



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2018-0489; Product Identifier 2018-NM-001-AD; Amendment 39-19500; AD 2018-23-13]**

**RIN 2120-AA64**

**Airworthiness Directives; The Boeing Company Airplanes**

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

**ACTION:** Final rule.

**SUMMARY:** We are adopting a new airworthiness directive (AD) for all The Boeing Company Model 747-8 and 747-8F series airplanes. This AD was prompted by a report that flightcrew oxygen masks did not function as designed during flight testing. This AD requires an inspection to determine if certain oxygen masks/regulators are installed, and replacement if necessary. We are issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is 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:** For service information identified in this final rule, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600

Westminster 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, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195. It is also available on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0489.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0489; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, the regulatory evaluation, any comments received, and other information. The address for Docket Operations (phone: 800-647-5527) is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

**FOR FURTHER INFORMATION CONTACT:** Susan L. Monroe, Aerospace Engineer, Cabin Safety and Environmental Systems Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3570; email: [susan.l.monroe@faa.gov](mailto:susan.l.monroe@faa.gov).

### **SUPPLEMENTARY INFORMATION:**

#### **Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to all The Boeing Company Model 747-8 and 747-8F

series airplanes. The NPRM published in the Federal Register on May 30, 2018 (83 FR 24688). The NPRM was prompted by a report that flightcrew oxygen masks did not function as designed during flight testing. The NPRM proposed to require an inspection to determine whether certain oxygen masks/regulators and stowage boxes are installed and replacement if necessary.

We are issuing this AD to address flightcrew oxygen masks/regulators that do not deploy correctly, which could result in a delay for the flightcrew to put on the masks, which may lead to hypoxia and loss of useful consciousness, potentially resulting in loss of control of the airplane.

#### **Comments**

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

#### **Request to Include Training for Proper Mask-Packing**

Zodiac Aerospace recommended that we revise paragraphs (g) and (h) to include training for proper mask-packing as an alternative to replacement. The commenter stated that if operators have followed proper packing procedures, no equipment change should be required.

Although we acknowledge Zodiac's recommendation, we note that the supplier had previously provided mask-packing training to Boeing, and that trained, certified mask packers had packed the masks that failed. We have determined that mandating a design change is necessary to effectively mitigate the unsafe condition. We have not changed this AD in this regard.

### **Request to Revise Proposed Parts Installation Limitation**

Boeing requested that we revise paragraph (i) of the proposed AD to provide that subsequent changes or modifications may be handled by normal operator procedures without requiring approval of an alternative method of compliance (AMOC) as long as oxygen mask/regulator part number (P/N) MLD20-626-1 is not reintroduced as part of the subsequent change. Boeing considered paragraph (i)(3) of the proposed AD to be too restrictive because operators would be burdened with requests for AMOCs for each subsequent change or modification.

We partially agree with the commenter. We agree that options are warranted for operators because the proposed AD was highly restrictive, given the limited nature of the unsafe condition. Therefore, we have revised paragraph (g) of this AD to provide alternative actions to correct the unsafe condition, thereby reducing the need for AMOC requests. We also removed the requirement to inspect for the oxygen mask stowage box because that inspection is no longer needed based on these alternative actions.

However, we disagree with revising or deleting paragraph (i)(3) of this AD because the requirement refers to the dependent relationship between the new mask/regulator part number and the new oxygen mask stowage box part number required by the service information. The installation of oxygen mask/regulator P/N MLD20-726-1 with any oxygen mask stowage box part number other than P/N MXP806-7 will require FAA approval in accordance with the procedures specified in paragraph (j) of this AD.

### **Request to Revise the Proposed Applicability to Include a Similar Part**

The commenter, DLH/LHT (Deutsche Lufthansa/Lufthansa-Technik), requested that we revise the proposed applicability to include P/N MLC20-626-1 as another

affected oxygen mask/regulator in the proposed AD. The commenter stated that P/N MLC20-626-1 is identical to P/N MLD20-626-1, except for the goggles, and that this is why the oxygen mask/regulator shows both of these part numbers on the identification label. The commenter reasoned that an operator tracking the mask under the affected part number only would not be subject to the proposed AD.

We do not agree with the request. We are evaluating the associated risks of P/N MLC20-626-1 in relation to the unsafe condition identified in this AD; however, it is not in the interest of public safety to delay this action further. We might consider additional rulemaking to address our findings. We have not changed this AD in this regard.

### **Conclusion**

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting this final rule 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 NPRM for addressing the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

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

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

We reviewed Boeing Special Attention Service Bulletin 747-35-2133, Revision 1, dated November 1, 2017. This service information describes procedures for replacing certain oxygen masks/regulators and stowage boxes. 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.

## **Costs of Compliance**

We estimate that this AD affects 18 airplanes of U.S. registry. We estimate the following costs to comply with this AD:

### **Estimated costs for required actions**

| <b>Action</b> | <b>Labor cost</b>                          | <b>Parts cost</b> | <b>Cost per product</b> | <b>Cost on U.S. operators</b> |
|---------------|--|-------------------|-------------------------|-------------------------------|
| Inspection    | 1 work-hour X \$85 per hour = \$85         | \$0               | \$85                    | \$1,530                       |
| Replacement   | Up to 6 work-hours X \$85 per hour = \$510 | \$68,256          | Up to \$68,766          | Up to \$1,237,788             |

## **Authority for this Rulemaking**

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

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by

prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

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

### **Regulatory Findings**

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

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

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Is not a “significant rule” under 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):

**2018-23-13 The Boeing Company:** Amendment 39-19500; Docket No. FAA-2018-0489; Product Identifier 2018-NM-001-AD.

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

This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

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

None.

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

This AD applies to all The Boeing Company Model 747-8 and 747-8F series airplanes, certificated in any category.

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

Air Transport Association (ATA) of America Code 35, Oxygen.

**(e) Unsafe Condition**

This AD was prompted by a report that flightcrew oxygen masks did not function as designed during flight testing. We are issuing this AD to address flightcrew oxygen masks/regulators that do not deploy correctly, which could result in a delay for the flightcrew to put on the masks, which may lead to hypoxia and loss of useful consciousness, potentially resulting in loss of control of the airplane.

**(f) Compliance**

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

**(g) Required Actions**

For airplanes with an original certificate of airworthiness, or an original export certificate of airworthiness, issued on or before the effective date of this AD: Within 72 months after the effective date of this AD, inspect for oxygen mask/regulator part number (P/N) MLD20-626-1. A review of airplane maintenance records is acceptable in lieu of the part number inspection if the part number of the oxygen mask/regulator can be conclusively determined from that review. If any oxygen mask/regulator P/N MLD20-626-1 is found, within 72 months after the effective date of this AD, do the actions identified in paragraph (g)(1), (g)(2), or (g)(3) of this AD.

(1) Do all applicable actions identified as “RC” (required for compliance) in, and in accordance with, the Accomplishment Instructions of Boeing Special Attention Service Bulletin 747-35-2133, Revision 1, dated November 1, 2017, except as provided by paragraph (h) of this AD.

(2) Except as specified in paragraph (i)(3) of this AD: Remove oxygen mask/regulator P/N MLD20-626-1 and install any new or serviceable oxygen

mask/regulator that is not P/N MLD20-626-1 and that is FAA approved for installation on the airplane.

Note 1 to paragraphs (g)(2) and (g)(3) of this AD: Guidance for the installation procedures can be found in Boeing Model 747 Aircraft Maintenance Manual (AMM) 35-11-18.

(3) Except as specified in paragraph (i)(3) of this AD: Remove the oxygen mask/regulator P/N MLD20-626-1 and the installed oxygen mask stowage box combination, and install any new or serviceable oxygen mask/regulator and stowage box combination that does not include oxygen mask/regulator P/N MLD20-626-1, and that is FAA approved for installation on the airplane.

**(h) Exceptions to Service Information Specifications**

Where Boeing Special Attention Service Bulletin 747-35-2133, Revision 1, dated November 1, 2017, refers to or specifies installing a new (or changed) part, for this AD, a new or serviceable (or changed) part is acceptable.

**(i) Parts Installation Limitations**

(1) For airplanes with an original certificate of airworthiness, or an original export certificate of airworthiness, issued on or before the effective date of this AD: As of the effective date of this AD, no person may install an oxygen mask/regulator P/N MLD20-626-1 on any airplane, except that prior to 72 months after the effective date of this AD, installation of P/N MLD20-626-1 is acceptable for unscheduled maintenance as a replacement only for another P/N MLD20-626-1, and only into a stowage box having P/N MXP806-1. If an oxygen mask/regulator having a part number other than P/N MLD20-626-1 is installed, it may not be replaced with P/N MLD20-626-1. For the

purposes of this AD, unscheduled maintenance is defined as maintenance that was not planned for or scheduled in advance, such as changing a defective or unserviceable oxygen mask at dispatch.

(2) For airplanes with an original certificate of airworthiness or an original export certificate of airworthiness issued after the effective date of this AD: As of the effective date of this AD, no person may install oxygen mask/regulator P/N MLD20-626-1 on any airplane.

(3) For all airplanes: As of the effective date of this AD, no person may install oxygen mask/regulator P/N MLD20-726-1 in combination with any stowage box part number that is not P/N MXP806-7 on any airplane.

**(j) 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 (k)(1) 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

Commercial Airplanes 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.

(4) Except as required by paragraph (h) of this AD: For service information that contains steps that are labeled as RC, the provisions of paragraphs (j)(4)(i) and (j)(4)(ii) of this AD apply.

(i) The steps labeled as RC, including substeps under an RC step and any figures identified in an RC step, must be done to comply with the AD. If a step or substep is labeled “RC Exempt,” then the RC requirement is removed from that step or substep. An AMOC is required for any deviations to RC steps, including substeps and identified figures.

(ii) Steps not labeled as RC may be deviated from using accepted methods in accordance with the operator’s maintenance or inspection program without obtaining approval of an AMOC, provided the RC steps, including substeps and identified figures, can still be done as specified, and the airplane can be put back in an airworthy condition.

**(k) Related Information**

(1) For more information about this AD, contact Susan L. Monroe, Aerospace Engineer, Cabin Safety and Environmental Systems Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3570; email: susan.l.monroe@faa.gov.

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

**(I) 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 Special Attention Service Bulletin 747-35-2133, Revision 1, dated November 1, 2017.

(ii) [Reserved]

(3) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminster 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, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

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

Issued in Des Moines, Washington, on November 8, 2018.

Chris Spangenberg,  
Acting Director,  
System Oversight Division,  
Aircraft Certification Service.  
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