

 適航指令發布單 Airworthiness Directive Issuance Form			
民航局 AD 編號 AD number	CAA-2017-05-007B	發布日期 Date issued	2017/6/6
適用之航空產品 Applied to (models, serial numbers or part numbers, as applicable)	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, except those that have been modified by STC, introducing Honeywell traffic alert and collision avoidance system (TCAS) 7.1 processor, Part Number (P/N) 940-0351-001.		
主旨摘要	Navigation – Traffic Collision Avoidance System Processor – Modification (Software Update) / Replacement		
民航局 CAA <input type="checkbox"/> 本國產品 Native products <input type="checkbox"/> 其他個案 Other	設計國民航主管機構 Original Authorities <div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> FAA <input checked="" type="checkbox"/> EASA <input type="checkbox"/> Brazil <input type="checkbox"/> Transport Canada Civil Aviation <input type="checkbox"/> DGAC </div> <div> <input type="checkbox"/> Germany LBA <input type="checkbox"/> CAA-NL <input type="checkbox"/> UK CAA <input type="checkbox"/> Japan CAB <input type="checkbox"/> CAA of Israel <input type="checkbox"/> Other _____ </div> </div>		
	設計國 AD 編號 Original AD number	2017-0091R2	
	1. 直接採用原 AD 之內容?(Is the original AD directly adopted?) <input checked="" type="checkbox"/> 是(Yes) <input type="checkbox"/> 否(No) _ a. 生效日期另訂為(Re-specify the effective date as) : _____ b. 執行時限另訂為(Re-specify the compliance time or period as) : _____ 2. 使用人是否需要將 AD 執行結果向民航局提出報告?(Do Users need to report the status of compliance to the CAA?) <input type="checkbox"/> 是(Yes) <input checked="" type="checkbox"/> 否(No)		
備註 Note	ATA 34. This AD revises EASA AD 2017-0091R1(CAA-2017-05-007A) dated 24 May 2017. Ref. Publications: Airbus SB A320-34-1656 original issue dated 19 April 2017. and Airbus SB A320-34-1657 original issue dated 19 April 2017. and Airbus SB A330-34-3342 original issue dated 19 April 2017. and Airbus SB A340-34-4304 original issue dated 19 April 2017. and Airbus SB A340-34-5118 original issue dated 19 April 2017. and Honeywell International Inc. SB 940-0351-34-0005 [Publication Number D201611000002] original issue dated 20 January 2017.		
註： 1. AD 內容後附。 2. 航空器產品使用人得向民航局提出豁免、替代符合方法、執行時限之展延之申請。 3. 如有任何問題，請聯絡交通部民用航空局初始適航科。Tel：(02)2349-6331~3, Fax：(02)2545-8464, e-mail： adcaa@mail.caa.gov.tw			

收文者: 中華航空公司、長榮航空公司、復興航空運輸股份有限公司、台灣虎航股份有限公司

Note : 1. The AD text is enclosed.
2. Exemption, an alternative method of compliance or adjustment of the compliance time may be proposed to the CAA for approval.
3. For further information, please contact Civil Aeronautics Administration on Tel : (02)2349-6331~3, Fax : (02)2545-8464, e-mail : adcaa@mail.caa.gov.tw

CAA Form ACS-P08-02

第一頁/共一頁



Airworthiness Directive

AD No.: 2017-0091R2

Issued: 02 June 2017

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

AIRBUS

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

Effective Date: 02 June 2017 (same as original issue)

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

Foreign AD: Not applicable

Revision: This AD revises EASA AD 2017-0091R1 dated 24 May 2017.

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,

except those that have been modified by STC, introducing Honeywell traffic alert and collision avoidance system (TCAS) 7.1 processor, Part Number (P/N) 940-0351-001.



Reason:

Since 2012, a number of false 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, 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 (jumping) 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 940-0351-005) on the affected aeroplanes, or to replace the TCAS processor with a P/N 940-0351-005 unit.

Consequently, EASA issued AD 2017-0091, to require modification or replacement of Honeywell TPA-100B TCAS P/N 940-0351-001 processors, hereafter referred to as 'affected processor' in this AD. That AD also prohibits installation of an affected processor on post-mod aeroplanes.

After that AD was issued, it was found that an error had been introduced, inadvertently restricting the required action to those aeroplanes that had the affected part installed on the Airbus production line, thereby excluding those that had the part installed in-service by Airbus SB. Consequently, EASA revised AD 2017-0091 to amend Note 1 and include references to the relevant Airbus SBs that introduced the affected processor in service.

Since EASA AD 2017-0091R1 was issued, prompted by operator feedback and to avoid confusion, it was decided to exclude aeroplanes that had an affected processor installed by STC, for which



separate AD action is planned. It was also determined that the prohibition to install an affected processor was too strict, particularly for Group 2 aeroplanes.

For the reason described above, this AD is revised to reduce the Applicability, introduce some minor editorial changes and to amend paragraph (3).

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 have an affected processor installed on the Airbus production line, or in-service by Airbus SB A320-34-1504, SB A320-34-1506, SB A320-34-1533, SB A320-34-1534, SB A320-34-1572, SB A330-34-3247, SB A330-34-3281, SB A330-34-3344, SB A340-34-4263, SB A340-34-4254, SB A340-34-5076, or SB A340-34-5087, as applicable. Group 2 aeroplanes are those that do not have an affected processor 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 affected processor, or replace it with a TPA-100B processor P/N 940-0351-005, in accordance with the instructions of the applicable Airbus SB.

Note 3: An affected processor can be modified in-shop to P/N 940-0351-005 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 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 02 June 2018.

Ref. Publications:

Airbus SB A320-34-1656 original issue dated 19 April 2017.



Airbus SB A320-34-1657 original issue dated 19 April 2017.

Airbus SB A330-34-3342 original issue dated 19 April 2017.

Airbus SB A340-34-4304 original issue dated 19 April 2017.

Airbus SB A340-34-5118 original issue dated 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. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD.
2. The original issue of this AD was posted on 27 April 2017 as PAD 17-055 for consultation until 11 May 2017. The (corrected) Comment Response Document 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 SA – EIAS (Airworthiness Office), Fax +33 5 61 93 44 51,
E-mail: account.airworth-eas@airbus.com.

AIRBUS LR – EIAL (Airworthiness Office), E-mail: airworthiness.A330-A340@airbus.com.

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