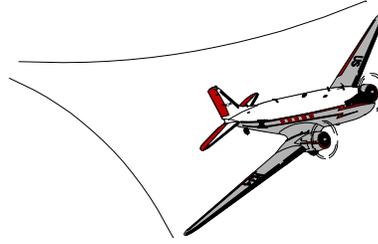


SPECIAL AIRWORTHINESS INFORMATION BULLETIN

REGULATORY SUPPORT DIVISION
P.O. BOX 26460
OKLAHOMA CITY, OKLAHOMA 73125-0460



U.S. Department
of Transportation
**Federal Aviation
Administration**

No. CE-00-33
August 30, 2000

We post SAIBs on the internet at <http://av-info.faa.gov>

This is information only. Recommendations for corrective action aren't mandatory.

Introduction

This Special Airworthiness Information Bulletin (SAIB) advises or provides safety information to you, an owner or operator of British manufactured deHavilland DH.1C1 "Chipmunk" airplanes, serial numbers C1-001 through C1-1014, about several inspections and modifications. British Aerospace published this information as Technical News Sheets (TNS). These TNS were sent to the FAA.

Again, this is information only. Recommendations for corrective action aren't mandatory or regulatory.

Background

British Aerospace wrote some of the TNS as a result of failures of various parts on the Chipmunk airplanes. British Aerospace wrote other TNS after performing additional fatigue testing and analysis of the Chipmunk structures. They do testing and analysis because the aircraft are being kept in service longer than originally intended.

- TNS CT (C1) No. 116, Issue 2, reports cases of the throttle and mixture control rods chaffing against the firewall due to misalignment or a slot that is too small. Other cases concern the throttle control rod fracturing at the fork end attachment to the control lever. This TNS recommends inspecting the control rods for wear and/or binding and replacement or adjustment where necessary.
- TNS CT (C1) No. 172, Issue 3, recommends inspecting brake calipers every 300 hours or two years for possible cracks using either an eddy current or dye penetrant inspection method.
- TNS CT (C1) No. 175, Issue 1, reports that some fuselage center-section tie bars were supplied or repaired with bushings in the end lugs. These bushings significantly lower the fatigue life of the tie bar from 30,000 fatigue hours to 16,000 fatigue hours. The TNS recommends inspection of the tie bar before it reaches 16,000 fatigue hours to determine if it has bushed end lugs. If the aircraft is at or over the 16,000 fatigue hours, and the end lugs are bushed, then replacement of the tie bar is necessary.
- TNS CT (C1) No. 176, Issue 2, notes that original tailplane attachment brackets are subject to stress corrosion cracking. The TNS recommends inspecting the tailplane attachment brackets using the dye penetrant method in 3 months and repeating the inspection every 6 months if P/N C1.TP.167 is installed on the airplane. The life limit of P/N C1.TP.167 is set at 9984 fatigue hours. If cracks are found, or if the old part has reached its life limit, or if the owner/operator wishes to eliminate repetitive inspections, P/N C1.TP.313 may be installed.
- TNS Chipmunk (C1) No. 180, Issue 1, recommends addition of British Aerospace Modification H.358 to increase the fatigue life of the sheet metal structure in the vicinity of the top engine mounting frame attachment points on the forward fuselage. Modification H.358 adds a skin reinforcement to this area and an inspection hole to visually inspect the area for cracks every 3 years.

- TNS CT (C1) No. 190, Issue 2, reports cases of cracked engine mount frames at the junction of the rear top tube and the rear engine mount foot support bracket and at the junction of the front top tube and foot support bracket. Cracks have also occurred at the front of the engine frame. Chaffing damage on the upper aft mount frame tubes has also been found caused by the cowling support rod. The TNS recommends visual inspection and magnetic particle inspection within the next 150 flight hours or next 6 months and a recurrent inspection by magnetic particle method every 600 hours.
- TNS CT (C1) No. 200, Issue 1, recommends incorporation of five modifications to the airplanes.
 - Modification H 225 replaces the extension piece to the rudder torque tube, old P/N C1-TR-91, with a new extension piece, new P/N C1-TR-159, because cracks have been found in the vicinity of the attachment lugs.
 - Modification H 269 replaces the aluminum rivets which secure the elevator interconnecting flanges to the torque tube with high tensile strength DHS 1293 steel pins. If this area has been overloaded the rivets could be sheared or loose without being visible. The best means of checking the security of the rivets is by holding one elevator while attempting to move the other elevator. Movement of the torque tube within the end fitting indicates failed or loose rivets.
 - Modification H 275 replaces standard bolt A25/66G on the tailwheel yoke for airplanes with glider towing attachments with a special high tensile strength bolt, P/N C1 UT 199. This is only applicable to airplanes with Glider Towing Modification H 197.
 - Modification H 282 adds a bolt, rivnut and packing at the center of the fire extinguisher bracket for a more secure mounting.
 - Modification H 360 adds reinforcing strips to the rear spar flange of the vertical fin. The inner and outer edge of the rear spar flange of the vertical fin should have two internal reinforcing angles, P/N's C1 Z 4255/56 ND, and two external reinforcing strips, P/N's C1 Z 4253/54 ND.

Hawker Siddeley TNS GM10 No. 49 for Gipsy Aero Engines with Propeller Hub Assembly P/N 43787, reports cracks found in the corner of the angular cut-outs propagating over the curved portion towards the mounting holes of the Vernier lockplate, P/N 38535 or 2100-5. These cracks can cause the propeller hub nut to loosen. This TNS recommends a dye penetrant inspection of the Vernier lockplate every 300 hours.

Recommendation

The FAA is recommending, but not requiring at this time, that owners/operators of British manufactured deHavilland Chipmunk DH.C1 airplanes review the TNS above and perform the necessary inspections or modifications. The FAA is considering issuance of Airworthiness Directives related to TNS 175, 176, 190 and 200 (except for Modifications H 275 and H 282).

Copies of the Chipmunk Technical New Sheets can be obtained from BAE SYSTEMS, Customer Solutions and Support, AAR and Nimrod Business Unit, Greengate, Middleton, Manchester, M24 1SA, United Kingdom. BAE's Field Support Department may be contacted at the above address or by telephone at (+44) 161 955 8789 or facsimile at (+44) 161 955 8798. Copies of the Hawker Siddeley TNS can be obtained from Deltair Engines Ltd., Turnpike Business Park Units 1-5, The Retreat, Old Turnpike, Fareham, Hampshire, PO16 7HA, England, telephone (+44) 132 982 3689, facsimile (+44) 132 982 3812.

For Further Information, Contact

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