



## Airworthiness Directive

**AD No.:** 2015-0214

**Issued:** 19 October 2015

Note: This Airworthiness Directive (AD) is issued by EASA, acting in accordance with Regulation (EC) 216/2008 on behalf of the European Union, its Member States and of the European third countries that participate in the activities of EASA under Article 66 of that Regulation.

This AD is issued in accordance with Regulation (EU) 748/2012, Part 21.A.3B. In accordance with Regulation (EU) 1321/2014 Annex I, Part M.A.301, the continuing airworthiness of an aircraft shall be ensured by accomplishing any applicable ADs. Consequently, no person may operate an aircraft to which an AD applies, except in accordance with the requirements of that AD, unless otherwise specified by the Agency [Regulation (EU) 1321/2014 Annex I, Part M.A.303] or agreed with the Authority of the State of Registry [Regulation (EC) 216/2008, Article 14(4) exemption].

### Design Approval Holder's Name:

AIRBUS

### Type/Model designation(s):

A330 aeroplanes

**Effective Date:** 02 November 2015

**TCDS Number(s):** EASA.A.004

**Foreign AD:** Not applicable

**Supersedure:** This AD supersedes EASA AD 2012-0094 dated 31 May 2012.

## ATA 71 – Power Plant – Forward Engine Mounts Bolts – Torque Check / Replacement

### Manufacturer(s):

Airbus (formerly Airbus Industrie)

### Applicability:

Airbus A330-223, A330-223F, A330-321, A330-322 and A330-323 aeroplanes, all manufacturer serial numbers (MSN).

### Reason:

The forward mount engine pylon bolts, Part Number (P/N) 51U615, fitted on Airbus A330 aeroplanes with Pratt & Whitney (PW) PW4000 engines, are made from MP159 material. Analysis made by PW identified that MP159 material pylon bolts do not meet the full life cycle torque check interval requirement, in a bolt-out condition. Consequently, PW issued Alert Service Bulletin (ASB) PW4G-100-A71-32, and the U.S. Federal Aviation Administration (FAA), as Engine Certification Authority, issued FAA AD 2006-16-05 to require repetitive torque checks of MP159 material forward mount pylon bolts fitted on certain PW4000 series engines.

However, the engine mount system is considered to be part of aeroplane certification rather than the engine certification. Following further fatigue load analysis by Airbus of the A330 engine mount system, it was determined that the torque check interval for MP159 material forward mount pylon bolts, as required by FAA AD 2006-16-05 (2 700 flight cycles (FC)), provided an insufficient level of safety for Airbus A330 aeroplanes.



This condition, if not detected and corrected, could ultimately lead to detachment of the engine from the aeroplane, possibly resulting in damage to the aeroplane and/or injury to persons on the ground. Consequently, EASA issued AD 2012-0094 to require accomplishment of repetitive torque checks of the forward mount pylon bolts installed on affected A330 aeroplanes and, depending on findings, replacement of all four bolts and associated nuts, in accordance with PW ASB PW4G-100-A71-32 Revision 01 and Airbus Service Bulletin (SB) A330-71-3028.

Since that AD was issued, it has been concluded that a new torque value must be applied.

Consequently, Airbus issued SB A330-71-3028 Revision 02 and PW issued ASB PW4G-100-A71-32 Revision 02 to update the torque value. Additional forward mount inspections are also provided in case of one or more forward engine mount bolts is found loose, broken or missing.

For the reasons described above, this AD retains the requirements of EASA AD 2012-0094, which is superseded, introduces a new torque value, and requires additional inspections and, depending on findings, corrective action(s).

#### **Required Action(s) and Compliance Time(s):**

Required as indicated, unless accomplished previously:

- (1) Within the compliance time defined in Appendix 1 of this AD (Table 1, Table 2 or Table 3, as applicable to aeroplane model and utilisation), and, thereafter, at intervals not to exceed the value defined in Appendix 1 of this AD (Table 1, Table 2 or Table 3, as applicable to aeroplane model and utilisation), accomplish a torque check of forward engine mount bolts (4 positions/engine) on both engines, in accordance with the instructions of Airbus SB A330-71-3028 Revision 02.
- (2) If, during any torque check as required by paragraph (1) of this AD, any discrepancy is detected, before next flight, replace all four bolts and associated nuts and inspect the forward mount assembly in accordance with the instructions of Airbus SB A330-71-3028 Revision 02, contact Airbus for specific assessment of the pylon structure and related approved corrective action instructions and, within the compliance time specified in those instructions, accomplish those instructions accordingly.
- (3) Torque checks and corrective actions on an aeroplane, accomplished before the effective date of this AD in accordance with the instructions of Airbus SB A330-71-3028 at original issue or Revision 01, are acceptable to comply with the initial requirements of paragraph (1) of this AD. After the effective date of this AD, repetitive torque checks and applicable corrective actions must be accomplished in accordance with the instructions of Airbus SB A330-71-3028 Revision 02.
- (4) Accomplishment of corrective actions on an aeroplane, as required by paragraph (2) of this AD does not constitute terminating action for the repetitive torque checks as required by paragraph (1) of this AD for that aeroplane.
- (5) For PW4164, PW4168, and PW4168A engines, as installed on A330 aeroplane, compliance with the requirements of this AD is an acceptable method to comply with the requirements of paragraph (g) of FAA AD 2006-16-05.

#### **Ref. Publications:**

Airbus SB A330-71-3028 original issue, dated 24 December 2011, or Revision 01, dated 20 February 2012, or Revision 02, dated 31 August 2015.

The use of later approved revisions of this document is acceptable for compliance with the requirements of this AD.

PW ASB PW4G-100-A71-32 original issue, dated 15 April 2005, or Revision 1, dated 08 November 2011, or Revision 2, dated 03 June 2015.



**Remarks:**

1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD.
2. This AD was posted on 16 September 2015 as PAD 15-125 for consultation until 14 October 2015. The Comment Response Document can be found at <http://ad.easa.europa.eu>.
3. Enquiries regarding this AD should be referred to the EASA Safety Information Section, Certification Directorate. E-mail: [ADs@easa.europa.eu](mailto:ADs@easa.europa.eu).
4. For any question concerning the technical content of the requirements in this AD, please contact: AIRBUS – Airworthiness Office – EAL E-mail: [airworthiness.A330-A340@airbus.com](mailto:airworthiness.A330-A340@airbus.com).



## Appendix 1

Note: For the purpose of Tables 1 and 2 below, the Average Flight Time (AFT) is defined as a computation of the number of flight hours (FH) divided by the number of flight cycles (FC) accumulated since last torque check or since aeroplane first flight, as applicable.

**Table 1: For A330-321, A330-322 and A330-323 aeroplanes with AFT more than 132 minutes, and for A330-223 aeroplanes**

FC accumulated [on 14 June 2012, the effective date of AD 2012-0094] since last torque check performed in accordance with PW ASB PW4G-100-A71-32, or since aeroplane first flight, as applicable	Compliance Time	Torque check Interval
Less than 1 850 FC	Within 2 350 FC since the last torque check performed in accordance with the instructions of PW ASB PW4G-100-A71-32 or since aeroplane first flight, as applicable	2 350 FC or 24 320 FH, whichever occurs first
More than 1 850 FC, but less than 2 700 FC	Within 500 FC from 14 June 2012 [the effective date of AD 2012-0094] without exceeding 2 700 FC since last torque check performed in accordance the instructions of PW ASB PW4G-100-A71-32 or since aeroplane first flight, as applicable	

**Table 2: For A330-321, A330-322 and A330-323 aeroplanes with AFT equal to or less than 132 minutes, or in case AFT is not calculated on a regular basis**

FC accumulated [on 14 June 2012, the effective date of AD 2012-0094] since last torque check performed in accordance with PW ASB PW4G-100-A71-32, or since aeroplane first flight, as applicable	Compliance Time	Torque check Interval
Less than 1 450 FC	Before exceeding 1 950 FC since the last torque check performed in accordance with the instructions of PW ASB PW4G-100-A71-32, or since aeroplane first flight, as applicable	1 950 FC or 20 210 FH, whichever occurs first
More than 1450 FC, but less than 2 700 FC	Within 500 FC after 14 June 2012 [the effective date of AD 2012-0094] without exceeding 2 700 FC since last torque check performed in accordance the instructions of PW ASB PW4G-100-A71-32 or since aeroplane first flight, as applicable	

**Table 3: For A330-223F aeroplanes**

Compliance Time	Torque Check Interval
Within 2140 FC or 6600 FH, whichever occurs first since the last torque check performed in accordance with the instructions of PW ASB PW4G-100-A71-32, or since aeroplane first flight, as applicable	2 140 FC or 6 600 FH, whichever occurs first

