
AIRWORTHINESS DIRECTIVE

For the reasons set out in the background section, the CASA delegate whose signature appears below revokes Airworthiness Directive (AD) AD/AS 355/71 and issues the following AD under subregulation 39.1 (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.

Eurocopter AS 355 (Twin Ecureuil) Series Helicopters

**AD/AS 355/71
Amdt 1**

Electrical Power System

11/2003

Applicability: AS 355 helicopter versions E, F, F1, F2 and N, equipped for IFR flights, before embodiment of MOD 073019 or before compliance with Eurocopter AS 355 Alert Service Bulletin (ASB) No. 24.00.14, and equipped with the following part number electrical master boxes:

48xGC01Yxxx or 49xGC01Yxxx

Note 1: x in the part number indicates any digit.

Requirement: 1. If not previously accomplished in accordance with AD/AS 355/55 or the original issue of this Directive, revise the Aircraft Flight Manual (AFM) as follows:

- a. Insert the following into the Limitations Section, Operating Limitations, Electrical and Hydraulic Power Systems Limitations (Section 2.1.13):

Landing Lights

Do not use the landing light outside the landing and take-off phases.

- b. Insert the following into the Emergency Procedures Section, Systems Malfunction, Electrical Power Systems Failures (Section 3.2.5):

Loss of Electrical Power Generating Systems, Except for the Battery Direct Battery Power (Indicated to the pilot by the equipment connected to the Bus Bars PP11, PP12, PP13, PP14, PP19 and PP20 - Refer to AFM Section 7.8)

- Apply the following procedure

- Limit the aircraft speed to 100 knots (reduce this value by 1 knot every 1000 ft) in order to minimise the risk of engine limit exceedence.
- Land as soon as possible

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AD/AS 355/71 Amdt 1 (continued)

- Estimate the remaining flight time taking into account the last known fuel quantity and average fuel consumption of 200 kg per hour. The remaining flight time, starting from the loss of electrical power generating systems, shall not exceed the minimum value between the previously calculated flight time and the maximum flight duration using battery power, which is 45 minutes during the day and 30 minutes at night.

These revisions may be accomplished by inserting a copy of this Directive into the AFM.

2. If not previously accomplished in accordance with AD/AS 355/55 or the original issue of this Directive, install a placard, in clear view of the pilot, with letters of at least 6 mm (¼ inch) high, stating:

Do not use the landing light outside the landing and take-off phases

3. Replace the non temperature-compensated contactors with temperature-compensated circuit breakers, in compliance with the instructions described in either ASB No. 24.00.14 or ASB 24.00.14 Revision 1 (corresponds to MOD 073019).

Following embodiment of this modification the Requirement 1 AFM revisions and the Requirement 2 placard may be removed.

Note 2: DGAC AD 2000-339-060(A) R3 refers.

Compliance: For Requirements 1 & 2 - As of the effective date of this Directive.

For Requirement 3 - Before 1 December 2003.

This Amendment becomes effective on 30 October 2003.

Background: AD/AS 355/55 was issued following several reports of complete loss of the electrical power generating systems, except for the direct battery power, on AS 355 helicopters. The failures occurred at a high outside air temperature (above 25°C) during long duration flights (more than one hour with landing light on).

AD/AS 355/55 required an AFM revision, which limits the landing light operation to take-off and landing and introduces emergency procedures for loss of the electrical power generating systems. The Directive also required a placard to be fitted advising the pilot of the landing light operational limitation.

The original issue of this Directive superseded the earlier AD, limited applicability to helicopters equipped for IFR flights, extended applicability to cover electrical master boxes with all part numbers and introduced a terminating action.

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This Amendment removes the serial number range for the electrical master boxes from the Applicability Statement, references Revision 1 of the service bulletin and extends the compliance time for Requirement 2.

The original issue of this Airworthiness Directive became effective on 20 February 2003.



Jim Coyne
Delegate of the Civil Aviation Safety Authority

18 September 2003