



**FAA**  
**Aviation Safety**

# **EMERGENCY**

## **AIRWORTHINESS DIRECTIVE**

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**DATE: May 9, 2013**  
**AD #: 2013-10-51**

This emergency airworthiness directive (EAD) 2013-10-51 is being sent to owners and operators of Eurocopter France Model AS350B, AS350BA, AS350B1, AS350B2, AS350B3, AS350C, AS350D, AS350D1, AS355E, AS355F, AS355F1, AS355F2, AS355N, and AS355NP helicopters.

### **Background**

This EAD was prompted by the discovery of excessive axial play detected on bearings installed on certain single hydraulic main and tail rotor servo-controls (servo-control). The excessive play could cause the distributor slide valve to jam in its sleeve. This condition could result in jamming the hydraulic flight controls, necessitating that the pilot cut off hydraulic power. This action would increase the pilot's workload, resulting in possible loss of helicopter control. This EAD requires, before further flight, determining whether certain servo-controls are installed on your helicopter. If a certain servo-control is installed, before the further flight, replace that servo-control with an airworthy servo-control.

### **Discussion**

We are issuing this EAD for Eurocopter Model AS350B, AS350BA, AS350B1, AS350B2, AS350B3, AS350C, AS350D, AS350D1, AS355E, AS355F, AS355F1, AS355F2, AS355N, and AS355NP helicopters, equipped with servo-controls with certain part and serial numbers that were installed by the manufacturer; or were repaired or overhauled by UTC Aerospace Systems in Monroe, North Carolina, from September 27, 2012, through January 30, 2013.

The European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Union, has issued EASA AD No. 2013-0095-E, dated April 16, 2013, to correct an unsafe condition for the helicopters listed in the first paragraph of this section. EASA advises that for helicopters with single hydraulic main and tail servo-controls, this condition, if not detected and corrected, could lead to a friction point in the flight controls and increase the pilot workload. The pilot would consequently need to cut off the hydraulic power and follow the procedures specified in the applicable Section 3 of the Rotorcraft Flight Manual.

### **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 AD. We are issuing this 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**

Eurocopter has issued one Emergency Alert Service Bulletin (EASB) with four numbers, all dated April 15, 2013. EASB No. 67.00.60 is for Eurocopter Models AS350B, AS350BA, AS350BB, AS350B1, AS350B2, AS350B3, AS350D, and military helicopter Model AS350L1; EASB 67.00.36 is for military helicopter Models AS550A2, AS550C2, AS550C3, and AS550U2; EASB 67.00.41 is for Models AS355E, AS355F, AS355F1, AS355F2, AS355N, and AS355NP; and EASB 67.00.27 is for military helicopter Models AS555AF, AS555AN, AS555SN, AS555UF, and AS555UN. Models AS350C and AS350D1 are also type certificated in the United States but were not listed in the EASB. Model AS350BB is not type certificated in the United States. The EASB states that during acceptance tests of a servo-control, the supplier noticed that the servo-control input lever bearing's play value exceeded the specified value. This condition leads to excessive misalignment between the lever and the distributor slide, the EASB reports. This condition could create a "friction point" on the flight controls. To eliminate the risk of this friction point appearing on the flight controls, Eurocopter specifies that all servo-controls with a non-compliant input lever bearing be replaced and returned to the manufacturer.

## **EAD Requirements**

This EAD requires, before further flight, inspecting the servo-control's component history card or equivalent record to determine if it has a certain part number (P/N) and serial number (S/N) or if the servo-control was repaired or overhauled from September 27, 2012, through January 30, 2013, by UTC Aerospace Systems in Monroe, North Carolina.

If either condition exists, inspecting the servo-control's identification plate to determine if it has the letter "B." If it has the letter "B," no further action is required.

If the identification plate has no letter "B," inspecting all sides of the external race of the servo-control's bearing to determine if it has any visible marking. If there is a marking, before further flight, replacing the servo-control with an airworthy servo-control.

If there is no marking, inspecting the bearing's sealing flange to determine if it is marked with "RWG Germany 60-5593." If it is marked with "RWG Germany 60-5593," no further action is required.

If the sealing flange has not been marked with "RWG Germany 60-5593," before further flight, replacing the servo-control with an airworthy servo-control.

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

We require, before further flight, inspecting the servo-control's component history card or equivalent record to determine if it has a certain P/N and S/N; or if it was repaired or overhauled from September 27, 2012, through January 30, 2013, by UTC Aerospace Systems in Monroe, North Carolina. EASA requires within 10 flight hours or 10 days, whichever occurs first, verifying whether a certain bearing is fitted in the servo-control.

We require, before further flight, replacing a non-airworthy servo-control with an airworthy servo-control. EASA requires replacing a non-airworthy servo-control with an airworthy servo-control within 50 flight hours or 120 days, whichever comes first, after checking the servo-control for "free-travel." If a "friction point" is detected, EASA requires replacing the servo-control with an airworthy servo-control before further flight.

## **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.

**2013-10-51 EUROCOPTER FRANCE (EUROCOPTER):** Directorate Identifier 2013-SW-018-AD.

### **(a) Applicability.**

This EAD applies to Eurocopter France (Eurocopter) Model AS350B, AS350BA, AS350B1, AS350B2, AS350B3, AS350C, AS350D, AS350D1, AS355E, AS355F, AS355F1, AS355F2, AS355N, and AS355NP helicopters, certificated in any category.

### **(b) Unsafe Condition.**

This EAD defines the unsafe condition excessive play that could cause the distributor slide valve to jam in its sleeve. This condition could result in jamming the hydraulic flight controls, necessitating that the pilot cut off hydraulic power. This action would increase the pilot's workload, resulting in possible loss of helicopter control.

### **(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) Before further flight, inspect the single hydraulic main and tail servo-control's (servo-control) component history card or equivalent record to determine if it has a part number (P/N) and serial number (S/N) listed in the Appendix, paragraph 4.A, of Eurocopter Emergency Alert Service Bulletin No. 67.00.60 or No. 67.00.41, both dated April 15, 2013 (EASB), as appropriate for your model helicopter; or was repaired or overhauled from September 27, 2012, through January 30, 2013, by UTC Aerospace Systems in Monroe, North Carolina.

(2) If the servo-control does have a P/N and S/N listed in paragraph 4.A of the EASB or if the servo-control was repaired or installed from September 27, 2012, through January 30, 2013, by UTC

Aerospace Systems in Monroe, North Carolina, inspect the servo-control to determine whether the identification plate is marked with a “B” as shown in the Appendix, paragraph 4.B, of the EASB. If it is marked with a “B,” no further action is required.

(3) If the identification plate is not marked with a “B,” inspect all sides of the external race of the servo-control’s bearing to determine if it has any marking shown as (b) in Detail A of Figure 1 of the EASB. If there is any marking, before further flight, replace the servo-control with an airworthy servo-control.

(4) If there is no marking on the sides of the external race, inspect each bearing sealing flange to determine if it is marked with “RWG Germany 60-5593” as shown as (d) in Detail C of Figure 2 of the Eurocopter EASB. If there is “RWG Germany 60-5593” marking at least partially visible on a flange of the bearing, no further action is required.

(5) If there is no “RWG Germany 60-5593” marking at least partially visible on a flange of the bearing, before further flight, replace the servo-control with an airworthy servo-control.

**(f) Special Flight Permit.**

Special flight permits may be permitted only for taking a helicopter to a repair station to meet the requirements of this AD.

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

(1) For further information contact: Michael Hemann, Transportation Safety Analyst, Safety Management Group, Rotorcraft Directorate, FAA, 2601 Meacham Blvd., Fort Worth, Texas 76137; telephone (817) 222-5110; email [michael.hemann@faa.gov](mailto:michael.hemann@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: Michael Hemann, Transportation Safety Analyst, Safety Management Group, Rotorcraft Directorate, FAA, 2601 Meacham Blvd., Fort Worth, Texas 76137; telephone (817) 222-5110; email [michael.hemann@faa.gov](mailto:michael.hemann@faa.gov).

(2) For a copy of the service information referenced in this AD, contact: American Eurocopter Corporation, 2701 N. Forum Drive, Grand Prairie, TX 75052; telephone (972) 641-0000 or (800) 232-0323; fax (972) 641-3775; or at <http://www.eurocopter.com/techpub>. You may review a copy of the service information at the FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth Texas 76137.

(3) The subject of this AD is addressed in European Aviation Safety Agency AD No. 2013-0095-E, dated April 16, 2013.

**(i) Subject.**

Joint Aircraft Service Component Code: 6730, Rotorcraft Servo System.

Issued in Fort Worth, Texas, on May 9, 2013.

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