Airworthiness Directive

AD No.: 2016-0208

Issued: 19 October 2016

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):
A340 aeroplanes

Effective Date: 18 November 2016
TCDS Number(s): EASA.A.015
Foreign AD: Not applicable
Supersedure: None

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

REVISED

Manufacturer(s):
Airbus (formerly Airbus Industrie)

Applicability:
Airbus A340-211, A340-212, A340-213, A340-311, A340-312, A340-313, A340-541, A340-542, A340-642 and A340-643 aeroplanes, all manufacturer serial numbers.

Reason:
An analysis conducted on A340 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 AD requires the accomplishment of these modifications and reinforcements.

Required Action(s) and Compliance Time(s):
Required as indicated, unless accomplished previously:

Modification:
(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.

Grace Period(s):
(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.

Additional Work:
(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 A340-53-4151, 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 A340-53-4151 Revision 01 dated 25 July 2006, or Revision 02 dated 15 March 2016.

Airbus SB A340-53-4194 original issue dated 04 October 2012, or Revision 01 dated 16 August 2016.

Airbus SB A340-53-4218 original issue dated 14 April 2015, or Revision 01 dated 03 March 2016.

Airbus SB A340-53-4230 original issue dated 21 July 2015, or Revision 01 dated 15 March 2016.

Airbus SB A340-53-4231 original issue dated 16 July 2015, or Revision 01 dated 16 November 2015, or Revision 02 dated 08 August 2016.

Airbus SB A340-53-5047 original issue dated 12 October 2009, or Revision 01 dated 01 April 2015, or Revision 02 dated 02 October 2015, or Revision 03 dated 29 January 2016.

Airbus SB A340-53-5073 original issue dated 13 May 2015.

Airbus SB A340-53-5050 original issue dated 16 October 2009, or Revision 01 dated 01 April 2015, or Revision 02 dated 28 September 2015.

Airbus SB A340-53-5070 original issue dated 09 April 2015, or Revision 01 dated 24 September 2015.

Airbus SB A340-53-5071 original issue dated 15 April 2015, or Revision 01 dated 04 July 2016.

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

Remarks:

1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD.

2. This AD was posted on 11 May 2016 as PAD 16-068 for consultation until 22 June 2016 and republished on 22 September 2016 as PAD 16-068R1 for additional consultation until 06 October 2016. The Comment Response Documents can be found in the EASA Safety Publications Tool, in the compressed (zipped) file attached to the record for this AD.

3. Enquiries regarding this AD should be referred to the EASA Safety Information Section, Certification Directorate. E-mail: ADs@easa.europa.eu.

4. For any question concerning the technical content of the requirements in this AD, 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 definition:

Table 1

Aeroplanes	**WV Group**	**Weight variants**
A340-200	Group 42A	000, 001 and 002
A340-300	Group 43A	000, 001, 002, 003 and 004
	Group 43B	020, 021, 023, 024, 025, 026, 028 and 029
	Group 43E	050, 051, 052, 053 and 054
A340-500	Group 45A	000, 001, 002, 003 and 004
	Group 45B	101, 102 and 103
A340-600	Group 46A	000 and 001
	Group 46B	101, 102 and 103

Note 3: Window of Embodiment: For some modifications, it was deemed necessary to establish a "lower threshold" (as defined in FC and FH, whichever occurs later, as specified in Table 2 of this AD), 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**:
A340-53-5047	Group 45B	3 800 FC
A340-53-5050	Group 46A	4 300 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. These limits in FH, as defined in the listed SB, are currently not applicable and may be introduced later in a new AD for A340-500/-600, depending on the outcome of the corresponding Extended Service Goal (ESG) certification.

An aeroplane complies with the requirements of this AD if all applicable actions from 1 to 10 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	Reinforce frames in rear fuselage area	Groups 43A Post-Mod 41849 and 43B	A340-53-4231	23 300 FC / 69 700 FH	20 800 FC / 141 100 FH
		Group 42A Post-Mod 41849			20 800 FC (*)
		Group 43C		23 300 FC (*)	
2	Reinforce junction at level of FR54 of the fuselage	Group 45B	A340-53-5047	11 180 FC / 89 470 FH	
		Group 46B		10 530 FC / 72 400 FH	
3	Reinforce circumferential joint in area of FR72 between STGR5 and STGR11 LH and RH	Groups 45A and 45B	A340-53-5073	15 300 FC / 99 900 FH	
		Groups 46A and 46B		13 700 FC / 89 100 FH	
4	Reinforce orbital junction at level FR45 of the fuselage	Group 46A	A340-53-5050	14 100 FC / 92 200 FH	
5	Reinforce circumferential joint between frame FR53.6 and FR53.7 of standard TYPE 1 door area	Group 43E (Door TYPE 1)	A340-53-4218	15 400 FC / 61 900 FH	12 800 FC / 87 600 FH

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	
6	Improve internal foot frame to roof frame splicing for rear centre tank (RCT) 5 and RCT 7	Group 45A Pre-Mod 47968	A340-53-5070	14 900 FC (*)	
		Group 45A Post-Mod 47968		12 800 FC / 98 000 FH	
		Group 45B		15 000 FC (*)	
7	Reinforce frame couplings in rear fuselage area	Groups 42A, 43A and 43B Pre-Mod 44593	A340-53-4230	24 000 FC	
8	Reinforce stringer couplings in area of FR58	Group 46B	A340-53-5071	14 700 FC (*)	
9	Improve fatigue life of circumferential joint at frame 53.3	Group 43A Pre-Mod 40123 and Pre-Mod 52911	A340-53-4151 R01	27 900 FC	
10	Improve fatigue life of frame foot from FR48 to FR53.2 at stringer STR25 and STR26 of the centre fuselage	Group 43E Pre-Mod 202494	A340-53-4194	13 100 FC / 52 700 FH	12 100 FC / 81 700 FH