Recommended Practice

Helicopter Preflight, Final Walk Around and Postflight Inspection Guidelines

Helicopter-Safety Enhancement 28

Helicopter Preflight, Final Walk Around and Postflight Inspection Guidelines

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Helicopter Safety Enhancement (H-SE) 28 Helicopter Final Walk Around and Security of External Cargo

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Prepared for the U.S. Helicopter Safety Team

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Background

From a five-year period, 2009 – 2013, the United States Helicopter Safety Team (USHST) reviewed 104 fatal accidents from the National Transportation Safety Board (NTSB) files to find a common thread in many of these accidents, so they could make recommendations on how to enhance safety in helicopter operations. These recommendations are called Helicopter - Safety Enhancements (H-SE), and there are 21 of them which are available for review at www.USHST.org.

One of the enhancements identified as a cause of several fatal accidents is H-SE # 28, Walk Around Inspection and Security of External Cargo. This enhancement came to be as a result of several fatal accidents that were reviewed where pilots failed to conduct a proper pre-flight inspection and walk around to ensure external cargo was secured. One of these accidents was caused by items that were left outside the aircraft by passengers and upon departure, struck the tail rotor causing the helicopter to crash, fatally injuring all three occupants. Some might think that this is Helicopter 101, but pilots are still killing themselves by not adequately addressing this task.

Scope

H-SE #28 began as a Statement of Work derived directly from Title 14, Code of Federal Regulations (14 CFR § 91.7), which states the pilot in command of a civil aircraft is responsible for determining whether that aircraft is in condition for safe flight. An adequate preflight inspection and final walk around is key to determining the condition of an aircraft prior to flight. Post-flight inspection can also help to identify issues prior to the next flight.

The accidents reviewed by the USHST fall into the Loss of Control-Inflight (LOC-I) dataset involved inadequate aircraft inspections. The USHST and HAI Safety Committee believe that better guidance on both how and why to conduct these inspections, as well as increased attention to their importance, may mitigate such events in the future.

In order to help prevent helicopter accidents resulting from inadequate aircraft inspections before and after a flight, the USHST, with the help of helicopter operators, safety professionals, aircraft manufacturers, and the HAI Safety Committee, developed guidance to reinforce basic pilot skills of conducting a proper preflight and walk around.

Next Steps

The HAI Safety Committee will brief the Airman Certification Systems (ACS) Working Group on guidelines and recommended practices contained in this report to inform inspection requirements in standards as part of the tasks involved with this H-SE.

HAI Safety Committee will also contact the FAA Safety Team (FAAST) to conduct outreach on emphasizing appropriate inspections, including thorough use of the guidelines and recommended practices to Designated Pilot Examiners (DPE), Certified Flight Instructors and applicants for advanced certifications and ratings. They will also conduct outreach efforts with many aviation publications.

Preflight, Final Walk Around, and Postflight Inspection Guidelines

The following guidelines and recommended practices for helicopter preflight inspection, final walk around, and post-flight inspection were developed for the training community and the general pilot community:

- Place a red cover over cyclic or seat red flag and ensure pilot removes only after a completed thorough walk-around inspection. This may also indicate the aircraft is not signed off by maintenance.
- Enforce a “no distraction” policy during pre-flight inspections. This includes unnecessary conversations, eating/drinking, or the use of technology devices unless directly related to conducting the preflight inspection.
- Enforce pilot having a printed or electronic checklist in hand during a pre-flight inspection.
- Ensure passengers are properly briefed by the pilot in command, not just ground operation personnel.
- Ensure pilot/pilots have adequate time for pre-mission planning and pre-flight inspections. Do not rush anything.
- Add a section on the Flight Risk Assessment Tool (FRAT) discussing pre-flight tasks.
- With companies that have multiple aircraft operations, discuss proper pre-flight inspections during pilot briefings.
- Take extra precautions during pre-flight inspections in adverse weather conditions to conduct a thorough walk-around and panel check, cargo check and to ensure passenger doors are secured.
- Always, conduct a final walk around after completion of the pre-flight inspection prior to getting into the aircraft. Pilot or trained crew members should always be the last person to get into the aircraft.
- Conduct post-flight inspection of aircraft looking for fluids, panels, etc.
- Ensure a preflight kit including flashlight, gloves and printed preflight inspection checklist in the event that your “electronic” copy is not available.
- Ensure both main and tail rotors are clear when turning one or the other even when you are alone; someone may approach the aircraft without your knowledge and be injured
- Watch out when stepping on aircraft surfaces, even ones with non-skid, when wet it can be very slippery. Always use two points of contact.
- Ensure the rotor is clear and not tied down. A best practice is to always move the rotors into view and double-check not tied down before the start.
- Verify all flight controls are in the correct position or setting before start paying particular attention to the throttle setting to prevent a hot start.
- Always check fuel cap (s) for security. While you are at it, double-check the fuel level.
- Ground handling wheels removed.
- Ensure passengers do not wear headgear or have it secured.
- If interrupted during preflight, start from the beginning.

Conclusion

The above list is not all-inclusive and additional information can be added. Each recommendation can be expanded per pilot preference. The lack of professionalism and just plain complacency, is causing accidents and killing pilots. Going back to basics may sound elementary but re-focusing on these basic tasks and the recommendations of the H-SEs by the USHST will help reduce helicopter accidents.

As always, Take Action to Fly Safely!

Appendix

The HAI Safety Committee, in cooperation with the United States Aircraft Insurance Group (UISAIG), sponsored a new safety promotional campaign emphasizing this H-SE, and specifically, the importance of completing thorough preflight inspections. A sample of the poster is included below in Figure 1.

A full resolution copy of this safety poster and others are available for download at https://www.usau.com/safety/safety-posters-wallpapers

Figure 1: USAIG HAI Safety Poster, One Last Look

US Helicopter Safety Team Information

To learn more about the US Helicopter Safety Team visit www.ushst.org. Site visitors can review and download an electronic copy of this report and others in the document repository. A summary of other USHST helicopter safety enhancements and related work is also available for review.