



## Airworthiness Directive

**AD No.:** 2016-0176

**[Correction: 01 September 2016]**

**Issued:** 31 August 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):

A318, A319, A320 and A321 aeroplanes

**Effective Date:** 07 September 2016

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

**Foreign AD:** Not applicable

**Supersedure:** This AD supersedes EASA AD 2016-0159 dated 05 August 2016.

## ATA 49 – Airborne Auxiliary Power – Auxiliary Power Unit Starter Motor and Air Intake System – Inspection / Cleaning

### 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.

### Reason:

An operator reported black smoke at the rear of the fuselage during taxi after landing. The smoke was caused by a fire in the auxiliary power unit (APU) air intake. The subsequent analysis demonstrated that, following numerous unsuccessful APU start attempts in flight, there is a risk of reverse flow leading to flame propagation to the APU air inlet and air intake duct.

This condition, if not detected and corrected, could result in an in-flight fire in the APU area.



Prompted by these findings, Airbus issued Service Bulletin (SB) A320-49-1068 to provide inspection and cleaning instructions. The applicable Flight Crew Operating Manual (FCOM) already contained a limitation for the number of APU start attempts, as follows:

**APU STARTER**

After 3 starter motor duty cycles, wait 60 minutes before attempting 3 more cycles

To address this potential unsafe condition, EASA issued AD 2006-0153 to require repetitive inspections of the APU starter motor, APU inlet plenum and APU air intake, as well as repetitive cleaning of the APU air intake.

As the reverse flow inside the APU can only occur in flight with the APU inlet closed, various modifications (mod) were developed to introduce a new electronic control box (ECB) with associated software, the functionality of which keeps the APU inlet door open for 15 minutes, following an APU auto-shutdown in flight. Consequently, AD 2006-0153 was revised, reducing the Applicability by excluding certain post-mod aeroplanes, and introducing these modifications as optional terminating actions.

After EASA AD 2006-0153R2 was issued, it was determined that, as an APU ECB can be replaced (or moved from one aeroplane to another) in service, inadvertently installing a pre-mod ECB would reintroduce the unsafe condition. Prompted by this finding, EASA issued AD 2016-0159, retaining the requirements of EASA AD 2006-0153R2, which was superseded, expanding the Applicability and including references to additional optional terminating actions.

Since EASA AD 2016-0159 was issued, it was determined that paragraph (5) of the AD contained some erroneous statements, inadvertently excluding certain aeroplanes, those that have Airbus mod 23698 or mod 24498 embodied in production, from the repetitive actions.

For the reason described above, this AD retains the requirements of EASA AD 2016-0159, which is superseded, and corrects paragraph (5). For post-mod aeroplanes where, inadvertently, an 'affected' ECB has been installed in service, this AD adds the requirement to restore those aeroplanes to post-mod configuration by installation of a 'serviceable' ECB. This AD also introduces some editorial changes, not affecting the required actions.

This AD is republished as it was determined that one 'affected' and one 'non-affected' ECB were inadvertently omitted in the Tables.



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

Required as indicated, unless accomplished previously:

Note 1: For the purpose of this AD, the 'affected' APU and associated ECB are identified in Table 1 of this AD.

Table 1 – Affected APU and ECB

APU	ECB Part Numbers (P/N)
APIC APS 3200	4500003D, 4500003E, 4500003F, 4500003G, 4500003H or 4500003J
Honeywell 131-9A	3888394-120201, 3888394-121202, 3888394-121203, 3888394-221202 or 3888394-221203
Honeywell GTCP36-300	307950-1, 307950-2, 307950-3, 307950-4, 304640-1, 304640-2, 304640-3, 304640-4, 304817-1, 304817-2 or 3888394-230300

- (1) Within 600 flight hours (FH) after 09 June 2006 [the effective date of the original issue of EASA AD 2006-0153], and, thereafter, at intervals not to exceed 600 FH, inspect the starter motor, air inlet plenum and air intake of each affected APU in accordance with the instructions of Airbus SB A320-49-1068 Revision 01.
- (2) If, during any inspection as required by paragraph (1) of this AD, discrepancies are detected, before next flight, accomplish the applicable corrective action(s) in accordance with the instructions of Airbus SB A320-49-1068 Revision 01.
- (3) Unless already accomplished as per Airbus SB A320-49-1068 at original issue, before exceeding 2 400 FH since aeroplane first flight, or within 600 FH after 09 June 2006 [the effective date of the original issue of EASA AD 2006-0153], whichever occurs later, and, thereafter, at intervals not to exceed 2 400 FH, clean the APU air intake in accordance with the instructions of Airbus SB A320-49-1068 Revision 01.
- (4) An aeroplane equipped with an APU and associated ECB P/N as listed in Table 2 of this AD is not affected by the inspection and cleaning requirements of paragraphs (1) and (3) of this AD.

Table 2 – Non-affected ECB

APU	ECB P/N
APIC APS 3200	4500003K, 4500003L or 4500003M
Honeywell 131-9A	3888394-121204, 3888394-121205, 3888394-221204, 3888394-221205 or 3888394-321206
Honeywell GTCP36-300	304640-5, 304817-3, or 3888394-230301



- (5) An aeroplane on which Airbus mod 35803, or mod 35936, or mod 152289, or mod 152645, or mod 155015, or mod 157848 has been embodied in production is not affected by the inspection and cleaning requirements of paragraphs (1) and (3) of this AD, provided that, within 30 days after the effective date of this AD, the P/N of the installed ECB is identified and, if an affected ECB is found installed, that ECB is replaced with an ECB having a P/N as listed in Table 2 of this AD, as applicable to the APU installed on the aeroplane.
- (6) Installation on an aeroplane of an ECB, having a P/N listed in Table 2 of this AD, in accordance with Airbus approved modification instructions (see Note 2 of this AD), constitutes terminating action for the repetitive inspections and cleaning as required by paragraphs (1) and (3) of this AD for that aeroplane.

Note 2: Airbus SB A320-49-1070, or SB A320-49-1075, or SB A320-49-1077, or SB A320-49-1098, or SB A320-49-1102, or SB A320-49-1107, as applicable to aeroplane configuration, provide instructions to replace an APU ECB, having a P/N listed in Table 1 of this AD, with an APU ECB having P/N listed in Table 2 of this AD. Using another Airbus SB, or any other Airbus instructions, approved under Airbus Design Organisation Approval (DOA), to install an ECB having a P/N listed in Table 2 of this AD, is an acceptable method for the purposes of paragraph (6) of this AD.

- (7) An aeroplane equipped with an APU ECB, having a P/N approved after the effective date of this AD, is not affected by the inspection and cleaning requirements of paragraphs (1) and (3) of this AD, provided the conditions as specified in paragraphs (7.1) and (7.2) of this AD are met.

(7.1) The P/N must be approved by EASA, or approved under Airbus DOA.

(7.2) The installation must be accomplished in accordance with aeroplane modification instructions approved by EASA, or approved under Airbus DOA.

- (8) Do not install on any aeroplane an APU ECB, having a P/N identified in Table 1 of this AD, as required by paragraph (8.1) or (8.2) of this AD, as applicable.

(8.1) For an aeroplane that, on the effective date of this AD, is equipped with an APU ECB, having a P/N identified in Table 1 of this AD: After modification of that aeroplane as defined in paragraph (6) or (7) of this AD.

(8.2) For an aeroplane that, on the effective date of this AD, is not equipped with an APU ECB, having a P/N identified in Table 1 of this AD: From the effective date of this AD.

#### **Ref. Publications:**

Airbus SB A320-49-1068 original issue dated 02 June 2005, or Revision 01 dated 02 February 2006.

Airbus SB A320-49-1070 original issue dated 28 July 2006.

Airbus SB A320-49-1075 original issue dated 22 September 2006.

Airbus SB A320-49-1077 original issue dated 21 March 2007.



Airbus SB A320-49-1098 original issue dated 21 June 2011.

Airbus SB A320-49-1102 original issue dated 03 January 2012.

Airbus SB A320-49-1107 original issue dated 05 November 2013, or Revision 01 dated 28 July 2015.

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. Based on the required actions and the compliance time, EASA have decided to issue a Final AD with Request for Comments, postponing the public consultation process until after publication.
3. Enquiries regarding this AD should be referred to the EASA Safety Information Section, Certification Directorate. E-mail: [ADs@easa.europa.eu](mailto:ADs@easa.europa.eu).
4. For any question concerning the technical content of the requirements in this AD, 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).

