



Department of the Interior Lessons Learned

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Subject: Aircraft Preflight and Post-Flight Responsibilities

Area of Concern: Flight Operations

Distribution: All Aviation Activities

Discussion: Last year, the contract pilot of an Aero Commander inadvertently scrapped the bottom of the aircraft during takeoff for a wildland fire air attack / aerial supervision mission. The mishap occurred in response to a runway incursion by a construction truck working on the airport. Not realizing that the aircraft had been damaged, the aircrew elected to continue their mission and returned to base approximately 4.5 hours later. After landing, the pilot inspected the aircraft's wings and landing gear to see if any damage had occurred during the takeoff to which none was discovered.

The next day, the same aircrew flew the aircraft on two separate flights supporting the same mission.

Despite three post-flight inspections and two preflight inspections, the aircrew failed to discover the damage underneath the aircraft.

A relief pilot arrived two days after the mishap occurred and the damage was subsequently discovered during his preflight inspection. The NTSB determined the damage to be "substantial" under 49 CFR 830.2 and classified the event as an accident.



Lessons Learned. The Pilot-In-Command (PIC) is responsible for conducting a thorough pre and post-flight of the aircraft (351 DM 1.1E). FAR § 91.7 also states; “(a) No person may operate a civil aircraft unless it is in an airworthy condition. (b) The pilot in command of a civil aircraft is responsible for determining whether that aircraft is in condition for safe flight. The pilot in command shall discontinue the flight when unairworthy mechanical, electrical, or structural conditions occur.”

Had either a proper post-flight inspection or a preflight inspection been conducted, the damage to the aircraft would have been discovered. Unfortunately, in this instance, the aircrew was operating an unairworthy aircraft – a significant risk to which none of them were aware.

Here is an example of a thorough preflight:

The pilot arrived in the morning and began a normal preflight of the helicopter beginning with the left side. When he opened the engine compartment, he began looking over the hydro-mechanical unit (HMU) and B-nuts to determine if the torque stripes all matched to ensure those connections were not compromised. He quickly noticed that one B-nut was completely off the threads and was dangling on the fuel line.

He informed the fleet manager who then had the mechanics check all of the B-nuts for the fuel system connecting to the engine and the HMU. This is a great example of how attention to detail during a routine inspection can prevent your flight from becoming non-routine.



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