FAA
Aviation Safety

SPECIAL AIRWORTHINESS INFORMATION BULLETIN

SUBJ: HORIZONTAL STABILIZER MISCELLANEOUS STRUCTURE– Tailplane Attach Fitting Cracks and Misassembled Fitting Installation

SAIB: CE-14-18
Date: May 15, 2014

This is information only. Recommendations aren't mandatory.

Introduction

This Special Airworthiness Information Bulletin (SAIB) alerts you, owners and operators of **Robert E. Rust, Jr. Models DeHavilland DH.C1 Chipmunk 21; DH.C1 Chipmunk 22A; DH.C1 Chipmunk 22*; serial numbers C1-001 through C1-1014** airplanes, of cracking discovered in certain aluminum fittings that attach the horizontal stabilizer to the fuselage. This SAIB also addresses shims that may be incorrectly installed between the subject fittings and their mating components.

* Note: These airplanes may also be identified by other model numbers such as CHIPMUNK; CHIPMUNK 22A; CHIPMUNK DH22; CHIPMUNK DHC-1T10; CHIPMUNK T10; CHIPMUNK T.10 MK-22; DHC-1; DHC-1A CHIPMUNK; DHC-1B-2; DHC-1B-2-S3; DHC-1B-2-S5; DHC-1C; DHC-1 CHIPMUNK ; DHC1 CHIPMUNK 21; DHC-1 CHIPMUNK 22; DHC1 CHIPMUNK 22A ; DHC-1 SERIES 22; DHC-1 SERIES 23; DHC-1 T.MK. 10; DHC-1 CHIPMUNKX ; DH.C1 MK22A; CHIPMUNK; CHIPMUNK; CHIPMUNK MK20; DHC-1 CHIPMUNK ; DEHAVILLAND DHC-1.

At this time, this airworthiness concern has not been determined to be an unsafe condition that would warrant AD action under Title 14 of the Code of Federal Aviation Regulations (14 CFR) part 39.

Background

The FAA recently became aware of an airworthiness concern through an airworthiness directive (AD) issued by the United Kingdom Civil Aviation Authority Airworthiness (U.K. CAA). This AD, G-2013-0002, dated October 2, 2013, concerns the fittings that attach the horizontal stabilizer (tailplane) to the fuselage and includes the following:

> Cracking has been discovered in an early build standard of tailplane attachment fitting (potential quantity four per aircraft). The fitting is manufactured from aluminum alloy forging and the failure mode is still under investigation. Modification action dating back to the earliest years of the Chipmunk's service replaced this affected fitting with a similar item made from steel. These modifications were not mandated and it is now necessary to ensure the integrity of those aluminum alloy fittings which remain in service. However, the number of alloy fittings remaining in service is likely to be minimal in the UK, but potentially significant overseas.
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> As part of its evaluation of the cracked bracket, DHSL has also identified the potential for misassembly of the fittings, leading to an inadvertent but small change of tailplane incidence. This situation might have some effect on the aircraft flight characteristics.

DHSL have therefore issued Technical News Sheet (TNS) CT(C1) No 209, Issue 1, dated 01 September 2013, which requires a check for correct assembly of the fittings and introduces a repeat crack test of aluminum tailplane attachment fittings.

Recommendations

The FAA recommends the following for de Havilland DH.C1 Chipmunk 21, 22, and 22A airplanes, serial numbers C1-001 through C1-1014, with standard or experimental airworthiness certificates:

- Inspect for damaged fittings and incorrect shim (packer) installation at the next 100-hour or annual inspection, whichever occurs first.

- Replace any damaged fittings and correct any shim installation if required before further flight.Repeat the inspections of aluminum fittings at each 100-hour or annual inspection, whichever occurs first, or modify the airplane with steel fittings, as noted in and in accordance with de Havilland Support Limited; Technical News Sheet Series CT(C1) No. 209, Issue 1-Tailplane Attachment Fittings-Cracking and Misassembly.

References

- U.K. CAA Airworthiness Directive G-2013-0002 http://www.caa.co.uk/docs/33/20131002UKAD20130002.pdf

- de Havilland Support Limited; Technical News Sheet Series CT(C1) No. 209, Issue 1-Tailplane Attachment Fittings-Cracking and Misassembly http://www.dhsupport.com/index.php

For Further Information Contact

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