SAFETY ALERT 053

NTSB National Transportation Safety Board

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AVIATION
HIGHWAY
MARINE
RAILROAD
PIPELINE

Arriving at a Major Fly-In Event?

Keep your focus on safety!

The problem

- Arrivals at major fly-in events, such as SUN 'n FUN and Experimental Aircraft Association (EAA) AirVenture, pose unique challenges for pilots (and air traffic controllers), including extremely high-density traffic, special flight and communication procedures, a rapidly changing environment, and changes to air traffic control (ATC) separation standards.
- ATC standards for such events allow reduced runway separation between aircraft, minimized radio communications between pilots and ATC, and shared control of arrival and departure aircraft on the same runway between different teams of controllers. Thus, pilots can be as little as 1,500 ft behind another aircraft landing on the same runway (typical separation standards require 3,000 ft between aircraft), and ATC may be communicating with arrival and departure aircraft on different frequencies, reducing their ability to assess the traffic situation. Pilots may focus so much on complying with ATC instructions in this challenging environment that they lose control of the aircraft, which can lead to a stall.
- Accidents have occurred when pilots were too slow and stalled, used an excessive bank angle (resulting in an accelerated stall), or overshot the runway (resulting in a cross-control stall) when turning from downwind to base leg or from base leg to final.
- Pilots may not adequately review Federal Aviation Administration (FAA) notices to airmen (NOTAMs) published for the events. These NOTAMs are critical to ensuring flight safety because they contain special operational procedures, including arrival and departure routes, communication procedures, and other crucial safety information.
- The major fly-in event environment, with hundreds or thousands of people watching, may create pressure for pilots to continue an approach that they are uncomfortable with rather than go around. Several preventable loss-of-control accidents have occurred on arrival to such events because pilots have inadvertently exceeded their own performance limitations or those of their aircraft while operating in these unique environments.

Related accidents

- **On July 22, 2015, a Piper PA-46-310P** impacted runway 27 while landing at Wittman Regional Airport (OSH), Oshkosh, Wisconsin, for EAA AirVenture. The pilot and two passengers sustained serious injuries, and two passengers sustained minor injuries. The pilot was flying the Fisk arrival to runway 27 in accordance with the FAA NOTAM. The airplane entered the right downwind leg at 1,800 ft and started to descend while maintaining 90 knots. The controller instructed the pilot to turn onto the base leg and land on the "green dot" (about 2,500 ft from the displaced threshold). After starting the base turn, the pilot saw a departing airplane taxi onto runway 27 and begin its takeoff roll. The controller then told the pilot to continue the approach and land on the "orange dot" (about 1,000 ft from the displaced threshold). While turning from base leg to final, about 130 ft above ground level, the pilot reduced power and the airplane entered a steep bank angle, which resulted in a stall. The pilot attempted to recover by adding full power, but the airplane crashed on the runway. (CEN15FA311)

View of the airplane from the left rear quarter (below) and aerial view of accident site and approach end of Runway 27 (right) at OSH, Oshkosh, Wisconsin.

- **On July 27, 2010, a Beechcraft 390** crashed while attempting to land on runway 18R at OSH for EAA AirVenture. The pilot and the passenger sustained serious injuries. The pilot arrived in the area, contacted the tower controller, and was instructed to enter a left traffic pattern. As the airplane was turning from the downwind to base leg, the controller handling departures cleared a Piper Cub for an immediate takeoff and angled departure. The accident pilot could not hear the departure frequency and was therefore unaware that the departing Piper Cub was going to the left of the runway after liftoff. The accident pilot became concerned that his descent path to the runway would conflict with the Piper Cub on takeoff roll. The accident airplane overshot the runway centerline during the turn from base leg to final and was to the right of the runway when it completed the turn. The accident pilot initiated a go-around because he perceived a conflict with the Piper Cub, increasing engine power slightly as he looked for additional traffic. The right wing stalled, and the airplane impacted the ground. A postaccident review indicated that the Piper Cub was already airborne, had turned left, and was clear of the runway when the accident airplane turned from base leg to final. (CEN10FA443)

- **On April 16, 2007, a homebuilt Terrair Express** impacted terrain after a loss of control during landing at Lakeland Linder Regional Airport, Lakeland, Florida, for SUN 'n FUN. The pilot and passenger died. In accordance with the FAA NOTAM, the pilot turned left onto the downwind leg, then onto right base for runway 27R, and was cleared to land. (The downwind entry procedure at SUN 'n FUN is made at a 90˚ angle, which differs from the standard 45˚ angle entry.) About 15 seconds later, the controller advised the pilot not to overshoot runway 27R and again indicated that the airplane was cleared to land on runway 27R. The airplane steeply banked, stalled, and crashed. (MIA07LA077)

What can pilots do?

- **Do your homework!** Study the event NOTAM so that you know what to expect when you arrive. The procedures for an event may change from year to year, so be familiar with the NOTAM each year even if you are a regular visitor to the event.
- **Be mentally prepared** for a challenging and dynamic environment.
- **Brief passengers** in your aircraft about what to expect during arrival and ask them to help you watch for traffic.
- **Keep radio traffic to a minimum** in accordance with the published procedures. As you approach the area, monitor the published frequency to hear what other pilots are being told.
- **Know your limitations and those of your aircraft**. You may be asked to operate in close proximity to other aircraft, make a short approach, follow aircraft that may be slower than your usual approach speed, land at a specific spot on the runway, or expedite takeoff. Brush up on any relevant skills before you go.
- Above all, **know that ATC is there to help and support you**. If you are uncomfortable with an ATC instruction, landing clearance, or aircraft spacing, fly your aircraft first, and advise ATC if you decide to go around. Any controller will tell you that they would much rather deal with a go-around than an accident!

Interested in more information?

Due to the unique challenges for pilots associated with major fly-in events such as EAA AirVenture and SUN 'n FUN, it is particularly important for pilots to review FAA NOTAMs published for the events. Additional safety-related information, including critical tips for safe arrival and departure related to the fly-in events, may be found on the organizations' websites.

The following FAA resources, while not specific to such events, can help you sharpen your skills. They can be accessed from the FAA's website at www.faa.gov:

- A Personal Minimums Checklist can be a helpful tool in assessing your capabilities and determining your readiness for flight.
- "Fly the Aircraft First," an FAA General Aviation Joint Steering Committee Safety Enhancement Topic published in January 2015, contains tips and resources about how to maintain aircraft control and minimize distractions.
- The Airplane Flying Handbook (FAA-H-8083-3A), chapter 4, "Slow Flight, Stalls, and Spins," provides a detailed discussion of stalls and how to prevent them.
- "Runway Safety: A Best Practices Guide to Operations and Communications" is a useful guide that details common communication procedures with ATC.

The NTSB's Aviation Information Resources web page, www.ntsb.gov/air, provides convenient access to NTSB aviation safety products. This Safety Alert and others can be accessed from the Aviation Safety Alerts link at www.ntsb.gov.

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