HELICOPTER FACTS

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6 Ways That Helicopter Instructors Can Save Lives

After analyzing dozens of helicopter accidents that resulted in fatalities for pilots and passengers, the U.S. Helicopter Safety Team (www.USHST.org) has uncovered six focus areas where flight instructors can improve safety in the helicopter industry. The facts show that failure in these areas has resulted in lives being lost.

Teach the Importance of Pre-Flight Risk Assessment – Flight instructors and new pilots would benefit from guidance on accepted best practices for conducting a full and comprehensive risk assessment prior to a training flight. This information would identify inherent risks and allow mitigation to be implemented and risk to be minimized. The USHST believes that standard guidelines for pre-flight risk assessments on training flights should be established and circulated widely.

Provide Competency-Based Training and Assessments – In its analysis, the USHST determined that 17 percent of fatal accidents involved pilot decision errors attributable to poor knowledge of aircraft performance and limitations, inflight power and energy management, basic maneuvers essential to aircraft control, aircraft systems, or familiarity with the Pilot Operating Handbook. In general, the accidents stemmed from a lack of basic competency to operate the aircraft safely, effectively and efficiently. The USHST believes that recommended practices would improve training for initial helicopter pilot applicants.

Teach Threat and Error Management – While traditional decision-making models focus largely on reactive and proactive means of flight crew situation management, Threat and Error Management uses a predictive process to eliminate threats and errors before, during and after each flight. The USHST believes that the introduction of Threat and Error Management practices should be incorporated into initial and recurrent helicopter training courses.

Train Pilots to Recognize Spatial Disorientation – In the USHST analysis, one out of 10 fatal accidents were linked to spatial disorientation being a cause or a contributing factor to a pilot's incapacitation. The USHST believes that fatal accidents would be reduced if available simulator technology and training scenarios on recognition and recovery from spatial disorientation could be used more widely.

Incorporate Progressive Approaches to Training Autorotations. – Experience with progressive approaches in the training of autorotation maneuvers will help pilots to avoid fatal consequences stemming from unexpected inflight problems. The USHST believes that flight instruction should include more emphasis on recommendations outlined in FAA Advisory Circular 61-140A, which contains topics such as higher entry point and lower entry point autorotations, 300-feet AGL decision checks, and turning autorotation techniques.

Improve Simulator Training for Outside-the-Envelope Conditions – Current models for simulator training are not accurate at edge-of-the-envelope and outside-the-envelope flights scenarios and this may lead to unrealistic training for maneuvers such as loss of tail rotor effectiveness, vortex ring state/settling with power, and autorotation procedures. As a result, the training may not be as effective when these situations are encountered during an actual flight. The USHST believes that improvements to simulator models can be achieved in order to address these limitations in current simulator training.