



**[4910-13-P]**

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2012-1105; Directorate Identifier 2012-NM-137-AD; Amendment 39-17406; AD 2013-07-02]**

**RIN 2120-AA64**

**Airworthiness Directives; Airbus Airplanes**

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

**ACTION:** Final rule.

**SUMMARY:** We are adopting a new airworthiness directive (AD) for all Airbus Model A318, A319, and A320 series airplanes. This AD was prompted by fuel system reviews conducted by the manufacturer, which revealed that certain fuel pumps under certain conditions can create an ignition source in the fuel tank. This AD requires modification of the center tank fuel pump control circuit by installation of ground fault interrupters (GFIs). This AD would also require either replacement of the GFI or deactivation of the associated fuel pump following failure of any post-modification operational test of the GFI. We are issuing this AD to prevent the potential of ignition sources inside fuel tanks, which, in combination with flammable fuel vapors, could result in fuel tank explosions and consequent loss of the airplane.

**DATES:** This AD becomes effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may examine the AD docket on the Internet at <http://www.regulations.gov> or in person at the U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC.

**FOR FURTHER INFORMATION CONTACT:** Sanjay Ralhan, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue SW., Renton, Washington 98057-3356; telephone 425-227-1405; fax 425-227-1149.

**SUPPLEMENTARY INFORMATION:**

**Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an AD that would apply to the specified products. That NPRM was published in the Federal Register on October 23, 2012 (77 FR 64765). That NPRM proposed to correct an unsafe condition for the specified products. The Mandatory Continuing Airworthiness Information (MCAI) states:

\* \* \* The FAA published Special Federal Aviation Regulation (SFAR) 88, and the Joint Aviation Authorities (JAA) published Interim Policy INT/POL/25/12.

In the framework of these requirements, EASA [European Aviation Safety Agency] have determined that the electrical power supply circuits of certain fuel pumps, installed on A320 family aeroplanes, for which the canisters become uncovered during normal operation,

could, under certain conditions, create an ignition source in the tank vapour space.

This condition, if not corrected, could result in a fuel tank explosion and consequent loss of the aeroplane.

To address this potential unsafe condition, Airbus developed a modification which includes installing Ground Fault Interrupters (GFI) into the centre tank fuel pump control circuit, providing additional system protection by electrically isolating the pump in case of a ground fault condition downstream of the GFI.

Consequently, EASA issued AD 2012-0133 to require modification of the centre tank fuel pump control circuit by installing GFI and thereafter, in case a GFI failed an operational test, replacement of the faulty GFI, or deactivation of the associated fuel pump in accordance with the provisions of the applicable Master Minimum Equipment List (MMEL).

Since that [EASA] AD was issued, it was noted that, inadvertently, the Applicability of the Final AD was incorrect (the preceding PAD [proposed AD] 12-051 was correct) by excluding aeroplanes on which Airbus modification 150736 has been embodied in production. As a result, the required actions when a GFI fails an operational test did not apply to those aeroplanes.

For the reasons described above, this [EASA] AD retains the requirements [modification of the centre tank fuel pump control circuit by installing GFI] of EASA AD 2012-0133, which is superseded, and expands the Applicability to aeroplanes on which Airbus modification 150736 has been embodied in production.

The required actions also include either replacement of the GFI or deactivation of the associated fuel pump following failure of any post-modification operational test of the GFI. You may obtain further information by examining the MCAI in the AD docket.

## **Comments**

We gave the public the opportunity to participate in developing this AD. We considered the comments received.

### **Request to Withdraw NPRM (77 FR 64765, October 23, 2012)**

An anonymous commenter questioned the constitutionality of creating an airworthiness directive.

We infer that the commenter is requesting that we withdraw the NPRM (77 FR 64765, October 23, 2012), because it is unconstitutional. We disagree. Under part 39 of the Federal Aviation Regulations (14 CFR part 39), we issue an AD addressing a product when we find that an unsafe condition exists in the product, and the condition is likely to exist or develop in other products of the same type design. In the case of this AD, we determined that the unsafe condition—the potential of ignition sources inside fuel tanks with flammable fuel vapors—could result in fuel tank explosions and consequent loss of the airplane.

Further, under the Administrative Procedure Act (APA) (Public Law 79-404, 5 U.S.C. §551, et.seq.) we are required to provide notice of our intent to add, change, or remove information in a rule, as well as to give the public an opportunity to participate in rulemaking actions unless we find good cause to bypass those requirements. (The APA is a body of laws that, working together, provide minimum guidelines and rules that federal agencies are required to follow when issuing a rule or changing existing rules that, if adopted, would impact the rights of the regulated public.) We have followed these requirements in issuing this AD. We have determined it is appropriate to proceed with issuing the final rule.

### **Request to Shorten Compliance Time**

Although agreeing with the intent of the NPRM (77 FR 64765, October 23, 2012), Air Line Pilots Association, International (ALPA) recommended that we shorten the compliance time to 24 months or less.

We disagree with the request to shorten the compliance time of the AD. The ALPA did not provide substantiating data that would justify such a shortening of the compliance time. We determined the compliance time (48 months after the effective date of this AD) primarily based on our assessment of the safety risk. In establishing the compliance time, we considered the overall risk to the fleet, including the severity of the failure and the likelihood of the failure's occurrence. We have not changed this final rule regarding this issue.

### **Request to Clarify Paragraph (h) of the NPRM (77 FR 64765, October 23, 2012)**

Virgin America requested clarification of paragraph (h) of the NPRM (77 FR 64765, October 23, 2012). Virgin America stated that, according to paragraph (h) of the NPRM, for airplanes on which Modification 150736 has been embodied in production, and no GFI has been permanently removed (i.e., the airplane has been demodified) since first flight, then the actions required by paragraph (g) of the NPRM would not be required. The commenter stated that an operator may remove and replace a GFI during normal maintenance operations. The commenter requested that we clarify the sentence in paragraph (h) that states "and on which no GFI has been removed since first flight."

We agree to clarify the intent of paragraph (h) of this AD. Paragraph (h) of this AD is to ensure that the modification required by paragraph (g) of this AD is required only if the operator has modified the airplane from the as-delivered configuration. We have revised paragraph (h) of this final rule accordingly.

### **Request for Clarification of Deactivation**

Virgin America stated that clarification is needed for paragraph (i) of the NPRM (77 FR 64765, October 23, 2012) with regard to deactivation of the center tank fuel pump. FAA master minimum equipment list (MMEL) 28-21-02 does not include instructions for deactivating center tank fuel pumps.

We agree. The terminology in FAA MMEL 28-21-02 is different from what is used in EASA AD 2012-0198, dated September 26, 2012. We have revised paragraph (i) in this final rule to clarify that the word “deactivated” is synonymous with “inoperative.” The FAA MMEL does contain (M) notation (i.e., maintenance requirements for certain cases of dispatch).

### **Request for Instructions for Continued Flight After Inadvertent GFI Tripping**

Delta stated that there have been industry reports of in-service difficulties due to the GFI’s tripping and generating a “CTR TK PUMP 2 LO PR” message. Preliminary evaluations by the manufacturer have found the subject GFIs to be faulty, but a root cause has not been reported. Delta requested that we work with Airbus to provide instructions for continued flight after inadvertent GFI tripping.

We are aware of these events. GFIs are expected to isolate the ignition source downstream of the GFI in the center fuel tank. We encourage operators to work with the original equipment manufacturers (OEMs) for identifying the root cause of premature failure of GFIs so that OEMs can take appropriate steps to alleviate the commenter’s concerns referenced in the comment. These events are not considered unsafe conditions that warrant changing the final rule regarding this issue.

### **Request to Define Tasks for GFI Operational Test Failure**

Delta requested that we define the conditional tasks – to be done if a GFI fails an operational test – as specified in paragraph (i) of the NPRM (77 FR 64765, October 23, 2012).

We partially agree with the commenter. We agree that no tasks have been provided by Airbus at this time to address failure of the GFI operational tests; however, this AD requires the operators to contact the FAA for approval of an alternative method of compliance (AMOC) in accordance with paragraph (j)(1) of this AD. We have not changed the final rule regarding this issue.

### **Request to Correct Task Number**

Airbus and Kirk Taylor requested that we revise the NPRM (77 FR 64765, October 23, 2012) to reflect the correction of the maintenance review board report (MRBR) task in Note 1, which should read “28.18.00/10” instead of 28.18.00/01.

We agree with the request to correct the MRBR task number. We have revised Note 1 to paragraph (i) of this AD to refer to Task 28.18.00/10, Operational Check of Centre Tank Fuel Pump GFI, of the Airbus A318/A319/A320/A321 Maintenance Review Board Report or Task 281800-710-801, Operational Check of Centre Tank Fuel Pump GFI, of the Airbus A318/A319/A320 Aircraft Maintenance Manual.

### **Request to Correct Typographical Error**

Virgin America noted an error in Note 2 of the NPRM (77 FR 64765, October 23, 2012), which should refer to paragraph (i) instead of paragraph (h) of the AD.

We agree. We have changed Note 2 to paragraph (i) of this AD to correct the reference to paragraph (i).

## **Request to Consider Additional Information in AD Development**

Virgin America stated that it was aware of an Airbus/operator forum discussion regarding in-service failures of the GFI unit. Virgin American requested that we consider these failure events and associated consequences in the rulemaking process.

We are aware of these events. GFIs are expected to isolate the ignition source downstream of the GFI in the center fuel tank. We encourage operators to work with the OEMs for identifying the root cause of premature failure of GFIs so that OEMs can take appropriate steps to alleviate concerns. These events are not considered unsafe conditions that warrant changing the final rule regarding this issue.

## **Conclusion**

We reviewed the available data, including the comments received, and determined that air safety and the public interest require adopting the AD with the changes described previously and minor editorial changes. We have determined that these changes:

- Are consistent with the intent that was proposed in the NPRM (77 FR 64765, October 23, 2012) for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM (77 FR 64765, October 23, 2012).

## **Costs of Compliance**

Based on the service information, we estimate that this AD affects about 755 products of U.S. registry. We also estimate that it takes 11 work-hours per product to comply with the basic requirements of this AD. The average labor rate is \$85 per work-hour. Required parts cost about \$3,360 per product, depending on configuration. Where the service information lists required parts costs that are covered under warranty, we have assumed that there will be no charge for these parts. As we do not control

warranty coverage for affected parties, some parties may incur costs higher than estimated here. Based on these figures, we estimate the cost of the AD on U.S. operators to be \$3,242,725, or \$4,295 per product.

### **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.

### **Regulatory Findings**

We determined that 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.

We prepared a regulatory evaluation of the estimated costs to comply with this AD and placed it in the AD docket.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Operations office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains the NPRM (77 FR 64765, October 23, 2012), the regulatory evaluation, any comments received, and other information. The street address for the Docket Operations office (telephone (800) 647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

### **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 AD:

**2013-07-02 Airbus:** Amendment 39-17406. Docket No. FAA-2012-1105; Directorate Identifier 2012-NM-137-AD.

#### **(a) Effective Date**

This airworthiness directive (AD) becomes effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

#### **(b) Affected ADs**

None.

#### **(c) Applicability**

This AD applies to Airbus Model A318-111, -112, -121, and -122 airplanes; Model A319-111, -112, -113, -114, -115, -131, -132, and -133 airplanes; and Model A320-111, -211, -212, -214, -231, -232, and -233 airplanes; certificated in any category; all manufacturer serial numbers.

#### **(d) Subject**

Air Transport Association (ATA) of America Code 28, Fuel.

#### **(e) Reason**

This AD was prompted by fuel system reviews conducted by the manufacturer, which revealed that certain fuel pumps under certain conditions can create an ignition source in the fuel tank. We are issuing this AD to prevent the potential of ignition sources

inside fuel tanks, which, in combination with flammable fuel vapors, could result in fuel tank explosions and consequent loss of the airplane.

**(f) Compliance**

You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done.

**(g) Modification**

Except as provided by paragraph (h) of this AD: Within 48 months after the effective date of this AD, modify the center tank fuel pump control circuit by installing ground fault interrupters (GFIs), in accordance with the Accomplishment Instructions of Airbus Service Bulletin A320-28-1188, dated March 23, 2012.

**(h) Airplanes Excluded from Modification Requirement**

For airplanes on which Airbus Modification 150736 has been embodied in production, and on which no GFI has been permanently removed since first flight, the modification specified in paragraph (g) of this AD is not required.

**(i) Corrective Action for Failed Post-modification Operational Test**

After accomplishment of the modification specified in paragraph (g) or (h) of this AD, each time a GFI fails an operational test, before further flight, replace the GFI or deactivate (make inoperative) the associated fuel pump, in accordance with a method approved by the Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA.

Note 1 to paragraph (i) of this AD: Guidance on the operational test specified in paragraph (i) of this AD can be found in Task 28.18.00/10, Operational Check of Centre Tank Fuel Pump GFI, of the Airbus A318/A319/A320/A321 Maintenance Review Board

Report or Task 281800-710-801, Operational Check of Centre Tank Fuel Pump GFI, of the Airbus A318/A319/A320 Aircraft Maintenance Manual.

Note 2 to paragraph (i) of this AD: Guidance on the fuel pump deactivation specified in paragraph (i) of this AD can be found in Item 28-21-02, Center Tank Systems, of the FAA Master Minimum Equipment List for Airbus A318/A319/A320/A321.

**(j) Other FAA AD Provisions**

The following provisions also apply to this AD:

**(1) Alternative Methods of Compliance (AMOCs):** The Manager, International Branch, ANM-116, Transport Airplane Directorate, 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 International Branch, send it to ATTN: Sanjay Ralhan, Aerospace Engineer, 1601 Lind Avenue SW., Renton, Washington 98057-3356; telephone 425-227-1405; fax 425-227-1149. Information may be emailed to:

[9-ANM-116-AMOC-REQUESTS@faa.gov](mailto:9-ANM-116-AMOC-REQUESTS@faa.gov). 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. The AMOC approval letter must specifically reference this AD.

**(2) Airworthy Product:** For any requirement in this AD to obtain corrective actions from a manufacturer or other source, use these actions if they are FAA-approved. Corrective actions are considered FAA-approved if they are approved by the State of

Design Authority (or their delegated agent). You are required to assure the product is airworthy before it is returned to service.

**(k) Related Information**

Refer to MCAI EASA Airworthiness Directive 2012-0198, dated September 26, 2012; and Airbus Service Bulletin A320-28-1188, dated March 23, 2012; for related information.

**(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 the AD specifies otherwise.

(i) Airbus Service Bulletin A320-28-1188, dated March 23, 2012.

(ii) Reserved.

(3) For service information identified in this AD, contact Airbus, Airworthiness Office – EIAS, 1 Rond Point Maurice Bellonte, 31707 Blagnac Cedex, France; telephone +33 5 61 93 36 96; fax +33 5 61 93 44 51; email [account.airworth-eas@airbus.com](mailto:account.airworth-eas@airbus.com); Internet <http://www.airbus.com>.

(4) You may review copies of the service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

(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 Renton, Washington, on March 28, 2013.

Ali Bahrami,  
Manager,  
Transport Airplane Directorate,  
Aircraft Certification Service.

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