



DATE: March 24, 2014

AD #: 2014-06-51

This superseding emergency airworthiness directive (EAD) 2014-06-51 is being sent to owners and operators of Airbus Helicopters Deutschland GmbH (previously Eurocopter Deutschland GmbH) Model MBB-BK 117 A-3, MBB-BK 117 A-4, MBB-BK 117 B-1, and MBB-BK 117 C-2 helicopters with a Metro Aviation, Inc. (Metro) vapor-cycle air conditioning kit pulley (pulley), part number (P/N) 30001, installed in accordance with Supplemental Type Certificate (STC) No. SH3880SW.

Background

On June 13, 2013 we issued AD 2013-12-06 (78 FR 40956, July 9, 2013) which required repetitively inspecting the air conditioning drive pulley for looseness and properly installed lockwire, and also required reinstalling the pulley. AD 2013-12-06 was prompted by two reports of the pulley detaching from the rotor brake disk on the tail rotor (T/R) driveshaft.

On December 20, 2013 Metro requested and we approved a global Alternative Method of Compliance (AMOC) for AD 2013-12-06 (78 FR 40956, July 9, 2013), which allowed installing a tabbed washer in lieu of performing the repetitive inspections required by paragraph (e) of that AD. On March 10, 2014, we received a report that an attaching bolt would not seat on the mating surface of the pulley. Compliance with the AMOC revealed a possible design deficiency and a manufacturing defect in some pulleys. Metro has determined that the pulley, along with two additional pulleys from other helicopters, did not have sufficient thread depth. This condition may allow the attaching bolts to come loose, resulting in the pulley detaching from the rotor brake disc, subsequent damage to the T/R driveshaft, and loss of control of the helicopter.

This EAD supersedes AD 2013-12-06 (78 FR 40956, July 9, 2013) and requires inspecting the pulley to determine if there is sufficient depth of the threads and removing the pulley if there is not sufficient depth. This EAD also requires installing a dual locking tab on each pulley attaching bolt. This EAD also requires reporting the inspection findings to the FAA. Finally, this EAD revises the applicability to helicopters with a pulley, P/N 30001, installed rather than to the air conditioning kit because this part has been determined to be the unsafe condition. These EAD actions are intended to prevent the pulley detaching from the rotor brake disc, subsequent damage to the T/R driveshaft, and loss of control of the helicopter.

FAA's Determination

We are issuing this EAD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of these same type designs.

Related Service Information

We reviewed Metro Alert Service Bulletin No. MA145-21B-003, Revision B, dated December 20, 2013 (ASB MA145-21B-003), which describes procedures for installing a dual-locking tab on the air conditioning drive pulley attachment bolts.

EAD Requirements

This EAD requires, within 5 hours time-in-service, inspecting each pulley attaching bolt hole to determine if there is sufficient depth of the threads. If the depth is less than .061 inch, this EAD requires removing the pulley. This EAD also requires installing dual locking tabs under each pulley attaching bolt by following the Accomplishment Instructions, paragraphs 3.E. through 3.G., of ASB MA145-21B-003. This EAD also requires submitting a report of the inspection findings to the FAA.

Differences Between This EAD and the Service Information

This EAD requires determining the depth of the threaded portion of the pulley attaching bolt holes; the service information does not.

Paperwork Reduction Act

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB control number. The control number for the collection of information required by this EAD is 2120-0056. The paperwork cost associated with this EAD has been detailed in the Costs of Compliance section of this document and includes time for reviewing instructions, as well as completing and reviewing the collection of information. Therefore, all reporting required by this EAD is mandatory. Comments concerning the accuracy of this burden and suggestions for reducing the burden should be directed to the FAA at 800 Independence Ave., SW, Washington, DC 20591; ATTN: Information Collection Clearance Officer, AES-200.

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.

2014-06-51 Airbus Helicopters Deutschland GmbH (Airbus) Helicopters (Type Certificate Previously Held By Eurocopter Deutschland GmbH): Directorate Identifier 2014-SW-016-AD.

(a) Applicability

This EAD applies to Airbus Model MBB-BK 117 A-3, MBB-BK 117 A-4, MBB-BK 117 B-1, and MBB-BK 117 C-2 helicopters with a Metro Aviation, Inc. vapor-cycle air conditioning kit pulley (pulley) part number (P/N) 30001 installed in accordance with Supplemental Type Certificate (STC) No. SH3880SW.

(b) Unsafe Condition

This EAD defines the unsafe condition as insufficient thread depth which could allow the attaching bolts to come loose, resulting in the pulley detaching from the rotor brake disc, subsequent damage to the tail rotor (T/R) driveshaft, and loss of control of the helicopter.

(c) Effective Date

This EAD is effective upon receipt.

(d) Affected ADs

This AD supersedes AD 2013-12-06, Amendment 39-17484, (78 FR 40956, July 9, 2013), Directorate ID 2013-SW-027-AD.

(e) 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.

(f) Required Actions

Within 5 hours time-in-service, inspect each pulley attaching bolt hole to determine the depth:

(1) Relieve tension from the compressor drive belt and remove each bolt that attaches the pulley to the rotor brake disc. Do not remove all three bolts at the same time.

(2) Remove AN960-416 washer or MAI-145-DUAL LOCK TAB washer.

(3) Using a bolt or screw with ¼-28 threads with 0.5 inch of threads and a minimum of 0.8 inch grip length, coat the shank with blue dye or permanent marker and thread into hole until threads have lightly bottomed (finger tight). Scribe the shank flush with the face of the rotor brake disk. Measure distance from end to scribe mark (length protruding into assembly). This dimension represents total depth of threads and stack-up of the brake disk.

(4) If the depth measures less than 0.61 inch, remove the pulley.

(5) If the depth measures 0.61 inch or more, install dual locking tabs as described in the Accomplishment Instructions, paragraphs 3.E. through 3.G., of Metro Aviation Alert Service Bulletin No. MA145-21B-003, Revision B, dated December 20, 2013.

(g) Reporting Requirement

Within 10 days after inspecting the pulley as required by paragraph (f)(3) of this AD, submit a report with the helicopter model, helicopter serial number, hole number 1 thread depth, hole number 2 thread depth (if measured), and hole number 3 thread depth (if measured) to the person identified in paragraph (i)(1) of this AD.

(h) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Rotorcraft Certification Office, FAA, may approve AMOCs for this EAD. Send your proposal to: Martin Crane, Aviation Safety Engineer, Rotorcraft Certification Office, Rotorcraft Directorate, FAA, 2601 Meacham Blvd., Fort Worth, Texas 76137; telephone (817) 222-5170; email 7-AVS-ASW-170@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.

(i) Additional Information

(1) For further information contact: Martin Crane, Aviation Safety Engineer, Rotorcraft Certification Office, Rotorcraft Directorate, FAA, 2601 Meacham Blvd., Fort Worth, Texas 76137; telephone (817) 222-5170; email 7-AVS-ASW-170@faa.gov.

(2) For a copy of the service information referenced in this AD, contact: Metro Aviation, Inc., 1214 Hawn Ave, Shreveport, LA 71107; phone: (318) 222-5529; website: metroproductsupport.com.

(j) Subject

Joint Aircraft Service Component (JASC) Code: 6500: Tail Rotor Drive.

Issued in Fort Worth, Texas, on March 24, 2014.

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