



SAIB: CE-13-27

Date: April 5, 2013

SUBJ: Flight Controls – Frayed Flap Extend Cables

This is information only. Recommendations aren't mandatory.

Introduction

This Special Airworthiness Information Bulletin (SAIB) is intended to remind owners and operators of any airplane with cable-driven flight controls of the importance of adhering to existing inspection procedures in the applicable maintenance or shop manuals.

At this time, this airworthiness concern is not considered an unsafe condition that would warrant airworthiness directive action under Title 14 of the Code of Federal Regulations (14 CFR), part 39.

Background

The FAA recently received a report of a failed flap extend cable. The failure occurred on approach when the flaps were deployed to 45 degrees. The sudden retraction of the right flap caused the airplane to roll about 80 degrees to the right. The pilot was unable to retract the left flap, but was able to maintain control with the assistance of a passenger, divert to another airport, and land safely by utilizing almost full left aileron control. The report stated the cable was original (over 4,800 flight hours), and the most recent 100-hour inspection had been completed approximately 10 flight hours prior to cable failure.

A search of the FAA's service difficulty report (SDR) system revealed numerous events of a similar nature over a 20 year period. Most reports of fraying occurred near pulleys, and some included comments such as "failure occurred behind a pulley and is not easily inspected without the use of a mirror." If the cable is not properly inspected, it can appear to be acceptable when it really is not.

This SAIB focuses on the condition of the flap extend cables as they route around pulleys on all **Cessna 401, 401A, 401B, 402, 402A, 402B, 402C, 411, 411A, 414, 414A, 421, 421A, 421B, 421C, and 425** airplanes. However, it also applies to the entire flight control system on any airplane model with cable-driven flight controls.

Inadequate inspection of the flight control cables may result in undetected wear and/or corrosion that could lead to cable failure.

Recommendations

The FAA recommends the following:

1. Follow the existing maintenance manual instructions and inspection intervals. For the Cessna airplanes listed above, this typically is a visual inspection of each flight control cable every 200 hours or 12 months, and an expanded inspection of each flight control cable every 600 hours. These intervals may vary slightly depending on model and use of the airplane, so please reference the appropriate airplane maintenance manual.
2. For both the visual and expanded inspections, operate the flight controls through their full travel so that all portions of the cable are exposed for inspection. This may require one person

to cycle the controls and a second person to inspect the cables. If this is not possible, maintenance personnel may find it necessary to remove the cable to get access to the entire length of the cable.

3. For maintenance personnel, review AC 43.13-1B, Chapter 7, paragraph 7-149., “Cable System Inspection.”

For Further Information Contact

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