
AIRWORTHINESS DIRECTIVE

For the reasons set out in the background section, the CASA delegate whose signature appears below issues the following Airworthiness Directive (AD) under subregulation 39.001(1) of CASR 1998. The AD requires that the action set out in the requirement section (being action that the delegate considers necessary to correct the unsafe condition) be taken in relation to the aircraft or aeronautical product mentioned in the applicability section: (a) in the circumstances mentioned in the requirement section; and (b) in accordance with the instructions set out in the requirement section; and (c) at the time mentioned in the compliance section.

AlliedSignal (Lycoming) Turbine Engines - T53 Series**AD/T53/23****Combustion Chamber Housings****10/2009**

Applicability: Honeywell International Inc. T5313B, T5317A, T5317A-1, T5317B, and T5317BCV turboshaft engines with combustion chamber housing (CCH), part numbers (P/Ns) 1-130-610-05, 1-130-610-12, and 1-130-610-17, installed.

Note 1: These engines are installed on, but not limited to, Bell 205 and 210 Series and Kaman K-1200 helicopters.

Requirement: 1. For CCH, P/N 1-130-610-05 and 1-130-610-12, inspect the area between points A and B around the entire housing circumference in Figure 1 of this AD for weld repairs and cracks.

2. If as a result of the Requirement 1 inspection:

a. Any cracks are found - replace the CCH.

b. If any weld repairs are found - replace the CCH.

Honeywell International Inc. Alert Service Bulletin (ASB) T53-A0142, Revision 1, dated 14 September 2006, contains additional guidance on replacing the CCH.

3. For CCH, P/N 1-130-610-05 and 1-130-610-12, inspect the area between points A and B around the entire housing circumference in Figure 1 of this AD for cracks.

Honeywell International Inc. Standard Practices Manual 70-20-02, SP 1302, contains additional guidance on visual inspection.

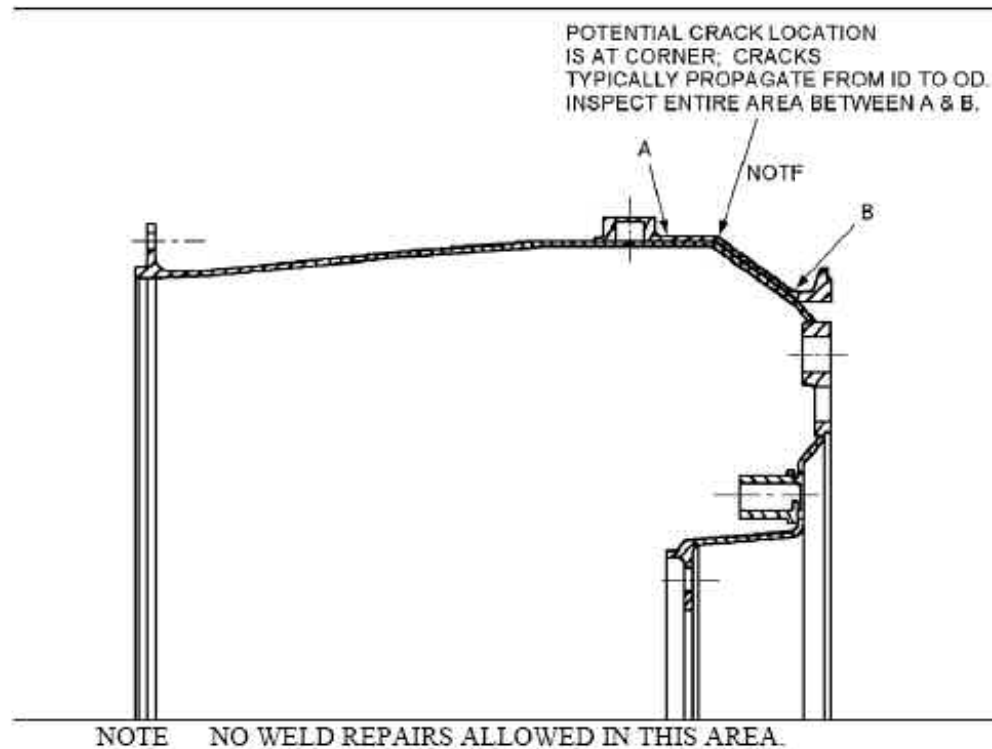
4. If you find any cracks, replace the CCH.

Honeywell International Inc. ASB T53-A0142, Revision 1, contains additional guidance on replacing the CCH.

AlliedSignal (Lycoming) Turbine Engines - T53 Series

AD/T53/23 (continued)

Figure 1. Visual Inspection of CCH



5. Perform an ultrasonic inspection on the CCH. Use Honeywell International Inc. Service Bulletin (SB) No. T53-0144, Revision 4, dated 31 March 2008, section 3. Accomplishment Instructions and the SB Appendix to perform the ultrasonic inspection.
6. Repeat the ultrasonic inspection on the CCH using Honeywell International Inc. SB No. T53-0144, Revision 4, section 3. Accomplishment Instructions and the SB Appendix.

Optional Terminating Action

Installation of a CCH P/N 1-130-610-19 or 1-130-610R16, or an FAA approved equivalent part, terminates the inspection requirements of this AD.

Note 2: FAA AD 2009-15-13 Amdt 39-15976 dated 14 July 2009 refers.

Compliance: For Requirement 1 - Within 50 hours time-in-service (TIS) after the effective date of this AD.

For Requirement 2.a. - Before further flight.

For Requirement 2.b. - Within 100 hours TIS after the visual inspection.

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AD/T53/23 (continued)

For Requirement 3 - Within every 50 hours time-since-last inspection.

For Requirement 4 - Before further flight.

For Requirement 5:

For CCH, P/N 1-130-610-05 and 1-130-610-12, within 500 hours TIS or next hot section inspection, whichever occurs first after the effective date of this AD, but not to exceed 6 months after the effective date of this AD.

For CCH, P/N 1-130-610-17, perform at the first overhaul, but do not exceed 5,000 hours or 11,000 cycles, after the effective date of this AD, whichever occurs first.

For Requirement 6:

Within every 1,200 flights, defined as the cumulative number of landings, since the last inspection; or

Within every 200 flights, if the last inspection had ultrasonic findings as defined in paragraph 3.A.(2) or paragraph 3.A.(3) of Honeywell International Inc. SB No. T53-0144, Revision 4.

This Airworthiness Directive becomes effective on 24 September 2009.

Background: This AD results from eight instances of cracks in CCHs. Two of the instances resulted in an engine shutdown during flight. The issuing of this AD is intended to detect cracks in the CCH, which could result in rupture of the CCH, leading to loss of engine power and damage to the helicopter.



James Coyne
Delegate of the Civil Aviation Safety Authority

12 August 2009