



[4910-13-P]

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. FAA-2020-0579; Product Identifier 2020-NM-009-AD; Amendment 39-21163; AD 2020-14-09]

RIN 2120-AA64

**Airworthiness Directives;** The Boeing Company Airplanes

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

**ACTION:** Final rule; request for comments.

**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for certain The Boeing Company Model 737-8 and 737-9 (737 MAX) airplanes. This AD requires removing Kathon FP 1.5 biocide from the fuel tanks and engines, installing a fuel limitation placard, and revising the existing airplane flight manual (AFM) to prohibit operation of the airplane with Kathon FP 1.5 biocide in a fuel tank or engine. This AD was prompted by a report indicating that Kathon FP 1.5 biocide added to fuel and running through the engines can lead to significant engine anomalies. The FAA is issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective [INSERT 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 OF PUBLICATION IN THE FEDERAL REGISTER].

The FAA must receive comments on this AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <https://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.
- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this final rule, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminister Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; Internet <https://www.myboeingfleet.com>. You may view this service information at the FAA, Airworthiness Products Section, Operational Safety 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 <https://www.regulations.gov> by searching for and locating Docket No. FAA-2020-0579.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2020-0579; 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, any comments received, and other information.

The street address for Docket Operations is listed above. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Christopher Baker, Aerospace Engineer, Propulsion Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3552; email: Christopher.R.Baker@faa.gov.

**SUPPLEMENTARY INFORMATION:**

**Discussion**

The FAA has received a report indicating that a Boeing Model 787 airplane equipped with General Electric Company (GE) GENx-1B model turbofan engines experienced temporary thrust anomalies on both engines during descent into Kansai, Japan, on March 29, 2019. Specifically, both engines briefly fell below idle thrust, and the flightcrew received failure messages for both engines.

The FAA's review of the data from this incident indicated the thrust anomalies resulted from fuel control instability. The fuel tanks of the event airplane had recently been treated with Kathon FP 1.5 biocide for suspected microbial growth contamination. Salt crystals can form in the fuel under certain conditions after Kathon FP 1.5 biocide is applied. These salt crystals have the potential to cause slow response of engine hydromechanical control features, resulting in compressor stalls or flameouts, potentially on both engines.

Having similar fuel system architecture as the GE GENx engines, the CFM International S.A. (CFM) LEAP-1B model turbofan engines, which are installed on 737 MAX airplanes, are also considered susceptible to a multi-engine loss-of-thrust-control event. This condition, if not addressed, could result in malfunction of the engine's

control system hydromechanical unit due to undispersed Kathon FP 1.5 biocide contaminating and restricting the movement of internal parts. Because the fuel systems for both engines on an affected airplane are likely to be similarly affected, there is the potential for loss of thrust control on both engines. Loss of thrust control on both engines could result in failure to climb on takeoff, a forced off-airport landing, or an unacceptably high flightcrew workload.

However, after this biocide is added to the fuel tanks, adding fuel without biocide diminishes the hazard. Eventually, after the tanks have been refilled a sufficient number of times with untreated fuel, enough of the treated fuel is gone that the unsafe condition has been removed. Specifically, Boeing determined that operating the airplane, or any individual engine, for at least 30 flight cycles, while adding only fuel that has not been treated with this biocide, would flush the biocide from the fuel tank system and the engines. The FAA finds this number of flight cycles to be sufficiently conservative, and therefore has incorporated it the requirements of this AD.

The FAA's analysis of the risks posed by this issue has been ongoing, as has the information available to the agency. On March 10, 2020, the manufacturer of Kathon FP 1.5 withdrew that product from the aviation market, effective immediately. A copy of that letter is in the docket for this rulemaking. On March 25, 2020, the FAA issued a Special Airworthiness Information Bulletin (SAIB), which is in the docket for this rulemaking, regarding the effects of Kathon FP 1.5 and another biocide. Most recently, on June 25, 2020, the Japan Transport Safety Board issued an "Aircraft Serious Incident Investigation Report" regarding the March 29, 2019 incident. That report is in the docket for this rulemaking.

The FAA may consider similar rulemaking to address the unsafe condition on other airplane models, such as the aforementioned Boeing 787, pending findings from further investigation of other engines.

### **Related Service Information under 1 CFR part 51**

The FAA reviewed Boeing Multi-Operator Message MOM-MOM-20-0522-01B, dated June 24, 2020, which describes procedures for removing Kathon FP 1.5 biocide from the fuel tanks and engines. 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.

### **FAA's Determination**

The FAA is issuing this AD because the agency evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

### **AD Requirements**

This AD requires removing Kathon FP 1.5 biocide from the fuel tanks and engines, installing a fuel limitation placard, and revising the existing AFM to prohibit operation of the airplane with Kathon FP 1.5 biocide in a fuel tank or engine.

### **Justification For Immediate Adoption and Determination of the Effective Date**

Section 553(b)(3)(B) of the Administrative Procedure Act (APA) (5 U.S.C. 551 *et seq.*) authorizes agencies to dispense with notice and comment procedures for rules when the agency, for “good cause,” finds that those procedures are “impracticable, unnecessary, or contrary to the public interest.” Under this section, an agency, upon finding good cause, may issue a final rule without providing notice and seeking comment

prior to issuance. Further, section 553(d) of the APA authorizes agencies to make rules effective in less than thirty days, upon a finding of good cause.

An unsafe condition exists that requires the immediate adoption of this AD without providing an opportunity for public comments prior to adoption. The FAA has found that the risk to flightcrews justifies foregoing notice and comment prior to adoption of this rule because the simultaneous loss of thrust control on both engines, due to malfunction of the engine's control system hydromechanical unit due to undispersed Kathon FP 1.5 biocide contaminating and restricting the movement of internal parts, could result in failure to climb on takeoff, a forced off-airport landing, or an unacceptably high flightcrew workload. In addition, the compliance time for the required action is shorter than the time necessary for the public to comment and for publication of the final rule. The FAA acknowledges that it prohibited most operations of airplanes covered by this AD, by emergency order dated March 13, 2019, a copy of which is in the docket for this rulemaking. However, that order allows these airplanes to be operated without carrying passengers, for specific purposes such as repairs, alterations, maintenance, and production flight testing. Therefore this rule must be issued immediately, to ensure the safety of the flightcrews conducting such flights. Accordingly, notice and opportunity for prior public comment are impracticable and contrary to the public interest pursuant to 5 U.S.C. 553(b)(3)(B).

In addition, the FAA finds that good cause exists pursuant to 5 U.S.C. 553(d) for making this amendment effective in less than 30 days, for the same reasons the FAA found good cause to forgo notice and comment.

## **Comments Invited**

The FAA invites you to send any written data, views, or arguments about this final rule. Send your comments to an address listed under the ADDRESSES section. Include the docket number FAA-2020-0579 and Product Identifier 2020-NM-009-AD at the beginning of your comments. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend this final rule because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to <https://www.regulations.gov>, including any personal information you provide. The FAA will also post a report summarizing each substantive verbal contact received about this final rule.

## **Confidential Business Information**

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this AD contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this AD, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as “PROPIN.” The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this AD. Submissions containing CBI should be sent to Christopher Baker, Aerospace Engineer, Propulsion Section, FAA, Seattle ACO Branch, 2200 South 216th

St., Des Moines, WA 98198; phone and fax: 206-231-3552; email:

Christopher.R.Baker@faa.gov. Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

### **Regulatory Flexibility Act (RFA)**

The requirements of the RFA do not apply when an agency finds good cause pursuant to 5 U.S.C. 553 to adopt a rule without prior notice and comment. Because the FAA has determined that it has good cause to adopt this rule without notice and comment, RFA analysis is not required.

### **Costs of Compliance**

The FAA estimates that this AD affects 75 airplanes of U.S. registry. The FAA estimates the following costs to comply with this AD:

#### **Estimated costs**

<b>Action</b>	<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>	<b>Cost on U.S. operators</b>
Kathon FP 1.5 biocide removal	Up to 24 work-hours X \$85 per hour = Up to \$2,040	\$30	\$2,070	Up to \$155,250
Fueling placard installation	2 work-hours X \$85 per hour = \$170	Minimal	\$170	\$12,750
AFM revision	1 work-hour X \$85 per hour = \$85	\$0	\$85	\$6,375

### **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.

The FAA is 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**

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, and
- (2) Will not affect intrastate aviation in Alaska.

### **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):

**2020-14-09 The Boeing Company:** Amendment 39-21163 ; Docket No. FAA-2020-0579; Product Identifier 2020-NM-009-AD.

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

This AD is effective [INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER].

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

None.

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

This AD applies to all The Boeing Company Model 737-8 and 737-9 airplanes with an airworthiness certificate or export certificate of airworthiness issued on or before the effective date of this AD, certificated in any category.

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

Air Transport Association (ATA) of America Code 2810, Fuel storage.

#### **(e) Unsafe Condition**

This AD was prompted by a report that Kathon FP 1.5 biocide, when used as a fuel additive and running through the engines, can lead to significant engine anomalies. The FAA is issuing this AD to prevent these anomalies, which could result in loss of thrust control on both engines because the fuel systems for both engines are likely to be similarly affected. Loss of thrust control on both engines could result in failure to climb on takeoff, a forced off-airport landing, or an unacceptably high flightcrew workload.

**(f) Compliance**

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

**(g) Removal of Kathon FP 1.5 Biocide**

(1) For airplanes identified in paragraphs (g)(1)(i) and (ii) of this AD: Before further flight, remove Kathon FP 1.5 biocide from the fuel tanks and engines, as applicable, in accordance with Boeing Multi-Operator Message MOM-MOM-20-0522-01B, dated June 24, 2020.

(i) Airplanes that have operated for fewer than 30 flight cycles after the last treatment with Kathon FP 1.5 biocide.

(ii) Airplanes having any engine where that engine has operated for fewer than 30 flight cycles after the last exposure to Kathon FP 1.5 biocide.

(2) No action is required by paragraph (g) of this AD for the engines on which CFM confirmed via myCFM case response that the engines are operating as expected.

**(h) Fueling Placard Installation**

Before further flight, install a placard with letters having a minimum height of 0.20 inch on white or light gray background containing the text “DO NOT OPERATE ENGINE WITH KATHON™ FP 1.5 BIOCIDIC FUEL ADDITIVE” on the interior area of the refuel access panel in a location that allows refueling personnel full view of the placard text when the access door is open.

**(i) AFM Revision for Fuel Additive Limitation**

Before further flight, revise the Certificate Limitations section of the existing airplane flight manual (AFM) to include the information specified in figure 1 to paragraph (i) of this AD. This may be done by inserting a copy of this AD into the existing AFM. When a statement identical to that in figure 1 to paragraph (i) of this AD

has been included in the general revisions of the existing Boeing 737 AFM, the general revisions may be inserted into the existing AFM, and the copy of this AD may be removed from the existing AFM.

**Figure 1 to paragraph (i) – AFM revision of Certificate Limitations section**

<b>Engines – Fuel system</b>	<b>Required by AD 2020-14-09</b>
Operation of the CFM LEAP-1B series engines with fuel containing Kathon FP 1.5 biocide is prohibited.	

**(j) Special Flight Permit**

Special flight permits, as described in 14 CFR 21.197 and 21.199, are not allowed until the actions required by paragraph (g) of this AD have been accomplished.

**(k) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, Seattle 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 the attention of the person identified in paragraph (l) of this AD. Information may be emailed to: 9-ANM-Seattle-ACO-AMOC-Requests@faa.gov.

(2) 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.

(3) An AMOC that provides an acceptable level of safety may be used for any repair, modification, or alteration required by this AD if it is approved by The Boeing Company Organization Designation Authorization (ODA) that has been authorized by the

Manager, Seattle ACO Branch, FAA, to make those findings. To be approved, the repair method, modification deviation, or alteration deviation must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

**(l) Related Information**

For more information about this AD, contact Christopher Baker, Aerospace Engineer, Propulsion Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3552; email: Christopher.R.Baker@faa.gov.

**(m) 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) Boeing Multi-Operator Message MOM-MOM-20-0522-01B, dated June 24, 2020.

(ii) [Reserved]

(3) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminister Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; Internet <https://www.myboeingfleet.com>.

(4) You may view this service information at the FAA, Airworthiness Products Section, Operational Safety 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, email [fedreg.legal@nara.gov](mailto:fedreg.legal@nara.gov), or go to: <https://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued on July 2, 2020.

Gaetano A. Sciortino, Deputy Director for Strategic Initiatives,  
Compliance & Airworthiness Division,  
Aircraft Certification Service.

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