



# US Forest Service Aviation Lessons Learned



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**Subject:** Conducting a Risk Assessment of the Cockpit/Cabin Environment

**Area of Concern:** All Aviation Operations

**Distribution:** All Aviation Personnel

**Discussion:** While reviewing the wreckage on a recent aircraft accident, it became apparent that emphasis is necessary to ensure aircrews secure all contents within the aircraft before flight. Any aircraft can have an emergency situation arise, at any time, which could result in unexpected forces affecting the people and contents of the aircraft interior. If the emergency develops into an aircraft accident, then unsecured items in the aircraft interior could become life threatening. [SAFECOM 08-0436](#)

During normal operations unsecured items have exited the aircraft becoming lodged in the tail surfaces of fixed wing or impacting the helicopter tail rotor.

## Lessons Learned:

- During an emergency landing, crash sequence or even turbulence, items such as laptops, handheld radios, large GPS units, flashlights, lunchboxes, briefcases, and others can create a situation where these objects injure the flight crew and passengers.
- The above mentioned items, along with the wiring configurations of some of those items may also present interference with the egress from the aircraft.
- Mounting of aftermarket items, such as yoke mounted GPS's, can interfere with egress as well as cause injury to the pilot.
- Seatbelts and harnesses are only effective if they are on and adjusted correctly.
- Helmets and headsets are only effective if they fit properly and remain on the head of the wearer.
- PPE, that is designed to protect you, can have a negative effect if it is not properly worn. Countless times loose sleeves on flight suits have flipped switches that were not intended to be flipped and caught on parts of the aircraft restricting the ability to exit the aircraft after an accident. A couple of examples are:
  - Recently a blivet was accidentally released when a flight suit sleeve activated the toggle switch on the collective while the pilot was reaching over to switch radio channels. [SAFECOM 08-0386](#).
  - As a helicopter was approaching a landing zone (about 10 feet from the ground) it suddenly dropped so the skids were about five feet from the ground and the tail was two to three feet from the ground. A sawyer riding up front of the Bell 407 with his saw chaps on, quickly moved his leg and the chaps snagged the collective from the pilots hand and caused the helicopter to drop. [SAFECOM 08-0372](#)

- During startup, items both in and around the aircraft need to be secured. Failure to secure loose items in the cabin area may result in an item exiting the containment area and adversely affecting the safety of flight. Recently a window sunscreen was sucked out of the cockpit window as an airtanker started the engine. [SAFECOM 08-0326](#)
- Doors - make sure doors are properly latched and secure before flight. Loose items flying out the door can impact portions of the aircraft impacting flight controls. We've had several instances of doors coming open this year, fortunately we've been very lucky and haven't had any catastrophic results. Here are a few SAFECOMS of doors not being properly latched before takeoff, SAFECOMS [08-0114](#), [08-0164](#), [08-0432](#), & [08-0573](#).

**Closing:** Take a good look at everything in the cockpit and cabin area, make sure it is secured and there are not items that will prevent egress in the event of an incident/accident. Check yourself and each other to ensure clothing/PPE will not interfere with any flight controls and egress and make sure your helmet and seat restraints are adjusted correctly and secured properly. We all know that in aviation "stuff happens" so be PREPARED!

*/s/ Ron Hanks*

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