



Department of the Interior Lessons Learned

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Subject: Pilot Proficiency

Area of Focus: Safety Risk Management

Distribution: All Aviation Operations

Discussion: On June 10, 2024, a Department of the Interior CC-18 Top Cub on wheels sustained substantial damage during a landing on an asphalt runway. The aircraft turned rapidly after touchdown and the pilot was unable to regain directional control (ground loop). It was determined that the pilot was not proficient with this particular aircraft configuration. While this may seem like a simple explanation for skill-based error, there were other deficiencies in the mission planning and subsequent safety risk management that contributed to the accident.



Background. The mission was a seasonal aerial survey of fishing activities conducted annually. The pilot was typically assigned to a different area where he flew a Top Cub configured with straight floats, although he was carded for wheels and tundra tires. The pilot had previously conducted 3 wheeled landings/takeoffs in the 90 days preceding the event and was considered “current” by 14 CFR 61.57 PIC Recent Flight Experience requirements; however, the 3 landings/takeoffs were performed in a Top Cub equipped with large 31-inch tundra tires. The accident aircraft was configured with smaller 8.50 x 6-inch tires, which the pilot stated he had not flown in over 20 years. Tundra tires are known for being more pliable and forgiving, which makes them preferred among many pilots for off airport surfaces, whereas smaller tires are much more reactive and require faster control inputs.

Accident. On the day of the accident, the pilot departed his home residence at 05:50 a.m. and drove to the local airport where he traveled on multiple commercial flights to the temporary duty station. After lunch, administrative duties and an area familiarization flight in a float plane, the pilot conducted a preflight inspection of the accident aircraft and filled out a paper flight risk assessment form. The form consisted of “yes/no” check boxes with no quantitative risk analysis or specific currency, proficiency, weather, aircraft configuration, or special use mission requirements. There was no approved Project Aviation Safety Plan for this special-use reconnaissance mission.

The flight departed at 6:25 p.m. which was over 12.5 hours into the pilot's crew duty day, with the project leader (aircrew member) in the rear seat. They returned to the airport 2.1 hour later with the winds at 20° right of runway centerline at 5 to 7 knots. The landing approach was normal, but after the tailwheel touched down the aircraft began an un-commanded turn to the right. The pilot applied full left rudder but was unable to arrest the right turn which continued to increase resulting in the left main landing gear strut fracturing and subsequently led to the left wing and horizontal stabilizer striking the runway surface. The brakes were not applied, as most tailwheel pilots avoid using brakes during tailwheel landings, the pilot's feet were positioned high on the rudder pedals. There were no injuries.

Lessons Learned

Aircraft mishaps are the result of a chain of diverse, yet interconnecting events that together produce unintended, yet predictable consequences. A break in any one of those links would have prevented the accident.

1. **Pre-Mission Planning / Deliberate Risk Management:** PASPs are required by Department policy for Special Use missions, (OPM-29, OPM-06) but they are also an effective tool to address risks associated with changes to personnel, training, and aircraft assignment. Hazards may inadvertently be introduced into an operation whenever change occurs.
2. **Flight Risk Assessment:** The flight risk assessment process is essential for enabling informed go/no-go decisions and should be detailed, honest, and quantitative. In this accident, the pilot's simplistic "yes/no" responses on the form masked significant risks.
3. **Pilot Proficiency vs Currency:** While "currency" pertains to regulatory/policy compliance, "proficiency" involves competence and confidence—which are often subjective. Pilots must assess their proficiency prior to flights, considering their experience, environment, and equipment familiarity. Pre-mission planning should account for both factors to avoid last-minute mission pressures.
4. **Fatigue:** Although the pilot felt alert, the accident occurred 14.7 hours into the duty day, which was beyond the 14-hour limit stated in 352 DM 3.6. Fatigue can cause a decrease in alertness, slowed response time and decision related errors, and often pilots are the last person to admit or even notice that they are fatigued.

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