



Notification of a proposal to issue an Airworthiness Directive

PAD No.: 16-067R1

Issued: 22 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 aeroplanes

Effective Date: [TBD - planned: 30 days after AD issue date]

TCDS Number(s): EASA.A.004

Foreign AD: Not applicable

Supersedure: None

ATA 53 – Fuselage – Structural Parts / Joints – Modification / Reinforcement

Manufacturer(s):

Airbus (formerly Airbus Industrie)

Applicability:

Airbus A330-201, A330-202, A330-203, A330-223, A330-243, A330-223F, A330-243F, 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).

Reason:

An analysis conducted on A330 aeroplanes identified structural areas which are susceptible to widespread fatigue damage (WFD).

This condition, if not corrected, could lead to crack initiation and undetected propagation, leading to reduced structural integrity of the aeroplane, possibly resulting in rapid depressurisation and consequent injury to occupants.

To address this potential unsafe condition, Airbus developed a number of modifications (Mod) and published associated Service Bulletins (SB) for embodiment in service, to provide instructions to reinforce the various structural parts of the fuselage.



For the reasons described above, this PAD proposes to require accomplishment of these modifications and reinforcements.

Following the review of comments received, this PAD is revised to introduce some changes and is re-published for additional consultation.

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

Required as indicated, unless accomplished previously:

- (1) Before exceeding the applicable Structural Modification Point (SMP) for each Action, as defined in Table 3 of Appendix 1 of this AD, as applicable, modify the aeroplane in accordance with the instructions of each Airbus SB, as applicable, as specified in Appendix 1 of this AD.
- (2) For aeroplanes that are close to, or have already exceeded the SMP threshold(s), as specified for each Action, as applicable, accomplishment of the modification can be deferred for a period not exceeding 12 months after the effective of this AD, except for the Mod as specified in Airbus SB A330-53-3237, accomplishment of which can be deferred for a period not exceeding 15 months after the effective date of this AD.
- (3) For aeroplanes that have already been modified, before the effective date of this AD, in accordance with the instructions of the original issue of Airbus SB A330-53-3144, SB A330-53-3222, or SB A330-53-3237, as applicable, within 12 months after the effective date of this AD, accomplish the additional work as specified in each applicable SB at Revision 01.

Ref. Publications:

Airbus SB A330-53-3144 Revision 01 dated 25 July 2006, or Revision 02 dated 20 April 2011, or Revision 03 dated 15 January 2015, or Revision 04 dated 23 November 2015.

Airbus SB A330-53-3222 Revision 01 dated 31 March 2016.

Airbus SB A330-53-3223 original issue dated 19 January 2015.

Airbus SB A330-53-3224 original issue dated 16 January 2015, or Revision 01 dated 14 April 2016.

Airbus SB A330-53-3225 original issue dated 16 January 2015, or Revision 01 dated 26 February 2016, or Revision 02 dated 08 June 2016.

Airbus SB A330-53-3226 original issue dated 15 January 2015, or Revision 01 dated 03 March 2016.

Airbus SB A330-53-3236 original issue dated 15 January 2015, or Revision 01 dated 24 August 2015, or Revision 02 dated 23 March 2016.

Airbus SB A330-53-3237 Revision 01 dated 08 February 2016.

Airbus SB A330-53-3238 original issue dated 15 January 2015, or Revision 01 dated 19 October 2015.



Airbus SB A330-53-3239 original issue dated 20 April 2015, or Revision 01 dated 04 July 2016.

Airbus SB A330-53-3244 original issue dated 07 April 2015, or Revision 01 dated 02 August 2016.

Airbus SB A330-53-3248 original issue dated 07 April 2015, or Revision 01 dated 29 February 2016, or Revision 02 dated 27 July 2016.

Airbus SB A330-53-3251 original issue dated 13 May 2015, or Revision 01 dated 23 June 2016.

Airbus SB A330-53-3252 original issue dated 10 April 2015, or Revision 01 dated 30 June 2016.

Airbus SB A330-53-3257 original issue dated 21 July 2015, or Revision 01 dated 15 March 2016.

Airbus SB A330-53-3258 original issue dated 20 April 2015.

Airbus SB A330-53-3259 original issue dated 11 May 2015, or Revision 01 dated 26 February 2016, or Revision 02 dated 18 July 2016.

Airbus SB A330-53-3263 original issue dated 21 July 2015, or Revision 01 dated 01 December 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 06 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 – Airworthiness Office – EIAL, E-mail: airworthiness.A330-A340@airbus.com.



Appendix 1 – SMP / Modifications

[Each applicable SB defines the aeroplanes and configuration(s) for which the actions are required]

Notes referenced in the Tables below:

Note 1: LR = flight hours (FH) optimized set for aeroplane in Long Range (LR) operations; SR = flight cycles (FC) optimized set for aeroplane in Short Range (SR) operations.

Note 2: Weight Variant (WV) Group definitions:

Table 1

Aeroplanes	WV Group	Weight variants
A330-200	Group 32A	020, 021, 022, 023, 024, 025, 026 and 027
	Group 32E	050, 051, 052, 053, 054, 055, 056, 057, 058, 059, 060, 061, 062, 063, 064, 080, 081, 082 and 083
A330-200F	-	000, 001 and 002
A330-300	Group 33A	000, 001, 002, 003 and 004
	Group 33B	010, 011, 012, 013 and 014
	Group 33C	020, 024, 025, 026 and 027
	Group 33D	022
	Group 33E	030, 031, 032, 033, 034, 035, 039, 050, 051, 052, 053, 054, 055, 056, 057, 058, 059, 060, 080, 081, 082 and 083

Note 3: Window of Embodiment: For some modifications, it was deemed necessary to establish a “lower threshold” (as defined in FC and FH, as specified in Table 2 of this AD – if two limits are indicated, both are required to be exceeded), before which it is not advisable to accomplish the modification. For aeroplanes already modified before that threshold was reached, it is anticipated that accomplishment of additional maintenance tasks (modification/inspection), to be developed by Airbus, will be required.

Table 2 - Lower Threshold for Modification

SB (Mod)	Applicability (Note 2)	Modification Not Before:
A330-53-3222 R01	Groups 32A, 32E, 33A, 33C, 33D and 33E	10 000 FC
	Group 33B	12 000 FC
	A330-200F	8 900 FC and 26 600 FH
A330-53-3224	Group 33A	10 000 FC and 6 600 FH
A330-53-3225	Group 33A	3 900 FC and 10 200 FH
A330-53-3237 R01	Groups 32A, 33A, 33B, 33C and 33D	3 900 FC
A330-53-3238 R01	Groups 32A, 33A, 33B, 33C and 33D	9 000 FC



Note 4: SMP limits in FH have also been determined but are not shown in Table 3 because they exceed the currently applicable certified limit (DSG or ISG) of the aeroplane. For the purpose of this AD, SMP limits in FH, as defined in the applicable SB, are currently not applicable, as they depend on the outcome of an Extended Service Goal (ESG) certification by EASA.



An aeroplane complies with the requirements of this AD when all applicable actions from 1 to 18 defined in Table 3 of this AD are accomplished.

Table 3

Action	Description of action	Applicability (Note 2)	Applicable SB (Equivalent Airbus production Mod)	SMP SR (Note 1)	SMP LR (Note 1)
				(FC or FH, whichever occurs first) (*) = Note 4	
1	Improve circumferential joints at Frame (FR) 45 and 54 of the fuselage	Group 32A	A330-53-3144 R01	32 500 FC (*)	26 600 FC (*)
		Group 33A		23 700 FC / 71 300 FH	20 400 FC (*)
		Group 33B		27 600 FC / 83 000 FH	23 700 FC (*)
		Group 33C		23 300 FC / 70 000 FH	20 000 FC (*)
		Group 33D		22 700 FC / 68 300 FH	19 500 FC (*)
2	Improve splicing area from FR48 to FR53-2 between Stringer (STGR) 23 and 26 Left Hand (LH)/Right Hand (RH) of the fuselage	Groups 32A and 32E	A330-53-3222 R01 (Mod 204315)	23 100 FC / 80 900 FH	20 900 FC (*)
		Group 33A		24 200 FC / 79 100 FH	21 800 FC (*)
		Group 33B		19 700 FC / 64 300 FH	17 700 FC (*)
		Groups 33C, 33D and 33E		21 600 FC / 70 600 FH	19 400 FC (*)
		A330-200F		27 400 FC / 82 200 FH	
3	Reinforce couplings in area FR20 – FR25 / STGR20 RH – STRG22 RH of the forward fuselage	Groups 32A, 32E, 33B, 33C, 33D and 33E	A330-53-3223	30 900 FC	
4	Reinforce circumferential joint at FR72 of the fuselage	Group 33A	A330-53-3224	29 700 FC / 89 600 FH	25 500 FC (*)



Action	Description of action	Applicability (Note 2)	Applicable SB (Equivalent Airbus production Mod)	SMP SR (Note 1)	SMP LR (Note 1)
				(FC or FH, whichever occurs first) (*) = Note 4	
5	Reinforce circumferential joint at FR58 of the fuselage	Group 33A	A330-53-3225	16 300 FC / 49 300 FH	13 300 FC / 90 700 FH
6	Reinforce circumferential joint between FR53.6 – FR53.7 for emergency door TYPE 1 area of the centre fuselage	Group 32A	A330-53-3226	26 100 FC / 91 600 FH	21 000 FC (*)
		Groups 33C, 33D and 33E		15 600 FC / 46 800 FH	12 600 FC / 84 800 FH
		Group 33A		34 400 FC (*)	27 800 FC (*)
		Group 33B		19 900 FC / 59 800 FH	16 100 FC (*)
		Group 32E		19 900 FC / 69 900 FH	16 200 FC (*)
7	Reinforce circumferential joint between FR53.6 – FR53.7 LH/RH of option emergency door TYPE A area of the centre fuselage	Group 33A	A330-53-3236	30 900 FC / 93 200 FH	25 400 FC (*)
8	Improve fatigue life of internal centre fuselage structure on longitudinal beams above the centre wing box	Group 33A	A330-53-3237 R01	27 300 FC	
		Group 33B			
		Groups 32A, 33C and 33D			
9	Update lower / lateral frame splicing with corner fitting between FR53.3 and FR54 of the centre fuselage	Group 32A	A330-53-3238	38 400 FC	
		Group 33A		28 800 FC	
		Group 33B		36 200 FC	
		Groups 33C and 33D		34 700 FC	



Action	Description of action	Applicability (Note 2)	Applicable SB (Equivalent Airbus production Mod)	SMP SR (Note 1)	SMP LR (Note 1)
				(FC or FH, whichever occurs first) (*) = Note 4	
10	Reinforce longitudinal butt joints in section 13	A330-200F	A330-53-3239	15 100 FC	
11	Reinforce circumferential joint at FR31 between STRG 7LH and STRG 8RH of forward fuselage	A330-200F	A330-53-3244	15 500 FC / 46 500 FH	
12	Reinforce frame couplings in section 13, 14 and 14A of the forward fuselage	Group 33A	A330-53-3248	32 000 FC	
13	Reinforce circumferential joint/stringer coupling in area of FR37.1 of the forward fuselage	Group 33C Pre-Mod 46636	A330-53-3251	38 200 FC (*)	32 000 FC (*)
		Groups 33C and 33D Post-Mod 46636		30 600 FC / 99 500 FH	27 600 FC (*)
		Group 33E		32 200 FC (*)	29 100 FC (*)
14	Reinforce circumferential joint/stringer coupling in area of FR37.1 of the forward fuselage	Groups 33C and 33D, Post-Mod 46636	A330-53-3252	30 600 FC / 99 500 FH	27 600 FC (*)
		Group 33E		32 200 FC (*)	29 100 FC (*)
15	Reinforce frame couplings in rear area of the fuselage	Group 33-A and 33B	A330-53-3257	24 000 FC	



Action	Description of action	Applicability (Note 2)	Applicable SB (Equivalent Airbus production Mod)	SMP SR (Note 1)	SMP LR (Note 1)
				(FC or FH, whichever occurs first) (*) = Note 4	
16	Reinforce corner fittings in section 13 of the forward fuselage	Group 32A	A330-53-3258	31 800 FC	
17	Reinforce circumferential joint at FR58 (aeroplane Post-Mod 40556/D18255) of the rear fuselage	Group 32E	A330-53-3259	18 500 FC / 65 400 FH	14 600 FC / 95 700 FH
		Group 33A		34 800 FC (*)	28 400 FC (*)
		Group 33B		33 500 FC (*)	27 400 FC (*)
18	Reinforce frames in rear area of the fuselage	Groups 32A, 32E, 33B, 33C, 33D and 33E	A330-53-3263	23 300 FC / 69 700 FH	20 800 FC (*)

