For the reasons set out in the background section, the CASA delegate whose signature appears below issues the following Airworthiness Directive (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.

Agusta A109 Series Helicopters

**AD/A109/38 Tail Rotor Blades 5/2003 DM**

**Applicability:** All Model A109E helicopters.

**Requirement:**


2. For all A109E helicopters; inspect the T/R blades in accordance with the Compliance Instructions, Parts II and III, of ASB 109EP-30 Revision B. Insert a temporary revision in the Rotorcraft Flight Manual in accordance with the Compliance Instructions, Part II of ASB 109E-30 Revision B.

3. For all A109E helicopters fitted with T/R hub and blade assembly P/N 109-8131-02-151; remove affected P/N 109-8132-01-111 T/R blades from service in accordance with the Compliance Instructions, Part IV, of ASB 109EP-30 Revision B; and modify the T/R hub and grip assembly in accordance with the Compliance Instructions, Part V, of ASB 109EP-30 Revision B. Insert temporary revisions in the A109E Maintenance Manual in accordance with the Compliance Instructions, Part V, of ASB 109E-30 Revision B.


Modifying the T/R hub and grip assembly removes the Vne restrictions imposed, and restores the T/R blades’ life limit to 1,000 hours time in service.

Tail rotor blades, part number 109-8132-01-111, which have been operated as part of the T/R hub and blade assembly P/N 109-8131-02-151, have a life limit of 200 hours time in service.

*Note: ENAC AD 2002-597 refers.*
Agusta A109 Series Helicopters

AD/A109/38 (continued)

Compliance: 1. For Part I of ASB 109EP-30:

Before further flight after 2 April 2003, unless already accomplished.

2. For Part II of ASB 109EP-30:

At each Airworthiness check and at each pilot’s pre-flight check, or at each pilot’s daily pre-flight check and at each pilot’s pre-flight check, as applicable.

For Part III of ASB 109EP-30:

Within 25 hours time in service after 2 April 2003, and thereafter at intervals not to exceed 25 hours time in service; and before further flight any time there is an increase in vibration levels.

3. For Part IV of ASB 109EP-30:

Replace, within 10 hours time in service after 2 April 2003, T/R blades P/N 109-8132-01-111, which have accumulated 200 or more hours time in service. Refer to the Compliance Part IV, of ASB 109E-30 Revision B for checks to be accomplished during the 10 hours compliance period.

For Part V of ASB 109EP-30:

Before 31 May 2003, unless already accomplished.

4. For Part VI of ASB 109EP-30:

On or before accumulating 150 hours time in service on the T/R hub and grip assembly P/N 109-8131-02-159, and thereafter at intervals not to exceed 150 hours time in service.

This Directive shall be entered on the Maintenance Release as maintenance required. The Compliance 2 Part II visual inspections may be performed and certified by the Pilot in Command who has been trained to do the inspection by an appropriately qualified person. In this case, a copy of the Requirement document and this Directive is to be carried in the aircraft.

This Airworthiness Directive becomes effective on 2 April 2003.
Agusta A109 Series Helicopters

AD/A109/38 (continued)

Background: The manufacturer received reports of cracked part number 109-8132-01-111 tail rotor blades. Analysis and tests have shown that the cracking was caused by fatigue, as a result of unanticipated loads on the tail rotor blades. The manufacturer has redesigned the tail rotor grip bushings to reduce these loads. Until the tail rotor grip assembly is modified, the life limit of the tail rotor blades is reduced to 200 hours time in service. If not corrected, fatigue failure of the tail rotor blade could lead to loss of control of the helicopter.

David Alan Villiers  
Delegate of the Civil Aviation Safety Authority  
27 March 2003