



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2017-0505; Product Identifier 2017-NE-15-AD; Amendment 39-19472; AD 2018-21-14]

RIN 2120-AA64

Airworthiness Directives; Zodiac Aerotechnics Oxygen Mask Regulators

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for certain Zodiac Aerotechnics (Zodiac) oxygen mask regulators. This AD was prompted by reports that certain silicon harness inflation hoses installed on certain flight crew quick donning mask harnesses have shown an unusually high premature rupture rate. This AD requires inspection and replacement of certain oxygen mask regulator harness inflation hoses. 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 Zodiac Aerotechnics, 61 rue Pierre Curie BP 1, 78373 Plaisir, CEDEX, France; phone: +33 1 6486 6964; email: Christophe.besset@zodiacaerospace.com or Yann.laine@zodiacaerospace.com. You may view this service information at the FAA, Engine & Propeller Standards Branch, 1200 District Avenue, Burlington, MA, 01803. For information on the availability of this material at the FAA, call 781-238-7759. It is

also available on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2017-0505.

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-2017-0505; 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 mandatory continuing airworthiness information (MCAI), 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: Erin King, Aerospace Engineer, Boston ACO Branch, FAA, 1200 District Avenue, Burlington, MA, 01803; phone 781-238-7655; fax: 781-238-7199; email: erin.king@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 certain Zodiac oxygen mask regulators. The NPRM published in the Federal Register on September 25, 2017 (82 FR 44539). The NPRM was prompted by reports that certain silicon harness inflation hoses installed on certain flight crew quick donning mask harnesses have shown an unusually high premature rupture rate. The NPRM proposed to require an inspection and replacement of oxygen mask regulator harness inflation hoses. We are issuing this AD to address the unsafe condition on these products.

The European Union Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Community, has issued EASA AD 2014-

0142, Revision 01, dated June 11, 2014 (referred to after this as “the MCAI”), to address the unsafe condition on these products. The MCAI states:

Recent reported occurrences have shown that for harness hoses P/N 445952, installed on certain flight crew quick donning mask harnesses (also known as ‘comfort’ harness) having P/N MXH21-1, suspected silicon batches may have been used during manufacture, which have shown an unusually high premature rupture rate. The affected P/N MXH21-1 inflatable harness assembly consists of two main parts that can be disassembled; the harness itself and the harness inflation hose, P/N 445952.

This condition, if not detected and corrected, could lead, in case of a sudden depressurization event, to a harness rupture, thereby providing inadequate protection against hypoxia of the affected flight crew member, possibly resulting in unconsciousness and consequent reduced control of the aeroplane.

You may obtain further information by examining the MCAI in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2017-0505.

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.

Comment to Figure Reference in Service Information

NetJets Aviation, Inc. (NetJets) commented that Accomplishment Instructions, paragraph 3.A.(1) of Zodiac Aerospace Service Bulletin (SB) MC10-35-274, Revision

02, dated June 25, 2014, references Figure 3; however, there are only Figures 1 and 2 in this SB.

We agree that Zodiac Aerospace SB MC10-35-274, Revision 02, dated June 25, 2014, references Figure 3 in error. The FAA, however, is not responsible for administrative errors in SBs. We did not change this AD.

Request to Revise Part For Installation Eligibility

American Airlines (AA) requested that we revise the phrase in paragraph (h)(2) of the NPRM from “inflatable harness assembly” to “crew oxygen mask regulator.” AA reasoned that paragraph 1.A.(1) of Zodiac Aerospace SB MC10-35-274, Revision 02, dated June 25, 2014, includes both the inflatable harness assembly part numbers (P/Ns) as well as the crew oxygen mask regulator P/Ns. The intent is to check the crew oxygen mask regulator for installation eligibility.

We agree. We revised the paragraphs in this AD that refer to parts eligible for installation as the “crew oxygen mask regulator.”

Request to Add Credit For Previous Actions Paragraph

AA and NetJets requested that we add a Credit For Previous Actions paragraph to this AD. AA asked that we give credit for actions required by this AD if those actions were performed before the effective date of this AD using Zodiac Aerospace SB MC10-35-274, Revision 01, dated April 18, 2014, or Original Issue, dated March 19, 2014. NetJets asked that in addition to the SBs mentioned above, we also give credit for using EASA AD 2014-0142, Revision 01, dated June 11, 2014, to accomplish the actions required by this AD. AA reasoned that EASA AD 2014-0142, Revision 01, dated June 11, 2014, allows for compliance with earlier revisions of the service information.

We partially agree. We agree to give credit for accomplishing the required actions if operators used Zodiac Aerospace SB MC10-35-274, Revision 01, dated April 18, 2014, or Zodiac Aerospace SB MC10-35-274, Original Issue, dated March 19, 2014, because

this meets the intended safety requirements of this AD. We added a Credit For Previous Actions paragraph to this AD.

We disagree with revising the AD to allow for previous credit for performing EASA AD 2014-0142, Revision 01, dated June 11, 2014, because this is not necessary and is inconsistent with how we draft ADs.

Request to Clarify the Oxygen Mask Regulator Prohibition

AA, NetJets, and United Airlines (United) requested clarification regarding the oxygen mask regulator prohibition in the Installation Prohibition paragraph of this AD. The commenters reasoned that paragraph (h)(1), as proposed in the NPRM, prohibited the installation of certain oxygen mask regulators; whereas, paragraphs (h)(2) and (3) in the NPRM describe criteria that allow installation. AA requested that we remove paragraph (h)(1) of this AD. NetJets requested clarification and possible rewording of paragraph (h)(1) of this AD. United suggested rewording and reformatting of paragraph (h)(1) of this AD.

We partially agree. We agree that we need to clarify this AD to more clearly describe when a flight crew oxygen mask regulator is eligible for installation. We revised the Installation Prohibition paragraph by moving paragraphs (h)(2) and (3) into a Definition paragraph. We also revised paragraph (h)(1) of the NPRM, now paragraph (h) in the final rule, to allow the installation of certain oxygen mask regulators when they meet the criteria specified in paragraph (i)(1) of this AD.

We disagree with removing paragraph (h)(1) from this AD (paragraph (h) in the final rule) because oxygen mask regulators with a P/N listed in Paragraph 1.A.(1) of Zodiac Aerospace SB MC10-35-274, Revision 02, dated June 25, 2014, cannot be installed unless they meet the criteria specified in paragraph (i), Definition, of this AD.

Request to Remove Hose Part Numbers

United requested that we clarify references to specific harness inflation hose P/Ns in the Applicability paragraph, paragraph (c), and the Required Actions paragraph, specifically paragraphs (g)(2) and (3), of this AD. United noted that these P/Ns are not identified on the inflation harness assemblies after the hoses are installed on a crew oxygen mask assembly. United reasoned that although detailed shop records would likely itemize the hose P/Ns, they are unaware of any parts 'data plate' or 'data tag' on the inflation harness assemblies that identify the hose P/Ns after they are installed on a crew oxygen mask assembly.

We partially agree. We agree that the hose P/Ns are not required in the Applicability paragraph of this AD. We revised the applicability, paragraph (c), of this AD by removing the references to the installation hose and its P/Ns.

We disagree with removing the hose P/Ns from paragraphs (g)(2) and (3) of this AD. Although the commenter correctly points out that there is no data tag or data plate affixed to the hose, these P/Ns are useful to operators who can determine the hose P/N. Additionally, identifying the hose P/Ns in this AD is consistent with EASA AD 2014-0142, Revision 01, dated June 11, 2014.

Request to Increase the Compliance Time

United and AA requested, respectively, that we increase the compliance time from 24 months to 36 or to 48 months. The commenters reasoned that operators experienced supply issues when trying to comply with AD 2015-08-07 and many operators requested extensions to the compliance time. The supply situation was worsened because some oxygen mask regulator harnesses needed to be replaced because of illegible or non-existent part marking.

We partially agree. We agree to increase the compliance time to 36 months to ensure that suppliers can provide the parts because of the possibility there will be supply

issues. Zodiac has not been able to determine inventory because they do not know the number of parts in use by U.S. operators. Increasing the compliance time by 12 months still meets the safety objectives of this AD. Our understanding from Zodiac is that they recommend hose replacement every 72 months, and given that all of the affected hoses were manufactured between 2008 and 2010, many of the affected hoses likely have been removed from service.

We disagree with increasing the compliance time to 48 months because 36 months is sufficient to comply with the required actions of this AD. Additionally, we do not want to extend, beyond a reasonable time, the period for which suspect parts can remain on aircraft. We revised paragraph (g)(1) of this AD to increase the compliance time to 36 months.

Request to Decrease the Compliance Time

The Airline Pilots Association International (ALPA) requested that the compliance time decrease from 24 months to 12 months. ALPA reasoned that greater than 40 months have passed since EASA AD 2014-0142, Revision 01, dated June 11, 2014, became effective. ALPA also noted that the required time to comply with the AD is one work-hour. Based on these factors the compliance time of this AD should be decreased to minimize risk.

We disagree. We note that operators may have difficulty obtaining replacement parts within a shortened compliance time. Also, the compliance time of 36 months after the effective date of this AD meets the safety objectives of this AD. We did not change this AD.

Request to Remove the P/Ns That Are Not Eligible for the “W” Marking

AA and United requested that we remove the reference to inflatable harness assembly P/Ns that have been re-marked with a “W” from the Installation Prohibition, of this AD. The commenters reasoned that adding a “W” applies only to oxygen mask

regulator assemblies that have inflation harness assemblies, P/N MXH21-31, installed per Zodiac Aerospace SB MA_B_C_F10-35-260, dated October 19, 2012, or later revisions.

We agree. When an oxygen mask is modified per Zodiac SB MA_B_C_F10-35-260 and marked with a “W,” the P/N also changes to MXH21-31. Therefore, only P/N MXH21-31 is marked with a “W.” Paragraph (h)(3) of the NPRM incorrectly implied that P/N MXH20-1 and P/N MXH21-1 might also be marked with a “W.” We revised this AD by removing the reference to remarking P/Ns MXH20-1 and MXH21-1 with a “W.”

Request to Include Inflatable Harness Assemblies Marked with an “I”

AA requested that we include inflatable harness assembly marked with an “I” on the metal bushing to Required Actions, paragraph (g)(3), of this AD. AA reasoned that inflatable harness assemblies with an “I” on the metal bushings have been inspected and are not affected by this AD.

We agree. Based on paragraph 2.E. of Zodiac SB MC10-35-274, Revision 02, dated June 25, 2014, marking an “I” on the metal bushing of the inflatable harness indicates accomplishment of the SB. We have revised paragraph (g)(3) of this AD to note that inflatable harness assemblies with metal bushings marked with an “I” are not affected by this AD.

Request to Delay the Installation Prohibition Start Time

United requested that we add “within 60 days of the effective date of this AD” to the Installation Prohibition of this AD to provide more time before prohibiting the installation of the affected flight crew oxygen mask regulators. United reasoned that immediately restricting the installation of the affected regulators after the effective date of this AD is a logistical challenge and can be counterproductive. United is also concerned that material orders will be over abundantly placed to compensate for not

knowing the modification status of their mask inventory. United believes that offsetting the start of a parts installation prohibition period would not significantly increase the risk.

We disagree. Given the increased compliance time allowed in paragraph (g)(1) of this AD, operators should have time to assess their inventory and make accurate purchases to replace affected parts. It would not be in the interest of safety to allow the period for which suspect parts could remain on the aircraft to continue for any period after this AD is published. We did not change this AD.

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 Zodiac Aerospace SB MC10-35-274, Revision 02, dated June 25, 2014. The SB describes procedures for inspecting and replacing, if necessary, oxygen mask regulator inflatable harnesses. 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 an unknown number of oxygen mask regulators installed on, but not limited to, various aircraft of U.S. registry.

We estimate the following costs to comply with this AD:

Estimated costs

Action	Labor cost	Parts cost	Cost per product
Date of manufacturing code review	0.1 work-hours X \$85 per hour = \$8.50	\$0	\$8.50
Hose replacement	0.3 work-hours X \$85 per hour = \$25.50	\$1,465.00	\$1,490.50

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 engines, propellers, and associated appliances to the Manager, Engine and Propeller Standards Branch, Policy and Innovation 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 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.

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):

2018-21-14 **Zodiac Aerotechnics (formerly Intertechnique)**: Amendment 39-19472; Docket No. FAA-2017-0505; Product Identifier 2017-NE-15-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 Zodiac Aerotechnics (Zodiac) MC10 series crew oxygen mask regulators fitted with an inflatable harness assembly, part number (P/N) MXH20-1 or MXH21-1.

(d) Subject

Joint Aircraft System Component (JASC) Code 3510, Crew Oxygen System.

(e) Unsafe Condition

This AD was prompted by reports that certain silicon harness inflation hoses installed on certain flight crew quick donning mask harnesses (also known as ‘comfort’ harness) have shown an unusually high premature rupture rate. We are issuing this AD to prevent a harness rupture during a sudden depressurization event. The unsafe condition, if not addressed, could result in hypoxia and subsequent unconsciousness of the affected flight crew member, and consequent reduced control of the aircraft.

(f) Compliance

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

(g) Required Actions

(1) Within 36 months after the effective date of this AD, determine the date of manufacturing (DMF) code of each inflatable harness assembly, P/N MXH20-1 and P/N MXH21-1, fitted to a flight crew oxygen mask regulator, having a P/N listed in Planning Information, paragraph 1.A.(1), of Zodiac Aerospace Service Bulletin (SB) MC10-35-274, Revision 02, dated June 25, 2014. A review of airplane delivery or maintenance records is acceptable to make the determination as specified in this paragraph, provided those records can be relied upon for that purpose, and the DMF of the inflatable harness assembly, P/N MXH20-1 or P/N MXH21-1, as applicable, can be conclusively identified from that review.

(2) If during the review required by paragraph (g)(1) of this AD, the DMF code of the inflatable harness assembly, P/N MXH20-1 or P/N MXH21-1, is found to be between 0850-S and 1051-S (inclusive): Within 36 months after the effective date of this AD, replace the harness inflation hose, P/N 445186 or P/N 445952, as applicable, with a part eligible for installation, or remove the inflatable harness assembly from the mask regulator and replace it with an inflatable harness assembly eligible for installation.

(3) An oxygen mask regulator equipped with an inflatable harness assembly, P/N MXH20-1 or P/N MXH21-1, having a DMF code of November 2008 (0845-S or 08/45-S) or earlier, and those with a DMF code of January 2011 (1101-S or 11/01-S) or later, are excluded from the requirements of this AD, provided it can be demonstrated that neither the inflatable harness assembly, nor the harness inflation hose, P/N 445186 or P/N 445952, as applicable, was replaced on that mask. An oxygen mask regulator with an inflatable harness assembly, P/N MXH20-1 or P/N MXH21-1, and with an inflatable harness assembly with a metal bushing that has been marked with an "I" is also excluded from the requirements of this AD. A review of airplane delivery or maintenance records

is acceptable to make the determination, provided those records can be relied upon for that purpose.

(h) Installation Prohibition

After the effective date of this AD, do not install on any airplane a flight crew oxygen mask regulator with a P/N listed in Planning Information, paragraph 1.A.(1), of Zodiac SB MC10-35-274, Revision 02, dated June 25, 2014, unless it meets the definition of a part eligible for installation in paragraph (i) of this AD.

(i) Definition

(1) After the effective date of this AD, a part eligible for installation is a crew oxygen mask regulator with:

(i) a P/N identified in Planning Information, paragraph 1.A.(1), of Zodiac Aerospace SB MC10-35-274, Revision 02, dated June 25, 2014, provided it has been determined that a P/N MXH20-1 or P/N MXH21-1 inflatable harness installed on that crew oxygen mask regulator has been inspected, and re-marked with an “I” as required by Material Information, paragraph 2.E. of Zodiac Aerospace SB MC10-35-274, Revision 02, dated June 25, 2014; or

(ii) a P/N identified in Planning Information, paragraph 1.A.(1), of Zodiac Aerospace SB MC10-35-274, Revision 02, dated June 25, 2014, provided it has been determined that an inflatable harness, P/N MXH21-31, is installed.

(2) [Reserved]

(j) Credit for Previous Actions

You may take credit for the inspection and replacement of the oxygen mask regulator harness inflation hose required by paragraphs (g)(1) and (2) of this AD, if you performed the inspection and replacement using the Accomplishment Instructions, paragraph 3, of Zodiac Aerospace SB MC10-35-274, Initial Issue, dated March 19, 2014, or Revision 01, dated April 18, 2014.

(k) Alternative Methods of Compliance (AMOCs)

(1) The Manager, FAA, Boston ACO Branch, Compliance and Airworthiness Division, 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 Branch, send it to the attention of the person identified in paragraph (l)(1) of this AD. You may email your request to: ANE-AD-AMOC@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 Erin King, Aerospace Engineer, Boston ACO Branch, FAA, 1200 District Avenue, Burlington, MA, 01803; phone 781-238-7655; fax: 781-238-7199; email: erin.king@faa.gov.

(2) Refer to European Union Aviation Safety Agency AD 2014-0142, Revision 01, dated June 11, 2014, for more information. You may examine the EASA AD in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2017-0505.

(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) Zodiac Aerospace Service Bulletin MC10-35-274, Revision 02, dated June 25, 2014.

(ii) [Reserved]

(3) For service information identified in this AD, contact Zodiac Aerotechnics, 61 rue Pierre Curie BP 1, 78373 Plaisir, CEDEX, France; phone: +33 1 6486 6964; email: Christophe.beset@zodiac aerospace.com or Yann.laine@zodiac aerospace.com.

(4) You may view this service information at FAA, Engine & Propeller Standards Branch, 1200 District Avenue, Burlington, MA, 01803. For information on the availability of this material at the FAA, call 781-238-7759.

(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 Burlington, Massachusetts, on February 13, 2019.

Robert J. Ganley,
Manager, Engine and Propeller Standards Branch,
Aircraft Certification Service.
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