



Notification of a proposal to issue an Airworthiness Directive

PAD No.: 16-130

Issued: 13 September 2016

Note: This Proposed Airworthiness Directive (PAD) 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.

In accordance with the EASA Continuing Airworthiness Procedures, the Executive Director is proposing the issuance of an EASA Airworthiness Directive (AD), applicable to the aeronautical product(s) identified below.

All interested persons may send their comments, referencing the PAD Number above, to the e-mail address specified in the 'Remarks' section, prior to the consultation date indicated.

Design Approval Holder's Name:

AIRBUS

Type/Model designation(s):

A330 and A340-300 aeroplanes

Effective Date: [TBD - standard: 14 days after AD issue date]

TCDS Numbers: EASA.A.004, EASA.A.015

Foreign AD: Not applicable

Supersedure: This AD supersedes EASA AD 2014-0012R1 dated 24 January 2014.

ATA 53 – Fuselage – Longitudinal Doubler at Vertical Tail Plane Attachment Cut Out Inspection / Modification

Manufacturer(s):

Airbus (formerly Airbus Industrie)

Applicability:

Airbus A330-201, A330-202, A330-203, A330-223, A330-243, A330-301, A330-302, A330-303, A330-321, A330-322, A330-323, A330-341, A330-342 and A330-343 aeroplanes, all manufacturer serial numbers (MSN), and

Airbus A340-311, A340-312 and A340-313 aeroplanes, all MSN,

on which Airbus modification (mod) 44205 has been embodied in production, except those on which Airbus mod 52974 or mod 53223 has been embodied in production.

Reason:

During fatigue tests (EF3) on the A340-600, damage was found in the longitudinal doubler at the Vertical Tail Plane (VTP) attachment cut out between Frame (FR) 80 and FR86 of the fuselage. This damage occurred between 58 341 and 72 891 simulated flight cycles (FC). Due to the higher Design Service Goal (DSG) and different design of the affected structural area (e.g. doubler thickness) for



A330-200/-300 and A340-300 series aeroplanes, the assessment concluded that the same kind of damage may occur or develop on these aeroplanes.

This condition, if not detected and corrected, could affect the structural integrity of the upper shell structure between FR80 and FR86 of the fuselage.

Prompted by these findings, EASA issued AD 2007-0284 to require implementation of a special detailed inspection (SDI) programme of this structural area and a modification to improve the upper shell structure. This modification was optional for all aeroplanes, except for A330-200 and A340-300 in Weight Variant (WV) 027 configuration, for which it was required.

Since EASA AD 2007-0284 was issued, in the frame of a new fatigue and damage tolerance evaluation, taking into account the aeroplane utilization, the inspection threshold and intervals were reassessed and the conclusion was that the thresholds and intervals for inspection, as well as the threshold for modification, needed to be reduced.

Consequently, EASA issued AD 2014-0012 (later revised), retaining the requirements of EASA AD 2007-0284, which was superseded, and introducing redefined inspection thresholds and intervals, and a reduced modification threshold.

Since EASA AD 2014-0012R1 was issued, the results of a complementary review determined that, with the Extended Service Goal life extension for A340-300 aeroplanes (except WV 027), the probability to have crack findings and the size of the cracks could increase. This led to the decision that the reinforcement of the fuselage upper shell structure between FR80 and FR86 on those aeroplanes must also be required.

For the reasons described above, this AD retains the requirements of EASA AD 2014-0012R1, which is superseded, and requires the modification of the fuselage upper shell structure between FR80 and FR86 of all A340-300 aeroplanes.

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

Required as indicated, unless accomplished previously:

Restatement of the requirements of EASA AD 2014-0012R1:

Part A – A330-300 and A340-300 aeroplanes (except WV 027 – see Part C of this AD):

- (1) For aeroplanes that, before 24 January 2014 [the effective date of EASA AD 2014-0012], have never been inspected in accordance with the instructions of Airbus Service Bulletin (SB) A330-53-3168 or SB A340-53-4174, as applicable: Within the compliance time defined in Table 1 of this AD, as applicable, and, thereafter, at intervals not to exceed the values, whichever occurs first, depending on aeroplane type, configuration and utilization, as defined in Airbus SB A330-53-3168 Revision 02 or SB A340-53-4174 Revision 02, as applicable, accomplish an SDI of the fuselage upper shell structure between FR80 and FR86 in accordance with the instructions of Airbus SB A330-53-3168 Revision 02, or SB A340-53-4174 Revision 02, as applicable.



Table 1 – Threshold Initial SDI

Compliance Time (whichever occurs later, A or B)	
A	Before exceeding the inspection threshold defined in Airbus SB A330-53-3168 Revision 02, or SB A340-53-4174 Revision 02, as applicable to aeroplane type, configuration and utilisation, since aeroplane first flight
B	Within 12 months after 24 January 2014 [the effective date of EASA AD 2014-0012], but without exceeding the previous inspection threshold, whichever occurs first, as defined in Airbus SB A330-53-3168 Revision 01, or SB A340-53-4174 Revision 01, as applicable to aeroplane type, configuration and utilization, since aeroplane first flight

- (2) For aeroplanes that, before 24 January 2014 [the effective date of EASA AD 2014-0012], have already been inspected in accordance with the instructions of Airbus SB A330-53-3168 or SB A340-53-4174, as applicable: Within the compliance time defined in Table 2 of this AD, as applicable, and, thereafter, at intervals not to exceed the values defined in Airbus SB A330-53-3168 Revision 02 or SB A340-53-4174 Revision 02, whichever occurs first, depending on aeroplane type, configuration and utilization, accomplish an SDI of the fuselage upper shell structure between FR80 and FR86 in accordance with the instructions of Airbus SB A330-53-3168 Revision 02, or SB A340-53-4174 Revision 02, as applicable.

Table 2 – First SDI after 24 January 2014 [the effective date of EASA AD 2014-0012]

Compliance Time (whichever occurs later, C or D)	
C	Within the new interval, as defined in Airbus SB A330-53-3168 Revision 02, or SB A340-53-4174 Revision 02, depending on aeroplane type, configuration and utilization, to be counted from the last inspection
D	Within 12 months, but without exceeding the previous value as defined in Airbus SB A330-53-3168 Revision 01 or Airbus SB A340-53-4174 Revision 01, depending on aeroplane type, configuration and utilization to be counted from the last inspection

- (3) If, during any SDI as required by paragraph (1) or (2) of this AD, as applicable, a crack less than 10 mm in length is detected, depending on crack length, aeroplane configuration and utilization, accomplish the actions as required by paragraphs (3.1) and (3.2) of this AD.
- (3.1) Amend the interval of repetitive SDI, as required by paragraph (1) or (2) of this AD, as applicable, as defined in Airbus SB A330-53-3168 Revision 02 or Airbus SB A340-53-4174 Revision 02, as applicable to aeroplane type, configuration and utilization.
- (3.2) Contact Airbus for approved repair instructions and, within the next [or second] reduced interval as defined in Airbus SB A330-53-3168 Revision 02, or SB A340-53-4174 Revision 02, as applicable to aeroplane type, configuration and utilization, accomplish those instructions accordingly. Accomplishment of a repair for a specific area, as required by this paragraph, constitutes terminating action for the repetitive SDI as required by paragraph (1) or (2) of this AD, as applicable, for that specific repaired area **only**. The need and definition of subsequent repetitive inspections (if any) for that specific repaired area are defined in the applicable Airbus Repair Design Approval Sheet (RDAS).



- (4) If, during any SDI as required by paragraph (1) or (2) of this AD, a crack equal to or more than 10 mm in length is detected, before next flight, contact Airbus for approved repair instructions and accomplish those instructions accordingly. Accomplishment of a repair for a specific area, as required by this paragraph, constitutes terminating action for the repetitive SDI, as required by paragraph (1) or (2) of this AD, as applicable, for that specific repaired area **only**. The need and definition of subsequent repetitive inspections (if any) for that specific repaired area are defined in the applicable Airbus RDAS.
- (5) Modification of an aeroplane in accordance with the instructions of Airbus SB A330-53-3159 (at any revision) constitutes terminating action for the repetitive SDI as required by paragraph (1) or (2) or (3.1) of this AD, as applicable for that aeroplane.

Part B – A330-200 aeroplanes:

- (6) Within the compliance time as defined in Table 3 of this AD, inspect and modify the fuselage upper shell structure between FR80 and FR86 in accordance with the instructions of Airbus SB A330-53-3160 Revision 03.

Table 3 – Modification

Compliance Time (whichever occurs later, E or F)	
E	Before exceeding the threshold defined in Airbus SB A330-53-3160 Revision 03, depending on WV and aeroplane utilization, since aeroplane first flight
F	Within 12 months after 24 January 2014 [the effective date of EASA AD 2014-0012], but without exceeding the previous threshold as defined in Airbus SB A330-53-3160 Revision 02, since aeroplane first flight

- (7) If, during the inspection as required by paragraph (6) of this AD, any crack is detected, before next flight, contact Airbus to obtain approved repair instructions and accomplish those instructions accordingly, concurrent with the modification as required by paragraph (6) of this AD.
- (8) Inspection and modification of an aeroplane before 24 January 2014 [the effective date of EASA AD 2014-0012] in accordance with the instructions of Airbus SB A330-53-3160 at original issue, or Revision 01, or Revision 02, is acceptable to comply with the requirements of paragraph (6) of this AD for that aeroplane.

Part C – A340-300 aeroplanes (WV 027 only):

- (9) Before exceeding 14 200 FC since aeroplane first flight, inspect and modify the aeroplane upper shell structure between FR80 and FR86 of the fuselage in accordance with the instructions of Airbus SB A340-53-4172.
- (10) If, during the inspection as required by paragraph (9) of this AD, any crack is detected, before next flight, contact Airbus to obtain approved repair instructions and accomplish those instructions accordingly, concurrent with the modification as required by paragraph (9) of this AD.



New requirements of this AD:**Part D – A340-300 aeroplanes** (all WV, except WV 027 – see Part C of this AD):

- (11) Before exceeding 20 500 FC since aeroplane first flight, inspect and modify the aeroplane upper shell structure between FR80 and FR86 of the fuselage in accordance with the instructions of Airbus SB A340-53-4165 Revision 03.
- (12) If, during the inspection as required by paragraph (11) of this AD, any crack is detected, before next flight, contact Airbus to obtain approved repair instructions and accomplish those instructions accordingly, concurrent with the modification as required by paragraph (11) of this AD.
- (13) Modification of an aeroplane before the effective date of this AD in accordance with the instructions of Airbus SB A330-53-4165 at original issue, or Revision 01, or Revision 02, is acceptable to comply with the requirements of paragraph (11) of this AD for that aeroplane.
- (14) Modification of an aeroplane in accordance with the instructions of Airbus SB A340-53-4165 (at any revision) constitutes terminating action for the repetitive SDI as required by paragraph (1) or (2) or (3.1) of this AD, as applicable, for that aeroplane.

Ref. Publications:

Airbus SB A330-53-3159 original issue dated 19 September 2007, or Revision 01 dated 15 June 2009, or Revision 02 dated 29 March 2010, or Revision 03 dated 03 August 2016.

Airbus SB A330-53-3160 original issue dated 09 July 2007, or Revision 01 dated 28 April 2009, or Revision 02 dated 29 March 2010, or Revision 03 dated 06 January 2012, or Revision 04 dated 28 April 2016.

Airbus SB A330-53-3168 original issue dated 19 September 2007, or Revision 01 dated 15 February 2008, or Revision 02 dated 21 December 2011.

Airbus SB A340-53-4165 original issue dated 19 September 2007, or Revision 01 dated 17 June 2009, or Revision 02 dated 29 March 2010, or Revision 03 dated 10 August 2016.

Airbus SB A340-53-4172 original issue dated 10 July 2007, or Revision 01 dated 08 July 2009, or Revision 02 dated 03 August 2016.

Airbus SB A340-53-4174 original issue dated 19 September 2007, or Revision 01 dated 15 February 2008, or Revision 02 dated 21 December 2011.

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



Remarks:

1. This Proposed AD will be closed for consultation on 11 October 2016.
2. Enquiries regarding this PAD should be referred to the EASA Safety Information Section, Certification Directorate. E-mail: ADs@easa.europa.eu.
3. For any question concerning the technical content of the requirements in this PAD, please contact: AIRBUS – EIAL (Airworthiness Office), E-mail: airworthiness.A330-A340@airbus.com.

