Airworthiness Directive

De Havilland DH60 Moth Series Aircraft

CIVIL AVIATION AUTHORITY OF NEW ZEALAND

Issued by the Civil Aviation Authority of New Zealand in accordance with section 72I(3A) of the Civil Aviation Act. An Airworthiness Directive (AD) contains regulatory information which is mandatory. An operator of an aircraft must not operate the aircraft unless the operator complies with every applicable AD issued by the Director in accordance with section 72I(3A) of the Civil Aviation Act. An AD is issued where the Director believes on reasonable grounds that an unsafe condition exists in an aircraft or aeronautical product.

DCA/DH60/111B **Croydon Manufactured Wing Spars – Inspection**

Applicability: De Havilland DH60 Moth series aircraft fitted with replacement wing spars manufactured by Croydon Aircraft Company Limited prior to 31 May 2008.

For DH60 Moth series aircraft, affected wing spar part numbers are as follows:

Wing spar position:	LH and RH P/N:
Top front	H27949A /C
Top rear	H27950A /C
Bottom front	H27951A /C
Bottom rear	H27952A /C

Wing spars may have been supplied under STC number 0/21E/3 issued 20 March 2003.

Note 1: DCA/DH60/111B revised to introduce a one-time inspection of the wing spars. If the spar section properties conform to the original de Havilland design, then no further action is required, and the previous flight limitations can be removed.

Requirement: Review the aircraft records and determine if wing spars manufactured by Croydon Aircraft Company Limited (CACL) prior to 31 May 2008 are fitted to the aircraft.

1. If an affected wing spar is found installed, then aerobatics or other flights involving high load factors, including flight in turbulant conditions are prohibited until requirement 2 of this AD has been accomplished.

2. If an affected wing spar is found installed, then measure the spar section and determine whether the spar section matches standard de Havilland practice with respect to the spar web cut-out. This can best be done by looking at the inner radius of the spar web cut-out, which should be a minimum of 0.5 inches radius. The incorrectly machined spars have a sharper radius of 0.25 of an inches.

   If the wing spar section properties conforms to the original de Havilland design, then no further action is required, and the previous flight limitations can be removed.

   If the wing spar section properties do not conform to the original de Havilland design, then report the details to the CAA by completing a CA005 Defect Report form. Please provide the spar part and serial numbers, a copy of the release documentation, and full dimensions of the spar section. The form can be obtained from http://www.caa.govt.nz/Forms/CA005D_Form.pdf. The completed form can be emailed to the CAA at CA005@caa.govt.nz.

Note 2: Following receipt of a CAA 005 Defect Report the CAA will review the incorrect spar shape and its structural effect, and advise if the spar can continue in service.

Compliance: 1. From 4 August 2017 (the effective date of DCA/DH60/111).

2. At the next periodic inspection when the spar is accessible, or at the next 100 hour inspection, or at the next annual inspection, whichever is the sooner.

Effective Date: DCA/DH60/111 – 4 August 2017
DCA/DH60/111A – 10 August 2017
DCA/DH60/111B – 28 February 2018

Background: CAANZ has received a report from DH Support Ltd of incorrectly machined DH82 mainplane spars manufactured by Croydon Aircraft Company Limited (CACL). There is the possibility that other mainplane spars and aileron spars for de Havilland DH60, DH82 and DH83 aircraft

manufactured by this company may not conform to the approved type design. These spars were sold as replacement parts for repairs and aircraft restorations.

A subsequent engineering investigation has found that the incorrectly machined spars which have been reported still have sufficient sectional properties to be able to support the original design loads. This was determined on the basis of comparison with the original de Havilland spar design using minimum dimensions, when combined with the original design analysis conservatism and safety margin. However, a one-time inspection is still required the next time the spar is accessible to confirm that the spar sectional properties (cross-sectional area, curve radius) are no less than that assumed in the engineering investigation.

The CACL Part 148 Aircraft Manufacturing Organisation Certificate expired on 31 May 2008. Since that date the company had no authority to issue any CAA Form Ones, and was not subject to CAANZ oversight of its activities. It has also been reported that CACL continued to manufacture parts and issue CAA Form Ones after that date. Any CAA Form Ones issued by CACL after 31 May 2008 are not valid, and any parts supplied after that date cannot be shown to have been conformed under Part 148. (Refer AD DCA/GEN/36.)