money you'll spend on lawyers. Guaranteed.

The best predictor of what a deal will cost you — whether you're buying, selling, leasing, or financing — is time. From the first handshake on price to closing and flying away, every minute of your time is valuable. And every minute of your lawyer's or broker's time is even more precious, because you'll be paying for it.

Here are some best practices to follow if you want to get the best deal with the least cost and most protection where it's needed.

Use your agreement as a business planning tool from the start, and not

just a legal risk tool. That way, you'll know what to do and when to do it, so your performance complies with your agreement. This will reduce or eliminate legal disputes, which in turn saves time and money.

For example, if your agreement has late-delivery penalties, make sure your agreement has a detailed schedule so you know:

- If the aircraft delivery is late, how long the grace period is, if you have one
- How much the seller will have to pay for each late day
- What circumstances will be accepted as mitigating the late delivery
- When the lateness can't be legally

excused, what the seller will have to do to compensate for the late delivery.

Another way to reduce costs is to appoint the person who will paper your deal as the “quarterback” of your team. As the coach, you must rely on the quarterback to tell you what's happening on the field and what's worth worrying about. This will focus your time on the important things that can take a bite out of your wallet if they aren't paid the proper attention.

Force a collapse of time from handshake to closing. By saving time, you'll write the smallest check for legal expenses you've ever written for a helicopter deal.



9. Ignoring the “Who” Building Blocks of the Deal

Make sure the people representing you have the appropriate experience in handling these kinds of transactions. Depending on the kind of legal entities you’re dealing with, many countries have special legal rules.

For example, if you’re dealing with a limited liability company (LLC) in the United States, the FAA has special rules on U.S. citizenship that can trip you up when the time comes to record your legal documents. For each LLC, the FAA will want to know if it’s a member-managed LLC or if it’s a manager-managed LLC, plus a slew of other details. This way, the FAA can determine whether anyone who does not qualify as a U.S. citizen is involved in your deal. And because only U.S. citizens may register aircraft with the FAA, non-U.S. citizens will have to use owner trusts and voting trusts, in addition to dealing with complex rules for aircraft that will be primarily operated in the United States.

So be vigilant in choosing the people of your deal team. They must not only know the rules, but how to apply them easily to get your deal done quickly and correctly.

8. Ignoring the “What” Building Blocks of the Deal

The “what” building blocks of your deal are all the details of your helicopter. Inserting only the helicopter’s registration mark or serial number into the sales agreement is a big mistake. Spelling everything out in detail will ensure accuracy in your deal.

Make sure to list:

- Airframe type
- Engines — list separately with serial numbers to avoid any wrinkles when recording in the Cape Town International Registry
- All the rest of the aircraft’s equipment, customization, avionics, and logbooks and records; spell out whether records are in paper or electronic form
- Rotor blades, so they are properly covered by the FAA records.

7. Neglecting Any Predelivery Overhaul

Neglecting to pin down the details of any predelivery overhaul on paper, even though your deal involves crossing an international border, is a big mistake. You may think *The overhaul will be all done by the time of closing, so what’s the problem?*

It’s easy to assume that the aviation authority in the export country and

the aviation authority in the import country are in sync. However, that is not always the case.

Make sure your airworthiness certificate fits hand in glove with your export airworthiness certificate. Also, watch out for how “staleness” is viewed by the aviation authorities in your import and export countries. The rules vary from country to country on when a certificate lapses and becomes



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ineffective. This might cause the certificate to be effective in one country when it has lapsed by the rules of another country.

6. Blowing a Sales Tax Exemption

So you've ironed out how the import and export aviation authorities see things, and you proceeded with the predelivery overhaul. Now you can

rest easy about the overhaul and export steps, right? No, that would be mistake No. 6.

You still have to worry about blowing a sales tax exemption that you were relying on.

Let's say your seller refuses to do the overhaul until he knows the sale is closed, or maybe he is relying on getting your money to do the overhaul. In that case, you close and

leave your helicopter in the export country long enough to do the overhaul. However, if you go past the immediate export requirement of the exporting country — which says that you only get the sales tax exemption if you export the helicopter immediately, promptly, or within a set number of days after closing — the delay could cost you that exemption.

5. Ignoring the "Where" of the Acceptance Stage

Now that the overhaul is almost done, you're thinking about helicopter acceptance and closing. You check your acceptance certificate: everything looks good, so you place it in the "done" pile. However, you need to be careful not to overlook one detail.

Many people choose helicopter acceptance (as part of closing) to occur within a jurisdiction where sales taxes will be minimized. But the prebuy inspection is usually done at the point of origin, which is often in a different jurisdiction. Now what?

Think about separating technical acceptance from helicopter acceptance. In that case, the risks of ferry flights such as foreign object damage will be on the buyer, but the buyer will still get the benefit of a tax-optimized delivery point.

4. Not Bothering with Title and Lien Searches Until They're Needed

No need to stress about the title — the title company will get to it in due course, right? Sure, if you like delays and spending money when you don't have to. But if you want an efficient, smooth transition, complete title and lien searches early and give yourself plenty of time to obtain lien releases before closing.

Getting a remote party to focus on a lien release she should have given a year ago is tough, especially for engines that may have come from another helicopter at some point in the past. Additionally, dealing with aviation authorities in some countries may take even longer. And when there are filings at the Cape Town International Registry, there is yet another set of releases that may be needed.



The poster features a blue sky background at the top with the HFI logo and text: "Tee up for HAI HELI-EXPO 2017! HFI HELICOPTER FOUNDATION INTERNATIONAL". Below this is a blue banner with "HFI Scholarship Golf Tournament". The middle section has a sunset background with text: "Sunday, March 5, 2017", "Cowboys Golf Club", "1600 Fairway Drive, Grapevine, TX 76051", and "Registration Now Open". The bottom section has a yellow background with italicized text: "All proceeds will go to scholarships for student pilots and aviation maintenance technicians. Helicopter Foundation International is the 501(c)(3) charitable branch of Helicopter Association International." The bottom of the poster shows a green golf course with a hole and a golf ball with the HFI logo. A white curved box in the bottom left contains contact information.

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3. Not Establishing Precise Rules for Helicopter Condition

What if you are not ready to take your helicopter out of service, but your buyer is ready to close immediately after the prebuy inspection? The mistake here is to not establish precise rules for what condition the helicopter must be in at two different points in time.

Here are some details to spell out to avoid major hassles and headaches down the road:

- To protect the buyer, you could ask that the seller bear all risks and carry insurance for both parties until delivery.
- To protect the seller, you could ask that the buyer bear all risks and carry insurance for both parties from and after delivery.
- You could also specify that if the aircraft suffers a total loss before delivery, the deal will automatically terminate, which will be each party's exclusive remedy for the deal not closing, and the seller will

return the buyer's deposit.

- As another example, you could agree that the seller will do nothing between the prebuy inspection date and the delivery date to alter the physical configuration of the aircraft. Or you could agree that, after the prebuy inspection date, the seller will do nothing to change the way the aircraft is equipped. These provisions will allocate the wear and tear on the aircraft to the buyer while allocating to the seller the burden of any alteration to the aircraft between inspection and delivery.

As a seller, you should be careful of what details about the aircraft you include in your sales materials. Don't assume that the "as-is, where-is" warranty that appears in virtually every sales agreement will protect you against defects in the condition of the helicopter that surface after delivery. Why? Because your warranty will *not* act as a bulletproof vest if the descriptions in your promotional

materials are aggressive in painting a too-rosy picture of the aircraft you just delivered.

The law says that strong, affirmative statements that became part of the basis of the bargain constitute express warranties, which the law will not allow the seller to disavow or disclaim through as-is, where-is wording. As a seller, bold statements you make in your promotional materials may be actionable by the buyer despite the presence of as-is, where-is wording in your agreement. So be accurate in your aircraft descriptions and plan to stand behind those descriptions, no matter what your standard warranty disclaimer says.

2. Thinking that Arbitration Resolves Legal Disputes Inexpensively and Quickly

Arbitration is usually painted as highly preferable to litigation and as the best way to avoid expensive, drawn-out legal battles, so this is an easy mistake to make. However, once you've been through one or two arbitrations,



The advertisement features a background image of a helicopter cockpit with a pilot wearing a headset. The text is overlaid on this image. On the right side, there is a logo consisting of a white quarter-circle and a blue quarter-circle, with the text "COPTER SAFETY" in white. Below the logo, the text "ONE STEP AHEAD OF REALITY" is written in a curved path. The main headline is "HELICOPTER SIMULATOR TRAINING THAT'S ONE STEP AHEAD OF REALITY." in large, bold, white and blue letters. Below the headline, it says "Conveniently located next to Helsinki Airport, Coptersafety offers a growing fleet of Level D Full Flight Simulators." At the bottom left, it lists "HEMS / SAR / Offshore / Aerial Work / Law Enforcement" and the website "www.coptersafety.com / sales@coptersafety.com". On the right side, there are two sections: "Currently" and "Coming". The "Currently" section lists "Leonardo Helicopters AW139". The "Coming" section lists "Airbus Helicopters H145 10/2017" and "H125 08/2018". Below this, it lists "Leonardo Helicopters AW139 12/2017", "AW169 04/2018", and "AW189 12/2018".

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AW189 12/2018

some of the pitfalls of that process become clear.

It can be difficult to pick an arbitrator who understands the helicopter industry. It can also be challenging to arrive at the procedural rules that will govern the arbitration. Sometimes it can be hard to just get schedules coordinated or to arrive at a swift result when a panel of arbitrators is needed. You may also be surprised at how much money you'll have to pay in fees just to file a big-dollar arbitration, or how expensive expert arbitrators can be when complex helicopter issues are involved. And in some cases, the panel will be powerless to grant "equitable" relief or even enforce their monetary awards.

For these reasons, court litigation may often be your best shot. However, if you do opt for arbitration, at least preselect a single arbitrator, make sure she's willing to serve, and name her in the sales agreement you're about to sign. Most importantly, adopt "rocket docket" rules that will enable

an expeditious decision by the arbitrator. Remember, speed is the single best way to keep your legal fees down and frustration to a minimum.

1. Killing the Deal if Your Buyer Cannot Get Conventional Financing

Let's say your buyer cannot get conventional financing, so you kill the deal and look for another buyer. This should be the last reason to kill a deal.

Instead, think about offering at least bridge seller financing by:

- Structuring the sale as a purchase money sale
- Making sure that any installment payments cannot be clawed back because the buyer is not satisfied with the helicopter's condition
- Making sure that the lien you retain on the aircraft to secure payment of what you're owed is duly perfected by the correct filings at the FAA, at the Cape Town International Registry, and at all the places where someone might do a search under the Uniform Commercial Code.

The Best Deal Benefits Everyone

Helicopter deals have lots of moving parts that require you to stay on your toes. By avoiding the 10 mistakes above, you'll be more likely to close a deal that is timely and beneficial to all parties involved. Although complex, the process can also be very rewarding — both for the buyer and seller, and for the industry as a whole. **R**

Al Givray is a partner at the Davis Graham & Stubbs law firm in Denver. He also serves as general counsel at The NORDAM Group, Inc., in Tulsa, Oklahoma. For 35 years, Givray has devoted his legal work to buying, selling, leasing, and financing rotorcraft and fixed-wing aircraft; aviation mergers and acquisitions; and aviation litigation — both within and outside of the United States. "If it flies and it's not a bird, we can do the legal work." Givray can be reached at www.dgslaw.com/expertise/aviation.



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The Safety Win

By Lt. Col. Jesse “Twist” Janay, USMC

On September 17, 2015, U.S. Marine Corps (USMC) Capt. Gil “Pebble” McMillan and his UH-1Y Venom crew encountered a transmission chip caution light, and they made a precautionary emergency landing (PEL). While this is not a big news story in itself, there is a bigger win here: a possible mishap did not occur because the Marine Corps’ safety management system (SMS) worked.

Two Warning Lights, Two Outcomes

The landing took place on the last day of a cross-country trip from North Carolina to Arizona to deliver the aircraft for a Weapons and Tactics Instructor course at Marine Corps Air Station Yuma. This particular leg was through the canyons of Sedona on the way to the last fuel stop at Lake Havasu City, Arizona. When the transmission chip caution light illuminated, there were no suitable landing zones: nothing but canyons on the left and a mountain range blocking the nearest airport in Prescott.

The gauges showed no secondary indications, and the crew’s initial instinct was to press over the mountains to Prescott. However, at that specific moment, during the “make risk decisions” part of the risk management process, the crew remembered a ready-room brief from their squadron aviation safety officer two weeks prior. The crew was briefed on a safety investigation report about a January 23, 2015, fatal accident involving a USMC UH-1Y Venom helicopter.

According to a *Marine Corps Times* article¹ on that accident, “about 34 minutes into the 49-minute flight, the pilots noticed that their oil pressure



The crew of the UH-1Y and some of the recovery team after their precautionary landing near Prescott, Arizona. All marines are members of Marine Light Attack Helicopter Squadron (HMLA) 467 and 167. From left, Cpl. Sean Gutzmer (HMLA-167), recovery team; Capt. Gil McMillan (HMLA-467), aircraft commander; Joe Iungerman, a Yavapai County sheriff’s deputy; Lance Cpl. Alice Bryant (HMLA-167), crew chief; and Lance Cpl. Brian Jennings (HMLA-167), airframes collateral duty inspector. Photo by Capt. Howard Ferrell, co-pilot.

gauge fluctuated and then plummeted to zero. While the warning lights typically indicate an emergency, the pilots likely assumed the problem was due to a faulty gauge, not actual fluid loss, because of recent maintenance issues ... With Twentynine Palms more than 15 minutes away, the pilots decided to continue flying. They passed two airports where they could have landed safely before the transmission froze, the investigators found.”

Basically, these pilots made the decision to ignore what their aircraft was telling them, assuming wrongly that the caution light was related to previous maintenance. They treated it as an avionics issue, calling ahead for an avionics troubleshooter to stand by, instead of putting down the aircraft as

soon as could be safely done.

Remembering that safety briefing, McMillan opted to land and troubleshoot the transmission chip caution light on the ground, and not in the air. Within minutes of seeing the light, the crew spotted a powerline slash and found a small field next to it to execute a PEL.

And just like that, McMillan, his crew, and aircraft were safe on deck — no crash.

Phone calls were made, a maintenance recovery team was launched, and the local sheriff was on the scene shortly thereafter. After spending two nights in that field, during which the transmission chip was confirmed by the maintenance team and remedial procedures were conducted, the aircraft and crew

¹James K. Sanborn, “Investigation: Faulty Filter Cover, Pilot Error Caused Fatal Marine Helicopter /crash,” *Marine Corps Times*, Oct. 25, 2015. <http://www.marinecorpstimes.com/story/military/2015/10/25/investigation-faulty-filter-cover-pilot-error-caused-fatal-marine-helicopter-crash/74288256>.

made it safely to Yuma. Best of all, throughout this process, the squadron, group, and wing leadership supported and applauded the aircrew's risk management and decision making.

This incident is a best-case scenario of how we can learn from others' mistakes. McMillan was briefed on a previous mishap with similar circumstances, learned the causal factors, and best of all, used it to inform his aeronautical decision-making at a critical moment.

Leading Indicators for Safety

Normally, this kind of story would not be told: it was "just a PEL." But because of a safety program that worked, we are able to celebrate the crew's success instead of reading another mishap report.

It is hard to notice when your SMS works, but it is definitely easy to see when it does not — hence the vigorous tracking of mishap statistics by both civilian and military aviation professionals. The problem is that mishaps are a lagging metric — outputs or results that are easy to measure but hard to influence.

In safety, we need better leading metrics. These inputs are hard to measure but easy to influence. There is great merit in learning from others' mistakes, but by only focusing on the negative, we miss the opportunity to talk about how we are making positive strides in safety — our safety wins.

We seldom know when our safety program has prevented a mishap. How can one capture a nonevent? How many accidents have been prevented by pilots performing thorough preflights or by maintenance technicians inventorying their tools after each job? Instead, we always focus on the bad — how a pilot or maintenance tech did this or that wrong.

We need a culture shift in aviation where safety departments don't just focus on what we do wrong but also talk about what we do right. Let's hear more about those pilots and maintenance techs who make the right call, execute the correct procedures, and choose not to push themselves and their aircraft to the limits of safety and beyond.

Celebrate the Safety Win

The 2nd Marine Aircraft Wing's safety team is making an effort to celebrate the safety wins executed by its aviators. They now brief the commanding general (CG) and his staff on a weekly safety win. Leadership buy-in and support are essential to the success of the safety win.

That weekly safety win is also posted on digital billboards across the base. This public recognition

is another way to congratulate the person or unit responsible for the win. It's also a way to get everyone in the wing thinking about safety in a positive, "we-did-it" way.

As an incentive, the team also created a quarterly CG's Safety Award for squadrons that successfully apply safety knowledge to avoid disasters. The winning squadron is eligible for additional time off. More recently, the CG has given challenge coins to

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our Safety Win marines in their work centers, which provides an opportunity for him to recognize them in their work spaces in front of their peers. Civilian aviation company presidents could do the same.

The shift in the wing's safety culture is certainly noticeable because, well, everyone likes a win. 

Lt. Col. Jesse "Twist" Janay, U.S. Marine Corps, is the 2nd Marine Aircraft Wing's director of safety and standardization. He



is responsible for the SMS of more than 16,500 marines and sailors and 500 aircraft. He is a Huey pilot as well as a fully rated civilian pilot and member of HAI, Airborne Law Enforcement Association, Experimental Aircraft Association, Marine Corps Aviation Association, and the National EMS Pilots Association, and has published articles in Approach and the Marine Corps Gazette.



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HFI Rebrands and Refocuses for the Future

By Kim Hayes

As the world embarked on a new year in January 2017, Helicopter Foundation International (HFI), a 501(c)(3) charitable branch of HAI, launched its own new journey: a rebranding effort that includes a new website, logo, and mission statement.

HFI's new logo features bold, block letters in deep blue and a two-tone stylized rotor system that dots the *i* of its initials. The HFI tagline is also new: Preserve the Past. Improve Safety. Secure the Future.



Preserve the Past. Improve Safety. Secure the Future.

"HFI's new logo is fresh and youthful. We wanted something that would get new people engaged in the industry," says HFI Vice President Allison McKay. "We also believe the new logo and tagline provide a fast method of understanding what the foundation strives to accomplish.

"And we've completely redesigned helicopterfoundation.org," she says. "Our website's new layout and content does a much better job of communicating the foundation's work on behalf of the helicopter industry."

Expanding upon the organization's tagline is the new official mission statement: HFI works to preserve the history of vertical flight, improve its safety, and educate the next generation of pilots and maintenance technicians.

Safety Across the Industry

HFI is dedicated to eliminating fatalities, accidents, and incidents

by providing free rotorcraft safety education sessions at the annual HAI HELI-EXPO® trade show. This year's HFI Rotor Safety Challenge will present 62 safety education events, all free to registered Expo attendees and exhibitors.

Another HFI safety initiative is its Land & LIVE Program, which advocates for precautionary landings when flight conditions begin to deteriorate. As HFI President and CEO Matt Zuccaro likes to say, when

safety's at stake, "Land the damn helicopter!" Whether because of issues with the aircraft, illness, weather, or fuel, landing the aircraft is the best way to break the accident chain.

Helicopter operators play a critical role in this program, McKay says. "It's important for an organization to endorse that it is acceptable to land

in these situations. Pilots shouldn't be worried about costing the operators money — an accident is much, much more expensive. If employers endorse the program, pilots will feel more free to use it."

Outreach to Youth

The final element of HFI's new mission statement focuses on education for future generations. While there is a great need for pilots and maintenance technicians in the helicopter industry, the next generation faces numerous challenges getting started in the field.

"Currently, the majority of high school aviation curricula is geared toward fixed-wing platforms," says McKay. "If we want to encourage young people to consider the helicopter industry, we need to expose them to rotary-wing-specific education materials and make sure they have the mentoring and support they need to pursue their career goals."

HFI is incorporating three strategies to build the next generation of helicopter industry professionals:

- Offering scholarships for aspiring pilots and maintenance technicians



Just as it did at HAI HELI-EXPO 2016, HFI will be hosting groups from aviation educational schools in Dallas.

- Hosting a free mentoring roundtable at HAI HELI-EXPO, where those new to the industry or looking to advance their careers can network with industry professionals from a variety of sectors and at various career levels
- Expanding the number of high school and postsecondary schools that offer helicopter-specific course curricula.

For this initiative, HFI is working directly with schools to provide funding and materials about the helicopter industry, as well as maintenance and pilot recruitment videos for use by guidance counselors. The program is being received with great enthusiasm, with schools being particularly interested in having hands-on learning activities for their students, McKay says.

Collaborating with Education Partners

However, bringing more young people into helicopter aviation is a big task. HFI can't do it alone, and so it is working with partner organizations such as the National Coalition for Aviation and Space Education (NCASE), which hosted its annual meeting at the HFI headquarters and welcomed Zuccaro as the introductory speaker. "We're sharing best practices with NCASE, and our two organizations are discussing how to actively engage in next steps," says McKay.

McKay is also a member of the steering committee of the Aircraft Owners and Pilots Association's High School Aviation Initiative. The group's mission is to help build and sustain aviation science, technology, engineering, and math, or STEM, programs in high schools.

These programs will provide a quality workforce for the aviation industry, while also giving many students entry into solid careers. "We want to attract and retain partnerships with other like-minded organizations in this area as we are all focused on building up the pipeline for the industry," McKay says.

HFI also runs the Next-Gen Maintenance Initiative to address the

focus of many aviation high schools and airframe and power plant schools on fixed-wing aviation. One of HFI's partners in this effort, the Aviation Technical Education Council (ATEC), recently released a survey showing that 25 percent of all graduates from FAA-certified aviation maintenance technician schools do not end up pursuing aviation careers.

"It is imperative that we provide young people with a convincing

argument to join our industry," says Zuccaro. "The best young people have lots of choices. It is our responsibility to ensure that the helicopter industry can compete with others."

This is why HFI will continue to offer up to 19 scholarships per year for aviation students, both pilots and mechanics, who are already well on their way in their training but need that extra push to get them to the next level in their careers.

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Career Development and Mentoring Opportunities

At HAI HELI-EXPO 2017, HFI will launch a new program for students and others interested in learning more about careers in helicopter aviation: the HFI Career Roundtable. The roundtable will focus on a diverse array of industry sectors, including flight instruction, off-shore, and helicopter air ambulance.

"We also want this to be a roundtable for everyone, from pilots and maintenance technicians who are new to the industry, to those with experience who are looking for new career paths," says McKay.

HFI is also holding its annual Helicopter Industry Career Fair at Expo. This event is free for attendees. Job seekers can register at helicopterfoundation.org, where they will also find the list of participating companies.

HFI is also working to match up mentors with students year-round. HFI welcomes mentors from all segments of the helicopter

industry and in all locations. Interested applicants should contact hfi@rotor.org for more information.

In addition to these new initiatives, HFI is continuing its efforts to create a database of donated, surplus, retired, or grounded helicopter equipment that can be given to schools and used to train aviation students.

Honoring the Past While Looking Forward

In the midst of so many new initiatives, HFI's work in historic preservation is going forward.

"We currently have a warehouse full of artifacts, magazines and documents that we are going through and archiving and scanning," McKay says. "We are always in need of donations to continue this work, and we can also use volunteers to come and work with our curator in these efforts at our Alexandria, VA headquarters. Anyone interested in working on foundation historic preservation projects can contact us through our website."

HFI will continue to tell the story

of our industry's pioneers through the Trailblazer series in ROTOR (see p. 74 for this issue's profile of Diane Dowd). "While our rebranding efforts are focused on the future, it is still vital to get the perspective of those who started our industry," McKay says. "It is a great way to tell our story and inspire future generations at the same time."

"The foundation remains committed to preserving the contributions of the first generation of pioneers who explored the boundaries of vertical flight," says Zuccaro. "And this exciting rebranding effort helps us to better illustrate the new services we are providing to a growing and changing industry." **R**

Kim Hayes, who is working with HAI's communications staff, is a writer and communications consultant

who specializes in nonprofits and trade associations.



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Questions? Contact Allison McKay, vice president, at allison.mckay@rotor.org or 703-302-8476.

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Advanced Preflight: A Clear Path to Improved Safety

By William A. Hopper, Sr.

Numerous articles have been written regarding the role preflight inspections play in preventing accidents. Poor preflight inspections caused or contributed to 156 general aviation accidents and 41 fatalities between 2000–09, according to National Transportation Safety Board (NTSB) data quoted in the March/April 2012 *FAA Safety Briefing*.

In the U.S., pilots are familiar with preflight and understand its importance. Yet familiarity breeds complacency, which doesn't mix well with aviation safety. Fighting the complacency that comes with a daily routine is a true challenge.

Many pilots do not clearly understand the extent to which they must understand the aircraft — especially its maintenance and inspection history — in order to approve the aircraft's airworthiness. Let's look at the pilot's responsibility to determine airworthiness and some tools and techniques that will help them make that determination.

The Pilot's Airworthiness Responsibilities

The definition of *airworthy*, as stated in 14 CFR §3.5, means the aircraft conforms to its type design and is in a condition for safe operation. 14 CFR §91.7 states that no one may operate a civil aircraft unless it is in an airworthy condition. The regulation goes on to spell out who is responsible for determining if the aircraft is in condition for safe flight: the pilot in command.

But what about maintenance technicians? Aren't they responsible for the aircraft's condition?

14 CFR §91.407 states, in part, that after maintenance, no aircraft can be operated unless it has (1) been approved for return to service and (2) the maintenance entry



has been recorded in the aircraft records. In other words, once the maintenance department has approved the aircraft for return to service and the maintenance has been properly recorded in the logbook, the mechanic's work is done.

It is now up to the pilot to determine whether that aircraft is safe to fly.

The Purpose of Preflight: Safe Operations

The purpose of the preflight is to ensure the aircraft is in an airworthy condition by following a systematic approach to identify potential safety-of-flight issues. However, even with a methodical inspection, important details could be missed during preflight (see "Did You Miss Something," p. 44). This is especially true after a helicopter has been through maintenance.

According to the FAA pamphlet *Advanced Preflight After Maintenance* (<http://bit.ly/preflight-maintenance>), the General Aviation Joint Steering Committee and the NTSB have determined that a significant number of general aviation fatalities could be

avoided by pilots conducting more thorough preflight inspections of aircraft that have just been returned to service. Investigators have also discovered in-flight emergencies that were the direct result of maintenance personnel who serviced or installed systems incorrectly.

In many cases, although the maintenance personnel made the initial mistake, the pilot could have prevented the accident by performing a thorough preflight check. Many in aviation are now promoting the advanced preflight concept, where, in addition to their normal preflight checklist, pilots look further into the maintenance history of the aircraft and pay special attention to areas on the aircraft where maintenance or repairs have been recently performed.

Please note: this article is not about painting maintenance technicians in a bad light. As humans, we are all capable of making mistakes — and certainly the actions of pilots have also figured prominently in many accident investigations.

Having an additional set of eyes inspect an aircraft is not a comment on the mechanic's skill or ability to

perform the job correctly, but simply an attempt to break an accident chain that may be forming. And, as stated above, the FAA has made the pilot in command legally responsible to determine whether an aircraft is safe to fly.

What Is Advanced Preflight?

What's involved in performing an advanced preflight? Quite simply, it asks the pilot to develop a checklist of additional items to be used in conjunction with the current preflight checklist. By using this checklist, the pilot will detect critical conditions that could result in an in-flight emergency or catastrophic failure.

An advanced preflight checklist may take some time to develop but once in place, pilots can use it for all future preflight inspections for that aircraft.

Review Aircraft Records

Conducting an advanced preflight requires pilots to know the aircraft's history, systems, components, and life-limited items, including their retirement or overhaul times. Begin with a review of the aircraft's records to determine its maintenance history, including:

- Airworthiness directive (AD) requirements, including recurring ADs, and whether the aircraft is in compliance
- Manufacturer's service bulletins
- Inspection requirements.

ADs are listed at faa.gov under Regulations & Policies; you can also sign up to receive by email new ADs for a specific aircraft make and model.

The pilot should become familiar with the required elements of maintenance logbook entries for any maintenance that is performed (14 CFR §43.9) and any required inspections (14 CFR §43.11). This will enable you to confirm that an aircraft's logbook entries meet those requirements. Remember, according to 14 CFR §91.407, no aircraft can be operated without an up-to-date logbook.

You should also review any completed FAA Form 337s, which document any major repair or

alteration to the aircraft. This may include Instructions for Continued Airworthiness (ICAs) found in the requirements of supplemental type certificates.

Learn About Recent Maintenance and Inspections

If the aircraft has recently been inspected or undergone maintenance, pay extra attention to ensure that the maintenance was performed according

to the manufacturer's specifications.

Questions that a pilot should ask after maintenance or an inspection include:

- What type and level of maintenance or inspection was performed and on what areas?
- Who conducted the maintenance?
- Did the maintenance affect the drive system, main and tail rotor system, flight controls, powerplant, hydraulic system, electrical system,



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Did You Miss Something?

Preflight inspections are effective only if they are complete and thorough. Below is a list of some items that have been missed during a preflight.

- Blade tie-downs not removed
- Ground handling wheels not removed
- Engine covers not removed
- Pitot tube covers not removed
- Fuel caps not installed after fueling and left on top of the aircraft
- Oil dipsticks or reservoir caps not installed or not installed correctly
- Frost on the main rotor blades
- Rotor clearance not checked prior to engine start
- Cotter pins and safety wire missing
- Hardware not installed properly
- Main rotor mast nut not installed
- Aircraft components out of compliance with airworthiness directives and overhaul intervals
- Pilot Operating Handbook or other required documents not in the aircraft
- Loose objects left on engine or transmission decks
- Loose or missing fasteners
- Issues with the quantity or color of aircraft fluids
- Low fuel levels.

ignition system, lubrication system, or fuel system?

- Were any fluid lines or fittings loosened or changed?
- What were the results of ground runs and leak checks?
- Were any one-time or recurrent ADs complied with at the inspection?
- Is the AD compliance record signed off in accordance with 14 CFR §39?

Without the answers to these questions, a pilot cannot ascertain whether the aircraft is in safe condition for flight.

The pilot should also do the following:

- Conduct a search for any tools remaining in the area where the maintenance was performed
- Conduct a search for any damage in the area where the maintenance was performed
- Verify that the appropriate safeties are in place.

Advanced Preflight Tips

Here are some tips for getting the most out of your advanced preflight:

- Always allow enough time to perform both the preflight and advanced preflight, and avoid the trap of complacency caused by daily routine or issues of convenience
- Always follow a checklist, no matter how familiar you are with the aircraft
- If unfamiliar with the aircraft, have someone knowledgeable orient you to its components and systems
- Never assume anything; trust your

gut about potential problems with the aircraft

- Don't be afraid to ask questions; there is no such thing as a stupid question
- Always use a flashlight — even on a sunny day, it will help you to see more clearly in shadowed areas
- Check to see if any fluid lines were changed, removed, or reinstalled; if they were, verify that the lines were then leak-checked
- Check to see if any flight control components were removed or installed; if they were, verify that they were subsequently safe-tied and an operational check was performed.

Advanced Preflight Resources

Fortunately, there are resources available to assist pilots in conducting a thorough advanced preflight inspection. The NTSB, in conjunction with HAI, produced the safety video *Helicopter Safety Starts in the Hangar* (<http://bit.ly/helicoptersafety>). This video outlines the importance of conducting a thorough preflight, particularly after maintenance was performed on an aircraft.

The FAA pamphlet *Advanced Preflight* (FAA-M-001; available at <http://bit.ly/AdvancedPreflight>) provides information on:

- How to conduct a complete review of all maintenance-related data on the aircraft you operate or maintain
- How you can extract valuable information from this data
- How to develop an additional items checklist to be used in conjunction

with the aircraft's preflight checklist for all future preflight inspections.

The Ethics of Safety

Passengers entrust their safety and lives to the pilot conducting the helicopter flight and to the maintenance technician who performed the maintenance. We must never violate that trust by hurrying through a "symbolic" preflight that leaves the pilot and passengers at risk.

The aircraft preflight and advanced preflight are truly the most important portions of any flight. It is on the ground where potential issues need to be discovered and addressed, not in the air. Only through training, recurrent training, and preflight discipline can accidents caused by an inadequate preflight be reduced, if not eliminated. After all, accident prevention is in the best interest of the passengers, pilot, mechanic, and the entire helicopter industry. **R**

During an aviation career that began in 1978, Bill Hopper received a B.S. from Parks College and an M.S. from the



University of Central Missouri. He holds pilot ratings in helicopters and airplanes, as well as an airframe and powerplant license and an inspection authorization certificate. In addition to 30 years of experience as a helicopter flight instructor, Bill has conducted aviation training in the St. Louis, Missouri, area since 1995. He is also the president of HeliSat, LLC.



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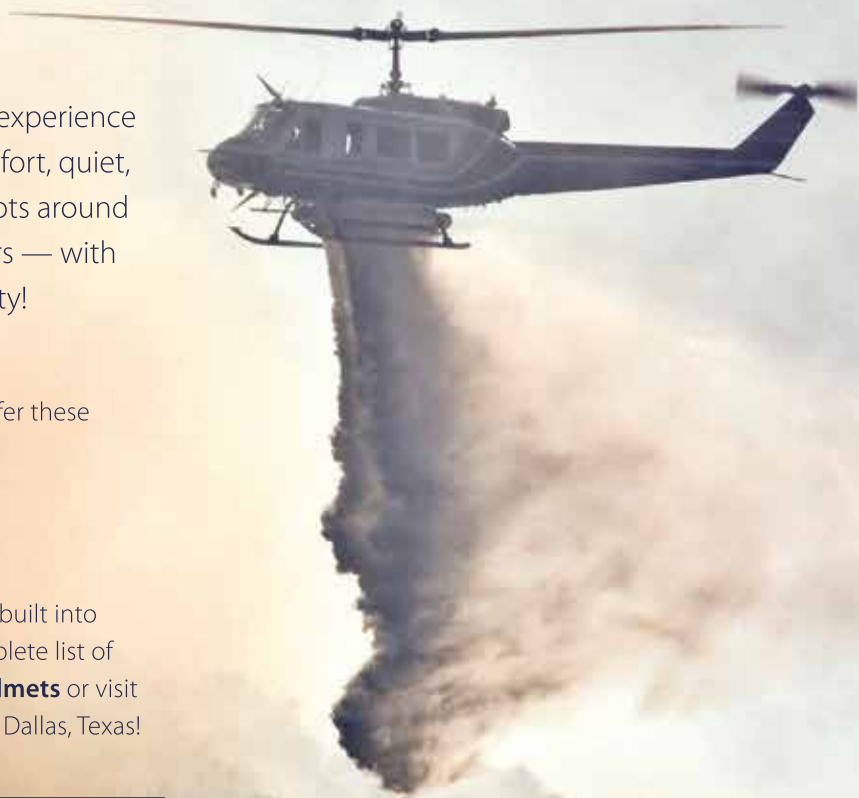
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HAI HELI-EXPO Heads for the Lone Star State Direct to Dallas

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By Dan Sweet

Pack up your spurs and hat and get ready to two-step your way into HAI HELI-EXPO 2017 in Dallas, Texas, March 7–9!

They say everything is bigger in Texas, and the 2017 show is already the largest in history. Join 20,000 helicopter industry professionals as they gather at the Kay Bailey Hutchison Convention Center for the show that nearly everyone in the commercial helicopter industry attends. Simply put, this show has something for everyone. With 1 million square feet of exhibition and meeting space, you will find everything from the smallest part or component to more than 60 helicopters on display.

Deep in the Heart of Texas

Centrally located in downtown Dallas at 650 S. Griffin Street, the Kay Bailey Hutchison Convention Center is a short walk from many local hotels and restaurants. Parking at the convention center is \$15 for each entry, and there is easy access to public transportation and the official HAI HELI-EXPO® shuttles that run from most hotels in the official housing block.

Speaking of hotels, the headquarters hotel will once again be the Hilton Anatole, located at 2200 Stemmons Freeway. This hotel will host the HAI HELI-EXPO Welcome Reception on the evening of Monday, March 6, as well as the

Salute to Excellence Awards dinner on Wednesday, March 8.

A total of 18 Dallas-area hotels have made space available for HAI HELI-EXPO attendees and exhibitors, providing a range of prices and amenities sure to satisfy every budget and traveler.

Around the Campfire

HAI HELI-EXPO 2017 kicks off on Monday, March 6, with a day of meetings and other events (the exhibit floor does not open until Tuesday). Four daily general sessions — all in Ballroom D at the convention center — will provide attendees with the latest information about the industry



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Monday's general session, the HAI Safety Symposium, begins at 8:00 a.m. The topic this year is the integration of unmanned aircraft systems (UAS) into the National Airspace System. While the FAA has made progress on creating the regulatory framework for the use of UAS, or drones, significant challenges remain. A panel of industry professionals and representatives from the FAA, Department of Homeland

Security, and National Transportation Safety Board will discuss current and future regulatory, safety, security, and operational challenges.

The HAI Annual Membership Meeting and Breakfast begins Tuesday, March 7, at 8:00 a.m. with a hot breakfast for association members. Beginning at 8:30 a.m., the meeting portion will begin. HAI President and CEO Matt Zuccaro and current chairman Torbjorn "TC" Corell

will speak on the association's work over the past year in support of HAI members. The candidates for the HAI Board of Directors will also address the meeting, providing attendees with the opportunity to learn more about the individuals who will help to shape the work of HAI.

On Wednesday, March 8, a general session devoted to UAS business operations begins at 8:30 a.m. Representatives from a variety of businesses will speak about their experiences in incorporating drones into their operations and will then answer audience questions. If you are considering adding UAS to your flight operations, then plan to attend.

Thursday's general session is your annual opportunity to meet directly with the FAA officials who manage our industry. The "FAA: Face to Face" is an excellent occasion to either learn more about the latest regulations directly, or to make your voice heard. The session begins at 8:30 a.m. on the final day of the show, March 9.

The Stars at Night

Join your friends and colleagues as they congratulate the 2017 Salute to Excellence honorees on Wednesday, March 8, at the Hilton Anatole. At the Salute to Excellence Awards dinner, sponsored by Bell Helicopter, HAI will recognize exceptional achievement within our industry.

New to The Range

One significant benefit of being in the same place as 20,000 of your industry peers is the opportunity to network and engage. Whether you are a small business hoping for visibility in the market, an aircraft manufacturer looking for new customers, or an individual seeking a new job, HAI HELI-EXPO is definitely the place to be.

New to HAI HELI-EXPO this year is HAI Connect, a section of the show floor in Hall C that we have dedicated to demonstrations and presentations by our exhibitors. Do you have a product you want to ensure everyone sees and learns about, or a special topic that you want to share with other industry professionals? Registered exhibitors can book a 15-minute



15th Annual HFI Helicopter Industry Career Fair at HAI HELI-EXPO®

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A list of exhibitors is online at rotor.org/careerfair. Admission to the career fair is free for job seekers.

Questions? Email careerfair@rotor.org.



Come for the aircraft and stay for the education and networking; some 2016 attendees combine both goals at the Military to Civilian Transition Workshop. This free HAI Professional Education course will be offered again at HAI HELI-EXPO 2017 in Dallas. Register for the workshop at rotor.org/takeacourse; seating is limited.

time slot to tell their story, and the request forms can be found in the exhibitor's kit.

HAI Connect will also feature 30-minute meetups of industry professionals and one-hour seminars

on the hottest topics in the industry today. One item not to miss: the HAI Town Hall on Tuesday, March 7, from 2:00 p.m. to 3:00 p.m. Come learn what HAI is doing to support you, the members. Other topics are still

being scheduled, so watch for the final schedule or check the show app (rotor.org/expoapp) for the latest information.

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Looking for a Hired Hand?

The HFI Helicopter Industry Career Fair is an excellent opportunity for companies seeking new employees and for individuals to find that perfect helicopter industry position.

Companies can reserve table space for a fee, and attendance is free for job-seekers. Entrance to any other HAI HELI-EXPO event, including the show floor, requires a separate registration; student and military discounts are available, as are single-day passes. You'll find the Career Fair in Ballroom C, rooms 1 and 2, at the convention center on Tuesday, March 7 from 10:30 a.m. to 5:00 p.m.

Education and Training

HAI believes strongly in training and safety within every aspect of our

industry. There is a large component of HELI-EXPO dedicated to professional development, including over 100 educational opportunities. A number of these courses provide credit toward renewing your Inspection Authorization certificate, while others help to develop your leadership skills. Many of the courses start the week before the show opens, so check the convention schedule or website for additional information.

Additionally, HAI proudly presents the HFI Rotor Safety Challenge. These 63 courses are open to all attendees and exhibitors, and most are eligible for FAA WINGS and AAMT program credits. If you are interested in these credits, you will need to register at www.faasafety.gov in advance. If you do not require the credits, you can still accept the Safety Challenge: complete six courses and receive a certificate of recognition for your efforts.

Big Things Happen Here

The city of Dallas is home to ... well,

just about anything and everything that represents Texas. From incredible food (including world-class barbecue) to historical and cultural events, you will have no trouble finding something to do in your time away from the show. Mosey over to www.visitdallas.com for suggestions.

Need More Information?

There's so much more information about the show, including some details that are still being finalized. For the latest information, be sure to check out the official HAI HELI-EXPO 2017 Program & Exhibit Guide that will be available when you pick up your badge. If you prefer pixels to paper, download the HAI HELI-EXPO show app (rotor.org/expoapp) to your mobile device just before the show. 

*Dan Sweet is
HAI's director of
public relations and
communications.*



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 or call 1-800-826-1797.

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

Visit <http://bit.ly/GA-Survey> to see data from previous years' surveys.



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Calendar of Events

February 22-23

Rotorcraft Handling Qualities
Technical Meeting
AHS International
Huntsville, Alabama, USA
vtol.org/events/rotorcraft-handling-qualities

February 25

Planes, Trains, & Automobiles 2017
Greater Plant City Chamber
of Commerce
Plant City, Florida, USA
bit.ly/plainstrains

February 27 – March 9

HFI's Online Silent Auction
Helicopter Foundation International
(HFI)
www.biddingforgood.com/HFI

March 2-4

2017 International Women in Aviation
Conference
Women in Aviation International
Lake Buena Vista, Florida, USA
wai.org/17conference

March 6-9 (Exhibits Open March 7-9)



HAI HELI-EXPO 2017
Helicopter Association International
(HAI)
Dallas, Texas, USA
heliexpo.rotor.org

March 11-12

The Sky's No Limit – Girls Fly Too!
Abbotsford, British Columbia
girlsfly2.ca/events.html

April 11-13

Asian Business Aviation Conference &
Exhibition (ABACE)
National Business Aviation Association
& Asian Business Aviation
Association
Shanghai, China
abace.aero/2017
Visit HAI at Booth #P408

May 8-11

AUVSI Xponential
Association for Unmanned Vehicle
Systems International
Dallas, Texas, USA
xponential.org
Visit HAI at Booth #2853

May 9-11

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

July 1-6

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

July 17-18

Remotely Piloted Aircraft Systems (RPAS)
Symposium
International Civil Aviation
Organization
Abuja, Nigeria
bit.ly/RPASsymposium2

July 24-29

ALEA EXPO 2017
Airborne Law Enforcement Association
Reno, Nevada, USA
alea.org/alea-expo-2017-reno-nv
Visit HAI at Booth #413

October 10-12

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

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 12-16

Dubai Airshow
F&E Aerospace
Dubai, United Arab Emirates
dubaiairshow.aero

November 7-9

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

December 4-7

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

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2017 ROTOR Magazine Photo Contest

What makes a great helicopter photo? Take a look: we have six examples for you in our showcase of the winners of the 2017 ROTOR Magazine Photo Contest.

Thank you to all of the 233 contest entrants. We appreciate each one of the 581 photos that you shared with us.

Even if your photo doesn't appear in this issue, you may see your entry as a Last Word in future issues of ROTOR or as the pick for Today's Photo in ROTOR Daily, our e-newsletter (if you aren't already receiving ROTOR Daily, you can subscribe free of charge at rotor.org/subscribe).

Whether you're here to see some compelling photography or you wanted to check out the competition, we hope you will participate in next year's contest. Submit your photos at photo.rotor.org beginning August 1.

– Gina Kvitkovich
Editor, ROTOR Magazine

Grand Prize Winner ►

EMIL STACH
Nuuk, Greenland

In the Photographer's Words

The majestic S-61 is bringing a wedding party to a mountain near Nuuk, Greenland. Knowing where they would land, I ran to the highest point and was able to catch this moment of colleagues and wedding guests waving as they arrived.





2017 ROTOR Magazine Photo Contest



▲ Category Winner: Helicopters at Work

BRIAN EDWARDS

Traverse City, Michigan, USA

In the Photographer's Words

This photo shows a U.S. Coast Guard Air Station Traverse City Airbus MH-65D Dauphin helicopter as it moves into position for hoisting operations on Lake Michigan.

▼ Category Winner: Helicopters in the Military

BRYAN GOFF

Petaluma, California, USA

In the Photographer's Words

This is a picture of a U.S. Coast Guard Sikorsky MH-60 Jayhawk landing on the flight deck of the USCGC *Stratton*. I took this photo on June 12, 2016, and we were out at sea, off of California. I have no aviation background, just a love of photography.



2017 ROTOR Magazine Photo Contest



▲ Category Winner: Helicopters Serving the Community

BERNHARD STACHELBERGER
Vienna, Austria

In the Photographer's Words

This photo of a Bell 429 was taken on August 21, 2016, at Mittel Allalin near Saas Fee, Switzerland. I was fortunate to be in the right place at the right time — on vacation. I am a helicopter pilot working in the UAE.

▼ Category Winner: People and Their Helicopters

NOAH FALKLIND

Vastra Gotaland, Sweden

In the Photographer's Words

I took this photo — “The Guest and the Pilot” — in October 2016 at Maun International Airport, Botswana. The photo was taken after a stunning scenic flight in a Robinson R-44 over the Okavango Delta, recently declared a World Heritage Site. The guest (left) is so happy with his experience and shakes the pilot's hand in gratitude.



2017 ROTOR Magazine Photo Contest

**Category Winner:
Cellphone
Photos ►**

**TED STALLINGS/
TOMMY BROOKS**
Clovis, New Mexico, USA

In the Photographer's Words

A Bell 212 owned and operated by
Aero Tech, Inc., of Clovis, New Mexico,
draws water for firefighting near
Andrews, North Carolina.



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Ashleigh Babiarz

Massachusetts, USA

Current Job: A&P mechanic for a corporate flight department

First Aviation Job: Modifying Blackhawk helicopters for foreign militaries for a major helicopter manufacturer

Favorite Helicopter: Blackhawk



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

A I loved going to airshows as a kid and I was very mechanically inclined growing up. Pursuing a job in aviation just seemed like the right path. I got my first job out of A&P school working for a major helicopter manufacturer and fell in love with helicopters. I have been working on them ever since!

Q Your current role?

A I am an A&P mechanic for a corporate flight department. My primary responsibility is to keep company aircraft up and running to meet a demanding flight schedule.

Q How did you get to where you are now?

A I obtained my A&P certificate and then went to work. It's not a secret, just a lot of hard work.

Q Most memorable helicopter ride?

A A major postmaintenance test flight I took with an old Vietnam pilot. Let's just say there were lots of sharp bank angles and changes in altitude at high rates of speed. I remember the G forces sliding my headset down past my ears and looking over at my pilot as he was dying laughing at me.

Q Inspiration?

A My dad. He bought me my first set of tools as a teenager and showed me the mechanical ropes. He probably did that so I would stop using his tools, but look where it got me now, Dad!





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The Chapecoense Plane Crash: Lessons in Human Factors Management

By Samir (Sam) Kohli

On November 28, 2016, LaMia Flight 2933 plummeted into the Colombian mountains. The crash of the passenger jet carrying 77 people virtually wiped out Brazil's top football team, Chapecoense Real, and left six survivors with life-changing injuries and emotional trauma.

Investigations into the crash have shown that human error was the likely culprit, a factor that is a constant risk to both fixed-wing and helicopter flights around the world. According to the FAA, human error has been identified as a factor in two-thirds to three-fourths of recent aviation accidents and incidents. For this reason, no matter what aircraft you fly or what environment you operate in, every aircraft crash — though a tragedy for those involved — offers an opportunity for pilots, maintenance technicians, and operators to learn lessons they can apply to their own operations.

The Fateful Flight

The plane, which took off from Santa Cruz, Bolivia, en route to a game in Medellin, Colombia, was out of fuel at the time of the accident. Reuters reports that in addition to lacking enough fuel for the length of the flight, the plane was over its weight limit and was not certified to fly at the altitude used during the trip.

Prior to the flight, the Bolivian airports administration (AASANA) had detected irregularities in the flight plan and warned the crew. However, the plane was allowed to fly.

If you think an accident like this couldn't happen to you, think again. The National Transportation Safety Board Aviation Accident Database lists 14 rotorcraft accidents involving fuel exhaustion that have occurred in the United States since 2012. I'm

willing to bet that none of those pilots thought *This is the day I will fly until my aircraft is out of gas, and then*

While there was significant media coverage of the initial tragedy, public memory is very short. It will not be too long before the general population forgets how this preventable crash occurred. However, those interested in aviation safety — a group that

You can never make your aircraft do what it is not designed to do.

should include every licensed pilot, maintainer, and operator — must stay focused on the important lessons that can be learned from accidents like this.

Intentions Don't Fly Planes, People Do

According to news reports, the pilot, a soccer fan, cut corners and decided to fly direct without a refueling halt in an attempt to ensure that the team could reach their hotel in Medellin early. He hoped the team would have extra time to rest ahead of their all-important match the next day.

The pilot's intentions were good — but the results, less so. This is not the first time I've heard of someone in aviation cutting corners because they wanted to “deliver better service” to a customer or company.

However, the primary service that any customer needs from an aircraft operator is to reach their destination — alive and in one piece, not in a box. If that cannot be achieved, then nothing else matters. After all, if the football team members were made aware of the consequences of not refueling, I'm sure they would have preferred to arrive late and lose

some sleep.

The lesson here is that you can never make your aircraft do what it is not designed to do. The information in your aircraft operating manual, such as fuel endurance, engine run-dry time, density altitude performance — these are not just suggestions. These are hard limits that you want to stay well inside of.

Humans Are Risk Adaptive

Public domain data shows that this aircraft flew the same route at least twice before in November 2016.

On each occasion, although a flight plan was filed indicating a refueling stop between Brazil and Bolivia, the aircraft flew direct without making the scheduled halt, taking advantage of strong tail winds.

This British Aerospace 146 aircraft has a fuel endurance of 4 hours and 22 minutes; the direct flight time to Medellin was calculated as the same amount of time: 4 hours and 22 minutes. Despite the advantage gained by tail winds, the aircraft must have landed on both occasions with an almost-dry tank.

Having successfully executed this very risky maneuver twice, it appears that the crew had become complacent to the risks involved and assumed that they could pull it off a third time. But their luck ran out.

The lesson here is that we humans are very risk adaptive. In other words, we tend to quickly adapt to repetitive risks in our work environment and stop seeing them as risks. Dangerous behavior or unsafe conditions then become normal rather than something to be corrected or mitigated.

One way to reduce this danger is to ensure that the safety manager is not a part of the operations department but instead serves as an external observer to all operations activities. This will

enable that manager to evaluate the proposed operation dispassionately, unaffected by the pressures of time, costs, and profits, and focused only on the goal shared with the operations team: a reduction in risks that could cause an accident.

Involve Safety Managers in Operational Planning

While safety managers should be separate from the operations department, they should be aware of all operational flight planning. If they are not copied on operational planning communications, they will not understand the operational environment for that flight and will not be able to help with hazard identification or risk management.

For example, if the LaMia safety manager had been involved in planning this flight, he could have pointed out the risks of the flight as planned or insisted on a refueling halt in Bogota, which the aircraft passed with 45 minutes of fuel remaining.

Listen and Learn

Had the pilots and plane operators listened to the initial advice and warnings of the flight controller in Bolivia, the crash may have been prevented. The controller responsible for accepting the flight plan reportedly pointed out that the aircraft fuel endurance was exactly equal to the flight time and went on to recommend that the flight have at least two diversionary airfields.

However, these words of caution were ignored and the flight departed without making any effort to mitigate the flight risks related to the aircraft's fuel endurance. It has been reported in the press that the pilot told the controller, "I will reach in much less than the theoretically calculated flight time, señorita!"

The lesson to remember here is that it is very important to keep all lines of communication open. No staff member is too unimportant to give valuable advice for managing our risks.

In the United States, pilots are given the responsibility for the safe conduct of the flight. However, because of operational pressures or

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the natural human inclination to adapt to risks, pilots sometimes overlook a risk that needs to be mitigated to ensure safe operations. Think of aviation as a team sport. Everyone's contribution is important, and you never know who will make the play that decides the game.

If You Have an Emergency, Declare It

The pilot flying Flight 2933 contacted Medellin control on arrival and requested a priority landing due to a fuel problem. At no point did the pilot state that he was low on fuel or declare an emergency.

Unfortunately, just before his transmission, a VivaColombia Boeing 737 with a fuel leak declared a fuel emergency and requested diversion to Medellin. Because that aircraft was closer to Medellin and at a lower altitude in comparison to the LaMia flight, the controller prioritized this flight over LaMia — a correct decision based on the information available to

the controller.

Even then, the LaMia pilot did not declare an emergency. Although analysis of the radio transmissions reveals an increasing desperation in his voice and transmissions, he did not say that he was running out of fuel.

It was only much later in the flight that the pilot stated, "We are with emergency fuel." The controller immediately cleared the way for the LaMia flight to land, but it was already too late.

The lesson all pilots must learn here is: when you have an emergency, declare it. Trying to save your ego is not worth risking the loss of life.

Each Accident Is an Opportunity

There are never any new causes for an aircraft crash; every accident has already happened at some point in the past. While the investigation of this tragic crash is ongoing, we already know enough about it to apply some important lessons to our own

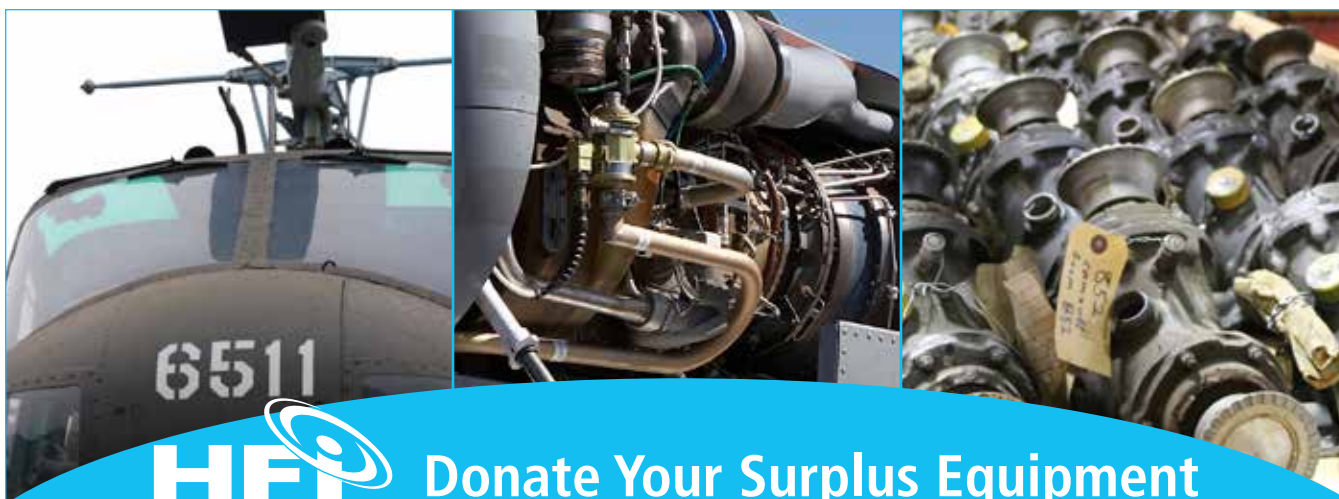
flight operations, whether rotary- or fixed-wing.

In the aftermath of every accident, it is important to review our own operations and see if any human risk factors remain unmitigated or have the potential to emerge in our work environment. After all, *safety* is defined as "a *continuing process* of hazard identification and risk mitigation." 

Capt. Samir (Sam) Kohli is a helicopter pilot and a trainer certified by the International Civilian Aviation Organization to teach safety



management systems. He has three tours of military combat-duty experience and has performed air accident investigations. Sam was awarded the 2014 Cecil A. Brownlow Publication Award by the Flight Safety Foundation for his book *Waiting ... To Happen! His most recent publication, I, Human, is a guide to the prevention of human error.*



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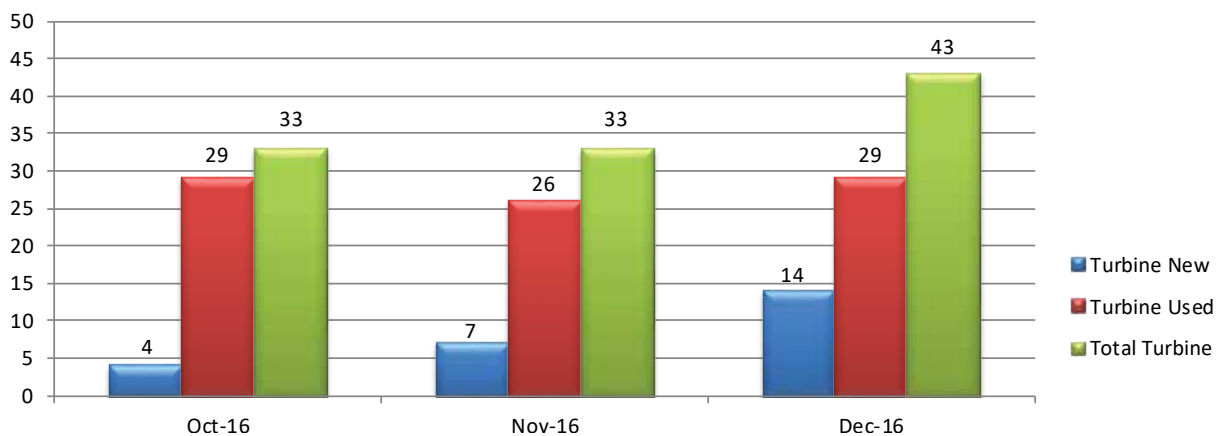


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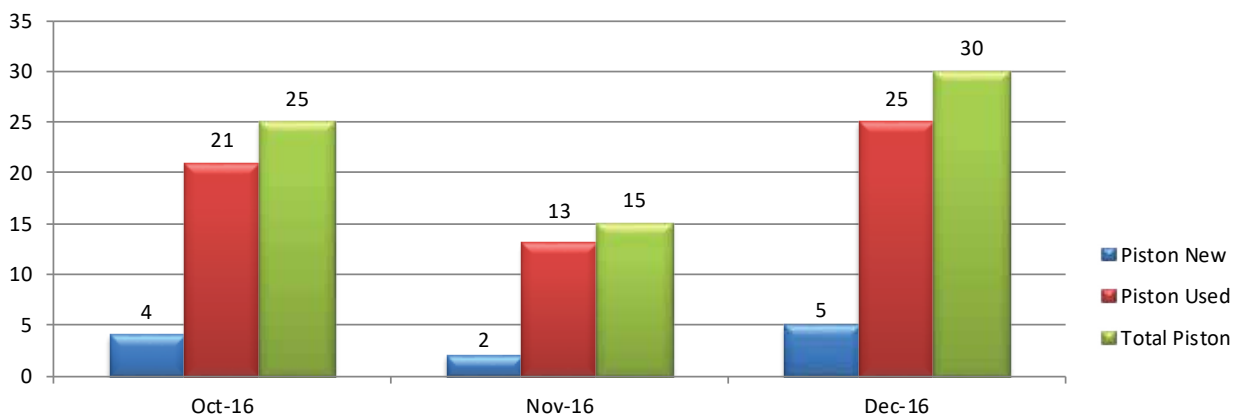
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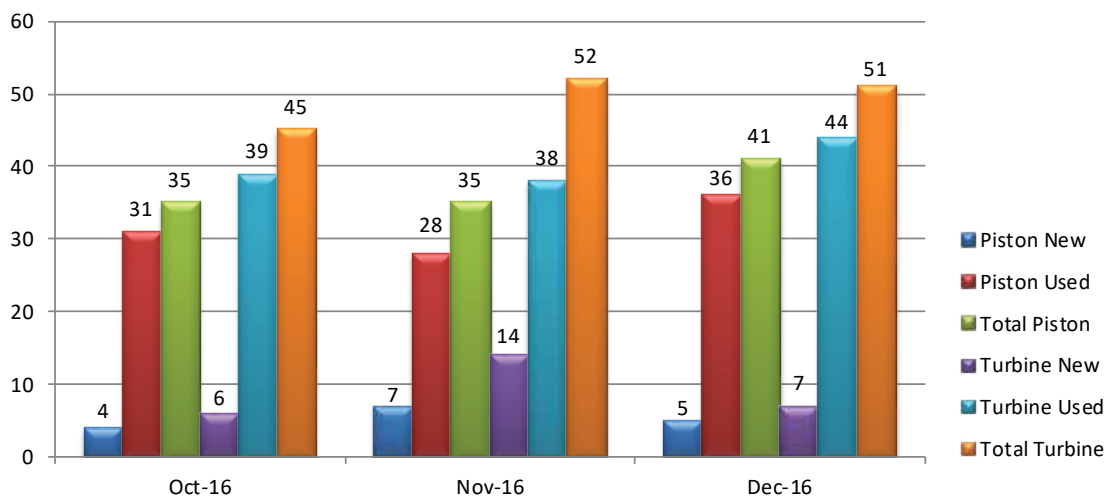
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HAI Welcomes Three New Employees

HAI hired new employees for several department head positions recently, filling key positions in time for HAI HELI-EXPO®.

“We took our time, and we found the right people for the positions,” says HAI President and CEO Matt Zuccaro. “We selected people with the right experience and knowledge to excel in supporting our membership. Each of them will be at HAI HELI-EXPO, and we encourage our membership to meet with them during the show.”

Government Affairs



Joining HAI in tumultuous political times is Cade Clark as vice president of government affairs. In that role, Clark is responsible for researching and tracking all industry-related regulatory and legislative developments at the regional, state, and federal levels. Additionally, he will meet with U.S. congressional staff regarding all helicopter and general aviation issues and serve as an advocate for the HAI membership.

Clark comes to HAI after most recently working as vice president for government affairs with the Air-Conditioning, Heating, and Refrigeration Institute, where he worked for five years. He has more

than 15 years of experience in advocacy and promoting institutional objectives before policy makers, as well as working to limit regulatory burdens.

Clark’s experience also includes developing policy and strategic objectives for the association’s directors and management. He has led the successful introduction of multiple bills in the U.S. Senate and House, and in state assemblies.

Safety



Also arriving at HAI is Dr. Steve Sparks as director of safety. In his new role, Sparks is responsible for managing the association’s

existing aviation safety programs and developing new safety initiatives to benefit HAI’s membership and the international helicopter community.

In addition to his position with HAI, Sparks also serves as a coordinator with the U.S. Helicopter Safety Team (USHST), specializing in flight training, pilot development, and helicopter operations. He also chairs the USHST Human Factors “Staying Alive” Working Group, which focuses on mitigating helicopter accidents resulting from human error.

Before joining HAI, Sparks was an aviation safety inspector for the FAA’s General Aviation and Commercial

Division. He is qualified on both airplanes and helicopters, and has an MBA in corporate finance and a doctorate degree in applied aviation and space education.

Communications



Rounding out the trio of new hires is Dan Sweet as director of public relations and communications.

In that position, Sweet is responsible for managing and directing the association’s external communications, creating communication strategies, and occasionally speaking on behalf of the association and its members.

Sweet joins HAI after working for 22 years as public relations manager for Columbia Helicopters in Oregon. His career in media and public relations began when he worked as a reporter for Oregon newspapers while still in school. He joined the Navy as a journalist and later worked as a photojournalist and public affairs representative for a regional administrative command in Seattle.

After leaving the Navy, Sweet attended the University of Oregon before accepting the position with Columbia Helicopters. While with Columbia, he promoted the company’s work to internal and external audiences through print and electronic media. **R**

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Diane Dowd: Marking Firsts in Military and Civilian Aviation

ALL PHOTOS COURTESY DIANE DOWD

By Martin J. Pociask

Diane Dowd was the first woman in the U.S. Army National Guard or Army Reserve to qualify as a helicopter pilot, the first female army helicopter instrument instructor, and the first woman to be type-rated in a Sikorsky S-76.

Childhood trips to a local air field piqued an interest in aviation at an early age for Diane Dowd, who would go on to become a pioneer for female helicopter pilots in the United States.

Dowd was born in 1949 in Windsor Locks, Connecticut, a small town near Hartford. As a child, her parents would drive her and her brother to the perimeter of Bradley Field, now known as Bradley International Airport, in hopes of seeing a plane land or take off. Seeing “those marvelous flying machines” left a distinct impression on Dowd.

But her professional path would take a few twists before finally landing in aviation. After graduating Manhattanville College in 1971 with a bachelor’s degree in economics, Dowd got a job in Manhattan as a technical writer for the American Stock Exchange.

“It was a decent job, but I was restless. Working in an office felt so confining,” Dowd says. “After a year, I left my job and left Manhattan. It was time for something different, so I went to Europe.”

A New Career Takes Flight

While visiting Venice, Dowd met two marines who were taking a vacation before starting U.S. Navy flight training in Pensacola, Florida. It sounded so interesting that when she got home, Dowd contacted the navy, but she was disappointed to learn that it was not accepting women for flight training. She took a job with Aetna Insurance Company in Hartford instead — a move that actually ended up pulling her back to aviation.



One day, the Connecticut Army National Guard was recruiting in the Aetna cafeteria. When Dowd asked if women were accepted in flight training, the recruiters responded, “Affirmative!” The army had just opened flight training to women.

After passing an aptitude test, Dowd flew in a Connecticut Army National Guard OH-6A to get her military flight physical. From that point on, she was hooked on helicopters.

She attended army basic training and went to Fort Rucker, Alabama, as a warrant officer candidate. Dowd completed flight training and earned her army aviator wings on July 1, 1975.

Shortly after obtaining her army aviator wings, Dowd received a letter from Jean Ross Howard Phelan inviting her to join Whirly-Girls, an international organization of women helicopter pilots. She accepted the

invitation and became Whirly-Girls member #202.

Breaking Ground for Female Pilots

Dowd was the first woman in the Army National Guard or Army Reserve to complete the army initial-entry rotary-wing qualification course. Maj. Gen. John F. Freund, the adjutant general of the State of Connecticut, attended the graduation in recognition of her achievement.

Dowd later completed the army multi-engine fixed-wing qualification course. With an FAA commercial license in both rotorcraft and airplanes, she began her search for her first job in civilian aviation.

At the 1976 Helicopter Association of America (now HAI) convention, Dowd met fellow Whirly-Girl Nadine Fetsko, whose father, Jack, owned an aviation business in Media,

One of Dowd's duties included flying for the Delaware Valley Burn Foundation. On one memorable occasion, she responded to an explosion at a Long Island, New York, factory that made chicle, the main ingredient in chewing gum. The explosion had sent hot, sticky chicle flying through the air, badly burning many employees.

Diane, shown here next to the RCA S-76, describes her time in that company's corporate flight department as her "dream job."

included flying a Bell 206A JetRanger to pick up cancelled checks from outlying areas and bring them back to Philadelphia for deposit.

and climbed out, several people approached and asked if she was one of “Charlie’s Angels.” They then invited her over for cake and coffee until the storm lifted.

After a year, she returned to Fort Rucker, Alabama, as a helicopter instrument instructor pilot. Dowd trained initial-entry army student

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pilots to fly under instrument flight rules (IFR). Instructing students helped to enhance Dowd's own instrument flying skills, which proved useful in her subsequent career.

Finding Her Dream Job

Dowd next joined the RCA Corporation corporate department in Trenton, New Jersey, as first officer rotary-wing, which Dowd describes as her dream job.

"Flying a Bell 212 with a Sperry single-pilot IFR avionics installation was as good as it got in 1980. I was thrilled when I was offered the job. I packed up my little Toyota and drove north," Dowd says.

The mission at RCA was to fly company executives in well-equipped, meticulously maintained aircraft. Everyone was committed to maintaining the highest standards of professional conduct, Dowd says.

RCA eventually replaced the Bell with two Sikorsky S-76 helicopters. The expanded fuel reserves of the S-76 meant that pilots could fly under instrument conditions, therefore enhancing the utility of the helicopter.



In this 2015 photo, Diane stands next to her portrait on display in the Palm Springs (California) Air Museum.

Change Is Inevitable

In 1985, Dowd had another change come her way. While sitting in a heliport crew lounge watching the evening news, she was shocked to hear the anchor announce that General Electric (GE) was purchasing RCA. However, because GE had its own flight department located at the nearby Westchester County Airport where they operated an S-76, Dowd stayed with the company and the transition went smoothly.

Several years after Dowd joined GE, the rotary-wing chief pilot retired. Dowd felt strongly about setting priorities that would enhance a safety culture and she wanted to mentor junior pilots, so she applied and was promoted in April 1995.

"Being a chief pilot was a total lifestyle change. Pilots who aren't scheduled to fly can stay home on stand-by. Chief pilots go to the office every day," Dowd says. "In addition, chief pilots must always be reachable, emphasis on *always*. It was a labor of love for me. I liked the people I worked with and appreciated the opportunity to try to make

things better."

While at GE, she also participated in a number of helicopter-related associations, including four years as president of the Whirly-Girls Scholarship Committee. She also served two terms on the board of directors of the Eastern Region Helicopter Council, including as chairman in 1999. For several years, Dowd also served on the HAI Flight Operations Committee.

Jump in and Get Involved

In January of 2010, Dowd retired from GE and has not piloted since then. But she still stays involved in the helicopter industry through the Whirly-Girls, where she serves as chairman of the Livingston Award Selection Committee.

During her 35-year career of flying helicopters, Dowd says she met many wonderful people. She encourages anyone interested in aviation to jump right in and get involved.

"Those of us who have been fortunate to have had a career flying helicopters know there is nothing quite like it. I love the sound of igniters snapping in the morning!" 

*Martin J. Pociask
is curator for
Helicopter Foundation
International.*



Diane flying a Sikorsky S-76 in 1985.

A male technician in a blue uniform is working on a helicopter engine. He is using a screwdriver to adjust a component. The engine is complex with various parts and wires. The background shows a workshop environment with tools and equipment.

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Christine Brown can't remember a time she wasn't interested in flying. But while on a trip to Africa in 2004, a helicopter tour over Victoria Falls changed her career path.

"It was my very first time in a helicopter, and I absolutely fell in love with it," Brown says.

While obtaining her B.S. in civil engineering from California Polytechnic State University, Brown also pursued her fixed-wing training. "I washed airplanes to make extra money for flying," she says.

Brown applied for HFI's Commercial Helicopter Rating Scholarship in 2011 and in 2012 began working on her helicopter rating. Most of her helicopter flight training



Christine Brown, HFI scholarship recipient and helicopter and fixed-wing pilot.

was completed at Mountain Ridge Helicopters in Logan, Utah.

She currently holds a private, instrument, commercial, certificated flight instructor, and certificated flight instructor – instrument rotorcraft ratings, as well as a private airplane rating. "At some point, I would like to finish my fixed-wing ratings and obtain my rotorcraft ATP," Brown says.

After obtaining her helicopter rating, Brown started as a flight instructor flying the Robinson R22 and R44 out of Linden, New Jersey. She is currently a pilot and the director of flight operations for NYONair, where she flies the Airbus AStar 350 as well as the TwinStar 355. The Kearny, New Jersey, company specializes in aerial production and photography. Brown also works part-time as a tour and charter pilot for Liberty Helicopters.

"You have to immerse yourself in the world of aviation in order to be successful in this industry."

"I love flying the Airbus products. I have a fantastic mentor who is beginning to teach me how to fly the camera systems for production work," she says. Brown hopes to one day fly for a wildlife conservation or antipoaching company.

For those considering helicopter aviation, Brown advises, "Jump in headfirst! You have to immerse yourself in the world of aviation in order to be successful in this industry." 

Allison McKay is vice president of Helicopter Foundation International.



Upcoming HFI Events

SCHOLARSHIP GOLF TOURNAMENT

All proceeds will fund scholarships for future pilots and mechanics

- Cowboys Golf Club
Grapevine, TX • Sun., March 5
Check-in 10 AM
Shotgun start at 12:00 PM
Register at rotor.org/golf

HERITAGE OF HELICOPTERS

Take a break from aviation's latest on the HAI HELI-EXPO show floor and visit this display of vintage rotorcraft

- Static Display 50
Kay Bailey Hutchison Convention Center
March 7-9

ONLINE SILENT AUCTION

Support HFI's missions of preserving the past, ensuring the future

- Bid 24/7 at
www.biddingforgood.com/HFI
Mon., Feb. 27, 12:00 PM CST
Thu., Mar. 9, 4:00 PM EST

CAREER ROUNDTABLE

Thinking about a career in the helicopter industry? Looking to take your rotorcraft career to the next level?

- Kay Bailey Hutchison Convention Center, D167
Tue., March 7, 1:00 PM – 3:00 PM

HELICOPTER INDUSTRY CAREER FAIR

Find the job that will advance your career

- Kay Bailey Hutchison Convention Center, D167
Tue., March 7, 10:30 AM – 5:00 PM
Free for attendees but registration is required
Register at rotor.org/careerfair



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