SCOTT TYRRELL

Vertically Speaking

Have Fun, Be Safe

I bet you can remember your first solo flight like it was yesterday. Likewise, I bet you were anxious and had a great respect for the adventure that you were about to set out on.

Although aviation has become incredibly safe over the years because of technology and training, the potential of a flying accident or incident always exists. Consider that personal/private and instructional/training flights lead U.S. helicopter accidents at 36 percent, according to the International Helicopter Safety Team (IHST) Compendium Report, a detailed accident analysis of 523 helicopter accidents from 2000, 2001, and 2006.

By flying smart, you can help the IHST achieve its goal of reducing the civil helicopter accident rate by 80 percent by 2016. Flying safe will also help you avoid a visit by your friendly FAA or NTSB investigator-in-charge.

Safety starts before you get in the helicopter. A good tool for accomplishing this step is the IMSAFE checklist:

- **I**llness - Are you, the pilot-in-command, suffering from any illness or any symptom of illness that might affect you in flight?
- **M**edication - Are you currently taking prescription or over-the-counter drugs?
- **S**tress - Are there any psychological or emotional factors that might affect your judgment or performance?
- **A**lcohol – What was your alcohol intake within the last 8 to 24 hours?
- **F**atigue - Have you had sufficient sleep and rest in the recent past?
- **E**ating - Are you adequately nourished?

After taking a personal assessment, consider IHST's Self Risk Assessment Toolkit. This toolkit allows small and medium-sized fleet operators and private pilots to assess their operations relative to key IHST recommendations for the U.S. fleet. Using these recommendations does not guarantee an incident-free flight, but implementing them will significantly reduce risks, strengthen your personal safety culture, and could even save your life.

Planning a Safe Flight

Here are some recommendations for planning a safe flight:

- Perform a safe and thorough aircraft preflight. The IHST identified that Performance of Aircraft Preflight procedures was inadequate in 8 percent of the accidents reviewed.
- Maintain a Minimum Safe Altitude (MSA). The IHST identified altitude height as a factor in 11 percent of accidents. A recommended practice is to fly about 1,000 feet above ground level (AGL), or the highest obstacle. Autorotations from 1,000 feet AGL rather than a lower AGL provide many more options for a safe landing. Remember, performing a GOOD autorotation to a BAD spot is better than to perform a BAD autorotation to a GOOD spot!
- Be aware of obstacles. Aeronautical charts depict only those obstacles 200 feet AGL and higher.
- Get the weather forecast. A quick and complete check of the weather is always a great chance to avoid unexpected surprises.
- Let someone know about your flight plans. If you don't file an FAA Flight Plan, consider telling someone your intended route and your estimated time of arrival.
- Run "what if" emergency scenarios as you enjoy your flight.

James Williams Photo

For example, a "what if" scenario might include

making an emergency landing because your engine just died in flight. You have three landing options: A) Water; B) Roads; or C) Trees. Pick one and then commit to it. Remember that increasing your MSA will: increase your glide; eliminate the need to land in water, on a road, or in the trees; and provide the excellent alternative of a golf course.

When it comes to aviation, I would rather learn from other pilots' mistakes than learn from my own, so check out the National Transportation Safety Board's website for accidents related to your aircraft, industry, or region. The tragedy of an aircraft accident is only compounded if we fail to learn something from it.

So have fun, and fly safe.

Scott Tyrrell, a former U.S. Air National Guard officer, is a Continued Operations Specialist and Accident Investigator in the FAA Rotorcraft Directorate. His previous experience includes over 20-plus years in aircraft maintenance including extensive knowledge of C-130 aircraft maintenance as a Commander of an Aircraft Maintenance Squadron and Mission Support Group.

Government Industry Projects

By Scott Speed

Here are some of the Government Industry Projects (GIPs) currently underway, which will help update and advance equipage and operation of WAAS technology.

Associated Aircraft Group (AAG)

This project applies the lessons learned from previous vertical flight projects to New York City low altitude and terminal area operations. This will allow for safer and more enhanced vertical flight operations without impacting current commercial fixed wing traffic into the business jet hub at Teterboro and the three major airports: Newark, LaGuardia, and Kennedy. The primary routes for helicopters in New York transport passengers to and from the local business jet and airline airports and also between the Manhattan heliports and the eastern end of Long Island. This helicopter initiative is in cooperation with AAG, an operator of charter and fractional share helicopters, based in Wappingers Falls, NY.

This project is focused on application of WAAS technology for unique helicopter approaches in the highly complex Air Traffic Control (ATC) environment of New York City. The goal is to deconflict helicopter and fixed wing aircraft to allow unimpeded, simultaneous, all-weather operations. The intention is that these demonstrations, once established, will be converted into public use procedures in the future.

Bell Helicopter

This project, in coordination with Bell Helicopter and the University of Oklahoma, focused on the collection of flight technical data which forms the basis for the creation of Public-Use criteria for helicopter WAAS LPV approaches. Up to now only "Special" procedures have been available for helicopters. These are typically created for individual operators and are not available for use by the public. To facilitate this project Bell Helicopter obtained a Supplemental Type Certificate (STC) for WAAS avionics installed in their newly developed B-429 helicopter. The University of Oklahoma developed portable data collection equipment that was carried onboard the aircraft during tests. The FAA developed demonstration WAAS-based infrastructure in airspace utilized by Air Methods Corporation, which operates the Bell 429 in the Des Moines, Iowa metropolitan area. WAAS LPV approaches to area medical centers were developed using Point In Space designs. This project has been successfully completed. The public-use criteria document has been delivered to the appropriate FAA offices and is currently in the review and release process.

CareFlite

CareFlite, which flies the AgustaWestland A-109E helicopter, is a major operator for medical transport. Aeromedical helicopters transporting patients from outlying areas near the Dallas / Fort Worth Airport (DFW) are faced with transiting the busy and complex airspace surrounding DFW. During inclement weather air traffic controllers routed helicopters operating under Instrument Flight Rules (IFR) away from DFW, causing increased flight time to the medical center helipads and potential flight hazards for arriving and departing airline traffic. Under this project, a WAAS-based demonstration infrastructure was developed first placing new helicopter LPV Point in Space approaches to five trauma centers and then creating a connecting, non-interfering route system encircling DFW. This system allows helicopters to file IFR flight plans to the route system from exterior pick up points then to proceed to the trauma centers' helipads, thus eliminating potential conflicts with airline traffic and allowing air traffic controllers the ability to provide immediate clearances, thereby minimizing flight time from any location to the site of medical units. This demonstration project has had all infrastructure developed, tested, and approved. Flights are underway daily gathering the data necessary to prove the system's functionality.

Scott Speed supports the Global Navigation Satellite Systems group in the FAA as the editor of SatNav News. Previously with Eastman Kodak, Lockheed Martin, and Motorola, Speed writes about technical subjects for general audiences.