



## Notification of a Proposal to issue an Airworthiness Directive

**PAD No.:** 23-054

**Issued:** 08 May 2023

Note: This Proposed Airworthiness Directive (PAD) is issued by EASA, acting in accordance with Regulation (EU) 2018/1139 on behalf of the European Union, its Member States and of the European third countries that participate in the activities of EASA under Article 129 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 S.A.S.

**Type/Model designation(s):**

A300-600 F4 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 2018-0266 dated 11 December 2018.

### ATA 52 – Doors – Lower Deck Aft Cargo Door Frame Forks – Inspection / Modification

**Manufacturer(s):**

Airbus, formerly Airbus Industrie

**Applicability:**

Airbus A300F4-605R and A300F4-622R aeroplanes, all manufacturer serial numbers (MSN) on which Airbus modification (mod) 12046 has been embodied in production.

**Definitions:**

For the purpose of this AD, the following definitions apply:

**The AOT:** Airbus Alert Operators Transmission (AOT) A52W011-15.

**The inspection SB:** Airbus Service Bulletin (SB) A300-52-6086 Revision 02.

**The modification SB:** Airbus SB A300-52-6085 Revision 02.



**Affected LDCD:** Lower deck aft cargo compartment doors (LDCD), having Part Number (P/N) A5237450000000, P/N A5237450000200, P/N A5237450000400, P/N A5237450000600 or P/N A5237450000800.

**Affected part:** The (10) frame forks as installed on an affected LDCD, having a P/N as listed in Table 1 of this AD.

**Aeroplane date of manufacture:** The date of transfer of title (ownership) which is referenced in Airbus documentation at the time of first delivery to an operator.

**Groups for inspection:** Group 1 aeroplanes are those on which, on the effective date of this AD, not all the (10) frame forks of the affected LDCD have been individually repaired, and/or replaced and reinforced, in accordance with the instructions of the AOT (as defined in this AD), Airbus repair drawing R523-70413 or SB A300-52-6086 (at any revision), and on which the affected LDCD has (as a whole) not (yet) been modified in accordance with the instructions of Airbus SB A300-52-6085 (at any revision), as applicable.

Group 2 aeroplanes are those on which, on the effective date of this AD, either all the (10) frame forks of the affected LDCD have been individually repaired, and/or replaced and reinforced, in accordance with the instructions of the AOT, Airbus repair drawing R523-70413 or SB A300-52-6086 (at any revision), or on which the affected LDCD has (as a whole) been modified in accordance with the instructions of Airbus SB A300-52-6085 (at any revision).

**Groups for modification:** Group A aeroplanes are those on which the modification in accordance with the instructions of SB A300-52-6085 (at any revision) has not (yet) been embodied.

Group B aeroplanes are those on which the modification in accordance with the instructions of SB A300-52-6085 (at any revision) has been embodied before exceeding 11 400 flight cycles (FC) since aeroplane date of manufacture.

#### Reason:

Occurrences were reported where, during scheduled maintenance of two A300-600F4 (freighter) aeroplanes, two adjacent frame forks were found cracked at frame (FR) 61 and FR61A of the LDCD. Further investigation revealed also crack initiations at other frame forks of affected LDCDs, on FR60A, FR62, FR63 and FR64. Subsequent analysis determined that, in case of a cracked or ruptured LDCD frame fork, loads will be transferred to other (remaining) vertical structural elements. However, these secondary load path(s) will only be able to sustain these additional loads for a limited number of FC.

This condition, if not detected and corrected, could lead to additional rupture of one or more LDCD frame forks, which would compromise the structural integrity of the LDCD and, therefore, of the complete aeroplane.

To address this unsafe condition, Airbus issued the AOT (as defined in this AD), to provide instructions for inspection and replacement of found cracked frame forks. Consequently, EASA issued AD 2015-0152 to require repetitive inspections of all the frame forks of affected LDCDs and, depending on findings, accomplishment of applicable corrective action(s).



Subsequently, Airbus published SB A300-52-6086, superseding the AOT, providing instructions for inspection, replacement and also repair of the affected parts, also including provisions for extension of the defined inspection intervals. Airbus also issued SB A300-52-6085 to provide instructions for optional modification (reinforcement) of all frame forks of an affected LDCDs. Consequently, EASA AD 2015-0152 was revised accordingly.

After EASA AD 2015-0152R1 was issued, based on further investigation and analysis, new thresholds and inspection intervals were defined for the required high frequency eddy current (HFEC) inspections, depending on the (repair/replacement) status of each individual affected part, and Airbus revised inspection SB A300-52-6086 (Revision 1) accordingly. Consequently, EASA issued AD 2018-0266, retaining the requirements of AD 2015-0152R1, which was superseded, but with amended thresholds and intervals for the required HFEC Inspections.

Since that AD was issued, based on more detailed stress analyses, it has been determined that the threshold for the (repetitive) HFEC inspection could be extended from 12 500 FC to 26 455 FC for those affected parts installed on an LDCD that has been modified in accordance with SB A300-52-6085 (at any revision) or of which all (10) affected parts have been individually repaired, and/or replaced and reinforced (modified), in accordance with the AOT, Airbus repair drawing R523-70413 or SB A300-52-6086 (at any revision) and/or SB A300-52-6085, as applicable. It was also determined that an incorrect HFEC inspection threshold had been defined for affected parts installed on Group 1 aeroplanes (as defined in this AD). Consequently, Airbus issued the inspection SB (as defined in this AD) to include these (two) amended thresholds. Additional widespread fatigue damage analysis determined that all frame forks of affected LDCDs are susceptible to crack development, which compromises the structural integrity of the LDCD and therefore of the aeroplane. Consequently, Airbus issued the modification SB (as defined in this AD) to provide instructions for modification of all affected LDCDs, by reinforcement of all (10) affected frame forks installed on an affected LDCD.

For the reasons described above, this AD retains the requirements of EASA AD 2018-0266, which is superseded, and extends the HFEC inspection threshold for affected parts installed on a fully modified LDCD or on an LDCD of which all the (10) affected parts have been individually repaired or replaced and reinforced. This AD also corrects the incorrectly defined HFEC inspection threshold for affected parts installed on Group 1 aeroplanes and requires modification (reinforcement) of all frame forks, installed on any affected LDCD, that have not (yet) been reinforced.

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

Required as indicated, unless accomplished previously:

#### **Inspection(s):**

- (1) For Group 1 aeroplanes: Within the compliance time as specified in Table 2 of this AD, accomplish the following actions in accordance with the instructions of the inspection SB, as defined in this AD:
  - (1.1) A one-time detailed inspection (DET) of affected LDCD clearances "U" and "V" between the latching hook and the eccentric bush at FR60 to FR64A inclusive;



(1.2) A one-time DET of all affected LDCD latching hooks, eccentric bushes and x-stops for signs of wear; and

(1.3) An HFEC inspection of all affected parts.

Table 1 – Affected Parts

LDCD Frame Fork P/N	
F523-72301-200	F523-72302-200
F523-72303-200	F523-72304-200
F523-72305-200	F523-72306-200
F523-72307-200	F523-72308-200
F523-72309-200	F523-72310-200

Table 2 – LDCD Clearance Check and DET / HFEC Inspection – see Note 1 of this AD

FC Accumulated	Compliance Time
8 000 FC or more	Within 100 FC after 23 May 2017 [the effective date of EASA AD 2015-0152R1]
Less than 8 000 FC	Within 400 FC after 23 May 2017 [the effective date of EASA AD 2015-0152R1] or before exceeding 4 500 FC since aeroplane date of manufacture, whichever occurs later

Note 1: The FC Accumulated indicated in Table 2 of this AD are those accumulated by the aeroplane on 31 July 2015 [the effective date of the original issue of EASA AD 2015-0152].

(2) For Group 1 and Group 2 aeroplanes: Before exceeding the threshold and, thereafter, at intervals not to exceed the value as defined in Table 3 of this AD, as applicable, accomplish a HFEC inspection on each affected part in accordance with the instructions of the inspection SB.

Table 3 – Repetitive HFEC Inspections

Group	Threshold	Interval
1	Within 600 FC after the inspection as required by paragraph (1.3) of this AD	600 FC
2	Within 26 455 FC after modification of the affected LDCD in accordance with the instructions of SB A300-52-6085 (at any revision), or after the first repair or replacement of an affected part, as applicable	1 000 FC



**Corrective Action(s):**

- (3) For Group 1 aeroplanes: If, during the clearance check as required by paragraph (1.1) of this AD, any values are found outside the tolerances as specified in Airbus A300-600 F4 Aircraft Maintenance Manual task 52-32-11, before next flight, adjust the hook in accordance with the instructions of the inspection SB.
- (4) For Group 1 aeroplanes: If, during the DET as required by paragraph (1.2) of this AD, any wear is found, before next flight, accomplish the applicable corrective action(s) in accordance with the instructions of the inspection SB.
- (5) For Group 1 and Group 2 aeroplanes: If, during any HFEC inspection as required by paragraph (1.3) or paragraph (2) of this AD, as applicable, any crack is found on an affected part, before next flight, accomplish the applicable corrective action(s) in accordance with the instructions of the inspection SB, as defined in this AD, or modify the (complete) affected LDCD in accordance with the instructions of the modification SB.
- (6) For Group 1 and Group 2 aeroplanes: If, during any inspection as required by paragraph (1.1), (1.2), (1.3) or paragraph (2) of this AD, as applicable, a crack is found on an affected part that has previously been repaired or replaced, before next flight, contact Airbus for approved corrective action instructions, and within the compliance time specified therein, accomplish those instructions accordingly.

**Modification:**

- (7) For Group A aeroplanes: Before exceeding 21 400 FC (the Structural Modification Point) since aeroplane date of manufacture, but not before reaching 11 400 FC (the defined lower limit of the window of embodiment) since aeroplane date of manufacture, modify each affected LDCD in accordance with the instructions of the modification SB, by reinforcement of all (10) affected parts installed on the affected LDCD. In case of any repair or replacement of an affected part, contact Airbus for approved specific modification instructions for the affected LDCD(s) and, within the therein specified compliance times, accomplish those instructions accordingly.
- (8) For Group B aeroplanes: Before exceeding 45 600 FC since aeroplane date of manufacture, contact Airbus for approved instructions and, within the therein specified compliance times, accomplish those instructions accordingly.

**Credit:**

- (9) Inspections, corrective action(s) or modification of (the affected LDCD of) an aeroplane, accomplished before the effective date of this AD in accordance with the instructions of the AOT, Airbus repair drawing R523-70413, Airbus SB A300-52-6086 at original issue or Revision 01, and/or Airbus SB A300-52-6085 at original issue or Revision 01, as applicable, are acceptable to comply with the (initial) requirements of the paragraphs (1), (2), (3), (4), (5) and (6) of this AD for that aeroplane.

**Terminating Action:**

- (10) None.



**Part(s) Installation:**

- (11) From the effective date of this AD, it is allowed to install on any aeroplane an affected LDCD, provided that, before installation, it has been modified in accordance with the instructions of Airbus SB A300-52-6085 (at any revision).

**Ref. Publications:**

Airbus AOT A52W011-15 original issue dated 23 July 2015.

Airbus SB A300-52-6085 original issue dated 22 December 2016, or Revision 01 dated 02 May 2018, or Revision 02 dated 10 November 2022.

Airbus SB A300-52-6086 original issue dated 25 December 2016, or Revision 01 dated 29 May 2018, or Revision 02 dated 10 November 2022.

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

**Remarks:**

1. This Proposed AD will be closed for consultation on 05 June 2023.
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. Information about any failures, malfunctions, defects or other occurrences, which may be similar to the unsafe condition addressed by this PAD, and which may occur, or have occurred on a product, part or appliance not affected by this PAD, can be reported to the [EU aviation safety reporting system](#). This may include reporting on the same or similar components, other than those covered by the design to which this PAD applies, if the same unsafe condition can exist or may develop on an aircraft with those components installed. Such components may be installed under an FAA Parts Manufacturer Approval (PMA), Supplemental Type Certificate (STC) or other modification.
4. For any question concerning the technical content of the requirements in this PAD, please contact: AIRBUS – 1IALW (Airworthiness Office),  
E-mail: [continued.airworthiness-wb.external@airbus.com](mailto:continued.airworthiness-wb.external@airbus.com).

