



Notification of a proposal to issue an Airworthiness Directive

PAD No.: 17-055

Issued: 27 April 2017

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

AIRBUS

A318, A319, A320, A321, A330 and A340 aeroplanes

Effective Date: [TBD - standard: 14 days after AD issue date]

TCDS Number(s): EASA.A.004, EASA.A.015, EASA.A.064

Foreign AD: Not applicable

Supersedure: None

ATA 34 – Navigation – Traffic Collision Avoidance System Processor – Modification (Software Update) / Replacement

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, A320-251N, A320-271N, A321-111, A321-112, A321-131, A321-211, A321-212, A321-213, A321-231, A321-232, A321-251N, A321-253N and A321-271N aeroplanes, all manufacturer serial numbers (MSN),

A330-201, A330-202, A330-203, A330-223, A330-223F, A330-243, A330-243F, A330-301, A330-302, A330-303, A330-321, A330-322, A330-323, A330-341, A330-342 and A330-343 aeroplanes, all MSN, and

A340-211, A340-212, A340-213, A340-311, A340-312, A340-313, A340-541, A340-542, A340-642 and A340-643 aeroplanes, all MSN.



Reason:

Since 2012, a number of false traffic alert and collision avoidance system (TCAS) resolution advisories (RA) have been reported by various European Air Navigation Service Providers. EASA has published certification guidance material for collision avoidance systems ([AMC 20-15](#)) which defines a false TCAS RA as an RA that is issued, but the RA condition does not exist. It is possible that more false (or spurious) RA events have occurred, but were not recorded or reported. The known events were mainly occurring on Airbus single-aisle (A320 family) aeroplanes, although several events have also occurred on Airbus A330 aeroplanes. Investigation determined that the false RAs are caused on aeroplanes with a certain Honeywell TPA-100B TCAS processor, Part Number (P/N) 940-0351-001, installed, through a combination of three factors: (1) hybrid surveillance enabled; (2) processor connected to a hybrid GPS source, without a direct connection to a GPS source; and (3) an encounter with an intruder aeroplane with noisy (jump in) ADS-B Out position.

EASA previously published Safety Information Bulletin (SIB) [2014-33](#) to inform owners and operators of affected aeroplanes about this safety concern. At that time, the false RAs were not considered an unsafe condition. Since the SIB was issued, further events have been reported, involving a third aeroplane.

This condition, if not corrected, could lead to a loss of separation with other aeroplanes, possibly resulting in a mid-air collision.

Prompted by these latest findings, and after review of the available information, EASA reassessed the severity and rate of occurrence of false RAs and has decided that mandatory action must be taken to reduce the rate of occurrence, and the risk of loss of separation with other aeroplanes.

Honeywell International Inc. published Service Bulletin (SB) 940-0351-34-0005 [Publication Number D201611000002] to provide instructions for an upgrade of TPA-100B processors P/N 940-0351-001 to P/N 940-0351-005, introducing software version 05/01.

Consequently, Airbus developed certain modifications (mod 159658 and mod 206608) and published SB A320-34-1656, SB A320-34-1657, SB A330-34-3342, SB A340-34-4304 and SB A340-34-5118, to provide instructions for in-service introduction of the software update (including change to P/N 940-351-005) on the affected aeroplanes, or to replace the TCAS processor with a P/N 940-351-005 unit.

For the reasons described above, this AD requires modification or replacement of the affected Honeywell TPA-100B TCAS processors. This AD also prohibits installation of P/N 940-0351-001 TCAS processors on post-mod aeroplanes.

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

Required as indicated, unless accomplished previously:

Note 1: For the purpose of this AD, Group 1 aeroplanes are those that, on the effective date of this AD, have a Honeywell TPA-100B TCAS processor P/N 940-0351-001 installed. Group 2 aeroplanes are those that do not have a Honeywell TPA-100B TCAS processor P/N 940-0351-001 installed.



Note 2: Airbus SB A320-34-1656, SB A320-34-1657, SB A330-34-3342, SB A340-34-4304 and SB A340-34-5118 are hereafter collectively referred to as 'the applicable Airbus SB' in this AD.

Modification / Replacement:

- (1) For Group 1 aeroplanes: Within 12 months after the effective date of this AD, update the software of the TPA-100B processor, or replace the P/N 940-0351-001 unit with a TPA-100B processor P/N 940-0351-005, in accordance with the instructions of the applicable Airbus SB.

Note 3: TPA-100B processors P/N 940-351-001 can be modified in-shop to P/N 940-351-005 standard in accordance with the instructions of Section 3.F of Honeywell SB 940-0351-34-0005.

Credit:

- (2) An aeroplane on which Airbus mod 159658 or mod 206608, as applicable, has been embodied in production is a Group 2 aeroplane, not affected by the requirements of paragraph (1) of this AD, provided that it is determined that no TCAS processor has been replaced or modified on that aeroplane since its date of manufacture.

A review of aeroplane maintenance records is acceptable to make this determination, provided those records can be relied upon for that purpose and the P/N and software standard of the affected TCAS processor can be positively identified from that review.

Parts Installation:

- (3) Do not install a Honeywell TPA-100B processor P/N 940-0351-001 on any aeroplane, as required by paragraph (3.1) or (3.2) of this AD, as applicable.

(3.1) For Group 1 aeroplanes: After modification of the aeroplane as required by paragraph (1) of this AD.

(3.2) For Group 2 aeroplanes: From the effective date of this AD.

Ref. Publications:

Airbus SB A320-34-1656 (mod 159658) original issue date 19 April 2017.

Airbus SB A320-34-1657 (mod 159658) original issue date 19 April 2017.

Airbus SB A330-34-3342 (mod 206608) original issue date 19 April 2017.

Airbus SB A340-34-4304 (mod 206608) original issue date 19 April 2017.

Airbus SB A340-34-5118 (mod 206608) original issue date 19 April 2017.

Honeywell International Inc. SB 940-0351-34-0005 [Publication Number D201611000002] original issue dated 20 January 2017.

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 11 May 2017.
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:

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