



Interagency Aviation Safety Alert



No. IASA 10-02

March 23, 2010

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Subject: Tossing objects under turning rotor blades

Area of Concern: Helicopter operations

Distribution: All Aviation Activities

Discussion: A Bell 206 L-1, configured for an aerial ignition mission was spooling up for a prescribed burn operation ([SAFECOM 10-0126](#)). In the aircraft were the Pilot, Firing Boss (FIRB), and the Plastic Sphere Dispenser Operator (PLDO). The Helicopter Manager (HMGB) was approximately 50 feet in front of aircraft. The left front door of the aircraft was off at FIRB's request and with the pilot's approval. The aircraft was at flight idle and just after the radio check the HMGB heard the FIRB on air-to-ground say, "could you hold on to this" as FIRB was digging in his left front pocket. The HMGB then made two steps toward aircraft to take the object from the FIRB then heard a sharp noise followed by several other noises approximately twenty feet to left side of aircraft. The HMGB then signaled the pilot to shut the aircraft down. Dispatch was notified that there was a situation and the aircraft would not be available for the prescribed burn.



What Happened? A pocket knife was tossed by the FIRB from the aircraft toward the HMGB, which hit one main rotor blade. The FIRB had attempted to toss the knife into the grass just off the asphalt in front of aircraft to avoid anything falling from aircraft during flight. Upon contact with the rotor blade, the knife burst into pieces landing off to the left side of the aircraft. The pilot inspected the rotor blades finding the point of impact and the HMGB notified the Regional Aviation Maintenance Inspector (RAMI), Contracting Officer Representative (COR) and the Assistant Fire Management Officer (AFMO). The pilot contacted the company mechanic at same time.

Inspection of the rotor blades revealed two small gashes approximately 9 inches from tip of one blade and approximately 2 millimeters deep on the leading edge. Also found were several small paint chips on underside of the rotor blade which did not enter the "honey comb" of the rotor blade. Fortunately, no-one was injured and the rotor blades were able to be repaired, saving thousands of dollars.



Déjà vu? ([SAFECOM 01-0102](#)) A very similar event occurred several years ago when a set of keys were tossed from a Bell 206 B-3 . After exiting the aircraft, the HMGB briefed a helitack crewmember that he was to take the front left seat and the HMGB would stay at the helispot during the recon. The HMGB motioned for him to board and then walked over near the helitack truck to marshal the helicopter. The helitack crewmember started to enter the helicopter but then realized he had the keys to the truck in his pocket. The helitack crewmember threw the keys in the direction of the HMGB which struck the rotor blade about 10 inches from the end of the rotor blade.



As soon as this occurred, the HMGB and pilot communicated the need to shut-down the helicopter. All personnel held positions until rotor blades were no longer turning. As soon as rotors stopped and it was confirmed that there were no injuries. They inspected and confirmed the rotor strike blade damage and located the mangled keys, key ring and carbiner. The pilot contacted the mechanic while the HMGB and helitack crewmember contacted dispatch and the COR to inform them of the mishap.

In both events it was extremely lucky that no one was injured. The high velocity in which the knife and keys traveled easily could have caused serious injury or death.

- **Never** throw, release or toss anything in the vicinity of any aircraft, especially directly around turning rotor blades or propellers. Retain positive control of all objects at all times.
- Review the Basic Aviation Safety booklet (NFES 2097) and Incident Response Pocket Guide (IRPG) in briefings, debriefings and tailgate sessions.

Cost of knife or keys - \$10 to \$100
 Cost of possibly having to replace rotor blade - approximately \$45,000
 Cost of sharing this lesson learned - Priceless

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