

operator to ensure that continued airworthiness of the aircraft is maintained, including all post STC modifications that may have an impact on the approved electronic system security safeguards.

Issued in Renton, Washington, on November 15, 2013.

**John Piccola,**

*Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.*

[FR Doc. 2013-28408 Filed 11-26-13; 8:45 am]

BILLING CODE 4910-13-P

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. FAA-2013-0974; Directorate Identifier 2013-NM-209-AD; Amendment 39-17675; AD 2013-24-01]

RIN 2120-AA64

#### Airworthiness Directives; The Boeing Company Airplanes

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

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

**SUMMARY:** We are adopting a new airworthiness directive (AD) for The Boeing Company Model 747-8 and 747-8F series airplanes and Model 787-8 airplanes powered by GENx engines. This AD requires revising the airplane flight manual to advise the flight crew of potential ice crystal icing (ICI) conditions at high altitudes, and to prohibit operation in moderate and severe ICI conditions. This AD also requires inspecting the engine after any ICI event is detected by the flight crew. This AD was prompted by reports of engine damage and thrust loss events as a result of flying in high altitude ICI conditions. We are issuing this AD to ensure that the flight crews have operating instructions to avoid flight into ICI conditions that can lead to engine damage and thrust loss events; unrecoverable thrust loss on multiple engines can lead to a forced landing.

**DATES:** This AD is effective November 27, 2013.

We must receive comments on this AD by January 13, 2014.

**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 <http://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:* U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

#### Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov>; 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 Office (phone: 800-647-5527) is in the **ADDRESSES** section. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Sue Lucier, Aerospace Engineer, Propulsion Branch, ANM-140S, FAA, Seattle Aircraft Certification Office (ACO), 1601 Lind Avenue SW., Renton, Washington 98057-3356; phone: 425-917-6438; fax: 425-917-6590; email: [suzanne.lucier@faa.gov](mailto:suzanne.lucier@faa.gov).

#### SUPPLEMENTARY INFORMATION:

##### Discussion

Over the past decade, we have been aware of temporary engine thrust loss, and other engine-related events that occurred in ice crystal icing (ICI) conditions at high altitudes. These events have prompted the release of ADs on various airplane models equipped with General Electric (GE) CF6-80 series engines. Each event was in or near convective weather conditions that included ice crystal icing.

This type of icing does not appear on radar due to its low reflectivity, and neither the airplane ice detector nor visual indications reliably indicate the presence of icing conditions. Therefore, it is often undetected by the flight crew. Flight in these conditions can cause ice crystals to accumulate in the core gas flow path of the engine. In the events leading to those prior ADs, the ice has shed during throttle transients and in the descent phase of flight, causing temporary thrust loss.

Since the beginning of 2013, similar events have now occurred on Model 747-8 and 747-8F series airplanes powered by GENx-2B engines and Model 787-8 airplanes powered by

GENx-1B engines. The new events that prompted this AD, however, have occurred during the cruise phase of flight and caused permanent damage (beyond maintenance manual limits) to the engine compressor. In all thrust loss events, data indicate that ice crystals entered and collected in the initial stages of the compressor. Engine temperature data indicate small ice accretions were shed through the core of the engine.

All of these ICI events occurred during cruise at 33,000 feet or above, either within or after the airplane traversed a large Mesoscale Convective System (MCS). MCSs are areas where several thunderstorms have merged, with a continuous cloud larger than 100 kilometers (62 miles) across.

Within or near MCSs, ICI events have occurred where convective activity has driven a significant quantity of moisture, in the form of ice crystals, to altitudes at or above the tropopause. ICI events tend to occur in warm geographic locations.

As of the date of this AD, there have been nine events on Model 747-8 airplanes and Model 787-8 airplanes.

During two events on Model 747-8F airplanes, two engines experienced thrust losses during the cruise phase of flight. In one of these events, one of the engines recovered to idle but would not accelerate and was left at idle for the rest of the flight. The other engine recovered and operated normally for the rest of the flight. In both airplane events, subsequent inspections of all four engines revealed compressor damage on both of the event engines as well as damage to a third engine that had not experienced a thrust loss.

In four other events—one on a Model 787-8 airplane and three on Model 747-8 airplanes—uncommanded engine decelerations (i.e., thrust losses) of approximately 20 seconds in duration occurred. All engines automatically recovered commanded thrust without crew action and operated normally for the rest of the flight.

In three other events on Model 747-8 airplanes, at least one engine showed elevated vibrations on the low-speed engine spool (N1) while in ICI conditions. The vibrations stopped after the airplanes exited the weather system, and the engines operated normally for the rest of the flight.

Unrecoverable thrust loss on multiple engines, due to operation in high altitude clouds containing ice crystals, could lead to a forced landing.

#### FAA's Determination

We are issuing this AD because we evaluated all the relevant information

and determined the unsafe condition described previously is likely to exist or develop in other products of these same type designs.

**AD Requirements**

This AD requires revising the Certificate Limitations and Operating Procedures chapters of the AFM to advise the flight crew of potential ICI conditions at high altitudes, and to provide procedures to prohibit flight into those conditions.

This AD also requires engine inspections after any event where the flight crew reports the appearance of the “ENGINE THRUST” message on the engine indication and crew alert system (EICAS) for any engine. The intent of the inspection requirement is to verify the airworthiness of the airplane for future flights. Because of thrust requirements on the different airplane models, the inspection is required before further flight on a minimum of three engines on Model 747–8 and 747–8F series airplanes, and on both engines on Model 787–8 airplanes.

**Interim Action**

We consider this AD interim action. If final action is later identified, we might consider further rulemaking then.

**FAA’s Justification and Determination of the Effective Date**

An unsafe condition exists that requires the immediate adoption of this AD. The FAA has found that the risk to the flying public justifies waiving notice and comment prior to adoption of this rule because flight in potential ICI at high altitudes could result in engine damage and loss of thrust and consequent forced landing. Therefore, we find that notice and opportunity for prior public comment are impracticable and that good cause exists for making this amendment effective in less than 30 days.

**Comments Invited**

This AD is a final rule that involves requirements affecting flight safety and was not preceded by notice and an opportunity for public comment. However, we invite you to send any

written data, views, or arguments about this AD. Send your comments to an address listed under the **ADDRESSES** section. Include the docket number FAA–2013–0974 and Directorate Identifier 2013–NM–209–AD at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this AD. We will consider all comments received by the closing date and may amend this AD because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this AD.

**Costs of Compliance**

We estimate that this AD affects 14 airplanes of U.S. registry. We estimate the following costs to comply with this AD:

**ESTIMATED COSTS: AFM REVISIONS**

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
AFM revisions .....	1 work-hour × \$85 per hour = \$85 .....	\$0	\$85	\$1,190

**ESTIMATED COSTS: INSPECTION**

Action	Labor cost	Parts cost	Cost per product
Inspection .....	2 work-hours × \$85 per hour = \$170 per engine ....	\$0	\$680 per airplane

We have received no definitive data that would enable us to provide cost estimates for the on-condition corrective actions specified in this AD.

**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**

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 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):

**2013–24–01 The Boeing Company:**  
Amendment 39–17675; Docket No.  
FAA–2013–0974; Directorate Identifier  
2013–NM–209–AD.

**(a) Effective Date**

This AD is effective November 27, 2013.

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to The Boeing Company airplanes, certificated in any category, identified in paragraphs (c)(1) and (c)(2) of this AD.

(1) Model 747–8 and 747–8F series airplanes powered by GENx-2B67 or GENx-2B67B engines.

(2) Model 787–8 airplanes powered by GENx-1B64, GENx-1B67, GENx-1B70, GENx-1B64/P1, GENx-1B67/P1, GENx-1B70/P1, or GENx-1B70/75/P1 engines.

**Note 1 to paragraph (c)(2) of this AD:** The engine nameplate may also include a suffix such as “G03,” which is the applicable Bill of Materials (See FAA Type Certification Data Sheet T00021SE basic model identifier).

**(d) Subject**

Air Transport Association (ATA) of America Code 71, Power plant.

**(e) Unsafe Condition**

This AD was prompted by reports of engine damage and thrust loss events as a result of flying in high altitude ice crystal icing (ICI) conditions. We are issuing this AD to ensure that the flight crews have operating instructions to avoid flight into ICI conditions that can lead to engine damage and thrust loss events. We are also issuing this AD to ensure the airplane has a minimum number of airworthy engines following a potential high altitude ICI encounter. Operation with more than one engine having icing damage can lead to a common cause loss of thrust on multiple engines, which can lead to a forced landing.

**(f) Compliance**

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

**(g) Revision of Airplane Flight Manual (AFM): Certificate Limitations**

Within 7 days after the effective date of this AD, revise the Certificate Limitations chapter of the applicable Boeing AFM to include the statement provided in figure 1 to paragraph (g) of this AD. This may be done by inserting a copy of this AD into the AFM.

**Figure 1 to Paragraph (g) of This AD—Certificate Limitations**

AVOIDANCE OF ICE CRYSTAL ICING

(Required by AD 2013–24–01.)

In order to prevent loss of thrust and engine damage due to ice crystal icing, for operations at or above 30,000 feet, when approaching, or in, instrument meteorological conditions or visible moisture:

The flight crew must comply with the Avoidance of Ice Crystal Icing procedure

contained in the Operating Procedures chapter of this manual.

When following the Avoidance of Ice Crystal Icing procedure, flight is prohibited within 50NM of amber or red radar returns that are displayed below the airplane's flight path.

**Note 2 to figure 1 to paragraph (g), figure 2 to paragraph (h), and figure 3 to paragraph (i) of this AD:** When statements identical to those in figures 1, 2, and 3 to paragraphs (g), (h), and (i) of this AD, respectively, have been included in the applicable chapters of the general revisions of the applicable AFM, the general revisions may be inserted into the AFM, and the copy of this AD may be removed from the AFM.

**(h) AFM Revision: Model 747–8 and 747–8F Operating Procedures**

For Model 747–8 (Intercontinental) and 747–8F (Freighter) series airplanes: Within 7 days after the effective date of this AD, revise the Operating Procedures chapter of the Boeing 747–8 AFM to include the statement provided in figure 2 to paragraph (h) of this AD. This may be done by inserting a copy of this AD into the AFM.

**Figure 2 to Paragraph (h) of This AD—Model 747–8 Operating Procedures**

AVOIDANCE OF ICE CRYSTAL ICING

(Required by AD 2013–24–01.)

This procedure is required by the AVOIDANCE OF ICE CRYSTAL ICING limitation contained in the Certificate Limitations chapter of this manual. The language below shall not be modified.

Operations in ice crystal icing can cause unrecoverable loss of thrust and engine damage due to ice crystal icing.

For operations at or above 30,000 feet, when approaching, or in, instrument meteorological conditions or visible moisture:

Operate weather radar in automatic mode and gain knob set to the 12 o'clock position, or if in manual mode adjust gain to maximum and set tilt between –1 and –3.

If areas of green, amber or red weather radar returns are observed along the flight path:

Use manual weather radar tilt control mode and vary the tilt between –3 and –5 degrees and set the gain knob to the 12 o'clock position to determine if amber or red returns are present below the airplane's flight path.

Flight is prohibited within 50NM of amber or red radar returns that are displayed below the airplane's flight path.

**(i) AFM Revision: Model 787–8 Operating Procedures**

For Model 787–8 airplanes: Within 7 days after the effective date of this AD, revise the Operating Procedures chapter of the Boeing 787 AFM to include the statement provided in figure 3 to paragraph (i) of this AD. This may be done by inserting a copy of this AD into the AFM.

**Figure 3 to Paragraph (i) of This AD—Model 787–8 Operating Procedures**

AVOIDANCE OF ICE CRYSTAL ICING

(Required by AD 2013–24–01.)

This procedure is required by the AVOIDANCE OF ICE CRYSTAL ICING limitation contained in the Certificate Limitations chapter of this manual. The language below shall not be modified.

Operations in ice crystal icing can cause unrecoverable loss of thrust and engine damage due to ice crystal icing.

For operations at or above 30,000 feet, when approaching, or in, instrument meteorological conditions or visible moisture:

Operate weather radar in automatic mode and 0 manual gain adjustment, or if in manual mode adjust gain to maximum and set tilt between –1 and –3.

If areas of green, amber or red weather radar returns are observed along the flight path:

Use manual weather radar tilt control mode and vary the tilt between –3 and –5 degrees and select 0 manual gain adjustment to determine if amber or red returns are present below the airplane's flight path.

Flight is prohibited within 50NM of amber or red radar returns that are displayed below the airplane's flight path.

**(j) Post-Event Inspections**

After any flight crew report of the appearance of an engine indicating and crew alerting system (EICAS) message that displays “ENG THRUST (L,R)” (for Model 787–8 airplanes) or “ENG (1, 2, 3, or 4) THRUST” (for Model 747–8 and 747–8F airplanes) during operation at or above 30,000 feet pressure altitude: Do borescope inspections of the first stage blade of the high pressure compressor of the engines to detect damage, as specified in paragraph (j)(1) or (j)(2) of this AD, as applicable. Correct any damage before further flight.

(1) For Model 747–8 and 747–8F series airplanes: Before further flight, inspect each engine for which an EICAS ENGINE THRUST message was displayed. A minimum total of 3 engines must be inspected before further flight. Within 5 flight cycles after the EICAS message was displayed, inspect the fourth engine, unless already accomplished as specified in this paragraph.

(2) For Model 787–8 airplanes: Before further flight, inspect both engines.

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

(1) The Manager, Seattle Aircraft Certification Office (ACO), 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 ACO, send it to the attention of the person identified in paragraph (k) of this AD. Information may be emailed to [9-ANM-Seattle-ACO-AMOC-Requests@faa.gov](mailto: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.

#### (l) Related Information

(1) For more information about this AD, contact Sue Lucier, Aerospace Engineer, Propulsion Branch, ANM-140S, FAA, Seattle Aircraft Certification Office (ACO), 1601 Lind Avenue SW., Renton, Washington 98057-3356; phone: 425-917-6438; fax: 425-917-6590; email: [suzanne.lucier@faa.gov](mailto:suzanne.lucier@faa.gov).

(2) Refer to the applicable information specified in paragraph (l)(2)(i) or (l)(2)(ii) of this AD for guidance on inspecting the engine and correcting damage.

(i) For Model 747-8 and 747-8F series airplanes: Refer to Task 72-00-00-290-801-G00, High Pressure Compressor Section (with a Borescope) Detailed Inspection, of Subject 72-00-00, Engine—Inspection/Check, of Chapter 72, Engine, of the Boeing 747-8 Aircraft Maintenance Manual.

(ii) For Model 787-8 airplanes: Refer to Data Module DMC-B787-A-G72-00-00-06B-280C-A, High Pressure Compressor Section (with a Borescope)—Special Detailed Inspection, of the Boeing 787-8 Aircraft Maintenance Manual.

(3) For Boeing service information identified in this AD that is not incorporated by reference, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P. O. Box 3707, MC 2H-65, Seattle, WA 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; Internet <https://www.myboeingfleet.com>. 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.

#### (m) Material Incorporated by Reference

None.

Issued in Renton, Washington, on November 22, 2013.

**Jeffrey E. Duven,**

Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 2013-28638 Filed 11-26-13; 8:45 am]

**BILLING CODE 4910-13-P**

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 73

[Docket No. FAA-2013-0931; Aerospace Docket No. 13-AWP-6]

RIN 2120-AA66

#### Amendment of Restricted Area R-7201 Farallon De Medinilla Island; Mariana Islands, GU

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

**ACTION:** Final rule; technical amendment.

**SUMMARY:** This action makes a minor correction to the longitude coordinate in

the boundary of restricted area R-7201, Farallon De Medinilla Island, Mariana Islands, Guam. This change is due to the National Oceanic and Atmospheric Administration's (NOAA) adoption of a revised datum which resulted in a minor shift in the charted location of Farallon De Medinilla Island. This action adjusts the longitude coordinate of the restricted area to ensure that it is charted in the proper position over the Island.

**DATES:** *Effective date:* December 27, 2013.

**FOR FURTHER INFORMATION CONTACT:** Paul Gallant, Airspace Policy and ATC Procedures Group, Office of Airspace Services, Federal Aviation Administration, 800 Independence Avenue SW., Washington, DC 20591; telephone: (202) 267-8783.

#### SUPPLEMENTARY INFORMATION:

##### Background

Based on a NOAA survey in 2010, it was determined that Farallon De Medinilla Island (FDM) was not plotted properly on the NOAA charts. As a result, the datum for charting the FDM inset on NOAA Chart 81086 was corrected based on the survey findings. This requires a minor adjustment in the longitude coordinate for R-7201 to take into account the revised positioning of FDM on NOAA Chart 81086 and to ensure that the restricted area is centered over FDM on the current NOAA chart.

##### The Rule

This action amends Title 14 Code of Federal Regulations (14 CFR) part 73 by making a minor correction to the longitude coordinate in the description of restricted area R-7201, Farallon De Medinilla Island, Mariana Islands, Guam. This action changes the longitude coordinate from “long. 146°04'39” E.” to “long. 146°03'31” E.”

This change does not affect the designated altitudes or activities conducted within the restricted area. Because this is a minor change that merely provides a more accurate plotting of the FDM Island and the overlying restricted airspace to match the amended NOAA chart datum, notice and public procedures under 5 U.S.C. 553(b) are unnecessary.

The FAA has determined that this action only involves an established body of technical regulations for which frequent and routine amendments are necessary to keep them operationally current. Therefore, this regulation: (1) Is not a “significant regulatory action” under Executive Order 12866; (2) is not a “significant rule” under DOT

Regulatory Policies and Procedures (44 FR 11034; February 26, 1979); and (3) does not warrant preparation of a regulatory evaluation as the anticipated impact is so minimal. Since this is a routine matter that only affects air traffic procedures and air navigation, it is certified that this rule, when promulgated, does not have a significant economic impact on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

The FAA's authority to issue rules regarding aviation safety is found in Title 49 of the United States Code. 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.

This rulemaking is promulgated under the authority described in Subtitle VII, Part A, Subpart I, Section 40103. Under that section, the FAA is charged with prescribing regulations to assign the use of the airspace necessary to ensure the safety of aircraft and the efficient use of airspace. This regulation is within the scope of that authority as amends the description of restricted area R-7201, Farallon De Medinilla Island, Mariana Islands.

##### Environmental Review

The FAA has determined that this action qualifies for categorical exclusion under the National Environmental Policy Act in accordance with FAA Order 1050.1E, Environmental Impacts: Policies and Procedures, paragraph 311d. This action is an administrative change to the description of affected restricted area R-7201 to reflect a more accurate geographic coordinate. It does not alter the dimensions, altitudes, time of designation or use of the airspace; therefore, it is not expected to cause any potentially significant environmental impacts, and no extraordinary circumstances exist that warrant preparation of an environmental assessment.

##### List of Subjects in 14 CFR Part 73

Airspace, Prohibited areas, Restricted areas.

##### Adoption of the Amendment

In consideration of the foregoing, the Federal Aviation Administration amends 14 CFR part 73, as follows:

#### PART 73—SPECIAL USE AIRSPACE

■ 1. The authority citation for part 73 continues to read as follows:

**Authority:** 49 U.S.C. 106(g), 40103, 40113, 40120; E.O. 10854, 24 FR 9565, 3 CFR, 1959-1963 Comp., p. 389.