DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[FR Doc No: 2015-10181]

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 certain Airbus Model A300 B4-601, B4-603, and B4-605R airplanes; Model A300 F4-605R airplanes; Model A300 C4-605R Variant F airplanes; and Model A310-204 and -304 airplanes; powered by General Electric (GE) Model CF6-80C2 series engines. This AD was prompted by reports of two single-engine flameout events during inclement weather. This AD requires installing a shunt of the rotary selector (introducing an auto-relight function); and, for certain airplanes, a wiring modification to a certain circuit breaker panel. We are issuing this AD to prevent a long engine restart sequence after a non-selection of continuous relight by the crew and a flameout event of both engines, which could result in reduced controllability of the airplane, especially at low altitude.

DATES: This AD becomes effective June 16, 2015.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of June 16, 2015.

ADDRESSES: You may examine the AD docket on the Internet at http://www.regulations.gov/#!docketDetail;D=FAA-2012-0636; or in person at the Docket Management Facility, U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC.

For service information identified in this AD, contact Airbus SAS, Airworthiness Office–EAW, 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; Internet http://www.airbus.com. You may view this referenced 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. It is also available on the Internet at http://www.regulations.gov by searching for and locating Docket No. FAA-2012-0636.
SUPPLEMENTARY INFORMATION:

Discussion

We issued a supplemental notice of proposed rulemaking (SNPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain Airbus Model A300 B4-601, B4-603, and B4-605R airplanes; Model A300 F4-605R airplanes; Model A300 C4-605R Variant F airplanes; and Model A310-204 and -304 airplanes; powered by GE Model CF6-80C2 series engines. The SNPRM published in the Federal Register on March 5, 2014 (79 FR 12424). We preceded the SNPRM with a notice of proposed rulemaking (NPRM) that published in the Federal Register on June 18, 2012 (77 FR 36211).

The European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Union, has issued EASA Airworthiness Directive 2014-0156, dated July 3, 2014 (referred to after this as the Mandatory Continuing Airworthiness Information, or "the MCAI"), to correct an unsafe condition on Airbus Model A300 B4-601, B4-603, and B4-605R airplanes; Model A300 F4-605R airplanes; Model A300 C4-605R Variant F airplanes; and Model A310-204 and -304 airplanes; powered by GE Model CF6-80C2 series engines. The MCAI states:

Two single flame-out events, attributed to inclement weather, occurred on Airbus Wide Body (WB) aeroplanes powered with GE CF6-80C2 engines.

In the original design of Airbus WB aeroplanes, no auto-relight function is embodied. This means that, in case where the flight crew does not select continuous relight and a flame-out event occurs, a long engine restart sequence is necessary.

This condition, if not corrected (if both engines have flamed out simultaneously), could possibly result in significantly reduced control of the aeroplane, especially at low altitude.

To address this potentially unsafe condition, Airbus designed a modification by introducing auto-relight function for aeroplanes powered by GE CF6-80C2 engines and EASA issued AD 2011-0113 to require installation of that auto-relight function to increase restart capability without flight crew action.

Since that [EASA] AD was issued, erroneous instructions have been identified in various revisions of related Airbus Service Bulletins (SB) A310-74-2003, SB A300-74-6003 and SB A300-74-9001, which meant that some of the instructions could not be accomplished and resulted in additional work for aeroplanes already modified.

For the reason described above, this [EASA] AD retains the requirements of EASA AD 2011-0113, which is superseded, allows additional compliance time and requires the modification of the aeroplanes in accordance with the instructions of the latest applicable Airbus SB revision.

For aeroplanes that have already been partially modified by an earlier (incorrect) issue of an SB, as applicable, this [EASA] AD requires additional work.
Comments

We gave the public the opportunity to participate in developing this AD. We have considered the comments received. The following presents the comments received on the SNPRM (79 FR 12424, March 5, 2014) and the FAA’s response to each comment.

Request To Withdraw the SNPRM (79 FR 12424, March 5, 2014) Based on the Rarity of Flameout Events

FedEx stated that data presented by GE showed that since January 2008, a total of seven engine flameouts attributed to inclement weather have been reported across the entire global population of all GE Model CF6-80C2 and CF6-80EI series engines. FedEx pointed out that this corresponds to around 30 million flight hours and over 7 million flight departures. FedEx stated that the last event affecting an Airbus airplane was reported in 2006 and involved a power management controlled (PMC) engine. FedEx asserted that there has never been an inclement-weather-related engine flameout on a full authority digital engine control (FADEC) CF6-80C2-powered Airbus airplane reported to GE. FedEx stated that, in the text of the SNPRM (79 FR 12424, March 5, 2014), the FAA cites the occurrence of two single-engine flameout events. FedEx stated that, while it cannot be certain which events the FAA is referring to, it can confidently assert that those events did not occur on a FedEx-operated airplane. FedEx remarked that, if an event has occurred within the last eight years and involved a FADEC-controlled engine, GE is unaware of it. FedEx asked that the FAA consider, based on this experience, the extreme unlikelihood of such a rare event occurring on a GE-powered Airbus airplane simultaneously with the non-selection of continuous relight by well-trained crew members.

From these statements, we infer that FedEx is requesting that we withdraw the SNPRM (79 FR 12424, March 5, 2014) based on the rarity of engine flameout events. We disagree with this request. EASA’s determination for corrective action in the MCAI is based on a risk assessment of the worldwide fleet, and not limited to the experience of the commenter’s operations. While these events might not have happened on the commenter’s airplanes, inclement weather is likely to occur during any flight, and at any altitude. Both the PMC-controlled and FADEC-controlled engines remain susceptible to flameout during inclement weather without corrective actions to address the unsafe condition. While we frequently utilize flightcrew procedures as interim actions to address an unsafe condition, when available we consider a design solution to mitigate the unsafe condition to be more effective than relying on flightcrew procedures alone. We have determined that it is necessary to proceed with issuing this AD to adequately address the identified unsafe condition. Affected operators, however, may request approval of an alternative method of compliance (AMOC), as specified in paragraph (j)(1) of this AD (designated as paragraph (i)(1) of the SNPRM (79 FR 12424, March 5, 2014), by submitting data substantiating that the AMOC would provide an acceptable level of safety. We have not changed this AD in this regard.

Request To Withdraw the SNPRM (79 FR 12424, March 5, 2014) Based on Unreasonable Risk Factor

FedEx stated that one of the primary justifications the FAA is using to establish the need for the SNPRM (79 FR 12424, March 5, 2014) is the concern that a long engine restart sequence could result in reduced controllability of the airplane "especially at low altitude." FedEx agreed that an inability to achieve timely relight at low altitude would present a greater risk of an unsafe condition occurring and would perhaps provide ample justification for the subject modification. However, FedEx asserted that all data provided by GE indicate that this phenomenon does not occur at low altitudes. FedEx
also stated that analysis of the primary root cause for the engine flameouts suggests that the flight envelope of concern is between approximately 10,000 feet above sea level (ASL) and 35,000 feet ASL during idle descent. FedEx remarked that the average altitude at which these events have historically occurred is 22,000 feet ASL, with the lowest recorded altitude for a multi-engine event being 17,500 feet ASL. FedEx stated that in every recorded event, the flameout engines were restarted and continued to operate normally. FedEx concluded that, based on all the empirical data collected to date regarding the altitude at which these events occur, the momentary delay in restart time that is intended to be corrected by the modification does not seem to be significant enough to qualify as a reasonable risk factor.

From these statements, we infer that FedEx is requesting that we withdraw the SNPRM (79 FR 12424, March 5, 2014) based on data showing that the events do not indicate a reasonable risk factor. We disagree with the request. Any delay in the ability to restart engines could result in an unsafe condition regardless of the altitude where the flameout occurs. Inclement weather may exist below 10,000 feet ASL and the possibility of terrain could also reduce altitude available to allow an engine restart. As we stated previously, we consider a design solution to be a more effective mitigating action to address an unsafe condition rather than relying on flightcrew procedures alone and the past experience of flightcrews having difficulty restarting engines following flameout. We have not changed this AD in this regard.

**Request To Reduce the Proposed Applicability**

FedEx requested that the FAA consider reducing the applicability stated in the SNPRM (79 FR 12424, March 5, 2014) to include only the (relatively) higher-risk PMC-powered airplanes. FedEx stated that a factor specific to its operation addresses a point raised by the FAA, which is the small size of its non-FADEC fleet of Airbus airplanes. FedEx highlighted that data suggest that, since the implementation of the FADEC software, improvements in the rate of flameout events on all FADEC-controlled engines has dropped significantly and is well below corresponding rates on PMC-controlled Model CF6-80C2 series engines. FedEx stated that there are no recorded instances of a dual-engine flameout in inclement weather on any FADEC-controlled Model CF6-80C2 series engine installed on Airbus airplanes. FedEx also stated that it operates a much larger GE-powered Airbus fleet with FADEC-controlled engines than with PMC-controlled engines. FedEx agreed with the FAA statement that "not all affected airplanes have FADEC-controlled engines installed," and that FedEx's exposure in this area is very limited.

We disagree with the commenter's request to reduce the applicability of this AD. The identified unsafe condition addressed in this AD applies to both types of GE Model CF6-80C2 series engines. The comparatively better in-flight shutdown rate of FADEC-controlled engines to PMC-controlled engines is inconsequential to the vulnerability in both engine designs due to flameout from icing conditions. icing conditions are anticipated to occur, and no mitigating actions have been offered to address icing vulnerability in both engine designs. As we stated previously, a design solution is more effective than reliance on flightcrew procedures alone. We have not changed this AD in this regard.

**Actions Since SNPRM (79 FR 12424, March 5, 2014) was Issued**

Since the SNPRM (79 FR 12424, March 5, 2014) was issued, EASA has issued AD 2014-0156, dated July 3, 2014, which supersedes EASA AD 2011-0113, dated June 17, 2011. EASA AD 2014-0156 adds revised service information (Airbus Service Bulletin A300-74-6003, Revision 06, dated January 27, 2014, and Airbus Service Bulletin A310-74-2003, Revision 06, dated January 27, 2014). The revised service information includes actions for previously modified airplanes. We have changed paragraph (g) of this AD to reference the revised service information. We also added a new paragraph (h) to this AD to specify actions for previously modified airplanes. We have re-designated subsequent paragraphs accordingly.
The revised service information also reduces a certain compliance time to 12 months. However, for that action, this AD retains the compliance time proposed in the SNPRM: Within 2,200 flight hours or 30 months after the effective date of this AD, whichever occurs later. We have determined that this compliance time adequately addresses the identified unsafe condition. We have determined that the compliance time, as proposed, represents the maximum interval of time allowable for the affected airplanes to continue to safely operate before the modification is done.

Conclusion

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

- Are consistent with the intent that was proposed in the SNPRM (79 FR 12424, March 5, 2014) for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the SNPRM (79 FR 12424, March 5, 2014).

We also determined that these changes will not increase the economic burden on any operator or increase the scope of this AD.

Related Service Information Under 1 CFR Part 51

Airbus has issued Service Bulletin A300-74-6003, Revision 06, dated January 27, 2014, and Service Bulletin A310-74-2003, Revision 06, dated January 27, 2014. The service information describes installing a shunt of the rotary selector; and, for certain airplanes, a wiring modification to a certain circuit breaker panel. This service information is reasonably available at http://www.regulations.gov by searching for and locating Docket No. FAA-2015-0636. Or see ADDRESSES for other ways to access this service information.

Costs of Compliance

We estimate that this AD affects 47 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    | Up to 98 work-hours × $85 per hour = $8,330 | Up to $18,417 | $26,747 | $1,257,109 |

Authority for This Rulemaking


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.

Examining the AD Docket

You may examine the AD docket on the Internet at http://www.regulations.gov/#!docketDetail;D=FAA-2012-0636; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, 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.

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):
2015-09-08 Airbus: Amendment 39-18154. Docket No. FAA-2012-0636; Directorate Identifier 2012-NM-037-AD.

(a) Effective Date

This AD becomes effective June 16, 2015.

(b) Affected ADs

None.

(c) Applicability

This AD applies to Airbus Model A300 B4-601, B4-603, and B4-605R airplanes; Model A300 F4-605R airplanes; Model A300 C4-605R Variant F airplanes; and Model A310-204 and -304 airplanes; certificated in any category; all serial numbers, powered by General Electric (GE) Model CF6-80C2 series engines.

(d) Subject

Air Transport Association (ATA) of America Code 74, Ignition.

(e) Reason

This AD was prompted by reports of two single-engine flameout events during inclement weather. We are issuing this AD to prevent a long engine restart sequence after a non-selection of continuous relight by the crew and a flameout event of both engines, which could result in reduced controllability of the airplane, especially at low altitude.

(f) Compliance

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

(g) Modification

Within 6,000 flight hours or 30 months after the effective date of this AD, whichever occurs later: Modify the airplane by installing a shunt of the rotary selector (introducing an auto-relight function), in accordance with the Accomplishment Instructions of Airbus Service Bulletin A300-74-6003, Revision 06, dated January 27, 2014 (for Model A300 B4-601, B4-603, and B4-605R airplanes; Model A300 F4-605R airplanes; and Model A300 C4-605R Variant F airplanes); or Airbus Service Bulletin A310-74-2003, Revision 06, dated January 27, 2014 (for Model A310-204 and -304 airplanes).
(h) Actions for Previously Modified Airplanes

For airplanes which have already been modified in accordance with the requirements of paragraph (g) of this AD before the effective date of this AD: Within 2,200 flight hours or 30 months after the effective date of this AD, whichever occurs later, accomplish the work tasks, in accordance with the Accomplishment Instructions of the service information specified in Table 1 to this paragraph of this AD.

<table>
<thead>
<tr>
<th>For Model—</th>
<th>Previously modified using—</th>
<th>Accomplish the identified work tasks in accordance with the instructions of—</th>
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<tbody>
<tr>
<td>A300 B4-601, B4-603, and B4-605R airplanes, Model A300 F4-605R airplanes, and Model A300 C4-605R Variant F airplanes</td>
<td>Airbus Service Bulletin A300-74-6003, Revision 01, dated April 1, 2011</td>
<td>Work Tasks 831-802001 and 831-803001 using Airbus Service Bulletin A300-74-6003, Revision 06, dated January 27, 2014.</td>
</tr>
</tbody>
</table>
(i) Credit for Previous Actions

(1) This paragraph provides credit for the actions required by paragraph (g) of this AD, if those actions were performed before the effective date of this AD using the applicable service information specified in paragraphs (i)(1)(i) and (i)(2)(ii) of this AD, and provided that the additional work in Airbus Service Bulletin A300-74-6003, Revision 06, dated January 27, 2014; or Airbus Service Bulletin A310-74-2003, Revision 06, dated January 27, 2014; is done, as required by paragraph (g) of this AD.

   (i) For Model A300 B4-601, B4-603, and B4-605R airplanes, Model A300 F4-605R airplanes, and Model A300 C4-605R Variant F airplanes: Airbus Mandatory Service Bulletin A300-74-6003, Revision 04, dated January 9, 2013, which is not incorporated by reference in this AD.

   (ii) For Model A310-204 and -304 airplanes: Airbus Mandatory Service Bulletin A310-74-2003, Revision 04, dated January 9, 2013, which is not incorporated by reference in this AD.

(2) This paragraph provides credit for the actions required by paragraph (g) of this AD, if those actions were performed before the effective date of this AD using the applicable service information specified in paragraphs (i)(2)(i) and (i)(2)(ii) of this AD.

   (i) For Model A300 B4-601, B4-603, and B4-605R airplanes, Model A300 F4-605R airplanes, and Model A300 C4-605R Variant F airplanes: Airbus Service Bulletin A300-74-6003, Revision 05, dated May 23, 2013, which is not incorporated by reference in this AD.

   (ii) For Model A310-204 and -304 airplanes: Airbus Service Bulletin A310-74-2003, Revision 05, dated May 23, 2013, which is not incorporated by reference in this AD.

(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: Dan Rodina, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue SW., Renton, WA 98057-3356; telephone 425-227-2125; fax 425-227-1149. Information may be emailed to: 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) 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, International Branch, ANM-116, Transport Airplane Directorate, FAA; or the European Aviation Safety Agency (EASA); or Airbus'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 Airworthiness Directive 2014-0156, dated July 3, 2014, for related information. This MCAI may be found in the AD docket on the Internet at http://www.regulations.gov/#!documentDetail;D=FAA-2012-0636-0002.

(2) Service information identified in this AD that is not incorporated by reference may be viewed at the addresses specified in paragraphs (l)(3) and (l)(4) of this AD.
(1) 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.


(3) For service information identified in this AD, contact Airbus SAS, Airworthiness Office–EAW, 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; Internet http://www.airbus.com.

(4) You may view this 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 April 10, 2015.
Jeffrey E. Duven,
Manager, Transport Airplane Directorate,
Aircraft Certification Service.