



## Notification of a proposal to issue an Airworthiness Directive

**PAD No.: 17-044**

**Issued: 03 April 2017**

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):**

A310 aeroplanes

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

**TCDS Number(s):** EASA.A.172

**Foreign AD:** Not applicable

**Supersedure:** This AD supersedes EASA AD 2016-0005 dated 07 January 2016.

### ATA 57 – Wing – Wing Top Skin Panel Attachments at Rib 2 and Rib 3 – Inspection / Repair / Modification

#### **Manufacturer(s):**

Airbus (formerly Airbus Industrie)

#### **Applicability:**

Airbus A310 aeroplanes, all certified models, all manufacturer serial numbers.

#### **Reason:**

Following scheduled maintenance, cracks were found around the wing top skin panels fastener holes at Rib 2, between Stringer (STG) 2 and STG14.

This condition, if not detected and corrected, could reduce the structural integrity of the wing.

To address this issue, Airbus developed an inspection programme, and published Service Bulletin (SB) A310-57-2096, providing instructions for repetitive detailed inspections (DET) to ensure that any visible cracks in the wing top skin panels 1 and 2 along Rib 2 are detected on time and repaired appropriately. Consequently, EASA issued AD 2008-0211 to require implementation of that inspection programme.



After that AD was issued, Airbus improved the inspection programme, revising SB A310-57-2096 accordingly, to include a special detailed inspection (SDI), using ultrasonic method, to allow earlier crack detection, to subsequently reduce the scope of potential repair action, and to extend the intervals of the repetitive inspections. Consequently, EASA issued AD 2014-0200 (later revised), retaining the requirements of EASA AD 2008-0211, which was superseded, and to require supplementary repetitive SDI of the wing top skin panel 1 and 2 between STG2 and STG10 at Rib 2, as described in Airbus SB A310-57-2096 Revision 02.

Since EASA AD 2014-0200R1 was issued, a Widespread Fatigue Damage (WFD) analysis concluded that the inspection programme had to be extended to include the wing top skin panels at Rib 3 attachments, and Airbus issued SB A310-57-2096 Revision 03 accordingly, to provide the necessary instructions. Consequently, EASA issued AD 2016-0005, retaining the requirements of EASA AD 2014-0200R1, which was superseded, and extending the inspection area to include Rib 3.

In addition to changes to the inspected area, WFD analysis identified structural modification points for certain fastener holes, located at each attachment from STG2 to STG 10, at Ribs 2 and 3 on both wings.

Airbus developed modification (mod) 13785 and mod 13786, consisting of an SDI, followed by an oversize of the defined holes on Ribs 2 and 3 on both wings. Airbus issued SB A310-57-2106 and SB A310-57-2107 to provide in-service modification instructions for top skin attachments to Rib 2 and Rib 3 respectively. Accomplishment of these modifications at the specified time will reset the fatigue life of the attachment holes at the top skin attachment to Rib 2 and Rib 3 up to the Limit of Validity (LOV). Airbus issued inspection SB A310-57-2096 Revision 4 to account for the inspection requirements post-modification.

For the reasons described above, this AD retains the requirements of EASA AD 2016-0005, which is superseded, requires modifications to the top skin attachment holes at Rib 2 and Rib 3, and defines the inspection requirements for Rib 2 and Rib 3 after modification.

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

Required as indicated, unless accomplished previously.

Note 1: Specifically for A310-300 aeroplane, where alternative special range requirements may be applied, refer to A310 Maintenance Review Board Report Section D2 to determine the average flight time (AFT) of an aeroplane. The AFT of an aeroplane is:  $AFT = (\text{flight hours (FH)} / \text{flight cycles (FC)})$  average airborne flight time of the individual aeroplane quoted in hours and hundredth of an hour.

#### **Repetitive Inspections:**

- (1) Before exceeding the threshold, and, thereafter, at intervals not to exceed the values as defined in Table 1 of this AD, as applicable, accomplish the actions specified in paragraphs (1.1) and (1.2) of this AD, concurrently and in sequence, in accordance with the instructions of Airbus SB A310-57-2096 Revision 04.

- (1.1) Accomplish a DET around the fastener holes in the wing top skin panels 1 and 2, along Rib 2 and Rib 3, between the front and rear spars on both wings, and



- (1.2) Accomplish an SDI around the fastener holes in the wing top skin panels 1 and 2, along Rib 2 and Rib 3, between STG2 and STG10 on both wings.

Table 1 – Initial and Repetitive Inspections

<b>Aeroplane Models and AFT</b> (See Note 1)	<b>Compliance Times</b> (whichever occurs first, FH or FC)	
	<b>Threshold</b> (see Note 2)	<b>Intervals</b> (not to exceed)
A310-203, A310-203C, A310-204, A310-221 and A310-222	37 400 FH or 18 700 FC	4 100 FH or 2 000 FC
A310-304, A310-308, A310-322, A310-324 and A310-325 (AFT < 4 hours)	48 400 FH or 17 300 FC	5 600 FH or 2 000 FC
A310-304, A310-308, A310-322, A310-324 and A310-325 (AFT ≥ 4 hours)	64 300 FH or 12 800 FC	7 500 FH or 1 500 FC

Note 2: The FC and FH specified as ‘threshold’ in Table 1 of this AD are those accumulated by the aeroplane since first flight.

- (2) For an aeroplane already inspected before the 21 January 2016 [the effective date of EASA AD 2016-0005], in accordance with the instructions of Airbus SB A310-57-2096 at Revision 02 (DET and SDI at Rib 2), the next inspection (DET and SDI) after effective date of this AD must be accomplished at both Rib 2 and Rib 3 of that aeroplane at the next scheduled interval as defined in Table 1 of this AD, as applicable.
- (3) For an aeroplane already inspected (DET only) before the 21 January 2016 [the effective date of EASA AD 2016-0005] in accordance with the instructions of Airbus SB A310-57-2096 at original issue or Revision 01, the next inspection (DET and SDI) after the 21 January 2016 [the effective date of EASA AD2016-0005] must be accomplished at both Rib 2 and Rib 3 of that aeroplane within the interval (since the last inspection) defined in Table 2 of this AD, as applicable. Thereafter, accomplish the actions as required by paragraph (1) of this AD on that aeroplane.
- (4) If no ultrasonic equipment is available for the first or the next due inspection as required by paragraph (1) of this AD, as applicable, accomplish a DET, as specified in paragraph (1.1) of this AD, as required by paragraph (4.1) or (4.2) of this AD, as applicable.
- (4.1) For an aeroplane not inspected before 21 January 2016 [the effective date of EASA AD 2016-0005]: Before exceeding the applicable threshold as defined in Table 1 of this AD.
- (4.2) For an aeroplane already inspected before 21 January 2016 [the effective date of EASA AD 2016-0005] in accordance with the instructions of Airbus SB A310-57-2096 at original issue or Revision 01 or Revision 02, or Revision 03: Within the interval (FH or



FC, whichever occurs first since the last inspection) as defined in Table 2 of this AD, as applicable.

- (5) After accomplishment of the inspection of an aeroplane as specified in paragraph (4) of this AD, within the intervals as defined in Table 2 of this AD, as applicable, accomplish a DET and an SDI on that aeroplane as specified in paragraphs (1.1) and (1.2) of this AD and, thereafter, accomplish the actions as required by paragraph (1) of this AD on that aeroplane.

Table 2 - Inspection intervals for aeroplanes already inspected in accordance with Airbus SB A310-57-2096 at original issue or Revision 01, or Revision 02, or Revision 03

<b>Aeroplane Models and AFT</b> (See Note 1)	<b>Intervals</b> (FH or FC, whichever occurs first since last inspection)
A310-203, A310-203C, A310-204, A310-221 and A310-222	3 500 FH or 1 700 FC
A310-304, A310-308, A310-322, A310-324 and A310-325 (AFT < 4 hours)	4 600 FH or 1 600 FC
A310-304, A310-308, A310-322, A310-324 and A310-325 (AFT ≥ 4 hours)	6 100 FH or 1 200 FC

**Modifications and post-MOD inspections:**

- (6) At the compliance time defined in Table 3 of this AD, as applicable, accomplish an SDI and, concurrently, modify the fasteners holes on the top skin at Rib 2 of both wings, in accordance with the instructions of Airbus SB A310-57-2106.

Table 3 – Rib 2 Inspection / Modification

<b>Aeroplane Models and AFT</b> (see Note 1)	<b>Compliance Time</b> (FC or FH, whichever occurs first since aeroplane first flight)
A310-203, A310-203C, A310-204, A310-221 and A310-222	93 300 FH or 40 000 FC
A310-304, A310-308, A310-322, A310-324 and A310-325 (AFT < 4 hours)	116 000 FH or 40 000 FC
A310-304, A310-308, A310-322, A310-324 and A310-325 (AFT ≥ 4 hours)	150 000 FH or 30 000 FC

- (7) At the compliance time defined in Table 4 of this AD, accomplish an SDI and, concurrently, modify the fasteners holes of the top skin at Rib 3 on both wings, in accordance with the instructions of Airbus SB A310-57-2107.



Table 4 – Rib 3 Inspection / Modification

<b>Aeroplane Models and AFT</b> (see Note 1)	<b>Compliance Time</b> (FC or FH, whichever occurs first since aeroplane first flight)
A310-203, A310-203C, A310-204, A310-221 and A310-222	92 900 FH or 46 400 FC
A310-304, A310-308, A310-322, A310-324 and A310-325 (AFT < 4 hours)	127 300 FH or 45 400 FC
A310-304, A310-308, A310-322, A310-324 and A310-325 (AFT ≥ 4 hours)	169 000 FH or 33 800 FC

**Corrective Action(s):**

- (8) If, during any inspection as required by this AD, any crack is detected, before next flight, contact Airbus for approved repair instructions and accomplish those instructions accordingly.

**Terminating action:**

- (9) Modification of an aeroplane, as required by paragraph (6) constitutes terminating action for the repetitive SDI required by paragraph (1.2) of this AD for the modified fastener holes at top skin Rib 2 of that aeroplane.

After modification the un-modified fastener holes at the top skin Rib 2 between front and rear spar remain subject to repetitive DET in accordance with the instructions of Airbus SB A310-57-2096 Revision 04, as required by paragraph (1.1) of this AD.

- (10) Modification of an aeroplane, as required by paragraph (7) constitutes terminating action for the repetitive SDI required by paragraph (1.2) of this AD for the modified fastener holes at top skin Rib 3 of that aeroplane.

After modification the un-modified fastener holes at the top skin Rib 3 between front and rear spar remain subject to repetitive DET in accordance with the instructions of Airbus SB A310-57-2096 Revision 04, as required by paragraph (1.1) of this AD.

- (11) Accomplishment of a repair on an aeroplane, as required by paragraph (8) of this AD, constitutes terminating action for the repetitive inspections required by paragraph (1) of this AD for the repaired area(s) of that aeroplane. Such areas must subsequently be inspected in accordance with the inspection programme defined in the Airbus repair instruction document.

**Ref. Publications:**

Airbus SB A310-57-2096 original issue dated 06 May 2008, or Revision 01 dated 05 August 2010, or Revision 02 dated 05 March 2014, or Revision 03 dated 30 June 2015, or Revision 04 dated 05 December 2016.

Airbus SB A310-57-2106 original issue dated 14 November 2016.

Airbus SB A310-57-2107 original issue dated 14 November 2016.



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 01 May 2017.
2. Enquiries regarding this PAD should be referred to the EASA Safety Information Section, Certification Directorate. E-mail: [ADs@easa.europa.eu](mailto:ADs@easa.europa.eu).
3. For any question concerning the technical content of the requirements in this PAD, please contact: AIRBUS – EIAW (Airworthiness Office)  
E-mail: [continued.airworthiness-wb.external@airbus.com](mailto:continued.airworthiness-wb.external@airbus.com).

