



# Interagency Aviation Lessons Learned



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**Subject:** Foreign Object Damage (FOD) can kill you

**Area of Concern:** All Aviation Operations

**Distribution:** All Aviation Personnel

## **Discussion:**

On August 31, 2010, at approximately 0940 PDT, a Hiller UH 12E helicopter crashed during a wildlife survey with two biologists and one pilot on board. The aircraft was substantially damaged when it impacted utility lines, a house, a travel trailer, and the ground approximately 35 minutes after departure. The commercial pilot and two biologists suffered fatal injuries. The main wreckage which consisted of the cabin, tail boom, and



main rotor system came to rest in the driveway of a residence. A debris path oriented back along the helicopter's flight path measuring approximately 1,500 feet in length included various items from the helicopter. Some of the earliest items in the debris path contained segments of a metal clipboard that belonged to one of the passengers and the outboard segments of the two tail rotor blades. One of the tail rotor blades exhibited leading edge crush damage that was continuous across the fracture line (Figure 1). Clipboard segments exhibited crease lines and paint transfer marks consistent with the tail rotor blade dimensions and colors (Figure 2). It cannot be determined where the metal clipboard was when it departed the helicopter; however, post-crash analysis indicated the right door was open prior to impact.

**Lessons Learned:** The smallest detail can yield a significant result.

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.

**Doors:** make sure doors are properly latched and secure before flight. Loose items flying out the door can impact portions of the aircraft that affect flight controls.

Items such as laptops, handheld radios, large GPS units, flashlights, lunchboxes, briefcases, etc., during an emergency landing, crash sequence, or even turbulence, can create a situation where unsecured objects injure personnel or inhibit the safe operation of an aircraft.

Figure 1



Figure 2



**Bottom Line:** Take a good look at everything in the cockpit and cabin area and make sure it's secured. Check yourself and each other to ensure clothing/PPE will not interfere with any flight controls and there are no items to prevent you from successfully egressing the aircraft in the event of an incident/accident. Also ensure your helmet and seat restraints are adjusted correctly and secured properly. We all know that in aviation "stuff happens" so be PREPARED!

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