



DATE: June 10, 2014

AD #: 2014-12-51

This emergency airworthiness directive (EAD) 2014-12-51 is being sent to owners and operators of Airbus Helicopters (previously Eurocopter France) Model EC130B4 and EC130T2 helicopters.

Background

This EAD was prompted by reports of a crack propagating through the Fenestron to tailboom junction frame (junction frame) on two EC130B4 helicopters. This EAD requires, for helicopters with 690 or more hours time-in-service (TIS), within 10 hours TIS, dye-penetrant inspecting certain areas of the junction frame for a crack. This EAD also requires, at intervals not exceeding 25 hours TIS, either repeating the dye-penetrant inspection or performing a borescope inspection of certain areas of the junction frame for a crack. If there is a crack, this EAD requires replacing the junction frame. These EAD actions are intended to detect a crack and to prevent failure of the junction frame, which could result in loss of the Fenestron and subsequent loss of control of the helicopter.

Discussion

The European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Union, has issued EASA EAD No. 2014-0145-E, dated June 6, 2014 (EAD 2014-0145-E), to correct an unsafe condition for Airbus Helicopters Model EC130B4 and EC130T2 helicopters. EASA advises that following unscheduled inspections, two events of crack propagation through the junction frame of the tailboom/Fenestron were reported on EC130B4 helicopters, and that an investigation revealed the cracks initiated in the lower right-hand part of the junction frame between the web and the flange where the lower spar of the tailboom is joined. EASA also advises that the cracks were of a significant length, and were not visible from the outside of the helicopter. Finally, EASA advises that this condition, if not detected, could lead to structural failure, possibly resulting in Fenestron detachment and consequent loss of control of the helicopter. EASA EAD 2014-0145-E requires, within 10 hours TIS or 7 days, inspecting the junction frame in the radius between the web and the flange on the tailcone side for a crack. EAD 2014-0145-E also requires, at intervals not exceeding 25 hours TIS, inspecting the frame web for a crack with a borescope. If there is a crack, the EASA AD requires contacting Airbus Helicopters for repair procedures.

FAA's Determination

These helicopters have been approved by the aviation authority of France and are approved for operation in the United States. Pursuant to our bilateral agreement with France, EASA, its technical representative, has notified us of the unsafe condition described in the EASA EAD. We are issuing this EAD because we evaluated all information provided by EASA and determined the unsafe condition exists and is likely to exist or develop on other helicopters of these same type designs.

Related Service Information

Airbus Helicopters has issued Emergency Alert Service Bulletin No. 05A017, Revision 0, dated June 6, 2014 (EASB 05A017) for model EC130B4 and EC130T2 helicopters. EASB 05A017 describes procedures for inspecting, through the inside of the tailboom, the web of the frame and in the radius between the web and the flange on the tailcone side for a crack. If there is a crack, EASB 05A017 directs operators to contact Airbus Helicopters for specific procedures to return the helicopter to conformity.

EAD Requirements

This EAD requires, for helicopters with 690 or more hours TIS:

- Within 10 hours TIS, removing the horizontal stabilizer, cleaning the junction frame, and dye-penetrant inspecting the junction frame for a crack in the areas shown in Figure 1 of EASB 05A017;
- Within 25 hours of the dye-penetrant inspection, and at intervals not exceeding 25 hours TIS, either repeating the dye-penetrant inspection or, using a borescope, inspecting the junction frame for a crack in the areas shown in Figure 2 of EASB 05A017.
- If there is a crack, this EAD requires, before further flight, replacing the junction frame.

Differences Between This EAD and the EASA AD

EAD 2014-0145-E allows a visual inspection for the initial 10 hour TIS inspection, while this EAD requires a dye-penetrant inspection. If there is a crack, EAD 2014-0145-E requires contacting Airbus Helicopters for approved repair instructions, while this EAD requires replacing the junction frame. Finally, EAD 2014-0145-E requires inspecting the junction frame within 10 hours TIS or 7 days, whichever occurs earlier, while this EAD requires inspecting within 10 hours TIS.

Interim Action

We consider this EAD to be an interim action. If final action is later identified, we might consider further rulemaking then.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. "Subtitle VII, Aviation Programs," describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in "Subtitle VII, Part A, Subpart III, Section 44701, General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Adoption of the Emergency Airworthiness Directive (EAD)

We are issuing this EAD under 49 U.S.C. Sections 106(g), 40113, and 44701 according to the authority delegated to me by the Administrator.

(a) Applicability

This EAD applies to Airbus Helicopters Model EC130B4 and EC130T2 helicopters, with 690 or more hours time-in-service (TIS), certificated in any category.

(b) Unsafe Condition

This EAD defines the unsafe condition as a crack in the tailboom to Fenestron junction frame (junction frame). This condition could result in failure of the junction frame, which could result in loss of the Fenestron and subsequent loss of control of the helicopter.

(c) Effective Date

This EAD is effective upon receipt.

(d) Compliance

You are responsible for performing each action required by this EAD within the specified compliance time unless it has already been accomplished prior to that time.

(e) Required Actions

(1) Within 10 hours TIS, remove the horizontal stabilizer, clean the junction frame, and dye-penetrant inspect around the circumference of the junction frame for a crack in the areas shown in Figure 1 of Airbus Helicopters EC130 Emergency Alert Service Bulletin No. 05A017, Revision 0, dated June 6, 2014 (EASB 05A017). Pay particular attention to the area around the 4 spars (item b) of Figure 1 of EASB 05A017. An example of a crack is shown in Figure 3 of EASB 05A017.

(2) Within 25 hours TIS of the inspection required by paragraph (e)(1) of this EAD, and thereafter at intervals not exceeding 25 hours TIS, either perform the actions of paragraph (e)(1) of this EAD or, if the area is clean, using a borescope, inspect around the circumference of the junction frame for a crack in the areas shown in Figure 2 of EASB 05A017. Pay particular attention to the area around the 4 spars (item b) of Figure 2 of EASB 05A017. An example of a crack is shown in Figure 3 of EASB 05A017.

(3) If there is a crack, before further flight, replace the junction frame.

(f) Special Flight Permit

Special flight permits are prohibited.

(g) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Safety Management Group, FAA, may approve AMOCs for this EAD. Send your proposal to: Robert Grant, Aviation Safety Engineer, Safety Management Group, FAA, 2601 Meacham Blvd., Fort Worth, Texas 76137; telephone (817) 222-5110; email robert.grant@faa.gov.

(2) For operations conducted under a 14 CFR part 119 operating certificate or under 14 CFR part 91, subpart K, we suggest that you notify your principal inspector, or lacking a principal

inspector, the manager of the local flight standards district office or certificate holding district office, before operating any aircraft complying with this EAD through an AMOC.

(h) Additional Information.

(1) For further information contact: Robert Grant, Aviation Safety Engineer, Safety Management Group, FAA, 2601 Meacham Blvd., Fort Worth, Texas 76137; telephone (817) 222-5110; email robert.grant@faa.gov.

(2) For a copy of the service information referenced in this AD, contact: Airbus Helicopters, Inc., 2701 N. Forum Drive, Grand Prairie, TX 75052; telephone (972) 641-0000 or (800) 232-0323; fax (972) 641-3775; or at <http://www.airbushelicopters.com/techpub>.

(3) The subject of this AD is addressed in European Aviation Safety Agency EAD No. 2014-0145-E, dated June 6, 2014.

(i) Subject

Joint Aircraft Service Component Code: 5302: Rotorcraft Tailboom.

Issued in Fort Worth, Texas, on June 10, 2014.

Kim Smith,
Manager, Rotorcraft Directorate,
Aircraft Certification Service.