

BUSINESS AVIATION



INSIDER

THE OFFICIAL MAGAZINE OF NBAA

MAY/JUNE 2024



FLYING SAFELY

PG 16 Using Lessons Learned to Improve Safety


SMS MANDATE
See page 12 for an update on what's next.
INSIDE!

SAFETY ISSUE

LITHIUM ION BATTERY FIRES
What to Know Before You Fly
PG 24

THE FIRST AIR FORCE ONE
Restoring America's Business Aircraft
PG 28

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FEATURES

16 Avoiding a Similar Fate

Experts offer potentially lifesaving lessons from recent business aviation accidents.

20 Inside NBAA's Laser Focus on Safety

The association updates its top safety focus areas to reduce risk and incidents.

24 Lithium Ion Battery Fires

Learning how to prevent and extinguish inflight fires from devices could save lives.

28 The First Air Force One

Technicians restore a historic "Connie" where Ike conducted America's business.

DEPARTMENTS

4 President's Perspective

6 Flight Bag

8 Capital View

Rep. Scott Franklin's career as a naval aviator informs his votes on U.S. aviation policy.

10 Regional Representation

Airport stakeholders must work together to maintain runway safety.

12 Regulatory Hot Topics

Learn how operators can prepare for the FAA's coming expanded SMS mandate.

14 Pro Tips

Developing a safety mindset is just the first step.

32 Operations

36 Member Central

38 New Horizons

NASA's deputy administrator details the agency's role in the future of bizav.

Battling a Bad Plan for Business Aviation



ED BOLEN
President and CEO

The calendar's half-year mark always presents a moment to assess the opportunities and challenges confronting business aviation.

In 2024, there has been no greater threat to the industry than the Biden administration's troubling policy proposals for our sector, and it's never been more important that we mobilize against the attack they represent.

Here's what's at stake. Earlier this year, the administration announced plans to target business aviation with punitive tax treatment, including a five-fold fuel tax increase, to \$1.06 per gallon, and a change to the depreciation schedule for a purchased business aircraft, from 5 years to 7 years.

The administration's announcement came on the heels of a sweeping plan unveiled by the IRS for dozens of audits on companies using business aircraft, citing the need to ensure that "everyone is playing by the same rules." NBAA has forcefully pushed back, noting that the IRS action is nothing more than an audit in search of a problem, and more broadly, that business aviation is an industry that deserves to be promoted, not pilloried.

Business aviation is vital to America's economy and transportation system. It plays a central role in driving job creation and economic development, connecting communities across the country, helping companies of all sizes succeed and providing critical humanitarian lift.

This is the message we have taken to

"One voice is most important in this battle: yours."

Congress in partnership with labor organizations and other GA groups to counter the administration's plans. We have mobilized grassroots organizations, including local chambers of commerce, to weigh in, citing the importance of business aviation in their communities.

While these efforts are essential, one voice is most important in this battle: yours. It is imperative that NBAA members echo the association's message because Congress will ultimately decide on any onerous proposals for business aviation proposed by the administration.

NBAA has made it easy for you to tell your federal legislators that the administration's plan is a bad idea for business aviation. Through our online Grassroots Action Center, you can send a customizable message to your senators and House representatives in just a couple of minutes. In other words, in only a small amount of time, you can make a very big difference on a matter of highest importance to our industry.

As we mark the year's halfway point, we have repeatedly sounded this call to action, and the good news is that the response has been robust. That said, we need every voice to be heard on this matter – so, if you haven't contacted Congress, please do so today. As the work continues to stop the administration's plan for business aviation, we know we can count on your support to help shape our destiny. ❖

NBAA PRESIDENT AND CEO
Ed Bolen

SENIOR VICE PRESIDENT, COMMUNICATIONS
Dan Hubbard

MANAGING EDITOR
Thom Patterson
470-622-3308, tpatterson@nbaa.org

SENIOR GRAPHIC DESIGNER
Collin King

ADVERTISING AND SPONSORSHIP SALES
Carly Heideger
410-584-1973, carly.heideger@wearemci.com

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The updated guide is an industry how-to manual for business aviation management that helps operators with operational, maintenance, administrative and other considerations.

nbaa.org/management



2024 TOP SAFETY FOCUS AREAS

The NBAA Safety Committee has identified its Top Safety Focus Areas for 2024, supporting a greater commitment to business aviation safety standards.

nbaa.org/safety-focus



Resources: Safety

NBAA's mission is to foster an environment that enables business aviation to thrive, and making safety a core value is key to achieving that goal. The association offers numerous resources for all types of operators. nbaa.org/safety

SAFETY DATA COLLECTION, ANALYSIS AND SHARING

These resources will assist your operation in proactively measuring safety, allowing for continuous safety improvements and reducing costs and liability as part of an internal safety or safety management system programs.

nbaa.org/data-sharing

SMALL FLIGHT DEPARTMENT SAFETY GUIDE

This resource serves as a roadmap for small flight departments to begin taking steps toward improving the safety of their operation.

nbaa.org/sfdg

INFLIGHT SAFETY

Resources related to the safe operation of business aircraft while in flight, including loss-of-control in flight, laser strikes, wildlife strike response and more. nbaa.org/inflight-safety

SAFETY MANAGER CERTIFICATE PROGRAM

This assessment-based certificate program provides introductory-level training on safety in business aviation operations.

nbaa.org/safety-cert

SINGLE-PILOT OPERATIONS

Operating a complex aircraft as the only pilot aboard in today's busy ATC environment demands a host of skills, and these resources serve as an introduction to an array of valuable information for single-pilot operations.

nbaa.org/singlepilot

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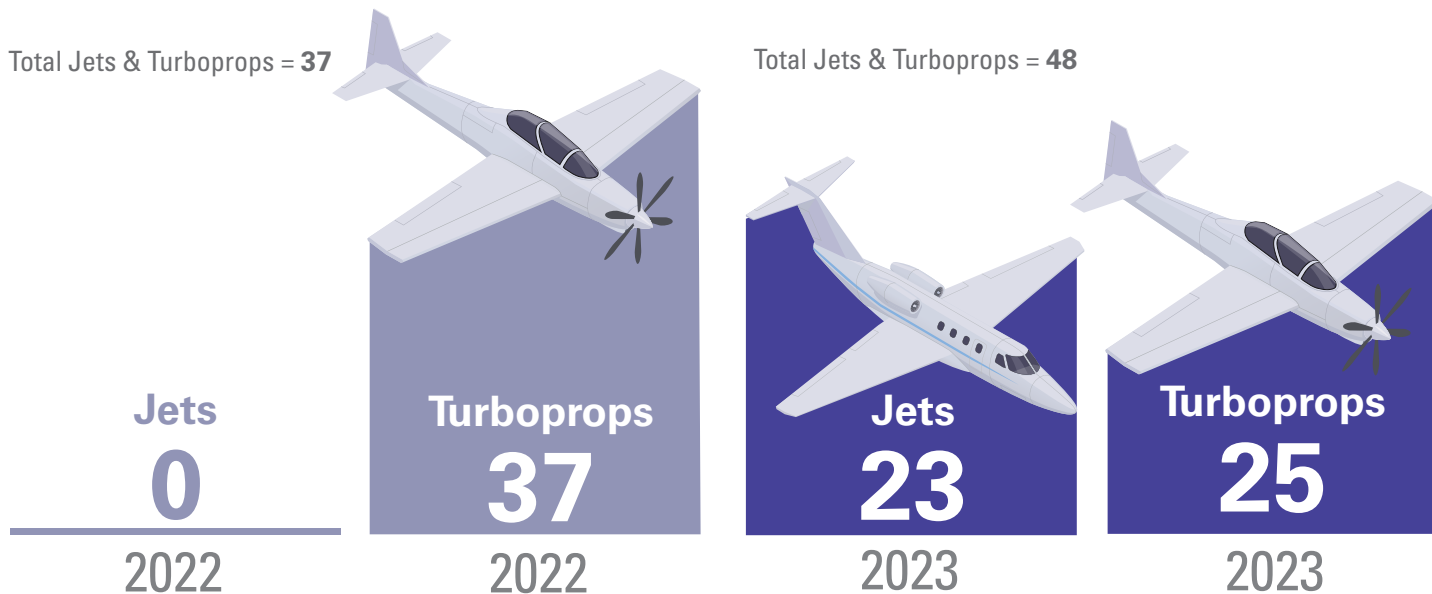
41%

increase in the number of aviation-related incidents involving lithium batteries reported in the past five years, 2019-2023

Source: FAA

By the Numbers: U.S. Business Jet/Turboprop Fatalities

Reported fatalities from accidents involving U.S.-registered business jets increased dramatically from 2022 to 2023, while reported fatalities involving U.S turboprops decreased by nearly one-third.



SOURCE: AIN



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REP. SCOTT FRANKLIN (R-18-FL) has been elected twice as a member of Congress and has been appointed to serve on the House Appropriations Committee, House Science, Space and Technology Committee, as well as the House Veterans Affairs Committee. Franklin spent 20 years in insurance and risk management before entering government service. Franklin's first career was as a naval aviator, where he flew jets from aircraft carriers for 26 years. He is a graduate of the U.S. Naval Academy, holds an MBA from Embry-Riddle Aeronautical University and has served in leadership roles with many civic organizations, including Sun 'n Fun fly-In, the Aerospace Center for Excellence and Lakeland International Airport Advisory Board.

On X
@RepFranklin

Rep. Franklin's Naval Aviation Career Informs His Work in Congress

Q: You joined NBAA in supporting parts of the Transportation, Housing and Urban Development (THUD) legislation providing grants to assist communities in planning and infrastructure for development and construction of vertiports – where advanced air mobility (AAM) aircraft can land and take off. How important is it for communities to pay attention to this new emerging sector of aviation?

Advanced air mobility vehicles will play an important part in keeping the United States competitive on the world stage. As the technology develops, just like AI, space and other cutting-edge science, America needs to maintain global leadership. In our absence, China and other adversaries will gladly fix the system to benefit their interests, especially if they can outpace American investment.

It appears advanced air mobility vehicles will be approved by the FAA in the coming years. These advancements are set to create hundreds of thousands of new jobs and help augment the capacity of existing air travel and transportation infrastructure. Instead of ride sharing or riding the city bus, communities will benefit from vertiports, where passengers can travel via aerial vehicle to their desired destination more quickly and affordably.

To meet this challenge, the U.S. must invest to ensure the required infrastructure is in place. As part of my work on the House Appropriations Committee, it was important to consider the successful implementation and the support needed to facilitate the safe use and proliferation of these vehicles. In

fiscal year 2024, I was pleased to support \$12,500,000 in competitive grants for airports and municipalities planning for or developing AAM and vertiports. I will continue to advocate full funding of this initiative and look for further progress in the coming fiscal years as we make an effort to pioneer this market here in the U.S.

Q: That legislation, as you know, also codified the FAA's data privacy program. The FAA recently announced expanded availability of the Privacy ICAO Address (PIA) program to include certain offshore and Gulf of Mexico routes. Overall, what's your position regarding limiting the availability of real-time ADS-B position and identification information for specific aircraft – especially with regard to flight safety and security?

While notionally the ADS-B out is intended for operator and passenger safety, I understand the reticence many have regarding the availability of real-time ADS-B data to the public and other non-government entities. As ADS-B data develops and become ubiquitous, there is an inherent data privacy risk. Many private owners/operators fear how readily available the data is for the public and third-party sites that publish this information. In the wrong hands, this data can pose a safety or security risk for private parties and invite unwanted probing. Congress must work to balance both the safety and the privacy of private owners and operators.

I support the FAA's recent expansion of the Privacy ICAO Address (PIA) program beyond

just U.S. airspace to limited offshore and Gulf of Mexico routes. As a retired career U.S. naval aviator and general aviation pilot, I strongly support this program.

I would support the FAA taking additional action to further expand the program and reduce barriers of entry for participants.

I was pleased to work to include section 116 in the FY24 Transportation, Housing and Urban Development appropriations bill that was signed into law. This critical measure prohibits the FAA from preventing or acting in a way that limits owner/operators from taking part in the PIA program.

Q: Finally, as a lawmaker involved in aviation-related legislation, how have you applied what you've learned about aviation safety over the years as a former naval aviator and as a former member of the board of directors for the Sun 'n Fun fly-in?

My approach to legislating is heavily informed by the lessons I learned over my naval aviation career in roles as a carrier air wing safety officer, squadron maintenance officer [MO] and wing operations officer. As an MO, the best way to keep the jets "up" was to not break them by flying them.

As an ops officer, charged with accomplishing the mission, it was all about "more, more, more." It was while wearing my safety officer hat that I learned the key to sustainable, safe operations is in striking the proper balance between those competing interests.

Similarly, effective legislating that produces enduring desired outcomes requires finding that sweet spot among various competing ideas. The consequences of aviation legislation are too great for win/lose propositions. ❖

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nbaa.org/news-hour

REGIONAL REPRESENTATION

Local, Regional Groups Key to Runway Safety

Local and regional business aviation groups can play an important role in elevating runway safety at nearby airports. While some runway safety risks can be mitigated through technology, including lighting and markings and advanced technology in the aircraft, experts say education and awareness are often the biggest factors in mitigating runway excursions and incursions.

“We can’t focus on technology only,” said a former airport manager, now head of a state aviation group, who considers information sharing to be a critical part of runway safety. “Stakeholders have to work together to maintain safety.”

This includes reporting hazardous conditions, whether unclear instructions from an inexperienced controller, physical attributes of an airport or other conditions.

Ben Kohler, a member of NBAA’s new Runway and Surface Safety Working Group, shared how his organization’s safety management system (SMS) and coordination with a local airport manager had a direct impact on runway safety at a small airport his organization frequents.

Recently a flight crew submitted an SMS report after an incident while maneuvering to avoid hitting a taxiway information sign. The sign had been reported in the SMS before, and company pilots were made aware of its position and the risk of collision. After this second safety report, Kohler contacted the airport manager as part of the department’s investigation process, who provided actual position and dimensions of the sign. Although the reporting pilots’ aircraft would have cleared the sign, a visual illusion makes a collision appear inevitable. The airport manager agreed with the results of Kohler’s investigation, removed the signs,

“Our regional members are our safety ambassadors.”

ALEX GERTSEN, CAM
NBAA Director, Airports and Ground Infrastructure

and will place new ones where they do not create a hazard.

“Mitigations like this impact everyone,” Kohler said. “Airports and regional groups should reach out to their local FAA FAASTeam representatives and coordinate with flying clubs, owner groups and other stakeholders at their airports.”

Alex Gertsen, CAM, NBAA director, airports and ground infrastructure, reiterated the importance of local and regional stakeholders. “Operators based in the area have a unique advantage of frequenting area airports, recognizing hazards that may exist due to complex airport geometry or other factors and are also more likely to identify and communicate new concerns that may pop up.”

Gertsen also encouraged stakeholders to participate in Runway Safety Action Team (RSAT) meetings at nearby airports. “Our regional members are our safety ambassadors, leveraging their relationships with the airport managers, air traffic controllers and FBOs in their region and leading the way to educate others, share ideas and resolve issues in a collaborative way to elevate runway and surface safety.” ✦

Review NBAA’s guidance on runway safety at nbaa.org/runway-safety.



MASSPORT RUNWAY SAFETY SUMMIT

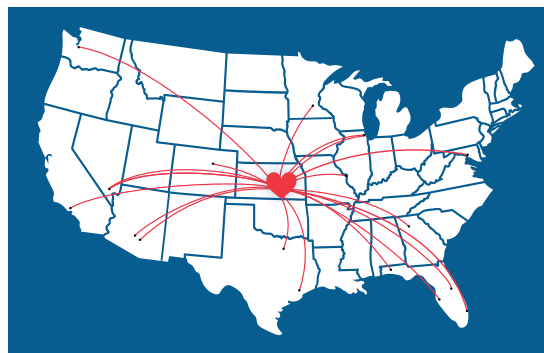
The Massachusetts Port Authority, or Massport, began an annual Runway Safety Summit several years ago, primarily looking to prevent vehicle/pedestrian deviations (VPDs) on airport surfaces. Not long after, Massport Director of Aviation Services David Ishihara realized they could learn more and share by expanding the focus beyond VPDs.

“This is a unique gathering of small and large airport operators, FAA representatives and airport users,” said Ishihara. “It’s a day-long working session where we encourage people to open up and be candid in sharing their experiences and ideas in the spirit of continuous improvement. It began with the idea of meeting with our peer airport operators to learn how they have been successful in mitigating the risk of incursions and has quickly expanded to include users of our facilities.

“Problem-solving with peers is producing positive results. We talk about issues and events that are relevant, current and impactful to everyone’s operation,” said Ishihara. “Airport operators are missing a critical component to their safety program if they are not engaging and considering other users’ perspectives including pilots [GA, corporate, air carrier, etc.], air traffic control and so on.”

Ishihara encourages other airports or aviation groups to consider establishing similar summits.

massport.com



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INDUSTRY CHALLENGE

Part 135 operators, certain Part 91 air tour operators and Part 21 organizations should begin preparing now to meet the expanded SMS mandates.

NBAA RESPONSE

NBAA will continue to advocate for business aviation operators while providing educational resources to help members comply with the new mandate.

SMS Mandate Published; Implementation Planning Encouraged

The FAA recently published its final rule mandating safety management systems (SMS) for all Part 135 operators, certain Part 21 certificate holders and §91.147 air tour operators. The new rule, the result of a 2023 Notice of Proposed Rulemaking, expands the existing Part 5 SMS requirements and adds new mandates to Part 5.

An SMS mandate for these organizations has been on the horizon since SMS was mandated for Part 121 operators and airports. While many Part 135 operators have voluntarily adopted SMS, this rule requires SMS implementation for all remaining Part 135 operators and establishes FAA oversight of existing and new SMS programs.

NBAA supports implementation of SMS in a scalable, flexible manner in order to allow effective compliance for small operators. The association submitted its concerns to the FAA, including ensuring a scalable means of compliance, reasonable implementation timeline and sufficient FAA resources to approve and oversee thousands of new SMS programs.

The FAA responded to industry concerns by extending the proposed 24-month compliance deadline to 36 months and reducing requirements for single-pilot operations.

Despite the extended compliance timeline, experts suggest operators start preparing now. Complying earlier in the mandated time frame might prove beneficial, as FAA resources could be limited if operators wait until the deadlines are near.

“Operators need to start getting educated now,” said Amanda Ferraro, chief executive officer at Aviation Safety Solutions. “You can’t put an effective SMS together without education.”

NBAA, International Business Aviation Council (IBAC), the Air Charter Safety

Foundation (ACSF) and others provide many resources for operators to learn more.

Operators will also benefit from seeking training for individuals who will be responsible for managing implementation of their SMS. NBAA’s Safety Manager Certificate Program, for example, provides participants with knowledge and skills to effectively manage their organization’s safety management efforts.

Ferraro suggests reaching out to others in the industry who have effectively implemented SMS to learn from their experiences. And although some companies specialize in assisting operators in SMS implementation, Ferraro says not to overly rely on these companies. Not only does an SMS need to be an internal program with commitment to safety at every level, but there simply aren’t enough third-party resources to handle the upcoming need, she explained.

“If an operator has an existing SMS per ICAO Annex 19, they still have some work to do to ensure it conforms to the new regulation,” said Ferraro. “These new requirements involve additions and changes to existing systems, including updates in language, system functionalities and processes.”

“The new SMS mandates are relatively broad; so comprehensive guidance materials for industry and inspectors alike are critical to scalable, effective implementation for operators of all sizes to ensure this mandate enhances safety,” said Brian Koester, CAM, NBAA’s director of flight operations and regulations. “NBAA will work with the FAA to meet this common objective.” ❖

Review NBAA’s resources on SMS at nbaa.org/sms.



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Young Professionals: Develop and Practice a Safety Mindset

It seems like everyone is busy, and sometimes, through no fault of our own, little things can get overlooked. That's why incorporating a safety mindset into every task is more critical than ever.

"The first step is to make safety a passion," said Bob Baron, Ph.D and president, The Aviation Consulting Group, LLC. "Not just part of your job. With passion comes a greater openness and willingness to try new ideas, which is a foundation for a person's lifelong commitment to doing the right thing. It can take a lot of courage to be the person who says something when they see something.

"You also have to know how to use the proper company channels to report a situation. This is not just telling your supervisor; it's using the established safety reporting system to share what you've seen," said Baron.

"It can be difficult, especially for young professionals, to report something you may see a manager doing. That's no excuse. You can't overlook an unsafe situation just

"It can be difficult, especially for young professionals, to report something you may see a manager doing. That's no excuse."

BOB BARON, PH.D
President, The Aviation Consulting Group, LLC

because others are ignoring it."

Gil Lopez, CAM, director of dispatch, safety & security, Four Corners Aviation, said his No. 1 tip is "the practice of personal accountability and continuous awareness. After transitioning to a safety leadership role, one of the most valuable realizations for me was that the cumulative effect of individual actions plays a crucial

role in overall safety standards," Lopez said.

"One of the most impactful contributions to our organization came through a safety report from a part-time aircraft detailer. He identified a hazard that should be mitigated and took the initiative to submit a digital report. It wasn't his 'job,' but that report resulted in tangible results that inspired other members to contribute to the SMS program," said Lopez.

Patrick Skinner, CAM, captain/safety officer at TTI Aviation, said he tries "to identify the biggest threat to each flight. Take nothing for granted, and you won't allow yourself to be vulnerable to routine-ness, which can catch you off guard and get you in trouble.

"We fly to Milwaukee all the time. It's routine – a takeoff and a landing. But every day, those things are different in some way. If you're talking about what that difference can be with another pilot or a mechanic, you may not come up with anything concrete, but at least you are in that threat/error management mindset. Let's identify it and not let it get any further than it has to." ❖

Learn more about practicing safety in business aviation at nbaa.org/safety.

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AVOIDING A SIMILAR FATE

THREE RECENT BUSINESS AVIATION ACCIDENTS OFFER
LESSONS LEARNED THAT ARE POTENTIALLY LIFESAVING.



Accidents remain an unfortunate reality in our industry, but they can also spur important discussions about business aviation operations.

As of March 2024, final probable cause reports had not been issued by NTSB on the following high-profile accidents involving business aircraft. However, even preliminary findings from investigations conducted by the NTSB can yield valuable lessons.

While it's important to avoid drawing conclusions or veering toward speculation without knowing all the facts, "I think there is a cultural benefit to having these conversations," said Randall Brooks, executive vice president for flight operations at Aviation Performance Solutions (APS).

"There can be some benefit having discussions that may even go beyond a particular instance, to considering things that will make them better and safer," he added.

**FEBRUARY
24,
2023**

A Pilatus PC-12/45 air ambulance, N273SM, was substantially damaged when it was involved in an accident near Stagecoach, NV. The pilot and four passengers were fatally injured.

From the NTSB Preliminary

Report: "The airplane ... ascended to 18,900 ft msl before a left turn to a northeasterly heading was initiated. The airplane continued a northeasterly heading and had ascended to about 19,100 ft, before a descending right turn was observed at 2113:31. The data showed the airplane remained in a descending right turn until ADS-B contact was lost at 2114:01 at an altitude of about 11,100 ft msl."

Warren Pittorie, co-chair of the Loss of Control-Inflight (LOC-I) Working Group of the NBAA Safety Committee, noted several factors relevant to this accident involving a nighttime medevac flight from Reno/Tahoe International Airport (RNO) over mountainous terrain to Salt Lake City, UT.

“

The flight departed under instrument conditions, and the pilot was warned of some light to moderate turbulence and icing conditions enroute. All of those can lead to a loss of control inflight (LOC-I.)

”

WARREN PITTORIE, Co-Chair, Loss of Control-Inflight Working Group, NBAA Safety Committee

"The flight departed under instrument conditions," Pittorie said, "and the pilot was warned of some light to moderate turbulence and icing conditions enroute. All of those can lead to a loss of control inflight (LOC-I.)"

"I'm always suspicious when there's mountainous terrain nearby of what the winds were doing," added NBAA Safety Committee member Scott Glaser, president and CEO of Aerospace Operations LLC. "Having done a significant amount of flying in mountainous areas, I know how quickly an aircraft attitude can be changed by weather in those conditions."

Operating in nighttime IMC without a visible horizon can add stress for even experienced instrument pilots, Brooks noted. "Depending on which study you look at, between 90 and 94 percent of LOC-I accidents are in nighttime or IMC," he said. "Life's a bit different when you can't look out the window."

AVOIDING A SIMILAR FATE



**JULY
8,
2023**

A Cessna Citation II, N819KR, was destroyed when it was involved in an accident while attempting to land at French Valley Airport (F70) near Murietta, CA. The two pilots and four passengers were fatally injured.

From the NTSB Prelim: "At 0335 [local], the automated weather observing system (AWOS) at F70 reported in part, clear sky and visibility of 10 statute miles (SM). At 0355, the reported weather was an overcast ceiling at 300 ft, and visibility of 3/4 SM. At 0411, reported weather showed the visibility had reduced to 1/2 SM and fog."



What we've found in training are pilots stating that throughout their career, in training or otherwise, they've never been asked to perform a low-level go-around in a turbine airplane. It's an important tool to have in your toolbox.



**SCOTT GLASER, NBAA Safety Committee Member,
President/CEO of Aerospace Operations LLC**

After initially cancelling IFR while approaching F70, the rapid decline in observed weather conditions due to coastal fog moving inland led the two-person flight crew to pick up another IFR clearance while approaching the non-towered airport.

"To switch from IFR to VFR, then back to IFR, you're already setting yourself up for kind of an unstable approach," Pittorie noted. "The flight crew went to minimums and didn't have the airport in sight the first time, so they flew the published missed. Now, we can start to think about the pressure to complete the mission."

"We are goal-oriented individuals who want to get that airplane on the ground where it needs to be," Glaser added. "That's part of the reason for any pilot's success."

"What we've found in training, however," Glaser continued, "are pilots stating that throughout their career, in training or otherwise, they've never been asked to perform a low-level go-around in a turbine airplane. It's an important tool to have in your toolbox."

Brooks also emphasized the importance of setting – and adhering to – personal minimums in such cases. "Did they have an alternate [airport]?" he said. "It doesn't matter what the weather is reported; all that matters is what they saw when they got down to DA (decision altitude) and what they decided to do."

"For me, this invokes a discussion about professionalism," Brooks added. "I don't know exactly what was going on that in that cockpit, but professionalism requires us to establish personal minimums and adhere to those standards."



**OCTOBER
24,
2023**

A Raytheon Hawker 850XP, N269AA, was taking off on runway 22 at William P. Hobby Airport (HOU), Houston, TX, when its left wing collided with the vertical stabilizer of a Cessna Citation Mustang, N510HM, landing on runway 13R. No injuries reported.

From the NTSB Prelim: “The local controller had instructed the crew of N269AA to line up and wait (LUAW) on runway 22. The crew of N269AA said in a post-accident interview that they believed they heard that they were cleared for takeoff when they took off. The collision between the two airplanes occurred at the intersection of the two runways.”

While this may seem a relatively simple accident on its surface, “I have a laundry list of stuff that plays into this one,” Brooks said. “There’s a lot of little moving things that were all going on here.”

In addition to the added risks involved in concurrent operations to intersecting runways, the Hawker flight crew told investigators they were distracted by missing V-speeds displayed while taxiing to the runway. On the roll, the crew told the NTSB they had rudder bias and pitch trim alerts.

“That’s all taking their eyes from outside the aircraft and focusing their attention inside,” Brooks added. “Why did the Hawker continue this takeoff? That’s almost a separate issue from the collision.”

Pittorie, who has a doctorate in aeronautical sciences and human factors, highlighted the opportunity for flight departments to review their ground operations procedures. “Do you train for these types of failures on takeoff?” he asked. “If so, what’s the company policy? More than likely you should call for a rejected takeoff.”

“Why do we often feel this need to rush?” Pittorie continued. “Why are you pushing past these alarms to take off in a potentially unsafe aircraft, and then – because you’re distracted – missing an incredibly important ATC instruction to stop on the runway?”

“Pilots need to know when to pump the brakes,” Glaser added. “This goes back to professionalism and recognizing when we’re task-saturated. Again, we’re goal oriented. We’re used to some level of multitasking on a regular basis, and we often get away with it. And then at some point, it bites us.”

While it may be easy to focus attention on one party involved in this accident, Brooks noted the importance that everyone remain vigilant when operating in the airport environment.

“Always look out for the other guy,” Brooks concluded. “We’ve had several close calls lately where a pilot saw another aircraft where it shouldn’t have been and called for an abort for the aircraft on the ground. Keep looking around, even on rollout.” ❖

“

I have a laundry list of stuff that plays into this one. There’s a lot of little moving things that were all going on here.”

”

RANDALL BROOKS, Executive Vice President for Flight Operations at Aviation Performance Solutions



INSIDE NBAA'S LASER FOCUS ON SAFETY

The NBAA Safety Committee has been shining a light on the importance of business aviation safety for 70 years. Committee leaders pull back the curtain on the careful consideration given to its critical work aimed at always putting safety first.

Founded in 1954 as one of the association's first standing committees, the NBAA Safety Committee has remained true to its mission of making business aviation safer. Each year the committee's team of dedicated volunteers actively digs for solutions to some of business aviation's most pressing safety challenges, such as loss of control, procedural non-compliance, runway excursions and the unique risks surrounding single-pilot operations, to name just a few. As risks to business aviation are identified, the safety committee is positioned as a center of expertise, analyzing industry data and findings to shape the scope of the NBAA's Top Safety Focus Areas.

Recently, the committee strategic planning session, with topical input from NBAA's senior leadership, pinpointed addressing preventable accidents, identifying unique operational concerns and developing mitigation strategies.

Over the years, the safety committee's efforts have borne considerable fruit producing well-researched solutions that are available to association members through the NBAA's website as well as the aviation world at large through webinars, magazine articles, podcasts and

videos. But before heading over to the website to search for the latest news about fitness for duty or safety management systems (SMS), it's important to better understand the process the committee uses to create and validate their work.

As safety topics have evolved, so too have the committee's leadership team and the operational protocols designed to secure the best from the committee's efforts. "We operate on a two-year safety cycle, taking a holistic look at the industry each year to validate or evolve our safety focus," said NBAA Safety Committee Chair Paul BJ Ransbury. "Our annual strategic planning process looks at data from not just the NTSB, but from insurance organizations, the General Aviation Joint Steering Committee (GAJSC) and a diversity of other safety-focused industry sources."

The NBAA Safety Committee "doesn't necessarily have the same mandate as the NTSB or the FAA," Ransbury said. "Ours is to develop tools and resources to improve the safety of business aviation. We serve the senior leadership of NBAA, the association's members, and the aviation industry overall."

INSIDE NBAA'S LASER FOCUS ON SAFETY

TOP SAFETY FOCUS AREAS

One of the challenging aspects of the committee's work each year is narrowing the list of possible topics down to 10-12 Top Safety Focus Areas. "This ensures our 80-member committee efficiently and effectively focuses its bandwidth to generate timely and truly valuable deliverables to improve aviation safety," Ransbury said.

One of several important lessons the committee and leaders have learned over the past year is, "We can't work on everything, which means we have to say no to good ideas and even some great ideas, just to be sure that we get done what we're committed to working on," said Ransbury.

THE WHAT AND THE HOW

To improve the likelihood of success, the safety committee leadership team created a working structure that brings together some of the aviation industry's brightest minds. Committee Vice-Chair Dan Boedigheimer explained a bit about how the group works their magic. The committee is comprised of team leads, "who each oversee four working groups. Each working

"This ensures our 80-member committee efficiently and effectively focuses its bandwidth to generate timely and truly valuable deliverables to improve aviation safety."

PAUL BJ RANSBURY
Chair, NBAA Safety Committee

group is responsible for one of the Top Safety Focus Areas."

For example, "the preventable accidents team includes Controlled Flight into Terrain (CFIT), ground operations and maintenance accidents, loss of control and the runway safety working groups. The operational concerns team focuses on fitness for duty, human factors, single pilot safety and workforce challenges. The final safety focus area includes mitigation strategies, owner support of safety expenditures, safety data and the SMS implementation working group,"

Boedigheimer said.

Before the committee begins work on any topic, members of NBAA's senior leadership team are consulted to ensure each topic, and its possible deliverable, is something the association believes is needed within the industry. Depending upon the topic, the working groups meet as often as the members feel is necessary to accomplish their goal on time. The committee also works closely with the safety promotion team to communicate their research and operational results in the best way possible to be useable by the aviation community.

DELIVERING EXCELLENCE

The pride and joy of the committee and its working groups each year are the deliverables that highlight each group's addition to industry professionalism. The list of products the committee has delivered just over the past decade alone is nearly as long as the scope of each topic is wide. Boedigheimer mentioned a few, such as the output from the Runway Safety Working Group, "an eight- to 10-page runway excursion mitigation guide. That guide resides on the NBAA website. Most of the working groups maintain a page on the association's website." Other results are delivered as presentations often rolled out at NBAA Business Aviation Convention & Exhibition (NBAA-BACE) or the association's conferences and regional forums. Boedigheimer said, "The SMS group does a lot of presentations. They're trying to focus on the smaller operators with advice on how to make SMS programs effective in those departments."

The single pilot safety working



“The SMS group does a lot of presentations. They’re trying to focus on the smaller operators with advice on how to make SMS programs effective in those departments.”

DAN BOEDIGHEIMER
Vice Chair, NBAA Safety Committee

group created a video – “Alone in the Cockpit” – focused on the decisions one pilot made that almost led to an accident in a Phenom 100. Boedigheimer added, “The safety data working group just wrapped up a multi-year project and created an impressive website that’s focused on what’s important when it comes to safety data.”

The working group created full questions and answers about the various components of narrative safety reporting, such as an Aviation Safety Action Program (ASAP) as well as the barriers to entry. It includes guidance on how to evaluate if a program is right for a specific flight department.

The human factors working group has been focused on a procedural compliance document. The working group is creating deliverables from that document that will focus on the steps an individual flight department might take to convince individuals of the importance of following standard operating procedures.

The most well-attended of the committee’s presentations, the Single-Pilot Safety Standdown (SPSSD) and the National Safety Forum have become regulars at NBAA-BACE each fall. The SPSSD runs on the Monday before NBAA-BACE begins and includes

real-world topics presented by subject matter experts. This year’s National Safety Forum will be rolled out in four different one-hour sessions on Tuesday, Wednesday and Thursday at the 2024 NBAA-BACE, Oct. 22-24, Boedigheimer said. One session is planned on data sharing or data collection from the committee’s safety data working group, one on SMS, another from the operational concerns team and another from the preventable accidents team. A Thursday morning session includes the presentation of the Dr. Tony Kern Professionalism Awards.

“I get more than I give to the safety committee. I have grown a lot professionally, watching different leadership styles and how the committee deals with roadblocks along the way. It’s given me a lot of tools in my own leader toolbox.”

DAN BOEDIGHEIMER
Vice Chair, NBAA Safety Committee

REWARDING JOURNEY

For safety committee volunteers, the journey can sometimes become the reward with unexpected personal benefits for their efforts, said Boedigheimer. “I really love the connections and the people I’ve met and what I’ve been able to learn. I get more than I give to the safety committee,” Boedigheimer said. “I have grown a lot professionally, watching different leadership styles and how the committee deals with roadblocks along the way. It’s given me a lot of tools in my own leader toolbox.”

One volunteer, a director of maintenance, offered a perspective to why he’s spent years volunteering. “I believe strongly in giving back to the industry and the aviation community, and the NBAA Safety Committee provides a platform for improving the industry in which we work. From a maintenance standpoint quality is safety.”

He added, “Seeing the fruits of your labors that are really giving back to the industry were very gratifying. Of course, a good safety committee depends on people willing to take the time and energy to collaborate and make things happen.”

Ransbury offered some advice for anyone interested in seeing how the safety committee’s results might fit into their own flight department, as well as for people who might be interested in joining the safety committee’s volunteer ranks. ✦

Review the work of NBAA’s Safety Committee at naaa.org/safety.

INFLIGHT LITHIUM ION BATTERY FIRES: **WHAT OPERATORS NEED TO KNOW**



A smoke, fire or extreme heat incident involving lithium ion batteries takes place aboard an aircraft more than once per week on average in the U.S., making it imperative for operators to fully understand these dangerous events and to prepare crews with safety training.

Today, nearly every adult and many kids carry a cell phone, tablet or laptop. While their individual tasks differ, these devices have one thing in common: they're all powered by rechargeable lithium ion (Li-ion) batteries. At any given time, there could be more than 1,000 Li-ion powered devices on board an airliner, while an international business jet might easily be flying with a few dozen. Despite their popularity, few people realize the dangers posed by Li-ion batteries. Hazards run the gamut, from overheating, to emitting smoke, to bursting into flames or even exploding – spewing bits of white hot gel in all directions. In fact, a Li-ion fire can begin as a seemingly harmless overheat and erupt into a serious hazard in a matter of seconds.

FAA data shows the scope of the threat: In 2023, more than one Li-ion incident occurred aboard an aircraft each week. Specifically, the agency said there were 208 issues with lithium ion battery packs, 111 with e-cigarettes and vaping devices, 68 with cell phones and 60 with laptop computers. (The FAA doesn't offer incident data by aircraft type.) Thankfully, the data shows the chances of encountering an unstable mobile device aboard a business aircraft are small. But so is the possibility of a passenger experiencing a heart attack – yet many business aircraft carry defibrillators.

THERMAL RUNAWAY

The threat with lithium ion batteries is known as thermal runaway. When a Li-ion battery overheats due to some previous damage that creates a short circuit, the unit continues a catastrophic internal chain reaction until it melts or catches fire.



INFLIGHT LITHIUM ION BATTERY FIRES: WHAT OPERATORS NEED TO KNOW

While thermal runaway incidents are rare, the potential risks inherent in just one such occurrence aboard a business aircraft far outweigh the efforts needed to prevent it. "Most instances of thermal runaway are owner induced by dropping or substantially damaging their electronic device," said John Cox, a retired airline pilot and founder of Safety Operating Systems. Another cause is the use of gray market charging devices. "You can buy one on the streets of New York for five bucks," Cox said, "but the likelihood of that [charger] creating a battery overheat is significantly higher" than when using an OEM charger and cable.

A Li-ion fire can also emit smoke and fumes. Combustion by-products include "hydrogen fluoride, methyl carbonate, ethylene carbonate, carbon monoxide, carbon sulfide and phosphoryl fluoride," according to toxicologist Dr. Richard Pleus. "There are two things to consider," said Pleus. "First, the release of combustion by-products during a thermal runaway of the battery (and its container). Second,

if a battery fire catches other things on fire, it will produce a lot of additional smoke and fumes. The combination makes poison. I'm concerned about being in an aircraft cabin with a fire causing these gases to reach levels that might incapacitate a person." Any white-hot bits of metal or gel from an exploding battery could cause third-degree burns to anyone they contact. Other fumes like carbon monoxide are odorless and invisible, yet lethal. "Then there are burned particles that could be inhaled," Pleus said. Importantly, most modern aircraft ventilation systems can very quickly pump fresh air into the cabin to clear most fumes.

JUST IN CASE

Once a device enters thermal runaway, the most important topic is how to fight the resulting fire to ensure nearby passengers are not injured. On an aircraft without a flight attendant, one of the two pilots will likely need to leave the flight deck to deal with the chaos. For large cabin airplanes, longtime flight attendant Julie Kozma said mitigation works a bit differently. "Why do you buckle a seatbelt when you get in a car? Just in case of an accident, right? We talk about a flight attendant on board being like a big seat belt. We're the big just-in-case."

In fact, a flight attendant is usually the first line of defense during a cabin fire. Kozma moved from commercial to business aviation 19 years ago, spending the last 10 as the lead flight attendant on international trips aboard a Bombardier Global 6000. She's also co-chair of the NBAA's Flight Attendant and Flight Technicians Committee and is known to her colleagues as the "Lithium Battery Lady," for her expertise.

"The data proves these fires are happening more regularly," Kozma said. Also, there are many misconceptions about how to fight these fires, and a somewhat laissez faire attitude about Li-ion fires in general, she said. "Some flight crews believe the solution is to hit a burning device with Halon extinguisher and stick it in that fire bag," Kozma said. Officially, that bag is referred to as a containment bag – or case – and they come in a variety of sizes. Kozma discovered in training "how quickly these [Li-ion] fires can get out of control" and that simply drowning an overheating device with Halon might kill the flames, but accomplish little else.

"FAA testing has determined that Halon fire extinguishers will extinguish an open flame, but they will not stop thermal runaway," said Cox.

"Fighting this fire is all about cooling the batteries inside the device, ideally submerging it in liquid, maybe in a sink or a metal trash can," Kozma said. "That's the only chance there is to halt thermal runaway. Consider, too, where the water will come from. This effort will require more than just a bottle or two," she added. "These fires can't be smothered with ice, either."

Kozma said what worries her and other flight attendants most is that in order to deal with a fire, "We have to get within arm's length of an unstable electronic device, many times with little or no protection. That's not acceptable to us."

Other worries include whether the airplane has a containment bag or case. Is the aircraft equipped with fireproof gloves to pick up even a cooling device? A face shield is also inexpensive protection against a unit spitting out white hot metal bits. "The temperature of a unit in thermal runaway can spike upwards to 1,300 degrees Fahrenheit," Kozma said.

thermal runaway." Companies need not spend vast sums on containment systems. "The airlines are learning that medium priced containment systems are working quite well,"

A trained flight attendant is not a required

"If you have someone working in your aircraft's cabin, for God's sake, train them. Don't simply buy a containment bag and equipment, and stick them in a drawer."

JULIE KOZMA, Veteran Business Aviation Flight Attendant and Co-Chair of the NBAA Flight Attendant and Flight Technicians Committee

"Containment bags are important, but in a thermal runaway situation, those bags are really the last step, not the first. The unit needs to be cooled down first." Kozma said there are other products available to douse the flames and cool an overheating device, like the specialized extinguishers produced by Tulsa, OK-based SpectrumFX.

Cox said fire prevention can begin by using OEM batteries that "typically have better internal protection circuitry to prevent an excessive rate of charge and maintain a stable voltage." Awareness of what might cause an event is important, too. "You see people walking around with cracked phone screens," Cox said. "That's definitive evidence that the unit and the battery have been subjected to shock, increasing the likelihood of encountering a

crewmember on most Part 91 business aircraft. "But if there is an employee working in an aircraft cabin, there's an implication that person is trained, and will be there to help you," Kozma said. "So, if you have someone working in your aircraft's cabin for God's sake, train them. Don't simply buy a containment bag and equipment and stick them in a drawer. Think about how you'd actually fight a lithium ion battery fire and train everyone for it regularly." Regular advice offered to pilots fits well here. "Train as you fly and fly as you train." ✦

Review NBAA's resources for handling Li-ion batteries at nbaa.org/lithium-batteries





The First Air Force One

A historic Lockheed Constellation used by President Eisenhower was nearly abandoned and forgotten. Now, America's business airplane is being restored as a flying museum.

By Lowen Baumgarten

Photos by Morgan Anderson Photography



Columbine II was rescued from a boneyard and ferried to Virginia for restoration.

When Brad Holliday's team got to the boneyard, Columbine II was not even tied down. Dust-covered, the aluminum still caught the Arizona sun. "It was sitting at Marana Regional Airport [AVQ]," said Holliday, maintenance manager for the First Air Force One restoration project. "Not on the ramp, it was pushed back into the sand, with some other derelicts."

Columbine II is the name given to a 1948 Lockheed Constellation VC-121A by first lady Mamie Eisenhower. The Constellation flew President Dwight D. Eisenhower, the first family, his staff and visiting dignitaries from 1952 to 1954 – the first airplane to be designated Air Force One.

"When we first got there to inspect it, I crawled up into the No. 1 engine nacelle, and surprised a bird from her nest," Holliday recalled. "Repositioning a couple rattlesnakes and some scorpions – that's how we got started."

IKE'S FLYING OFFICE

With four Curtiss-Wright R-3550 engines, each powered by 18 cylinders, the Constellation (or "Connie") was the "Star of the Skies" before the jet age. There had been presidential aircraft before Columbine II, but it was the first 'Air Force One' and one of the last propeller-driven airplanes to carry the president.

"This was Ike's primary mode of trans-

"This is a historical treasure of our country. ... It carried the president. There's nothing like it."

BRAD HOLLIDAY

First Air Force One Maintenance Manager

But when Holliday's team found it in 2015, it was nearly forgotten. Retired by the military in 1968, the presidential airplane was purchased with four other retired Constellations for forestry spraying in the Canadian Rockies.

"For many years, this was considered the 'Lost Air Force One,'" said Phil Douglas, executive director of First Air Force One. "It was never outfitted with tanks, but used as a parts plane for the other sprayers – and then parked for 25 years."

A call from the Smithsonian in 1980 stopped the airplane from being scrapped, and it briefly was made flyable again for Eisenhower's 100th birthday commemoration in 1991. Then it was nearly forgotten in the desert.

portation for the first two years of his presidency, and he traveled over 63,000 miles on it. He flew to Europe on this plane, to Canada, Mexico and across the country," Douglas explained during an informal tour of the stripped-down cabin.

The First Air Force One is now based in Bridgewater, VA, where the restoration effort proceeds in Dynamic Aviation's vintage aircraft hangar.

Plywood gangplanks rattled underfoot, overhead the interior frames of the cabin were exposed. Douglas stood in an echoing, empty space forward of the aft loading door. "This was the stateroom, and the president's desk was right here," he gestured. "Eisenhower used this as his traveling office. To conduct America's business."



Retired U.S. military and staff technicians are updating the Connie's systems to meet all modern safety standards.

AIR FORCE 8610

After his leadership role in World War II, much of Eisenhower's presidency was spent building the postwar order. "He was the first president to use a tool like this airplane to go around the world," said Douglas.

Eisenhower's first flight on the airplane took place before he even took office, as president-elect, to visit U.S. troops in Korea. A year later, he flew to the Bermuda Conference, meeting with British Prime Minister Winston Churchill and French President Joseph Laniel on the future of West Germany.

Three days later, in December 1953, Eisenhower was due to address the United Nations. He wrote his "Atoms for Peace" speech on the flight from Bermuda to New York – right where Douglas was now standing.

Douglas pointed to the Constellation's three vertical stabilizers. "This plane's tail number is N8610," he said. "Until 1954, air traffic control called it Air Force 8610, whether the president was aboard or not."

It was a flight from Charlotte, NC, back to Washington, DC, that inspired

"This was not just the first Air Force One, it was America's business airplane, and we want to share it with the world."

PHIL DOUGLAS, *Executive Director of First Air Force One*

the adoption of the famous call sign. Eisenhower was returning from a speech, and in airspace over Richmond, VA, controllers were getting calls from both Air Force 8610 and Eastern Airlines Flight 8610.

After landing back in Washington, Eisenhower's pilot, Col. William Draper, called a meeting to always identify the flight carrying the president: It would be Air Force One.

AMERICA'S BUSINESS AIRPLANE

Holliday was dispatched to Arizona after Dynamic Aviation's late founder, Karl Stoltzfus, discovered Columbine II was resting there. Holliday led half a dozen Dynamic technicians into the desert. Volunteer mechanics from the Mid-America Air Museum flew out to join the effort. It took eight trips – weeks at

a time – to make Columbine II airworthy for the ferry flight back to Bridgewater.

"This is a historical treasure of our country," said Holliday. "I like working on old aircraft, but this is very special. It carried the president. There's nothing like it."

After Stoltzfus died, the First Air Force One nonprofit was established to complete the restoration, and give the historic airplane back to the American people, as a flying museum.

"That's our goal, to restore this airplane to look just as it did when Ike flew on it," said Douglas. "To make it accurate and authentic, so that when you step onto the airplane, you'll touch American history. You'll sit at the desk where Eisenhower sat, and see the fold-down bunks in the staff seating rooms."

Douglas pointed to a diagram shared by the National Archives, pinned to a

Volunteers and interns from local schools have joined the effort to transform the Connie into a flying museum.



bulletin board in the hangar. It notes the dimensions of every seat and shelf in the cabin, the color and manufacturer of the curtains.

“We’re also updating all the aircraft’s systems, so that it can fly around the country, to airshows and events, where people can see it and relive this part of our history,” Douglas explained, “This was not just the first Air Force One, it was America’s business airplane, and we want to share it with the world.”

RESTORATION UNDERWAY

Shortly after arriving in Arizona, Stoltzfus realized the first Air Force One could be made flyable again. Finally, a year later, in March 2016, a crew who had logged time on Constellations for agricultural

spraying flew the airplane to Bridgewater.

At Dynamic Aviation, a team of staff technicians is redoing the wiring, updating the hydraulics, and replacing cabin interiors that were originally made of wood, so the aircraft meets all modern safety standards.

“We’re working to restore the airplane so that it looks as it did in 1953 and as an operational, reliable aircraft that’s safe to fly and easier to maintain,” said Holliday.

On the flight deck, Holliday and Douglas point to the original instrument panel. This will be replaced with modern glass avionics, but a fully accurate covering will also be made, with steam gauges in the exact layout of a 1948 Constellation.

Their team is assisted by a large pool of volunteers, including retired Air Force technicians and local students.

“We also have interns from the high school and two nearby universities,” said Douglas. “We partner with an A&P program at the community college. The interns love to come in, get hands-on with this airplane, and be part of the restoration.” ❖

Learn more at firstairforceone.org.



THE ‘CONNIE’ – STAR OF THE SKIES

In 1939, Howard Hughes had bought TWA, and to make it a global carrier, he ordered a clean-sheet airliner. It had to fly intercontinental routes, at unheard-of speeds and fit inside Hughes’ existing hangars.

To meet those specifications, Lockheed engineers designed the Constellation, with its unique dolphin-shaped fuselage, which keeps the large triple-tail out of the prop wash.

“Some would say it is the most beautiful airplane ever flown,” said Brad Holliday, First Air Force One maintenance manager. “It was a huge step up in technology, pressurization, cabin size, performance and speed. Its max was 350 mph. At the time, that was as fast as most fighter planes. And the Connie was carrying 50 passengers.”

The Constellation established what we think of as modern airline travel, before the jet age, and after a brief stint as a troop transport at the end of World War II.

In 1944, Hughes flew a C-69 Constellation himself, with movie star Ava Gardner aboard, from Burbank, CA, to Washington, DC, in under seven hours as a demonstration for the Air Force. On the return flight, the Constellation picked up Orville Wright. Although he lived another four years, it was Orville’s final flight aboard an aircraft.

SNAPSHOT: THE FIRST AIR FORCE ONE



Aircraft: The First Air Force One is a Lockheed Constellation VC-121A



Base: Being restored in Dynamic Aviation’s vintage aircraft hangar at Bridgewater Air Park (VBW)



Personnel: An executive director, a maintenance manager, two full-time mechanics and volunteers



PHOTO © WILLIAMSON IMAGES

Maintenance : Experts Share Safety-Related Tips for Summer

Summertime means many things, but in business aviation, the summer solstice signals a jump in operations. Savvy flight departments are already preparing aircraft and crews for increasing workloads and temperatures.

“Summer preparations are different for every aircraft type, and the OEMs have guidelines for seasonal inspections and maintenance,” said Tim Wade, a member of the NBAA Safety Committee. “When we come out of winter flying, we transition to those procedures.”

Of course, you don’t have to wait until June 20 to deal with hotter temperatures. And that can be challenging for technicians trying to perform environmental control system (ECS) checks on aircraft sitting in the springtime sun.

A director of maintenance (DOM) for a southeastern U.S.-based Part 135 operator offered a reminder that “ops checks on a windshield deicing system can give you false readings in the sun. The windshield can be really hot, and the sensors won’t allow the deicing system to turn on. Even though the system works fine, you can

“Maintenance is maintenance, but it’s how we go about performing that maintenance in heat extremes that makes the difference.”

TIM WADE
NBAA Safety Committee Member

hook your meter up and get a zero reading. Technicians need to know that so they don’t chase a false indication.”

Speaking of windshields, another thing to check before summer flying is the correct application of any water-repelling materials.

“One of our crews encountered a heavy rain last summer and reported restricted visibility because the water was ‘sticking’ to the glass,” said Craig Erickson, safety program manager for Solairus Aviation. “We

determined that an FBO had applied the wrong type of glass cleaning chemical that degraded the water repellent. We are now instructing our folks to ensure FBOs are using the appropriate cleaning chemicals.”

Of course, thunderstorms are a big part of summertime operations, and while every crew knows to fly well around them, it’s a good idea to have an avoidance strategy ready to protect your aircraft on the ground.

“Always have a contingency plan in place for any severe weather like hail, high winds, etc. that may be forecast,” said Flexjet Maintenance and Ground Safety Manager Cary Sager. “Do you hangar the airplane, or do you fly it to another location? Don’t wait until your crew faces the decision to have an approved plan in place.”

And should you decide to move to an alternate airport, it’s a good idea to call ahead and check on the conditions. Extreme heat can weaken ramp and taxiway surfaces. A DOM for a business aviation operator recently shared that during last summer’s heat wave, one of their aircraft actually sunk into the hot asphalt while it was being towed.

“Maintenance is maintenance, but it’s how we go about performing that maintenance in heat extremes that makes the difference,” said Wade. “We need to prepare our technicians with the right clothing, gloves and sunglasses to protect their bodies and minds when out on the ramp.”

While sweat can be an annoyance to a technician, it can be devastating to electronics. So, while performing avionics troubleshooting on the ramp, make sure the tech is taking steps to shield the line replaceable units (LRU) and connectors from any contact with perspiration or moisture of any kind.

“People often don’t realize the dangers of working in the direct sun,” Sager said. “Aircraft surfaces can get really hot. You need to be protected. A big part of what we do for summertime safety is around protecting the mechanics themselves.” ❖

Review NBAA’s maintenance resources at nbaa.org/maint.



WORKERS' COMPENSATION PROGRAM PAYS MILLIONS IN DIVIDENDS

The NBAA Workers' Compensation Insurance Program, in partnership with Old Republic Aerospace, presents an opportunity for you to be rewarded for providing your employees with a safe work environment. Since the program's inception in 2009, participant policyholders have received more than \$10.2 million in dividends.

Your current insurance provider can connect you to the program. For more information, contact Karlie Whitted at kwhitted@ORAero.com



Flight Crew: Teamwork Can Help Prevent Runway Incursions

Several high-profile runway incursion events over the past year are a reminder for pilots to deepen their understanding of proper airport ground movement and radio procedures to stay on top of their game.

Rosa Lee Argotsinger, head of the NBAA Safety Committee's Single Pilot Safety Operational Challenges Working Group and vice president, flight operations for Textron Aviation, noted this isn't a new issue. The FAA issued a call to action on runway safety back in 2007, with a focus on runway incursions.

"We did see some improvement across the industry as a result," she said, "but a 2011 FAA SAFO cited a reversal of that positive trend.

"Situation awareness is really the key here," Argotsinger continued. "This is less about piloting skill and more about recognizing we are humans with relatively short attention spans. Procedures are what ultimately help insulate us from these kinds of errors."

That begins with a thorough understanding of airport layout and ATC

procedures. Bridget Singratanakul, national runway safety representative for the National Air Traffic Controllers Association (NATCA), emphasized how closely runway safety and communications are linked.

"The very basic component of communication is just understanding one another," she said. "Pilots should be diligent and ensure they interpret clearances correctly. Errors have occurred when pilots believed they were complying with a clearance they did not receive."

Complicated taxi routes, parallel runways and other factors can also lead to pilot confusion.

"Preflight briefings are highly important," said Marty Plumleigh, NBAA Safety Committee lead for runway safety issues. "Look for details of what's going on at the airport and listen for anything that may hinder your ability to understand what ATC wants you to do. Take your time," he said.

"The very simple act of writing down clearances and using an airport diagram

during taxi offers a visual aid to work from," said Argotsinger. "Imagine you're in a restaurant and the wait staff takes your order without writing it down. Do you feel nervous about getting exactly what you ordered? The same is true on the flight deck."

Even when operating from your home field or an often visited airport, "Familiarity can often breed contempt and slack behavior," Plumleigh cautioned. "You might have confirmation bias of what you expect to hear from ATC. If they tell you something different and that doesn't register, you'll resort to muscle memory. That can put you and somebody else in great danger."

Fostering greater understanding between pilots and ATC can also drive improved safety. In addition to outreach to flight operations and industry groups like NBAA, Singratanakul noted that NATCA and the FAA work together to develop and refine the Pilot's Handbook of Aeronautical Knowledge, available on the FAA's website.

Controllers also participate in runway safety meetings and conduct tower tours for pilots where available, she added, to help pilots understand the complexities of each other's positions.

"We're a team, and we gain respect for one another by spending time together and communicating with each other," Singratanakul said.

"There were approximately 54.3 million takeoffs and landings at U.S.-towered airports in fiscal year 2023, and ATC spoke with pilots approximately eight times over each arrival or departure," she said. "Each interaction represented a potential incursion on that piece of pavement, but teamwork ensures we're able to maintain a safe and efficient system." ❖

Review NBAA's runway safety resources at nbaa.org/runway-safety.

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Workers' Comp Insurance Program Pays Millions

Old Republic Aerospace is pleased to announce its 2024 distribution of dividend payments, totaling more than \$1 million for participants in the NBAA Workers' Compensation Insurance Program. Since the program's inception in 2009, participant policyholders have received more than \$10.2 million in dividends.

Working with NBAA for almost 15 years, Old Republic Aerospace provides association members a high-quality, competitive solution to aviation workers' compensation insurance coverage. The program also offers members the opportunity to earn a cash dividend, rewarding members for providing employees with a safe work environment and, as a result, reducing the ultimate cost of insurance protection.

Old Republic Aerospace has a proven track record and has been dedicated to the aviation marketplace for the past 40 years. As a member of the Old Republic Insurance Group, one of the 50 largest shareholder-owned insurance organizations in the U.S., Old Republic Aerospace provides the peace of mind that comes from being insured by a Fortune 500 company rated A+ by A.M. Best that has been committed to excellence for the past 100 years.

NBAA members don't have to change insurance brokers to take advantage of this exclusive member benefit. Your current insurance provider can easily connect you to the program.* ❖

Learn more at nbaa.org/workerscomp.



Member Benefits



PHOTO © JAN POLLERS

DON'T MISS THE EBACE2024 COFFEE SOCIAL

If you are attending the 2024 European Business Aviation Convention & Exhibition (EBACE2024), join us on Wednesday, May 29, from 2-3 p.m. (local time) in Booths G90 and I90 for coffee, networking and a sweet treat. Take a commemorative photo at the EBACE photo booth and connect with industry peers and decision makers. EBAA and NBAA staff will be available to answer your questions and help you learn how membership can help make your business even more successful. **Learn more at ebace.aero/2024.**

ACCESS YOUR MEMBER BENEFIT: GO RENTALS VIP SERVICES

NBAA members enjoy a 20% discount when using Go Rentals VIP Services. Go Rentals is the only rental car company specializing in the private aviation industry and has over 175 available locations across the U.S. When using Go Rentals VIP Services, NBAA members are guaranteed five-star service and unmatched vehicle selection, making them NBAA's preferred partner in car rentals.

Learn more at nbaa.org/gorentals.

Professional Development

EXPAND YOUR CAREER WITH NBAA CERTIFICATE PROGRAMS

NBAA offers two certificate programs designed to help business aviation professionals grow in their careers.

“The NBAA Safety Manager Certificate and Business Aircraft Scheduler Certificate programs offer industry professionals the ability to grow in their careers on their own time frame, said NBAA Director, Certification Tyler Austin. “These programs not only elevate individual skills but also contribute to the overall safety and advancement of business aviation.”

The Safety Manager Certificate program – created by NBAA’s Safety Committee in collaboration with Advanced Aircrew Academy, Convergent Performance and Fireside Partners – focuses on six key areas of safety management: leadership, safety policy, risk management, safety assurance, emergency response and safety promotion.

After completion, participants will be able to effectively manage a business aviation organization’s safety management efforts, including its safety management system. This certificate also is approved for NBAA Certified Aviation Manager (CAM) credit.

The Business Aircraft Scheduler Certificate program provides comprehensive introductory- to mid-level training on the duties of a business aircraft scheduler. The program includes nine asynchronous learning modules testing in key areas of aircraft scheduling at an introductory level.

Developed in collaboration with Part 91 scheduler subject matter experts and Universal Weather and Aviation, Inc., modules include: business aviation basics, global regulations, technology, safety, real-time trip support and more.

Participants who complete the course will have a working knowledge of best practices surrounding scheduling business aircraft. Successful participants will receive a certificate and a digital badge to validate their knowledge with their peers. The Business Aircraft Scheduler Certificate is approved for CAM credit.

Learn more about the two programs on the NBAA website:

- **NBAA's Safety Manager Certificate Program** nbaa.org/safety-cert
- **NBAA's Business Aircraft Scheduler Certificate Program** nbaa.org/scheduler-cert



Events Calendar

May

May 15

2024 NBAA Business Aviation Taxes Seminar | Dallas, TX

May 28-30

2024 European Business Aviation Convention & Exhibition (EBACE2024) Geneva, Switzerland

June

June 12

White Plains Regional Forum | Westchester County Airport (HPN), White Plains, NY

October

Oct. 20-21

2024 NBAA Tax, Regulatory & Risk Management Conference | Las Vegas, NV

Oct. 21

2024 NBAA Single-Pilot Safety Standdown | Las Vegas, NV

Oct. 22-24

2024 NBAA Business Aviation Convention & Exhibition (NBAA-BACE) | Las Vegas, NV

2024 NBAA National Safety Forum | Las Vegas, NV

NBAA.ORG/EVENTS

New Certified Aviation Managers

More than 900 business aviation professionals from all segments of the industry have earned the Certified Aviation Manager (CAM) credential. The CAMs listed below are among the latest to join this elite group.

Samantha Besancon, CAM

Scheduler/Dispatcher
Parker Aerospace

Adam Laker, CAM

Chief of Maintenance
The Kroger Co.

Andrew Cosgrove, CAM

Senior Manager, Aviation Maintenance
Walmart, Inc.

Norman A. Lindsey, CAM

Captain and Instructor Pilot
CAE, Ltd.

James Egan, CAM

Senior Captain
Eastman Chemical Company

Jamie Luttrell, CAM

Captain
Battelle Memorial Institute

Timothy Hardy, CAM

Aviation Maintenance Team Leader
Deer & Company Aviation Dept.

John Lutz, CAM

Chief Pilot
Nike, Inc.

Matt Herrington, CAM

Chief Pilot
Hendrick Motorsports, Inc.

Anton Nemahai, CAM

BD700 Pilot

Mark Retterer, CAM

Aviation Captain
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How NASA Is Helping to Define the Future of Business Aviation

Deputy Administrator Pamela Melroy discusses the agency's role in electric aircraft and airspace integration.

NASA Deputy Administrator Pamela Melroy – a retired U.S. Air Force colonel and a former space shuttle mission commander – shared with Business Aviation Insider how the agency's role in developing innovative technologies directly impacts business aviation. NASA is deeply involved in electric aircraft propulsion research and development, as well as advanced air mobility (AAM) airspace integration.

"NASA research works to benefit the entire U.S. aviation community, helping it to remain cutting-edge," Melroy said. "We can be a link between the FAA and industry, helping to bridge the gap between technology demonstration and actual operations. Our job at NASA is to look ahead to innovative types of technologies and learn what kind of support the industry needs."

Melroy is excited about the emerging AAM and eVTOL markets. "We've not really seen any big disruptions in the last 20 years – basically since fly-by-wire was introduced – but eVTOL could be a

"With all of these technologies, we will see a disruption in the business aviation model."

major disruptor," said Melroy, possibly helping to increase service and connectivity at closed or underserved rural airports.

"I'm especially proud of our sustainability initiatives," she said. "NASA helps open capability for more innovation at a better price point to ultimately reduce emissions."

Potentially, electric and hybrid electric aircraft could significantly cut operating expenses by divorcing aviation from fluctuations in fuel prices, so NASA is exploring battery technologies.

The agency is also very involved in airspace integration efforts, in collaboration with the FAA and industry, to ensure that emerging aircraft can be safely integrated into the national airspace – and that the number and type of operations can safely scale over time without overloading the air traffic management system. NASA will begin testing and evaluating software to support these operations in the Dallas metro area soon, Melroy said.

NASA is also working on safety technologies using data mining, machine learning and artificial intelligence to identify precursors to hazards and propose resolutions, potentially preventing incidents before they happen.

"With all of these technologies," said Melroy, "we will see a disruption in the business aviation model." ✨

Pamela Melroy became NASA deputy administrator in 2021. During her 24 years as a U.S. Air Force officer, she logged more than 6,000 flight hours in more than 50 different aircraft. As a NASA astronaut, Melroy served as a pilot on two space shuttle flights and as mission commander on a third. She later held senior leadership posts at the Defense Advanced Research Projects Agency (DARPA) and at Nova Systems.





MAINTENANCE CONFERENCE

CAREER FAIR

May 1, 2024 | 2:00 p.m. – 5:00 p.m. (PT)

May 2, 2024 | 9:00 a.m. – 12:00 p.m. (PT)

Oregon Convention Center | Portland, OR

Looking to launch or advance your career in business aviation?

Join us on May 1 & 2 in Portland, OR for the NBAA Career Fair, which will take place during the 2024 NBAA Maintenance Conference at the Oregon Convention Center.

This event lets you meet face-to-face with hiring managers from organizations who have open positions. Mark your calendars to join your colleagues and be part of the most exciting recruiting event in your field!



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