

NTSB



AVIATION SAFETY PRESENTATION SERIES

EAA AIRVENTURE ★ JULY 25-31, 2022
OSHKOSH, WISCONSIN

Agenda

PROFESSIONALISM is a mindset that includes a vigilant adherence to **procedures** and a desire to constantly **improve proficiency, knowledge, and decisionmaking**. A professional stays focused on making the right decisions for the right reasons. They **do the right thing**, even when no one is watching.

NTSB Board Members and staff will discuss strategies for achieving the highest level of safety when flying and share lessons learned from accident investigations. Learn what to do to be a pro—and what not to do—from the pros!

MONDAY, JULY 25

1300-1415 (Repeats on 7/26) Forum 1

Case Study: Cirrus SR22 Loss of Control

- Timothy Burtch, *Airplane Performance Investigator*

1430-1515 (Repeats on 7/26) * Federal Pavilion

Mastering Maintenance: Tools to Prevent Aircraft Accidents

- Kristi Dunks, *Acting Deputy Director of Regional Operations*

* = FAA WINGS CREDIT AVAILABLE

TUESDAY, JULY 26

0900-1000 * Vintage Hangar

Mastering Maintenance: Tools to Prevent Aircraft Accidents

- Kristi Dunks, *Acting Deputy Director of Regional Operations*

1015-1115 * Federal Pavilion

Case Study: Cirrus SR22 Loss of Control

- Timothy Burtch, *Airplane Performance Investigator*

1430-1545 Forum 5

Case Study: Bradley International, B-17

- Capt. Warren Abrams, *Air Safety Investigator*

WEDNESDAY, JULY 27

0830-0945 (Repeats on 7/30) Forum 5

Case Study: Calabasas, California, S-76B Helicopter Crash

- Mike Folkerts, *Air Safety Investigator*

0915-1015 * Federal Pavilion

Lessons Learned from Weather-Related Accidents

- Don Eick, *Senior Meteorologist*

1430-1530 * Federal Pavilion

It Starts with Us - Flight Instructor Professionalism

- Allison Diaz, *Aviation Accident Analyst*



The NTSB is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, highway and transit, marine, pipeline, and commercial space. We determine the probable cause of the accidents we investigate and issue safety recommendations aimed at preventing future accidents. For more information, visit www.ntsb.gov.

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THURSDAY, JULY 28

1245–1345 Federal Pavilion
Using CAROL to Search NTSB Accident Investigations and Reports

- Loren Groff, *Chief Data Scientist*

1300–1415 Forum 1
What's in Your Medicine Cabinet?

- Dr. Michelle Watters, *Medical Officer*

FRIDAY, JULY 29

0830–0945 Forum 11
Inside the Black Box

- Sean Payne, *Recorder Specialist*
- Michael Portman, *Recorder Specialist*

0900–0945 (Repeats on 7/30) * Vintage Hangar
Pilot Professionalism: How Small Changes Can Make a Big Impact

- Katherine Wilson, *Human Performance Investigator*

1000–1115 Forum 5

Panel Discussion: **FLY LIKE A PRO** Professionalism for the General Aviation Pilot

A conversation on professionalism for general aviation pilots about the topics that every pro needs to know — Attitude, Technical Knowledge, Training, Equipment, and Debriefs/Post Flights.

Moderator: Sean Elliott, *VP of Advocacy and Safety, Experimental Aircraft Association (EAA)*

- Michael Graham, *Board Member, NTSB*
- Mike Goulian, *Mike Goulian Aviation*
- Karen Kalishek, *Board Chair, National Association of Flight Instructors*
- Richard McSpadden, *Executive Director, Air Safety Institute, Aircraft Owners and Pilots Association*
- Charlie Precourt, *Vice Chairman, EAA; former astronaut*

1415–1515 (Repeats on 7/30) * Federal Pavilion
Air Traffic Control Communications During an Emergency

- Brian Soper, *Air Traffic Control Investigator*

SATURDAY, JULY 30

0830–0945 * FAA Hangar
Case Study: Calabasas, California, S-76B Helicopter Crash

- Mike Folkerts, *Air Safety Investigator*

1000–1100 * Federal Pavilion
Pilot Professionalism: How Small Changes Can Make a Big Impact

- Katherine Wilson, *Human Performance Investigator*

1130–1245 Forum 2
Air Traffic Control Communications During an Emergency

- Brian Soper, *Air Traffic Control Investigator*

1515–1615 * Federal Pavilion
Check Your Restraints: Considerations and Case Studies

- Amanda Taylor, *Survival Factors Investigator*

SUNDAY, JULY 31

0930–1030 * Federal Pavilion
The Compounding Effect of Task Saturation

- Heidi Kemner, *Air Safety Investigator*



VISIT OUR BOOTH AT
INTERNATIONAL FEDERAL PAVILION

★ Get aviation safety resources and information ★
★ Meet our investigators and staff ★



Join Board Member
Michael Graham

Wednesday, 27 1330–1500
Thursday, 28 1000–1100
Friday, 29 1300–1400



Session Descriptions & Presenter Biographies

Air Traffic Control Communications During an Emergency

When an emergency occurs, what are the best practices for communicating with air traffic control? This presentation will examine several accident case studies involving pilot weather encounters and equipment failure. We will also discuss how air traffic control can assist and the air traffic control requirements when a pilot declares an emergency. (This session is available for FAA Wings credit.)

- **Friday, July 29** 1415 / * Federal Pavilion
- **Saturday, July 30** 1130 / Forum 2

Brian Soper is lead air traffic control investigator and Uncrewed Aerial Systems (UAS) Program lead at the NTSB. He has been with the agency since 2011, serving as investigator-in-charge, group chair, or technical expert on hundreds of aviation incident and accident investigations. He is currently the senior technical expert for ATC systems and procedures. Prior to joining the NTSB, he served 24 years around the globe in the U.S. Navy as an air traffic controller and avionics technician.

Case Study: Bradley International, B-17

How did a perfectly good B-17 crash on a beautiful fall morning at the Bradley International Airport in Windsor Locks, Connecticut, on October 2, 2019? We will look at the plane, the path, and the people involved in this tragic accident, and the NTSB recommendations aimed at preventing a similar tragedy from happening again.

- **Tuesday, July 26** 1430 / Forum 5

Capt. Warren Abrams is an aviation accident investigator at the NTSB in the Office of Aviation Safety's Operational Factors Division. He joined the agency three years ago after flying for Delta Air Lines for more than 40 years. He has an ATP rating with more than 25,000 flight hours and is typed rated in the B-727, B-757, B-767, B-777 and Cessna Citation. While at Delta, he spent 11 years in the training department as an ADP/examiner on the 727 and 777, as well as chief of the 777 line check airman program. He served on Delta's Go-Team as well as the Air Line Pilot Association's Go-Team for a combined 11 years. He has a bachelor's degree in Aviation Management and a master's degree in Aviation Education from Middle Tennessee State University.

Case Study: Calabasas, California, S-76B Helicopter Crash

How do we, as pilots, train and prepare ourselves to avoid the potential for spatial disorientation and other loss of aircraft control type accidents? We will review lessons from the high-profile S-76B accident, as well as other case studies, that can help you "win the battle" to improve your situational awareness.

- **Wednesday, July 27** 0830 / Forum 5
- **Saturday, July 30** 0830 / * FAA Hangar

Mike Folkerts is a regional air safety investigator with the NTSB who has investigated more than 250 civilian aircraft accidents. Prior to joining the NTSB, he was a pilot in the U.S. Air Force for 25 years and served as an investigator at the Air Force Safety Center. He is an airline transport pilot and flight instructor with more than 7,000 flight hours in a variety of civilian and military aircraft, and has taught safety courses for Embry-Riddle Aeronautical University.

Case Study: Cirrus SR22 Loss of Control

Your flight instructor always tells you "The airplane can stall at any airspeed and in any attitude, and the wing will always stall when the critical angle-of-attack is exceeded." This case study of a 2017 Cirrus SR22 accident that occurred with an experienced pilot in VMC may change the way you think. Maybe your flight instructor and pilot operating handbook did not tell you the full story.

- **Monday, July 25** 1300 / Forum 1
- **Tuesday, July 26** 1015 / * Federal Pavilion

Timothy Burtch has been an airplane performance investigator with the NTSB for 16 years. Prior to joining the NTSB, he worked at McDonnell Douglas, Lockheed Martin, and Rockwell Collins on a variety of commercial and military flight test programs. He holds degrees in Aeronautical Engineering from Georgia Institute of Technology and Embry-Riddle Aeronautical University, and is an instrument-rated aircraft owner.

Check Your Restraints: Considerations and Case Studies

Ensuring the restraint and seating systems in your airplane are installed correctly and in good working condition can mean the difference between minor, serious, or fatal injuries in a crash. We will discuss the basics of restraint systems, and utilize accident case studies to highlight the importance of proper installation considerations and maintenance of sometimes overlooked systems.

- **Saturday, July 30** **1515** / * Federal Pavilion

Amanda Taylor is a survival factors investigator at the NTSB in the Office of Aviation Safety. Prior to joining the NTSB, she worked for the FAA for 15 years as a research engineer for the Civil Aerospace Medical Institute in occupant protection and crashworthiness. In that role, she conducted hundreds of crash tests, from components to full-scale impacts. She has a master's degree in Engineering from Purdue University, and has authored or co-authored several papers concerning the safety of aircraft seats and restraint systems.

Inside the Black Box

Even with the low cost of non-volatile memory storage, you may be surprised to see some of the ways that investigators use electronic data in accident investigations. We will discuss the history of flight recording technology, how data is recovered from damaged electronic devices, how that data is used in NTSB accident investigations, and how data can be used to improve your flying.

- **Friday, July 29** **0830** / Forum 11

Sean Payne has been an engineer and investigator in the NTSB Vehicle Recorders Lab since 2013, where he specializes in the recovery, download, and analysis of cockpit voice recorders and flight data recorders. Prior to joining the NTSB, Payne worked for the U.S. Navy designing modifications and testing launch and recovery systems for aircraft carriers. He holds an engineering degree from Stevens Institute of Technology. He is an instrument-rated pilot, who currently owns a 1982 Christen Eagle II and is building a Vans RV-14.

Michael Portman has served as an aerospace engineer in the NTSB Vehicle Recorders Lab since 2019, where he specializes in the recovery, download, and analysis of cockpit voice recorders and flight data recorders. Prior to joining the NTSB, Portman worked at Delta Air Lines in its flight safety division, where he was involved in safety investigations. He obtained B.S. and M.S. degrees in aerospace engineering at Georgia Tech. He is a private pilot, having first flown as a Young Eagle.



It Starts with Us – Flight Instructor Professionalism

You do not have to be a career flight instructor to be a professional. This review of instruction-related accidents highlights the importance of instructor professionalism in creating a safe and effective training environment that fosters the development of competent pilots.

- **Wednesday, July 27** **1430** / * Federal Pavilion

Allison Diaz is a senior aviation accident analyst at the NTSB with more than 13 years of accident investigation experience. She holds a master's degree in Aviation Human Factors; is a commercial pilot with airplane single-engine land and sea, multi-engine land, instrument, and glider ratings; and a flight instructor in airplanes and gliders. She is an active CFI and owner of a Standard Libelle sailplane.

Lessons Learned from Weather-Related Accidents

About 23 percent of general aviation accidents are attributed to weather. Weather-related accidents also have one of the highest fatality rates, accounting for 30 percent of all fatalities. We will review several weather-related accidents involving adverse winds, VFR into IMC conditions, and thunderstorm encounters; and discuss actions pilots could have taken to avoid them, including obtaining weather, receiving updates, getting weather in the cockpit, and making good weather decisions.

- **Wednesday, July 27** **0915** / * Federal Pavilion

Don Eick is the NTSB's senior meteorologist, with more than 20 years in the Office of Aviation Safety. He has provided his expertise in more than 1,000 investigations. Prior to joining the NTSB, he was the head of meteorology for a major airline. He holds degrees in Aeronautics from Embry-Riddle Aeronautical University and Meteorology from Florida State University, as well as private pilot, aircraft dispatcher, and weather observer certificates.

Mastering Maintenance: Tools to Prevent Aircraft Accidents

While maintenance keeps aircraft flying, occasionally errors can occur. By identifying these errors and understanding the role professionalism plays in aviation maintenance, you will be better equipped to prevent and detect errors and avoid an accident.

- **Monday, July 25** 1430 / * Federal Pavilion
- **Tuesday, July 26** 0900 / * Vintage Hangar

Kristi Dunks joined the NTSB in 2003 and is the Acting Deputy Director of Regional Operations for the Office of Aviation Safety. She is an A&P mechanic, a commercial pilot for helicopters and airplanes, and a flight instructor. Dunks owns a 1955 Super Cub.

Pilot Professionalism: How Small Changes Can Make a Big Impact

We often hear the phrase “Don’t sweat the small stuff.” But when it comes to aviation safety, the “small stuff” can have a big impact. We will review accident case studies that demonstrate how small changes toward professionalism could have prevented a tragedy.

- **Friday, July 29** 0900 / * Vintage Hangar
- **Saturday, July 30** 1000 / * Federal Pavilion

Katherine Wilson is a senior human performance investigator at the NTSB and has been with the agency since 2008. She holds a Ph.D. in Applied Experimental and Human Factors Psychology from the University of Central Florida, a M.S. in Modeling and Simulation from the University of Central Florida, and a B. S. in Aerospace Studies from Embry-Riddle Aeronautical University.

The Compounding Effect of Task Saturation

Do you often feel overwhelmed—with work, family, and all the things on your plate? We will review an accident case study to learn about the cumulative effects of task saturation and share techniques for pilots to avoid getting overwhelmed in the air, which can lead to disastrous effects in flight.

- **Sunday, July 31** 0930 / * Federal Pavilion

Heidi Kemner joined the NTSB in 2008 and is currently a senior air safety investigator in the Eastern Region. She has completed more than 200 accident investigations and worked on multiple major accident investigations. Prior to joining the NTSB, she earned a degree in Safety Science from Embry-Riddle Aeronautical University. She received her private pilot certificate and instrument rating, before she graduated high school, and earned her multiengine commercial rating while in college.

Using CAROL to Search NTSB Accident Investigations and Reports

Not all lessons should be learned from firsthand experience. Learn how to use the NTSB CAROL tool to search aviation accident data, investigative reports, and NTSB recommendations to improve your safety, and see the latest changes the NTSB is making to the tool based on user feedback.

- **Thursday, July 28** 1245 / Federal Pavilion

Loren Groff is the chief data scientist and the senior technical expert for transportation safety data systems and data analyses at the NTSB, supporting accident investigations and safety research. He has a Ph.D. in Human Factors Psychology and, prior to joining the NTSB, was a flight instructor and regional airline pilot. He is (slowly) building a Pietenpol Air Camper, and he knows the real Carol.

What’s in Your Medicine Cabinet?

Ahchoo! Ragweed time—what do you reach for? Allergy and other medications. What to take before flying can be confusing for pilots. We will discuss how you can feel better and fly safer by understanding what type of drugs require wait periods and when you should ask your doctor about substituting. We will review case studies from our investigations that feature medication decisions gone wrong and highlight our 2020 safety study on pilot drug use trends.

- **Thursday, July 28** 1300 / Forum 1

Dr. Michelle Watters joined the NTSB as a medical officer in 2019. Since then, she has worked on more than 150 aviation investigations to determine if medical factors contributed to these accidents. She has an MD with board certification in occupational medicine and broad experience in toxicology.



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