



Notification of a proposal to issue an Airworthiness Directive

PAD No.: 15-154

Issued: 16 December 2015

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):

A340 aeroplanes

Effective Date: dd Month YYYY [standard: 14 days after AD issue date]

TCDS Number(s): EASA.A.015

Foreign AD: Not applicable

Supersedure: None

ATA 53 – Fuselage – Structure Frames and Joints – Modification / Reinforcement

Manufacturer(s):

Airbus (formerly Airbus Industrie)

Applicability:

Airbus A340-211, A340-212, A340-213, A340-311, A340-312 and A340-313 aeroplanes, all manufacturer serial numbers (MSN).

Reason:

With the extension of the limit of validity (LOV) based on engineering data that supports the structural maintenance program, it was found that no affected aeroplane may be operated beyond a given threshold, also known as SMP (Structural Modification Point), without prior embodiment of some modifications. The LOV represents the period of time for which it has been demonstrated that no structural ageing effect will occur in the aeroplane.

This extension of the LOV took into account:

- further operation of full scale fatigue test results,



- in-service findings, and
- the structural ageing effect including re-evaluation of the Fatigue and Damage Tolerance analysis of the original structure and its modifications.

To allow the extension of the LOV, Airbus designed a batch of modifications which were initially integrated in Section 3 of Airbus A340 ALS Part 2, compliance with which is currently required by EASA AD 2013-0127.

Failure to embody those modifications could lead to crack initiation and (undetected) propagation, possibly resulting in reduced structural integrity of the aeroplane fuselage.

Recently, Airbus A340 ALS Part 2 variation 1.3 Revision 03 was published, removing Section 3.

For the reasons described above, this AD requires the accomplishment of the modifications as previously listed in Section 3 of Airbus A340 ALS Part 2 and required by EASA AD 2013-0127.

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

Required as indicated, unless accomplished previously:

Within the compliance times of the SMP defined in Appendix 1 of this AD for each modification, as applicable, modify the aeroplane in accordance with the instructions of each Airbus Service Bulletin (SB), as applicable, as specified in Appendix 1 of this AD.

Ref. Publications:

Airbus SB A340-53-4065 Revision 04 dated 01 June 2012.

Airbus SB A340-53-4135 Revision 03 dated 17 July 2012.

Airbus SB A340-53-4191 original issue dated 25 June 2012.

Airbus SB A340-53-4194 original issue dated 04 October 2012.

Airbus SB A340-53-4196 original issue dated 16 May 2013.

Airbus SB A340-53-4197 original issue dated 16 May 2013.

Airbus SB A340-53-4198 original issue dated 24 May 2013.

Airbus SB A340-53-4201 original issue dated 07 April 2015.

Airbus SB A340-53-4202 original issue dated 07 April 2015.

Airbus SB A340-53-4203 original issue, will be provided on operator's request, contact Airbus.

Airbus SB A340-53-4204 original issue, will be provided on operator's request, contact Airbus.

Airbus SB A340-53-4205 original issue, will be provided on operator's request, contact Airbus.

Airbus SB A340-53-4234 original issue dated 30 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 13 January 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 – EAL.
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 Table below:

(1) LR = Flight Hours (FH) optimized set for aeroplane in Long Range (LR) operations; SR = FH optimized set for aeroplane in Short Range (SR) operations.

(2) Weight Variant (WV) Group definition:

Table 1

| Aeroplanes | WV Group | Weight variants |
|------------|-----------|----------------------------------------|
| A340-200 | Group 42A | 000, 001, 002 |
| | Group 42B | 021 |
| A340-300 | Group 43A | 000, 001, 002, 003, 004 |
| | Group 43B | 020, 021, 023, 024, 025, 026, 028, 029 |
| | Group 43C | 027 |

(3) Window of Embodiment:

Do not accomplish the following modification SB before the relevant thresholds (flight cycles (FC) or FH, whichever occurs later).

Table 2

| SB (Mod) | LR | SR |
|-------------------------------------------------------|----------------------|-----------------------|
| A340-53-4065 (43904) | 5 500 FC | 3 200 FC or 44 600 FH |
| A340-53-4135 (49404), only for Groups 42B, 43B & 43C | 9 300 FC or 9 300 FH | 1 300 FC or 37 000 FH |
| A340-53-4194 (202494), only for Groups 42B, 43B & 43C | 9 100 FC or 8 000 FH | 7 200 FC or 61 000 FH |

(4) For SB A340-53-4234 accomplishment, a Grace Period of 12 months after the effective of this AD is granted.



Table 3

| Action | Applicability (2) | Applicable SB (Equivalent Airbus Production Mod) | Compliance Time (FC or FH, whichever occurs first) | |
|-----------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|--------------------------------------------------------|-------------------------------------------------------|---------------------------|
| | | | SMP LR (1) | SMP SR (1) |
| Change at the stringer holes of center fuselage upper frames | Group 43A – Pre-mod 43904 | A340-53-4065 R04 (43904) | 17 200 FC / 116 400 FH (3) | 18 700 FC / 75 000 FH (3) |
| | Group 42A – Pre-mod 43904 | | 17 700 FC / 120 000 FH (3) | 19 300 FC / 77 400 FH (3) |
| Reinforce area of frame FR40.3 to FR45, STR 26 to stringer STR 29 | Group 42B – Pre-mod 49404 or Group 43B – Pre-mod 49404 or Group 43C – Pre-mod 49404 | A340-53-4135 R03 (49404) | 12 000 FC / 81 400 FH (3) | 16 500 FC / 66 000 FH (3) |
| | Group 42A – Pre-mod 49404 or Group 43A – Post-mod 49404 | | 16 200 FC / 109 800 FH | 22 200 FC / 89 000 FH |
| Improve fatigue life at circumferential joints of frame FR45 at intersections with longitudinal joints | Group 42B – Pre-mod 202357 | A340-53-4191 R00 (202357) | 20 700 FC | 20 700 FC |
| | Group 43B – Post-mod 44583, Pre-mod 49202 and Pre-mod 202357 or Group 43C – Pre-mod 202357 | | 17 400 FC | 17 400 FC |
| | Group 43B – Pre-mod 44583 and Pre-mod 202357 | | 21 700 FC | 21 700 FC |



| | | | | |
|---------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|---------------------------|------------------------|------------------------|
| Reinforce frame couplings in area of frame FR20-FR25/stringer STR20-STR22 | Group 43A – Post-mod 42185, Pre-mod 202450 | A340-53-4205 R00 (202450) | 21 000 FC | 21 000 FC |
| | Group 43B – Pre-mod 202450 or Group 43C – Pre-mod 202450 | | 21 700 FC | 21 700 FC |
| | Group 42A – Post-mod 42185, Pre mod 202450 or Group 42B – Post-mod 42185, Pre-mod 202450 | | 22 500 FC | 22 500 FC |
| Reinforce circumferential joint at frame FR53.6-FR53.7 (Door TYPE A) | Group 43A – Pre-mod 202451 | A340-53-4203 R00 (202451) | 24 200 FC / 16 3300 FH | 28 600 FC / 114 900 FH |
| | Group 43B – Pre-mod 202451 or Group 43C – Pre-mod 202451 | | 22 200 FC / 149 600 FH | 25 900 FC / 103 900 FH |
| Reinforce circumferential joint of rear fuselage at frame FR58 | Group 42A – Pre-mod 40556 and Pre-mod 202452 | A340-53-4196 R00 (202452) | 11 800 FC / 79 800 FH | 13 800 FC / 55 700 FH |
| | Group 43B – Pre-mod 202452 or Group 43C – Pre-mod 202452 | | 15 400 FC / 104 900 FH | 18 300 FC / 73 300 FH |
| | Group 43A – Pre-mod 40556 and Pre-mod 202452 | | 19 200 FC / 129 600 FH | 22 500 FC / 90 400 FH |
| | Groups 42A and 42B (Airbus document refers to A340-200) – Post-mod 40556, Pre-mod 202452 | | 24 100 FC / 162 800 FH | 28 300 FC / 113 600 FH |



| | | | | |
|------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|------------------------------|---------------------------|---------------------------|
| Improve fatigue life of the external fuselage structure between frame FR53-2 and FR 53-3 at stringer STR39 | Group 42A – Pre-mod 42607 and Pre-Mod 202492 or Group 43A – Pre-mod 42607 and Pre-Mod 202492 | A230-53-4201 R00 (202492) | 20 000 FC | 20 000 FC |
| Improve fatigue life of frame foot from FR.48 to FR.53-2 at stringer STR 25 and STR26 of center fuselage | Group 42B – Pre-mod 202494 or Group 43B – Pre-mod 202494 or Group 43C – Pre-mod 202494 | A340-53-4194 R00 (202494) | 12 100 FC / 81 700 FH (3) | 13 100 FC / 52 700 FH (3) |
| | Group 42A – Post-mod 42409S11839, Pre-mod 202494 or Group 43A – Post-mod 42409S11839, Pre-mod 202494 | | 18 500 FC / 125 400 FH | 20 200 FC / 80 900 FH |
| Improve fatigue life of internal fuselage structure on longitudinal beams above center wing box | Group 43A – Pre-mod 202553 or Group 43B – Pre-mod 49202 and Pre-mod 202553 or Group 43C – Pre-mod 202553 | A34-53-4202 R00 (202553) | 26 800 FC | 26 800 FC |



| | | | | |
|---------------------------------------------------------------------------------------------|----------------------------------------------------------------|------------------------------|----------------------------|---------------------------|
| Reinforce circumferential joint and longitudinal joint in area of frame FR31-FR37.1 | Group 43B – Pre-mod 202582 or Group 43C – Pre-mod 202582 | A340-53-4198 R00 (202582) | 16 200 FC / 105 600 FH | 19 100 FC / 72 000 FH |
| | Group 42A – Pre-mod 202582 or Group 42B – Pre-mod 202582 | | 18 700 FC | 18 700 FC |
| | Group 43A – Pre-mod 202582 | | 19 500 FC | 19500 FC |
| Reinforce circumferential joint and longitudinal joint at frame FR53.6-FR53.7 (Door TYPE 1) | Group 43A – Pre-mod 202583 | A340-53-4204 R00 (202583) | 23 900 FC / 163 000 FH | 28 600 FC / 115 000 FH |
| | Group 43B – Pre-mod 202583 or Group 43C – Pre-mod 202583 | A340-53-4234 R00 (202583) | 14 900 FC / 101 900 FH (4) | 17 900 FC / 71 900 FH (4) |
| Reinforce circumferential joint at frame FR72 of rear fuselage | Group 43A – Pre-mod 40556 and Pre-mod 202584 | A340-53-4197 R00 202584 | 10 400 FC / 71 000 FH | 12 200 FC / 51 600 FH |
| | Group 42A – Pre-mod 40556 and Pre-mod 202584 | | 8 600 FC / 58 800 FH | 10 100 FC / 40 100 FH |

