



A O P A A I R S A F E T Y I N S T I T U T E

YEAR IN REVIEW



2 0 1 4



George Perry, Senior Vice President
AOPA Air Safety Institute

MESSAGE

FROM ASI'S SENIOR VICE PRESIDENT

2014 was an exciting year for the AOPA Air Safety Institute (ASI), marked by many significant achievements and a leadership transition designed to help build on past accomplishments. Thanks to donors like you, ASI has contributed greatly to the positive safety trends in general aviation (GA) over the past decade.

Preliminary NTSB data for 2014 suggest a continuation of the favorable trend that began with the all-time low accident record that was first set in 2013, which was the first year in U.S. history that the fatal accident rate for GA dropped below 1.0 per 100,000 flight hours.

Although the trend is positive, GA is our passion, our community, and our extended family, and we believe that even one GA accident is too many. It is our responsibility to provide all pilots of all experience levels engaging educational content that gives them the tools they need to become safer while enjoying the freedom of flying.

Some of our notable accomplishments and contributions to GA safety in 2014 include:

- ASI's online education, seminars, and CFI renewals used more than 2,000,000 times—a new record!
- Seminars presented at 200 locations nationwide to a combined audience of nearly 30,000 pilots
- Two webinars during ASI's popular Storm Week and Ice Week
- Five new publications
- Eight new safety videos
- Seven safety quizzes
- Quarterly *CFItoCFI* and *USAIG Premium on Safety* newsletters
- Three new eFIRC modules
- The Learn & Earn Safety Challenge
- Air Safety Alerts

Even though our work is never done—and our measures for success are difficult to quantify—I'm confident that our mission is important and noble, and our efforts worthwhile. ASI will continue striving for improvement while keeping an eye on the horizon. In 2015 and beyond, ASI will implement new ideas and programs that will influence safety in a proactive way to set the conditions for future success.

On behalf of the entire ASI team, I'd like to express my sincerest gratitude for your generous support. Together, we are making a positive difference and are impacting the lives of pilots and aviation enthusiasts everywhere.

Fly safely!



George Perry
Senior Vice President, ASI

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OUR ACHIEVE MENTS

Over the course of nearly 30 years, I've used different methods to renew my CFI certificate. For my most recent renewal, I decided to use the AOPA eFIRC system. The decision was made because of the known high quality of AOPA training. Additionally, the price was very reasonable, especially when offered the chance to complete the entire process online. I found the training to be exemplary. Completed on my own pace, I was able to focus on the areas that needed more emphasis. I wholeheartedly recommend this course for CFI renewal.

—Capt. Rodney E.

RENEWING FLIGHT INSTRUCTORS

ASI's flight instructor renewal courses (FIRCs)—both online and in-person—renew more flight instructors each year than any other CFI renewal program. In 2014 we renewed almost 9,000 flight instructor certificates while providing high-quality, engaging, and insightful education that promotes safer flight training practices. A helicopter safety module and two new electives—*Teaching VFR into IMC* and *Aging Aircraft*—were added to the eFIRC, which now provides flight instructors 12 electives to help target their specific training needs. Additionally, significant progress was made toward the development of a new seaplane module.

[\[airsafetyinstitute.org/firc\]](http://airsafetyinstitute.org/firc)



AOPA Air Safety Institute's online flight instructor refresher course is tablet-friendly, so CFIs can work through the course no matter where they are.

LEARN & EARN SAFETY CHALLENGE

Sponsored by Sporty's Pilot Shop

The Learn & Earn Safety Challenge, which debuted in December, is an innovative program that offers a fun and engaging way to promote ASI's online courses, Accident Case Studies, and Real Pilot Stories to help pilots refresh their safety knowledge. The interactive safety challenge matches students and pilots with a course tailored specifically to their experience level and flying style, and automatically enters them into a quarterly prize drawing upon completion of any eligible safety program.

The Safety Challenge will run throughout 2015 with one winner announced after the end of each quarter.

[\[airsafetyinstitute.org/learnandearn\]](http://airsafetyinstitute.org/learnandearn)

AIR SAFETY ALERTS

The AOPA Air Safety Institute closely monitors accident trends and, on two separate occasions in 2014, determined there was a need to issue a GA-wide Air Safety Alert. These notices were intended to make pilots aware of risks that were contributing to preventable mishaps. Air Safety Alerts were disseminated to every AOPA member and posted on social media channels to inform as many pilots as possible and provide tools and education to avoid a known risk.

PROMOTING SAFETY THROUGH SOCIAL MEDIA

ASI's Facebook presence increased seven-fold in 2014. Today we enjoy nearly 140,000 Facebook "Likes" and are among the most popular GA-related sites on social media. As we produce more video, our presence on YouTube is also seeing modest growth. With more than 7,000 subscribers and almost 800,000 views in 2014 (and increasing daily), YouTube remains a primary driver to expanding our outreach efforts.

[\[facebook.com/airsafetyinstitute\]](https://facebook.com/airsafetyinstitute)

I love the advice you guys post! You encourage safe flying and help students like myself and guys with thousands of hours be better pilots! I love all the resources you provide. Proud AOPA member and happy ASI subscriber!

—Walter

SAFETY SEMINARS

AIRSAFETYINSTITUTE.ORG/SEMINARS



REAL WORLD WEATHER

Sponsored by AOPA Insurance Services, Jeppesen, FAA Safety Team, Jack Serrell Seminar Endowment Fund, Col. Jim Wesley Memorial Endowment Fund, Virginia Department of Aviation, Kentucky Department of Aviation, South Carolina Aviation Safety Council, Louisiana Department of Transportation – Aviation Section, Iowa Department of Transportation – Office of Aviation

Aviation weather can be a complicated topic, but for pilots it ultimately boils down to two questions: What's really going on out there, and what does it mean for me? This seminar aimed to help with the day-to-day challenge of answering those questions. We looked at the best weather resources, studied situations that tempt pilots to make poor choices, and discussed factors that often lead to weather-related accidents.

ACCIDENT CASE STUDY: LIVE

Sponsored by Col. Jim Wesley Memorial Endowment Fund, FAA Safety Team, Virginia Department of Aviation, Kentucky Department of Aviation, South Carolina Aviation Safety Council, Iowa Department of Transportation – Office of Aviation, Louisiana Department of Transportation – Aviation Section

There's a lot to be learned from aircraft accidents: They let us examine other pilots' mistakes, and help us think critically about our own skills. In this seminar, we put a new spin on safety-oriented accident analysis. Working with compelling real-life cases, audiences stepped into the role of accident investigator—starting at the crash scene and working backwards through physical evidence, eyewitness testimony, and other leads to figure out what went wrong, and why.

WEBINARS

AIRSAFETYINSTITUTE.ORG / WEBINARS



DATALINK: COCKPIT WEATHER DO'S AND DON'TS

Made possible by AOPA Insurance Services

In this live webinar during ASI's annual "Storm Week" in June, Bruce Landsberg and datalink expert Dr. David Strahle discussed important safety considerations when flying with cockpit weather and how pilots can safely complete more trips and minimize their weather risks.

KNOWN ICING, KNOWN RISK

Made possible by AOPA Insurance Services

ASI's second annual "Ice Week," which was sponsored by AOPA Insurance Services and VOYA Financial, in October featured this live webinar presented by ASI Senior Vice President George Perry and NWS Meteorologists Pat Murphy and Gregory Harris. Attendees were led through a case study in which a pilot makes a fatal decision to fly during known icing conditions, despite his own analysis and warnings from a weather briefer. They also learned how to assess icy conditions in weather forecasts to assist pilots with making safer go/no-go decisions.



SAFETY VIDEOS

AIRSAFETYINSTITUTE.ORG/SAFETYVIDEOS

I just watched your newest video titled *Survive: Beyond the Forced Landing*. Wow, what a great production. This is one of your best yet. I learned some very valuable information that I hope to never need but will be forever grateful if I do. I am donating money now in hopes that you can continue to produce great content like this. Keep up the good work. You are saving lives with the work you do.

—Stockton S.

DATALINK WEATHER: FROM CONCEPT TO COCKPIT

Made possible by AOPA Insurance Services

For GA pilots, datalink is arguably the most important technological innovation of the past 15 years. By bringing up-to-the-minute weather into the cockpit, it's greatly increased the utility of our aircraft while making it easier to avoid dangerous situations. This video tells the story of the "datalink revolution" from the perspective of the people who brought it about. It's a behind-the-scenes look at the technology, and a story of individual initiative, the entrepreneurial spirit, and the power of an idea.

SURVIVE: BEYOND THE FORCED LANDING

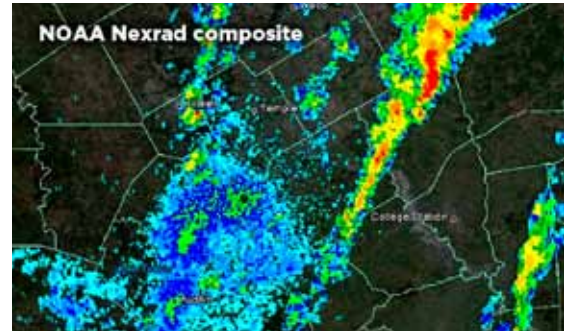
Made possible by the COPA Flight Safety Foundation and the Donner Canadian Foundation

In the event of an unplanned, off-airport landing, your best chances for survival rely upon getting found quickly and the gear you have with you. Without taking precautions against such an emergency before you depart, you're reducing your chances for a positive outcome. In this video, we discuss steps you can take before every flight as well as what you can do once you're on the ground to maximize search and rescue efforts and minimize the life-threatening impact that comes from being isolated in rugged terrain.

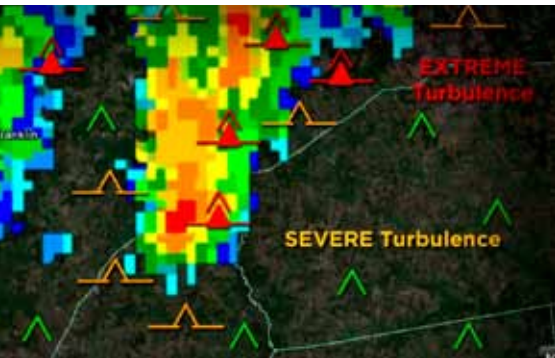
TAKEOFFS AND LANDINGS: CROSSWIND LANDINGS

Made possible by the COPA Flight Safety Foundation and the Donner Canadian Foundation

Managing a crosswind landing correctly is both art and science. Pilots learn the science during their training by focusing on the technique, but rarely is emphasis placed on the art. And if the science is not practiced often, the art can slip away. This video delves into some of the finer points of both technique and art to provide a more rounded approach to mastering crosswinds.



Clips from AOPA Air Safety Institute's safety videos including *Datalink Weather: From Concept to Cockpit* (top), *Takeoffs and Landings: Crosswind Landings* (middle) and *Flying the Weather: T-Storm Toolbox* (bottom).



Clips from AOPA Air Safety Institute's safety videos *Pilot Safety Announcement: Living on the Edge* (left) and *Takeoffs and Landings: Base to Final Turn* (right).

TAKEOFFS AND LANDINGS: STABILIZED APPROACHES

Made possible by the COPA Flight Safety Foundation and the Donner Canadian Foundation

As cliché as it sounds, a good landing starts with a good approach. And it stands to reason: Creating a set of repeatable, consistent steps to stabilize your descent can go a long way towards an uneventful touchdown and rollout. While every landing is different, this video discusses some common steps pilots can apply to every situation to land more consistently and safely.

TAKEOFFS AND LANDINGS: BASE-TO-FINAL TURN

Made possible by the COPA Flight Safety Foundation and the Donner Canadian Foundation

Overshooting the base-to-final turn can be problematic if you're not careful. Pilots from every experience level can fall prey to the problem of flying low and slow while skidding around the turn. These highly fatal crashes tend to result from common reactions to less-than-ideal approaches. This video discusses why it happens and what pilots can do to prevent it.

FLYING THE WEATHER: T-STORM TOOLBOX

Made possible by the Tom Davis Fund

Weather is always a factor in planning a general aviation flight. When that weather is convective, knowledge truly is power. When you find yourself having to evade nasty weather, use every resource you have to paint a complete picture of what you're up against. In this video, Bruce Landsberg and AOPA President Mark Baker discuss what they used to keep themselves safe on a recent flight.

PILOT SAFETY ANNOUNCEMENT: LIVING ON THE EDGE

Made possible by AOPA Insurance Services

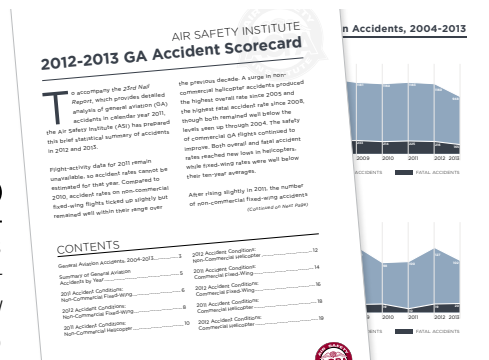
When it comes to convective turbulence, what you don't see can hurt you. Technology in the cockpit, especially when it comes to weather avoidance, has gotten to the point where we can avoid some of the dangers thunderstorms create. But that technology still can't predict where turbulence is going to be. This darkly humorous Pilot Safety Announcement sends the message that giving thunderstorms a wide berth can be life-saving.

PUBLICATIONS

AIRSAFETYINSTITUTE.ORG/PUBLICATIONS

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AOPA Air Safety Institute's
2012-2013 GA Accident
Scorecard (left) and 23rd
Joseph T. Nall Report (right)



23RD JOSEPH T. NALL REPORT

Made possible by the Manuel Maciel Safety Research Endowment and the AOPA Holdings Company

For more than 20 years ASI has produced the *Joseph T. Nall Report*, an annual review of recent trends and patterns in general aviation accidents. The report is widely distributed and serves as the definitive source for government, academia, media, and industry on the state of GA safety.

2012-2013 GA ACCIDENT SCORECARD

The Air Safety Institute's *2012-2013 General Aviation Accident Scorecard* summarizes GA accidents during those two years. Data included total numbers of accidents, fatal accidents, and fatalities, and tabulations of the categories and classes of aircraft involved, pilot qualifications, purposes of the accident flights, and light and weather conditions. It is intended to provide a snapshot of recent GA accidents while the National Transportation Safety Board completes its investigations. A detailed analysis

of 2012's accidents will be provided in the 24th *Joseph T. Nall Report*, with publication anticipated in the first half of 2015.

ACCIDENTS DURING FLIGHT INSTRUCTION: A REVIEW

Made possible by the AOPA Holdings Company

This detailed analysis of a decade's worth of instructional accidents in both airplanes and helicopters reveals unexpected similarities between the primary and advanced levels of dual instruction as well as sharp differences between the types and severity of accidents that characterize dual lessons and student solos. It shows that helicopter students are dramatically less susceptible to solo accidents than students in fixed-wing aircraft. Analysis of the types of advanced training conducted on those flights produces other surprises, including the fact that fewer than half occurred in pursuit of an additional certificate or rating. The results offer useful insights into risk reduction for students, CFIs, flight schools, and pilots seeking recurrent or transition training—in short, almost everyone who flies.



As an active CFI, the [newsletter's] content is well put together, it satisfies my continual desire to learn, and it is well presented...there aren't many resources for CFIs to keep updating themselves but your resources are ideal. You guys do such a terrific job. I can't thank you enough for having this access to us and enhancing GA.

—Niven

CFITOCFI NEWSLETTER

Made possible by AOPA Insurance Services

The digital *CFItocFI* newsletter was distributed four times in 2014 to nearly 53,000 subscribers, including certificated flight instructors (CFIs) and non-CFIs. The newsletter, which promotes safety and education techniques to help CFIs refine their knowledge and skills to conduct flight training in a safety-conscious manner, recently won the coveted 2014 Eddie Digital Award for Association/Non-Profit – Standalone Digital Magazine. The interactive content can be accessed anywhere, anytime, on a PC or mobile device and provides CFIs the ability to instantly share stories, videos, and messages with colleagues and students. *CFItocFI* includes feature articles, CFI commentary and opinions, and operational tips especially aimed at engaging the flight instructor community. In addition, readers will find statistical analysis, accident profiles, and information about ASI safety courses, programs, and quizzes.



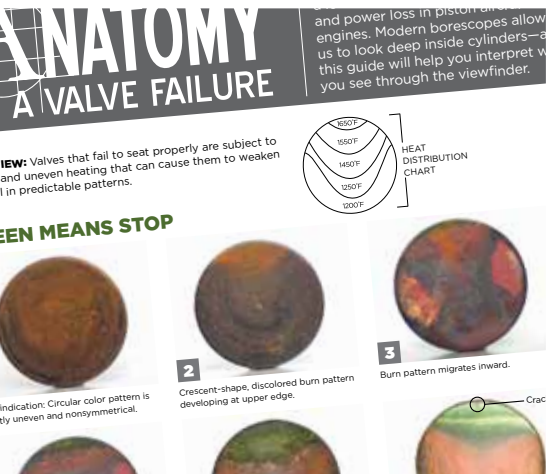
USAIG PREMIUM ON SAFETY NEWSLETTER

Made possible by the United States Aircraft Insurance Group

ASI produces a quarterly digital newsletter for the United States Aircraft Insurance Group (USAIG). The objective is to contribute to the safety of USAIG customers by providing them with authoritative, impartial, and timely information that emphasizes aviation safety education and commentary they will not find anywhere else. The 8-page, full-color newsletter contains features and operational safety tips specifically geared to professional flight departments and their operators, management, and pilots. In addition, *Premium on Safety* includes statistical analysis, accident profiles, ASI safety products, and messages from USAIG executives and the AOPA Air Safety Institute.



AOPA Air Safety Institute's publication of USAIG's *Premium on Safety* is available in both digital and print formats.



ASI's Anatomy of a Valve Failure Poster (left) and *Survive: Beyond the Crash* (right) are both available for download anytime.

ANATOMY OF A VALVE FAILURE POSTER

With support from the AOPA Foundation, mechanic Adrian Eichhorn provided insightful content and photos for a new poster titled “Anatomy of a Valve Failure.” The poster shows the stages of piston engine exhaust valve wear to help aircraft owners and mechanics identify dangerous wear patterns during borescope inspections or engine teardowns before they become critical. The poster was mailed to almost 3,000 GA maintenance facilities and FBOs, and is available for download from the ASI website.

SURVIVE: BEYOND THE CRASH

Made possible by the COPA Flight Safety Foundation and Donner Canadian Foundation

Not every off-airport landing results in a fatality or even severe injuries. In some cases, however, the forced landing marks only the beginning of the ordeal. Even in the best of circumstances, if you happen to go down in a sparsely populated area, it will be hours before you’re found and rescued. Knowing how to survive that time of waiting is crucial. This downloadable publication discusses actions pilots can take to maximize their chances of getting found quickly, and includes a checklist of items they can carry to help them survive the wait.

SAFETY QUIZZES

AIRSAFETYINSTITUTE.ORG/SAFETYQUIZZES



IFR QUIZZES

Made possible by AOPA Insurance Services

Instrument flying is sometimes best understood through the lens of real world scenarios. ASI quizzes go beyond regular chart interpretation to explore ways pilots can overcome unexpected, but realistic, challenges in flight. The following IFR quizzes were produced in 2014:

- Obstacle Departure Procedures
- Crescent City Non-Precision Approach
- GPS Approaches
- A Tale of Two ILSs
- Boardwalk Approach
- Winter Escape

THUNDERSTORM HAZARDS

Sharing the skies with thunderstorms demands no small degree of caution and respect. This safety quiz offers a fun and easy way to better understand these convective beasts while also providing practical tips to avoid them.

ABOUT ASI

The AOPA Air Safety Institute serves all pilots—not just AOPA members—by providing free safety education programs to pilots and flight instructors, analyzing safety data, and conducting safety research. Pilots throughout the world rely on the products from ASI to be safer and better informed. Since 1950, the GA accident rate has decreased by 90 percent—due in large part to the safety education provided to pilots by ASI.

ASI serves GA in many ways, most notably with its education, and also its research that analyzes and categorizes more than three decades of GA accidents and fatalities. From award-winning online courses to in-person seminars, ASI has a lot to offer including:

- Online Courses
- Safety Quizzes
- Safety Videos
- Webinars
- Accident Case Studies
- Accident Analysis
- Real Pilot Stories
- Ask ATC Videos
- Pilot Safety Announcements
- Safety Publications
- Safety-to-Go Downloads
- Safety Spotlights
- In-Person Safety Seminars
- In-Person and Online Flight Instructor Refresher Courses (FIRC)s

These programs are made possible by generous contributions to the AOPA Foundation from pilots like you.



421 AVIATION WAY
FREDERICK, MD 21701

800.872.2672
AIRSAFETYINSTITUTE.ORG

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