Federal Aviation Administration

Fact Sheet – General Aviation Safety

For Immediate Release

July 30, 2014
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The Federal Aviation Administration (FAA) has a number of key initiatives to improve general aviation (GA) safety: NextGen is now for general aviation (http://www.faa.gov/news/updates/?newsId=77744) , the Got Weather? (http://www.faa.gov/about/initiatives/got_weather/) outreach campaign for pilots, and the angle of attack (AOA) policy (http://www.faa.gov/news/press_releases/news_story.cfm?newsId=15714) that is simplifying the design approval requirements for AOA indicators.

The United States has the largest and most diverse GA community in the world with more than 220,000 aircraft including amateur-built aircraft, rotorcraft, balloons, and highly sophisticated turbojets. Reducing GA fatalities is a top priority of the FAA and the FAA's goal is to reduce the GA fatal accident rate by 10 percent over a 10-year period (2009-2018). Loss of control – mainly stalls – accounts for the most GA fatal accidents.

Similar to commercial aviation, the FAA is focused on reducing general aviation accidents by using a primarily non-regulatory, proactive, and data-driven strategy to get results.

Reducing Risk
The FAA and industry are working together to use data to identify risk, pinpoint trends through root cause analysis, and develop safety strategies. We are moving toward using de-identified GA operations data in the Aviation Safety Information Analysis and Sharing (ASIAS) program to help identify risks before they become accidents. On March 31, the FAA announced the start of a one-year project to illustrate the value, capabilities, and benefits of the ASIAS program for the GA community. The project will explore potential new information sources such as General Aviation Flight Data Monitoring, voluntary safety reports, manufacturer reports, and information collected from avionics using new common technologies such as personal electronic devices such as iOS and Android devices.

Data from these programs will be used for GA Joint Steering Committee **(**GAJSC) initiatives and research conducted by the GA community. The GAJSC will work with the GA community to incorporate their data into ASIAS so that it may be used to identify risk.

Formed in the mid-1990s, the GAJSC has a renewed effort to combat GA fatal accidents. The GAJSC is a government and industry group that uses the same approach as the Commercial Aviation Safety Team (CAST). It uses a data-driven, consensus-based approach to analyze safety data to develop specific interventions that will mitigate the root causes of accidents. Recent accomplishments include more than 25 safety enhancements, (such as training, procedures, and technology) to address loss of control. Examples include a new streamlined policy for angle of attack (AOA) system approvals and outreach to the GA community on loss of control topics. The GAJSC is also focusing on engine and other system failures, which can lead to accidents.

The GAJSC combines the expertise of many key decision makers across different parts of the FAA, various government agencies, and several GA associations. The other federal agencies are National Aeronautics and Space Administration, and the National Transportation Safety Board (NTSB) as an observer. Industry participants include Aircraft Owners and Pilots Association, Experimental Aircraft Association, General Aviation Manufacturers Association, Light Aircraft Manufacturers Association, National Business Aviation Association, National Air Transportation Association, National Association of Flight Instructors, Society of Aviation and Flight Educators, and the aviation insurance industry.

Other overall GA achievements include several web-based resource guides, information on flying and medications, and overall GA community coordination on Loss of Control topics. Resource guides include the *General Aviation Pilot's Guide to Preflight Weather Planning, Weather Self-Briefings,* and *Weather Decision Making*, which provide advice to pilots on how to make safe weather flying decisions.

Aircraft Design

The FAA is working with industry and other civil aviation authorities to develop a performance-based approach to airworthiness standards for Part 23 airplanes. These airplanes range from small piston-powered airplanes to complex high-performance executive jets. The goal is to set an international standard that improves safety and reduces certification costs.

Recommendations were developed in 2013 by a 55-member rulemaking committee that includes representatives from the FAA, European Aviation Safety Agency, National Civil Aviation Agency of Brazil, Civil Aviation Administration of China, Transport Canada, Civil Aviation Authority of New Zealand, several airplane and avionics manufacturers, and industry groups. The committee presented its recommendations to the FAA in June 2013. A reorganization of Part 23 will implement many of the committee's recommendations.

The FAA is also working with manufacturers to build stall resistance into aircraft through the use of improved aerodynamics, limited pitch control capability, and sensed angle of attack to better inform the pilot. This work has contributed to the production of autopilots that provide automatic limiting to help prevent loss of control.

New Technology

The FAA is working with manufacturers to define equipage requirements and support NextGen by streamlining the certification and installation of NextGen technologies, such as Automatic Dependent Surveillance-Broadcast (ADS-B).ADS-B enhances GA pilots' awareness of other traffic and improves safety in areas that radar cannot reach, such as Alaska and the Gulf of Mexico. GA pilots can enjoy the subscription-free services and enhanced safety that come with the technology today. Pilots flying properly equipped aircraft can see graphical weather information on cockpit displays, where they are in relation to nearby aircraft, and flight information such as temporary flight restrictions.

The FAA is also clarifying the role of data-link weather in GA operations and the use of portable equipment. Other efforts focus on icing "forecast and avoid" and "detect and escape."

New technologies such as inflatable restraints, ballistic parachutes, weather in the cockpit, AOA indicators, and terrain avoidance equipment could significantly reduce GA fatalities.

Angle of Attack Indicators

On February 5, the FAA took an important step to help improve safety in small aircraft by simplifying design approval requirements for an AOA indicator. AOA indicators provide the pilot with a visual aid to prevent loss of control of the aircraft in the critical phases of flight. Previously, cost and complexity of indicators limited their use to the military and commercial aircraft. Under the new guidelines, AOA devices can be added to small airplanes to supplement airspeed indicators and stall warning systems, giving pilots an additional tool to avoid a dangerous aerodynamic stall and subsequent loss of control.

RVSM Letter of Authorization Process

On January 27, the FAA issued a policy that streamlines the process for granting approval to use Reduced Vertical Separation Minimums (RVSM). The new policy establishes a more flexible and efficient process that will allow the FAA to customize its evaluation for RVSM based on the circumstances of the applicant. Since 2005, RVSM has allowed pilots domestically to fly with 1,000 feet of vertical separation rather than the previous 2,000 feet at cruising altitudes. The FAA will consider previous operator and aircraft experience in determining the extent of the evaluation, and this will reduce the amount of time for operators to receive an authorization. The FAA and industry have worked together since 2012 through the Performance Based Aviation Rulemaking Committee (PARC) to make recommendations to the FAA based on the lessons learned since RVSM was first implemented in January 2005. Additional information is available at http://fsims.faa.gov (http://fsims.faa.gov) and http://www.faa.gov/regulations_policies/orders_notices (http://www.faa.gov/regulations_policies/orders_notices) .

Engagement & Outreach

Weather

Most weather-related accidents are fatal and a failure to recognize deteriorating weather continues to be a frequent case or contributing factor of accidents. The NTSB has highlighted weather on its Most Wanted List. While the GAJSC has produced several safety enhancements related to weather as part of their work on loss of control in flight, the FAA and industry partners launched an eight-month national safety campaign in May titled, "**Got Weather?** to help general aviation (GA) pilots prepare for potential weather challenges they may encounter during the 2014 flying season. The **Got Weather?** safety campaign will run through December and refresh each month to feature a new weather topic such as turbulence, thunderstorms, icing, crosswinds, and the resources available to pilots. Pilots can go to one user-friendly website, Got Weather? (http://www.faa.gov/about/initiatives/got_weather/) , to get fast facts about the topic and links to partner videos, safety seminars, quizzes, proficiency programs, online training, case studies, and more. The campaign partners share campaign materials, link to the website, and promote the campaign on social media with the hash tag, "#GotWx."

Helicopter Safety. The International Helicopter Safety Team (IHST) promotes safety and works to reduce civil helicopter accidents worldwide. The government and industry group was formed in 2005 to address factors affecting an unacceptable helicopter accident rate. The group's vision is an international civil helicopter community with zero accidents with a goal to reduce the international civil helicopter accident rate by 80 percent by 2016.

IHST members establish partnerships with countries with significant helicopter operations and encourage overseas industries to perform accident analysis and develop safety interventions. Worldwide partners include government and industry participants from the United States, Canada, Brazil, Japan, Australia, India, Russia, and multiple countries in Europe, Central Asia, and the Middle East.

The U.S. Helicopter Safety Team (USHST), a team focused on the U.S. commercial helicopter community, was established in 2013.

Airman Testing Standards and Training. To keep pace with advances in technology and educational training methods, the FAA chartered the Airman Testing Standards and Training Aviation Rulemaking Committee (ARC) in September 2011 to engage stakeholders to recommend ways to improve the quality of general aviation airman knowledge, computer testing supplements, guides, practical test standards, and training handbooks. The ARC also considered how to develop test questions that incorporate expert input and review while balancing the need to safeguard test integrity.

To implement key ARC recommendations, the FAA tasked an Aviation Rulemaking Advisory Committee Working Group in August 2012 to develop integrated airman certification standards documents, guidance, and test materials for the private pilot and instructor certificates and instrument rating. The FAA also tasked this group to propose how to realign, streamline and consolidate existing FAA guidance material with each integrated Airman Certification Standards (ACS) documents and ensure that knowledge test item bank questions are consistent with both the ACS documents and the ARC's recommendations. On September 30, 2013, the ARAC submitted the working group's final report (http://www.faa.gov/regulations_policies/rulemaking/committees/documents/media/Airmen.Testing.Standards.Recommendation.Report.9.30.2013.PDF) (PDF) to the FAA with recommendations to improve airman training and testing by establishing an integrated, holistic airman certification system that clearly aligns testing with certification standards, guidance, and reference materials, and maintains that alignment. The group recommended steps the FAA should take to adopt the proposed ACS approach and its ongoing management. On January 29, the FAA published a notice in the *Federal Register* to establish an Airman Certification System Working Group to help the agency ensure that the content of its ACS, guidance, and knowledge testing materials is relevant and current; and that all components of the airman certification system are aligned. The group's charter runs through December 31, 2015.

In 2014, the FAASTeam will continue to present information sessions to the GA community with particular focus on human error and Loss of Control.

Online Resources. The FAASTeam's website (http://www.faasafety.gov/) is a good resource for pilots to help improve their skills and knowledge. The site hosts the FAA WINGS pilot proficiency program. It also contains online pilot training materials and includes courses to help a pilot avoid the pitfalls of VFR flight into Instrument Meteorological Conditions (IMC). Pilots, flight instructors, and mechanics are encouraged to register online.

Amateur-Built Aircraft. Amateur-built and other experimental aircraft were involved in 26 percent of U.S. fatal general aviation accidents over the past five years and account for an estimated five percent of total general aviation fleet hours. With the help of outreach and updated safety materials developed by the FAA and GAJSC industry participants, this segment of the GA industry showed a significant decline in fatal accidents in FY 2013. Loss of control remains the leading cause of fatal accidents involving amateur-built aircraft. The FAA recently updated the Airmen Transition to Experimental or Unfamiliar Airplanes Advisory Circular (AC 90-109) based on recommendations from the Amateur-Built Flight Standardization Board. The AC provides guidance and training experience recommendations to owners, pilots and flight instructors who fly experimental airplanes.

The FAA also plans to publish an AC this year to provide information and guidance on the Additional Pilot Program (APP) for flight testing experimental aircraft. The APP was developed to improve safety by enhancing builder/owner pilot skills and mitigate risks associated with phase I flight testing of aircraft built from commercially-produced kits through the use of a qualified additional pilot. The APP will be optional and will provide another pathway to Phase I flight testing. The draft AC (https://www.faa.gov/aircraft/draft_docs/afs_ac/) was published for public comment earlier this year.

Certificated Flight Instructors. The FAA has been working with the flight instructor community to improve GA safety through improved flight instructor training, most notably recurrent training.

Aviation Universities and Experts. Working through the Aviation Accreditation Board International (AABI) and the University Aviation Association (UAA), the FAA is partnering with the aviation academic community to leverage their expertise and develop best practices for improving flight training.

Background

The General Aviation Accident Rate. While the number of fatal general aviation accidents over the last decade has gone down, so have the estimated of total GA flight hours, likely due to economic factors.

Over the past three years, fatal accidents from Controlled Flight Into Terrain (CFIT) have been reduced by more than 50 percent compared to the previous three years.

However, the general aviation fatal accident rate appears to have remained relatively static based on the FAA's flight hours estimates. The preliminary estimate for FY 2013 is a fatal accident rate of 1.07 with 259 GA fatal accidents with 449 fatalities. In 2012, the fatal accident rate was 1.09 fatal accidents per 100,000 hours flown, with 267 GA fatal accidents. In 2011, the fatal accident rate was 1.12 fatal accidents per 100,000 hours flown, with 275 GA fatalities. In 2010, the fatal accident rate was 1.10 fatal accidents per 100,000 hours flown, with 270 GA fatal accidents.

The Top 10 Leading Causes of Fatal General Aviation Accidents 2001-2011

1. Loss of Control Inflight
2. Controlled Flight Into Terrain
3. System Component Failure – Powerplant
4. Low Altitude Operations
5. Unknown or Undetermined
6. Other
7. Fuel Related
8. System Component Failure – Non-Powerplant
9. Midair Collisions
10. Windshear or Thunderstorm

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