FAA
Aircraft Certification Service

SPECIAL AIRWORTHINESS INFORMATION BULLETIN

SAIB: CE-10-10

SUBJ: Controls: Flap Control System Rigging and Flap Actuator Overhaul **Date:** November 30, 2009

This is information only. Recommendations aren't mandatory.

Introduction

This Special Airworthiness Information Bulletin is issued to inform you of an airworthiness concern on Hawker Beechcraft Model 60 (Duke) Series twin-engine powered airplanes.

At this time, this 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

After attempting to takeoff, a Hawker Beechcraft Model 60 (Duke) airplane impacted terrain that resulted in the airplane being destroyed. The flap actuators recovered at the crash site indicated that the left flap was fully retracted and the right flap was fully extended, which may have contributed to the accident. Further examination of the flap actuators revealed evidence of torsional-induced overload on the output shaft and corrosion on the output drive shaft subassembly, key location, and roller bearings.

The roller bearings showed evidence of binding. Proper rigging is essential to assure the correct operation of the flap system. If the flap bottoms out in the flap track before the flap limit switch deactivates the motor, it will stress the actuator, the 90-degree output shaft, and key. Repeated cycles with this condition may result in fractures in the key and output shaft.

The internal parts of both actuators were covered with a blend of oil and bearing grease. While it is normal to have grease and oil present in the actuator, the mixture of grease and oil on the actuator screw may be an indication that grease had been used to lubricate the actuator screw rather than oil. The Beechcraft Duke Model 60 Series Maintenance Manual (P/N 60-590001-25) requires the actuator be lubricated with MIL-L-6086 Grade M oil (gear oil) every 1,000 hours. In addition, it requires that the actuator be replaced or overhauled every 2,000 hours. The Hawker Beechcraft Duke Model 60 Component Maintenance Manual (P/N 60-590001-27) requires the bearings to be packed with MIL-G-23827 grease before the actuator is reassembled.

Recommendations

The FAA recommends that owners, operators, and maintenance personnel thoroughly review, understand, and adhere to the information published in the documentation identified above to maintain the flap system in an airworthy condition. Special emphasis should be placed on the correct flap system rigging, actuator overhaul and inspection criteria, and the use of the proper lubricants. Failure to do so can have serious consequences.

For Further Information Contact

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(Optional) For Related Service Information Contact

Hawker Beechcraft Customer Support at 1-800-429-5372 or a Hawker Beechcraft Corporation Authorized Service Center.