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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2018-0589; Product Identifier 2018-NM-021-AD; Amendment 39-19489; AD 2018-23-03]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Airbus SAS Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), Department of Transportation (DOT).

**ACTION:** Final rule.

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**SUMMARY:** We are adopting a new airworthiness directive (AD) for certain Airbus SAS Model A318 and A319 series airplanes; Model A320-211, -212, -214, -231, -232, and -233 airplanes; and Model A321-111, -112, -131, -211, -212, -213, -231, and -232 airplanes. This AD was prompted by reports of false resolution advisories (RAs) from certain traffic collision avoidance systems (TCASs). This AD requires modification or replacement of certain TCAS processors. We are issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective December 14, 2018.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of December 14, 2018.

**ADDRESSES:** For service information identified in this final rule, contact Honeywell Aerospace, Technical Publications and Distribution, M/S 2101-201, P.O. Box 52170, Phoenix, AZ 85072-2170; phone: 602-365-5535; fax: 602-365-5577; internet: <http://www.honeywell.com>. You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195. It is also available on the internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0589.

#### **Examining the AD Docket**

You may examine the AD docket on the internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0589; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, the regulatory evaluation, any comments received, and other information. The address for Docket

Operations (phone: 800-647-5527) is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

**FOR FURTHER INFORMATION CONTACT:** Steven Dzierzynski, Aerospace Engineer, Avionics and Administrative Services Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7367; fax 516-794-5531.

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain Airbus SAS Model A318 and A319 series airplanes; Model A320-211, -212, -214, -231, -232, and -233 airplanes; and Model A321-111, -112, -131, -211, -212, -213, -231, and -232 airplanes. The NPRM published in the Federal Register on July 10, 2018 (83 FR 31911). The NPRM was prompted by reports of false RAs from certain TCASs. The NPRM proposed to require modification or replacement of certain TCAS processors.

We are issuing this AD to address the occurrence of false RAs from the TCAS, which could lead to a loss of separation from other airplanes, possibly resulting in a mid-air collision.

The European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Union, has issued EASA AD 2017-0196, dated October 5, 2017 (referred to after this as the Mandatory Continuing Airworthiness Information, or “the MCAI”), to correct an unsafe condition for certain Airbus SAS Model A318 and A319 series airplanes; Model A320-211, -212, -214, -231, -232, and -233 airplanes; and Model A321-111, -112, -131, -211, -212, -213, -231, and -232 airplanes. The MCAI states:

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 Honeywell TPA-100B TCAS processor installed, P/N [part number] 940-0351-001. This was caused by a combination of three factors: (1) Hybrid surveillance enabled; (2) processor connected to a hybrid GPS [global positioning system] 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, introducing software version 05/01, changing the processor unit to P/N 940-0351-005.

EASA previously issued AD 2017-0091 (later revised) to address the unsafe condition on aeroplanes that had the P/N 940-0351-001 processor installed by Airbus major change or SB. However, part of the fleet had the same P/N installed by STC [supplemental type certificate]. The relevant STC approval holders (see section Remarks of this [EASA] AD for contact details) have been notified and modification instructions (see section Ref. Publications of this [EASA] AD) can be obtained from those companies.

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

You may examine the MCAI in the AD docket on the internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0589.

## **Comments**

We gave the public the opportunity to participate in developing this final rule. The following presents the comment received on the NPRM and the FAA's response to that comment.

### **Request To Withdraw the NPRM**

Delta Air Lines (DAL) observed that the proposed AD is redundant to AD 2018-06-01, Amendment 39-19221 (83 FR 12852, March 26, 2018) (“AD 2018-06-01”), because they both address the modification or replacement of a TCAS processor. We infer a request to withdraw the NPRM.

We disagree because this AD pertains to aircraft that have had their TCAS processor modified by an FAA-validated supplemental type certificate (STC), whereas AD 2018-06-01 pertains to the aircraft type certificate (TC) and the TCAS processor modification required by that AD does not include airplanes modified by an FAA STC. We have made no change to this AD in this regard.

## **Conclusion**

We reviewed the relevant data, considered the comment received, and determined that air safety and the public interest require adopting this final rule as proposed, except for minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM for addressing the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

### **Related Service Information Under 1 CFR Part 51**

H4 Aerospace has issued Service Bulletin H4ASB009, Issue 1, dated September 18, 2017; and PMV Engineering has issued Service Bulletin AVI-00690-SB-S99-R01, Revision 01, dated October 5, 2017. This service information, provided by the applicable design change FAA STC approval holders, describes the modification or replacement of the Honeywell TPA-100B TCAS processor. These documents are distinct because they apply to airplanes having different STCs installed. This

service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

**Other Related Service Information**

Honeywell International, Inc., has issued Service Bulletin 940-0351-34-0005, Revision 2, dated December 1, 2017. This service information describes procedures for updating the software of the Honeywell TPA-100B TCAS processor either on the airplane or at an authorized service center.

**Costs of Compliance**

We estimate that this AD affects 1209 airplanes of U.S. registry.  
 We estimate the following costs to comply with this AD:

**Estimated Costs**

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Modification	1 work-hour × \$85 per hour = \$85	Up to \$1,623	Up to \$1,708	Up to \$2,064,972.

**Estimated Costs for Optional Actions**

Action	Labor cost	Parts cost	Cost per product
Replacement	1 work-hour × \$85 per hour = \$85	\$121,993	\$122,078

According to the manufacturer, some of the costs of this AD may be covered under warranty, thereby reducing the cost impact on affected individuals. We do not control warranty coverage for affected individuals. As a result, we have included all costs in our cost estimate.

**Authority for This Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: “General requirements.” Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

This AD is issued in accordance with authority delegated by the Executive Director, Aircraft Certification Service, as authorized by FAA Order 8000.51C. In accordance with that order, issuance of ADs is normally a function of the Compliance and Airworthiness Division, but during this transition period, the Executive Director has delegated the authority to issue ADs applicable to transport category airplanes and associated appliances to the Director of the System Oversight Division.

## **Regulatory Findings**

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska, and
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

## **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

## **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

### **PART 39—AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):



**FAA**  
**Aviation Safety**

## **AIRWORTHINESS DIRECTIVE**

[www.faa.gov/aircraft/safety/alerts/](http://www.faa.gov/aircraft/safety/alerts/)  
[www.gpoaccess.gov/fr/advanced.html](http://www.gpoaccess.gov/fr/advanced.html)

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**2018-23-03 Airbus SAS:** Amendment 39-19489; Docket No. FAA-2018-0589; Product Identifier 2018-NM-021-AD.

**(a) Effective Date**

This AD is effective December 14, 2018.

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to the Airbus SAS airplanes identified in paragraphs (c)(1) through (c)(4) of this AD, certificated in any category, if modified by H4 Aerospace Supplemental Type Certificate (STC) ST03708NY or PMV Engineering STC ST03835NY.

- (1) Model A318-111, -112, -121, and -122 airplanes.
- (2) Model A319-111, -112, -113, -114, -115, -131, -132, and -133 airplanes.
- (3) Model A320-211, -212, -214, -231, -232, and -233 airplanes.
- (4) Model A321-111, -112, -131, -211, -212, -213, -231, and -232 airplanes.

**(d) Subject**

Air Transport Association (ATA) of America Code 34, Navigation.

**(e) Reason**

This AD was prompted by reports of false resolution advisories (RAs) from certain traffic collision avoidance systems (TCASs). We are issuing this AD to address the occurrence of false RAs from the TCAS, which could lead to a loss of separation from other airplanes, possibly resulting in a mid-air collision.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Definition of an Affected TCAS Processor**

For the purposes of this AD, an affected TCAS processor is defined as a Honeywell TPA-100B TCAS processor having part number (P/N) 940-0351-001.

## **(h) Modification or Replacement of TCAS Processor**

Within 12 months after the effective date of this AD: Update the software of the affected TCAS processor and change the part number to P/N 940-0351-005, or replace the affected TCAS processor with a TPA-100B TCAS processor P/N 940-0351-005, in accordance with the Accomplishment Instructions of H4 Aerospace Service Bulletin H4ASB009, Issue 1, dated September 18, 2017; or PMV Engineering Service Bulletin AVI-00690-SB-S99-R01, Revision 01, dated October 5, 2017; as applicable.

Note 1 to paragraph (h) of this AD: Guidance for accomplishing the actions required by paragraph (h) of this AD can be found in Honeywell Service Bulletin 940-0351-34-0005, Revision 2, dated December 1, 2017.

## **(i) Parts Installation Prohibition**

After modification or replacement of the TCAS processor as required by paragraph (h) of this AD, no person may install on that airplane an affected TCAS processor, as defined in paragraph (g) of this AD.

## **(j) Other FAA AD Provisions**

The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, New York ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to ATTN: Program Manager, Continuing Operational Safety, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; fax 516-794-5531. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(2) Contacting the Manufacturer: For any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method approved by the Manager, New York ACO Branch, FAA; or the European Aviation Safety Agency (EASA); or Airbus SAS's EASA Design Organization Approval (DOA). If approved by the DOA, the approval must include the DOA-authorized signature.

## **(k) Related Information**

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) EASA AD 2017-0196, dated October 5, 2017, for related information. This MCAI may be found in the AD docket on the internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0589.

(2) For more information about this AD, contact Steven Dzierzynski, Aerospace Engineer, Avionics and Administrative Services Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7367; fax 516-794-5531.

(3) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (l)(3) and (l)(4) of this AD.

## **(l) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(i) H4 Aerospace Service Bulletin H4ASB009, Issue 1, dated September 18, 2017.

(ii) PMV Engineering Service Bulletin AVI-00690-SB-S99-R01, Revision 01, dated October 5, 2017.

(3) For service information identified in this AD, contact Honeywell Aerospace, Technical Publications and Distribution, M/S 2101-201, P.O. Box 52170, Phoenix, AZ 85072-2170; phone: 602-365-5535; fax: 602-365-5577; internet: <http://www.honeywell.com>.

(4) You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Des Moines, Washington, on October 26, 2018.

Michael Kaszycki,  
Acting Director, System Oversight Division,  
Aircraft Certification Service.