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SL 116
SL 089/27-002
FAA SAIB CE-13-27R1 – Flight Control Frayed Cables

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MU–2

SERVICE LETTER

MITSUBISHI HEAVY INDUSTRIES, LTD.
NAGOYA AEROSPACE SYSTEMS WORKS
10 OYE-CHO, MINATO-KU, NAGOYA, JAPAN

JCAB T.C.: No. 116 DATE: January 25, 2022

FAA T.C.: No. 089/27-002

SUBJECT: FAA SAIB CE-13-27R1 – Flight Control Frayed Cables

MODELS AFFECTED: All MU-2B Airplanes

This Mitsubishi Heavy Industries, Ltd. (MHI) Service Letter is issued to ensure that all MU-2 owners and operators have received the Federal Aviation Administration (FAA) Special Airworthiness Information Bulletin, CE-13-27R1, dated January 5, 2022.

This SAIB addresses concerns that inadequate inspection of flight control cables may result in undetected wear and/or corrosion that could lead to cable failure. While Mitsubishi MU-2B series aircraft flap systems are driven by torque tubes, all flight control surfaces (elevators, rudders, spoilers, trims) and engine controls are all cable driven.

Recommendations from the SAIB include: (a) visual inspection of each flight control cable in accordance with MHI periodic inspection requirements, (b) operation of the flight controls through their full travel, and (c) review AC 43.13-1B, Chapter 7, paragraph 7-149., “Cable System Inspection.”

MHI Maintenance Requirements Manual (MRM) requires that all flight control and engine control cables are to be inspected at 600 hours / three-year intervals.

In the past, MHI issued Service Letter No. 107 and No. 080/27-001, dated September 30, 2019, along with FAA SAIB CE-19-13, dated July 2, 2019, addressing concerns on cracking and fracturing of flight control cable terminal attachment fittings connected to turnbuckle barrels.

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If you have any questions or personal experiences of erratic radio altimeter indication, please contact MHIA at:

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FAA
Aviation Safety

SPECIAL AIRWORTHINESS INFORMATION BULLETIN

SUBJ: TE FLAP CONTROL SYSTEM, Flight Controls – Frayed Flap Extend Cables **SAIB:** CE-13-27R1
Date: January 5, 2022

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.

The FAA is issuing this revision to list additional models with characteristics similar to those originally listed.

At this time, the airworthiness concern is not an unsafe condition that would warrant airworthiness directive (AD) 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 **Textron Aviation, Inc. (formerly Cessna) 310, 310A, 310B, 310C, 310D, 310E, 310F, 310G, 310H, 310I, 310J, 310J-1, 310K, 310L, 310N, 310P, 310Q, 310R, 320, 320-1, 320A, 320B, 320C, 320D, 320E, 320F, 321, 335, 336, 337, 337A, 337B, 337C, 337D, 337E, 337F, 337G, 337H, 340, 340A, 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 Textron Aviation 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."

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