



**DATE: October 23, 2015**  
**AD #: 2015-22-51**

This Emergency Airworthiness Directive (AD) 2015-22-51 is being sent to owners and operators of Agusta S.p.A. Model A109A and A109A II helicopters.

### **Background**

This Emergency AD was prompted by abnormal vibrations leading to a precautionary landing and a post-flight inspection finding of a crack in a main rotor blade (blade). The crack extended from the trailing edge to the rear face of the spar at the joint between the spar and the body of the blade. The manufacturer's maintenance program specifies inspecting each blade every 25 hours time-in-service (TIS). This Emergency AD requires checking and inspecting each blade for a crack. The checks are required before each flight and the inspections are required before further flight and then once each day. Replacing any cracked blade is required before further flight. The actions in this Emergency AD are intended to detect a crack in a blade and prevent failure of a blade and subsequent loss of control of a helicopter.

The European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Union, has issued EASA AD No. 2015-0190-E, dated September 18, 2015, to correct an unsafe condition for the Agusta Model A109A and A109A II helicopters. EASA advises that abnormal vibrations were reported during a flight on a Model A109A II helicopter. During a post-flight inspection, a crack was found on a part number (P/N) 109-0103-01-9 blade. EASA AD 2015-0190-E requires pre-flight inspections and repetitive inspections of each blade. EASA advises that due to similarity of design, the inspections also apply to P/N 109-0103-01-7 and P/N 109-0103-01-115 blades. EASA advises that a cracked blade, if not detected and corrected, could affect the structural integrity of the blade, possibly resulting in blade failure and loss of control of the helicopter.

### **FAA's Determination**

These helicopters have been approved by the aviation authority of Italy and are approved for operation in the United States. Pursuant to our bilateral agreement with Italy, EASA, its technical representative, has notified us of the unsafe condition described in the EASA Emergency AD. We are issuing this Emergency AD 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**

AgustaWestland has issued Mandatory Alert Bollettino Tecnico No. 109-150, dated September 17, 2015 (ABT), which specifies for blades with more than 500 flight hours, before the next flight and then before each flight, visually inspecting each affected blade for a crack in the area between the station at the end of the doublers and the station at the beginning of the abrasion strip (both top and bottom surfaces) for a crack. The ABT also specifies inspecting the blades for a crack

at every airworthiness check and, in case of doubt about a crack, dye penetrant inspecting each blade. If a crack is found, the ABT specifies replacing the blade with a serviceable one.

### **Emergency AD Requirements**

This Emergency AD requires for each blade P/N 109-0103-01-7, P/N 109-0103-01-9, or P/N 109-0103-01-115 that has 500 or more hours TIS:

- Before further flight and thereafter at intervals not exceeding 24 clock-hours, using a 3X or higher power magnifying glass, visually inspecting the top and bottom surface of each blade for a crack in the area between the station at the end of the doublers and the station at the beginning of the abrasion strip. If there is a crack, before further flight, replacing the blade with an airworthy blade.
- Before each flight, checking the top and bottom surface of each blade for a crack in the area between the station at the end of the doublers and the station at the beginning of the abrasion strip. This check may be performed by the owner/operator (pilot) holding at least a private pilot certificate and must be entered into the aircraft records showing compliance with this Emergency AD in accordance with 14 CFR §§ 43.9 (a)(1) through (a)(4) and 14 CFR 91.417(a)(2)(v). The record must be maintained as required by 14 CFR §§ 91.417, 121.380, or 135.439. This check is an exception to our standard maintenance regulations. If there is a crack, the blade must be inspected using a 3X or higher power magnifying glass.

### **Differences Between This Emergency AD and the EASA AD**

This Emergency AD does not require a change to the Rotorcraft Flight Manual nor does it require a dye-penetrant inspection, whereas the EASA AD does. This Emergency AD requires the blade inspection before further flight, whereas the EASA AD allows an initial check prior to the inspection.

### **Interim Action**

We consider this Emergency AD 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 (AD)**

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

2015-22-51 **Agusta S.p.A.**: Directorate Identifier 2015-SW-070-AD.

**(a) Applicability**

This Emergency AD applies to Model A109A and A109AII helicopters with a main rotor blade (blade) part number (P/N) 109-0103-01-7, P/N 109-0103-01-9, or P/N 109-0103-01-115 that has 500 or more hours time-in-service installed, certificated in any category.

**(b) Unsafe Condition**

This Emergency AD defines the unsafe condition as a crack in a blade. This condition, if not detected, could result in failure of a blade and subsequent loss of control of the helicopter.

**(c) Effective Date**

This Emergency AD is effective upon receipt.

**(d) Compliance**

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

**(e) Required Actions**

(1) Before further flight, and thereafter at intervals not to exceed 24 clock-hours, using a 3X or higher power magnifying glass, visually inspect the top and bottom surface of each blade for a crack in the area between the station at the end of the doublers and the station at the beginning of the abrasion strip. If there is a crack, before further flight, replace the blade with an airworthy blade.

(2) Before each flight, check the top and bottom surface of each blade for a crack in the area between the station at the end of the doublers and the station at the beginning of the abrasion strip. If there is a crack, inspect the blade in accordance with paragraph (e)(1) of this AD. The check required by this paragraph may be performed by the owner/operator (pilot) holding at least a private pilot certificate and must be entered into the aircraft records showing compliance with this AD in accordance with 14 CFR §§ 43.9 (a)(1) through (a)(4) and 14 CFR 91.417(a)(2)(v). The record must be maintained as required by 14 CFR §§ 91.417, 121.380, or 135.439.

**(f) Special Flight Permits**

A special flight permit may be permitted for the inspection in paragraph (e)(1) of this AD provided there is no crack in a blade.

**(g) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, Safety Management Group, FAA, may approve AMOCs for this Emergency AD. Send your proposal to: Matt Fuller, Senior Aviation Safety Engineer, Safety Management Group, Rotorcraft Directorate, FAA, 10101 Hillwood Pkwy, Fort Worth, TX 76177; telephone (817) 222-5110; email: 9-ASW-FTW-AMOC-Requests@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 Emergency AD through an AMOC.

**(h) Additional Information**

(1) For further information contact: Matt Fuller, Senior Aviation Safety Engineer, Safety Management Group, Rotorcraft Directorate, FAA, 10101 Hillwood Pkwy, Fort Worth, TX 76177; telephone (817) 222-5110; email matthew.fuller@faa.gov.

(2) For a copy of the service information referenced in this AD, contact: AgustaWestland, Product Support Engineering, Via del Gregge, 100, 21015 Lonate Pozzolo (VA) Italy, ATTN: Maurizio D'Angelo; telephone 39-0331-664757; fax 39-0331-664680; or at <http://www.agustawestland.com/technical-bulletins>.

(3) The subject of this AD is addressed in European Aviation Safety Agency AD No. 2015-0190-E, dated September 18, 2015.

**(i) Subject**

Joint Aircraft Service Component (JASC) Tracking Code: 6210 Main Rotor Blade.

Issued in Fort Worth, Texas, on October 23, 2015.

Lance T. Gant,  
Manager, Rotorcraft Directorate,  
Aircraft Certification Service.