



## Notification of a proposal to issue an Airworthiness Directive

**PAD No.: 17-034**

**Issued: 20 March 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):**

A318, A319, A320 and A321 aeroplanes

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

**TCDS Number(s):** EASA.A.064

**Foreign AD:** Not applicable

**Supersedure:** This AD supersedes EASA AD 2014-0069 dated 19 March 2014.

### ATA 57 – Wings – Front Spar Vertical Stringers – Inspection

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

Airbus (formerly Airbus Industrie)

#### **Applicability:**

Airbus A318-111, A318-112, A318-121, A318-122, A319-111, A319-112, A319-113, A319-114, A319-115, A319-131, A319-132, A319-133, A320-211, A320-212, A320-214, A320-215, A320-216, A320-231, A320-232, A320-233, A321-111, A321-112, A321-131, A321-211, A321-212, A321-213, A321-231 and A321-232 aeroplanes, all manufacturer serial numbers (MSN), except those on which Airbus modification (mod) 160000 (A319 and A320 structural reinforcement for sharklet installation) or mod 160021 (A321 structural reinforcement for sharklet installation) was implemented in production.

#### **Reason:**

During centre fuselage certification full scale fatigue test, cracks were found on the front vertical stringer at frame 36. Analysis of these findings indicated that in-service aeroplanes could be similarly affected.

This condition, if not detected and corrected, could lead to crack propagation and consequent deterioration of the structural integrity of the aeroplane.



To address this potential unsafe condition, Airbus issued Service Bulletin (SB) A320-57-1016 to provide inspection instructions and, consequently, DGAC France issued AD 97-311-105 to require those repetitive inspections. At the same time, modification in accordance with Airbus SB A320-57-1017 was introduced as (optional) terminating action for the repetitive inspections required by that AD.

Since that AD was issued, and following new analysis, modification per Airbus SB A320-57-1017 was no longer considered to be terminating action for the repetitive inspections as required by DGAC France AD 97-311-105. Aeroplanes with MSN 0080 up to 0155 inclusive were delivered with the addition of a 5 mm thick light alloy shim under the heads of 2 fasteners at the top end of the front spar vertical stringers (Airbus mod 21290P1546, which is the production line equivalent to in-service modification through Airbus SB A320-57-1017). Aeroplanes with MSN 0156 or higher are delivered with vertical stiffeners of the forward wing spar upper end with stiffener cap thickness increased from 4 to 6 mm (Airbus mod 21290P1547).

Prompted by these findings, Airbus issued SB A320-57-1178 Revision 01 to introduce new repetitive inspections and, consequently, EASA issued AD 2014-0069, superseding DGAC France AD 97-311-105, to require the new repetitive inspections and, depending on findings, accomplishment of applicable corrective action(s).

Since AD 2014-0069 was issued, further investigations in the frame of the Widespread Fatigue Damage (WFD) campaign identified that some repetitive inspections thresholds and intervals have to be revised or introduced, and a new terminating action modification has been designed.

For the reasons described above, this AD retains the requirements of EASA AD 2014-0069, which is superseded, revises and introduces thresholds and intervals for the repetitive inspections, and expands the Applicability.

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

Required as indicated, unless accomplished previously:

Note 1: Appendix 1 of this AD provides information to determine the configuration (Config.) of the aeroplanes affected by this AD.

Note 2: For the purpose of this AD, “an SDI” means a special detailed inspection of the spar vertical stringer radius, the horizontal floor beam radius and the fasteners holes on Frame (FR) 36 in accordance with the instructions of Airbus SB A320-57-1178 Revision 03.

- (1) For aeroplanes in Config. 1, Config. 2 or Config. 3 that have been inspected, before the effective date of this AD, in accordance with the instructions of Airbus SB A320-57-1178 at original issue, without accomplishment of the additional work as specified in Airbus SB A320-57-1178 Revision 01, before the first SDI in accordance with the instructions of Airbus SB A320-57-1178 Revision 03 as required by this AD, contact Airbus for further instructions and accomplish those instructions accordingly.



- (2) Within the compliance time defined in Table 1 of this AD, as applicable to aeroplane configuration, and, thereafter, in case no cracks are found during the SDI, at intervals not to exceed the intervals defined in Table 2 of this AD, accomplish an SDI (see Note 2 of this AD).

Table 1: Initial inspection, A or B, whichever occurs later

Config.	A (Flight Cycles (FC) or Flight Hours (FH), whichever occurs first)	B (calendar, FC or FH, whichever occurs first)
1	Before exceeding 25 100 FC or 50 200 FH since aeroplane first flight	Within 8 800 FC or 17 700 FH, since the last SDI performed
2	Within 8 800 FC or 17 700 FH after Airbus SB A320-57-1017 embodiment without prior accomplishment of SB A320-57-1016 or A320-57-1178 and before exceeding 32 000 FC or 64 000 FH since aeroplane first flight	Within 15 900 FC or 31 900 FH after last SDI performed or 12 months or 2 500 FC or 5 000 FH from AD effective date
3	Before exceeding 32 000 FC or 64 000 FH since aeroplane first flight	4 months or 750 FC or 750 FH
5	Before exceeding 48 000 FC or 96 000 FH since aeroplane first flight	
6	Before exceeding 48 000 FC or 96 000 FH since aeroplane first flight	
7	Before exceeding 44 400 FC or 88 900 FH since aeroplane first flight	
8	Before exceeding 26 880 FC or 115 580 FH since aeroplane first flight	None
10	Within 48 000 FC or 96 000 FH, from SB A320-57-1200 embodiment	4 months or 750 FC or 750 FH

Table 2: Repetitive inspection, A or B, whichever occurs later

Config.	A Interval (FC or FH, whichever occurs first)	B (calendar, FC or FH, whichever occurs first)
1	Within 8 800 FC or 17 700 FH	None
2	Within 15 900 FC or 31 900 FH	12 months or 2 500 FC or 5 000 FH from AD effective date, without exceeding 24 900 FC or 49 800 FH since last inspection
3		
5	Within 11 500 FC or 23 000 FH	None
6		
7	Within 10 200 FC or 20 500 FH	
8	Within 6 240 FC or 26 830 FH	
10	Within 11 500 FC or 23 000 FH	

- (3) If, during any SDI as required by this AD, any crack is found, before next flight, contact Airbus for approved corrective action instructions and accomplish those instructions accordingly.
- (4) For A320 aeroplanes in Config. 1, 2 or 3 within the compliance time defined in Table 3 of this AD, as applicable, modify the centre wing box area in accordance with the instructions of Airbus SB A320-57-1200.



Table 3 – SB A320-57-1200 Modification Threshold

Aeroplane Mod-Status	Compliance Time (whichever occurs later, <b>A</b> or <b>B</b> , <b>C</b> or <b>D</b> , as applicable to mod-status)	
pre-mod 21290P1546	<b>A</b>	Before exceeding 37 700 FC or 75 400 FH, whichever occurs first since aeroplane first flight, but not before 28 000 FC and 56 000 FH, since aeroplane first flight
	<b>B</b>	Within 12 months after the effective date of this AD
post-mod 21290P1546	<b>C</b>	Before exceeding 48 000 FC or 96 000 FH, whichever occurs first since aeroplane first flight, but not before 28 000 FC and 56 000 FH, since aeroplane first flight
	<b>D</b>	Within 12 months after the effective date of this AD

- (5) For an aeroplane that have already been repaired in accordance with instructions approved by EASA or approved under Airbus DOA, accomplish the repetitive SDI within the compliance time defined in those instructions. If no compliance time is identified in the instructions, the repetitive SDI must be accomplished as defined in Table 2 of this AD.
- (6) If during accomplishment of any Airbus SB listed in reference publication section a difference (see Note 3 of this AD) is detected, which makes the accomplishment of a part of the instructions impossible, before next flight contact Airbus for approved instructions and accomplish those instructions accordingly, including follow-on action(s), as applicable.

Note 3: For the purpose of this AD, the detected difference can be either:

- (a) a necessary design deviation due to production related concessions that directly affect the sensitive area of the modification; or
  - (b) an obvious typographical error in the SB instructions; or
  - (c) an aeroplane configuration not (yet) included in / addressed by the SB instructions, or
  - (d) an aeroplane that have been repaired in accordance with approved EASA or approved under AIRBUS DOA instructions.
- (7) Modification and/or repair of an aeroplane as required by paragraph (3) and (4) of this AD does not constitute terminating action for the repetitive SDI as required by this AD for that aeroplane unless it is specified otherwise in the Airbus documentation.

#### Ref. Publications:

Airbus SB A320-57-1016 Revision 02 dated 20 January 1998.

Airbus SB A320-57-1017 original issue dated 03 September 1991, or Revision 01 dated 17 March 1997.

Airbus SB A320-57-1178 Revision 01 dated 28 May 2014, or Revision 02 dated 20 November 2015, or Revision 03 dated 29 November 2016.

Airbus SB A320-57-1200 original issue, dated 20 November 2015.



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 17 April 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 – Airworthiness Office – EIAS; Fax +33 5 61 93 44 51; E-mail: [account.airworth-eas@airbus.com](mailto:account.airworth-eas@airbus.com).



## Appendix 1 – Aeroplane Configuration (Config.) Definition

Config.	Airbus Mod embodied in production / SB embodied				Affected Aeroplanes			
	21290P1546	21290P1547	36993P9963	SB A320-57-1017	A320	A321	A319	A318
1	No	No	No	No	X			
2	No	No	No	Yes	X			
3	Yes	No	No	No	X			
5	No	Yes	No	No	X			
	No	Yes	No	No			X	
	No	Yes	No	No				X
6	No	Yes	Yes	No	X			
	No	Yes	Yes	No			X	
	No	Yes	Yes	No				X
7	No	No	No	No		X		

Config. 8: A319 aeroplanes on which mod 28162, 28238 and 28342 have been embodied (“Corporate Jet”).

Config. 9: not applicable.

Config. 10: A320 aeroplanes post SB A320-57-1200.

