



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2024-0230; Project Identifier AD-2023-01064-Q]

RIN 2120-AA64

Airworthiness Directives; Various Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to adopt a new airworthiness directive (AD) for all airplanes with certain Pacific Scientific Company rotary buckle assemblies (buckles) installed. This AD was prompted by a report of a manufacturing defect in the screws used inside the buckle. This proposed AD would require inspecting the buckle screws, and depending on the results, reidentifying the buckle, replacing the screws and reidentifying the buckle, or replacing the buckle. This proposed AD would also prohibit installing certain buckles. The FAA is proposing this AD to address the unsafe condition on these products.

DATES: The FAA must receive comments on this proposed 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 [regulations.gov](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.

AD Docket: You may examine the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2024-0230; 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 NPRM, any comments received, and other information. The street address for Docket Operations is listed above.

Material Incorporated by Reference:

- For service information identified in this NPRM, contact Parker Meggitt Services, 1785 Voyager Avenue, Simi Valley, CA 93063; phone 877-666-0712; email TechSupport@meggitt.com; website [meggitt.com/services_and_support/customer_experience/update-on-buckle-assembly-service-bulletins](https://www.meggitt.com/services_and_support/customer_experience/update-on-buckle-assembly-service-bulletins).

- You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th Street, Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195. It is also available at [regulations.gov](https://www.regulations.gov) by searching for and locating Docket No. FAA-2024-0230.

FOR FURTHER INFORMATION CONTACT: David Kim, Aviation Safety Engineer, FAA, 3960 Paramount Boulevard, Lakewood, CA 90712; phone 562-627-5274; email david.kim@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under ADDRESSES. Include “Docket No. FAA-2024-0230; Project Identifier AD-2023-01064-Q” 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 proposal 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 regulations.gov, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this NPRM.

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 NPRM 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 NPRM, 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 NPRM. Submissions containing CBI should be sent to David Kim, Aviation Safety Engineer, FAA, 3960 Paramount Boulevard, Lakewood, CA 90712; phone 562-627-5274; email david.kim@faa.gov. Any commentary that the FAA receives

that is not specifically designated as CBI will be placed in the public docket for this rulemaking.

Background

The FAA has received a report of a manufacturing defect in the screws used inside Pacific Scientific Company buckle part number (P/N) 1111475 (all dash numbers) and P/N 1111548-01. The screws used to fasten the load plate to the body of the buckle were found to be susceptible to hydrogen embrittlement due to improper baking during the electroplating process. This condition leads the screwhead to separate from the body of the screw when under load, which could result in the buckle failing to restrain the occupant to the seat. This issue was originally identified from a suspected lot of screws, Lot 348994-A. Since then, a buckle failed in an accident, calling into question Lot 348601-A. Lots 348601-A and 348994-A were the first two lots of screws received by Pacific Scientific Company from a new supplier and are the only suspected lots. The suspected buckles were manufactured between January 2012 and September 2012. The FAA is proposing this AD to address the unsafe condition on these products.

The rotary buckle may be included as a component of a different part-numbered restraint system assembly. Table 1 of Parker Meggitt Service Bulletin (SB) 1111475-25-001-2023, Revision 001, dated December 1, 2023, and Parker Meggitt SB 1111548-25-001-2023, Revision 001, dated December 1, 2023 (SB 1111475-25-001-2023 Rev 001 and SB 1111548-25-001-2023 Rev 001), includes a list of these restraint system assembly P/Ns.

This proposed AD would apply to all airplanes with a Pacific Scientific Company buckle P/N 1111475 (all dash numbers) or P/N 1111548-01 installed, if the buckle was manufactured between January 2012 and September 2012, or if the date of manufacture of the buckle is unknown. These same part-numbered buckles may also be installed in helicopters; however, the FAA determined that a shorter compliance time to accomplish

the required actions is necessary for buckles installed in helicopters. Accordingly, the FAA issued AD 2024-01-11, Amendment 39-22662 (89 FR 6008, January 31, 2024), to address this unsafe condition on all helicopters with a Pacific Scientific Company buckle P/N 1111475 (all dash numbers) or P/N 1111548-01 installed.

FAA's Determination

The FAA is issuing this NPRM after determining that the unsafe condition described previously is likely to exist or develop on other airplanes with a restraint system with a buckle as part of their type design.

Related Service Information under 1 CFR Part 51

The FAA reviewed SB 1111475-25-001-2023 Rev 001 for buckle P/N 1111475 and SB 1111548-25-001-2023 Rev 001 for buckle P/N 1111548-01. This service information specifies procedures for inspecting the buckle for any missing or loose screw heads and, depending on the results, replacing the buckle and sending the removed buckle to Parker Meggitt for repair or replacement. If after that first inspection, all of the screw heads are intact, this service information specifies procedures for inspecting the buckle for any Torx head screws (alloy steel) and, depending on the results, allowing the buckle assembly to remain in-service temporarily, replacing any Torx head screws (alloy steel) with new hex head screws (stainless steel), and checking the functionality of the buckle. This service information also specifies procedures for removing a buckle from a restraint system, installing a buckle on a restraint system, and returning buckles to Parker Meggitt. If the buckle passes the specified inspections or is modified by replacing Torx head screws (alloy steel) with new hex head screws (stainless steel) screws, this service information specifies procedures for reidentifying the back of the buckle. This service information also identifies known affected restraint systems.

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 ADDRESSES.

Proposed AD Requirements in this NPRM

This proposed AD would require accomplishing the actions specified in the service information already described, except as discussed under “Differences Between this Proposed AD and the Service Information.”

Differences Between this Proposed AD and the Service Information

The service information does not specify any compliance times, whereas this proposed AD would require accomplishing the required actions within twelve months. This proposed AD would also prohibit installing an affected buckle on any airplane.

The service information specifies sending any damaged buckles to Parker Meggitt for repair or replacement, and this proposed AD would not. Instead, this proposed AD would require replacing the buckle with an airworthy buckle.

The service information allows buckles with a Torx head (alloy steel) screw to remain in service temporarily and replaced at a time convenient to the operator, and this proposed AD would not. If a buckle has any number of Torx head (alloy steel) screws installed, this proposed AD would require replacing all four screws with hex head screws before further flight.

If a screw head breaks off during disassembly of a buckle or if reassembly of a buckle is not possible, the service information specifies returning the buckle to Parker Meggitt, whereas this proposed AD would not. If a screw head breaks off during disassembly, this proposed AD would require replacing the buckle with an airworthy buckle. If reassembly of a buckle is not possible, then the buckle is not airworthy.

Costs of Compliance

The FAA estimates that this AD, if adopted as proposed, would affect 11,714 buckles installed on restraint systems in aircraft worldwide. The FAA has no way of knowing the number of airplanes of U.S. Registry that may have a restraint system with an affected buckle installed. The estimated costs on U.S. operators reflects the maximum possible costs based on affected buckles installed on restraint systems in aircraft worldwide. Labor rates are estimated at \$85 per work-hour. Based on these numbers, the FAA estimates the following costs to comply with this proposed AD:

Estimated costs

Action	Labor cost	Parts cost	Cost per buckle	Cost on U.S. operators
Inspecting a buckle	.1 work-hour X \$85 per hour = \$9	\$0	\$9	Up to \$105,426

The FAA estimates the following costs to do any necessary repairs that would be required based on the results of the proposed inspection. The agency has no way of determining the number of buckles that might need this repair:

On-condition costs

Action	Labor cost	Parts cost	Cost per buckle
Replacing a set of screws (four)	.5 work-hour X \$85 per hour = \$43	nominal	\$43
Replacing a buckle	.5 work-hour X \$85 per hour = \$43	\$740	\$783
Reidentifying a buckle	minimal	nominal	nominal

The FAA has included all known costs in its cost estimate. According to the manufacturer, however, some of the costs of this proposed AD may be covered under warranty, thereby reducing the cost impact on affected operators.

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

The FAA determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would 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 proposed regulation:

- (1) Is not a "significant regulatory action" under Executive Order 12866,
- (2) Would not affect intrastate aviation in Alaska, and
- (3) Would 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.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 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:

Various Airplanes: Docket No. FAA-2024-0230; Project Identifier AD-2023-01064-Q.

(a) Comments Due Date

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

(b) Affected ADs

None.

(c) Applicability

This AD applies to all airplanes, certified in any category, with a restraint system with a Pacific Scientific Company rotary buckle assembly (buckle) part number (P/N) 1111475 (all dash numbers) or P/N 1111548-01 installed having a date of manufacture between January 2012 and September 2012 inclusive or an unknown date of manufacture. These buckles may be installed on, but not limited to, The Boeing Company model airplanes, certificated in any category.

(d) Subject

Air Transport Association (ATA) of America Code: 25, Equipment/furnishings.

(e) Unsafe Condition

This AD was prompted by reports of a manufacturing defect in the screws used inside the buckle. The FAA is issuing this AD to prevent cracking and missing screw heads when under load. The unsafe condition, if not addressed, could result in a failure of the buckle to restrain the occupant.

(f) Compliance

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

(g) Required Actions

(1) For airplanes with buckle P/N 1111475 (all dash numbers), within 12 months after the effective date of this AD, inspect each buckle screw for cracked, loose, and missing screw heads by following the Accomplishment Instructions, paragraphs B.(1) and (2), of Parker Meggitt Service Bulletin (SB) 1111475-25-001-2023, Revision 001, dated December 1, 2023 (SB 1111475-25-001-2023 Rev 001).

(i) If any screw has a cracked, loose, or missing screw head, before further flight, replace the buckle with an airworthy buckle.

(ii) If none of the four screw heads are cracked, loose, or missing, before further flight, inspect each screw to determine if any screw has a Torx head by using one of the following methods in the Accomplishment Instructions of SB 1111475-25-001-2023 Rev 001: paragraph B.(4)(a) (Magnet Test); paragraph B.(4)(b) (Inspection); or paragraphs C.(2) through (4) (removing the buckle from the restraint system) and paragraphs D.(1)(a) through (d) (disassembling the buckle).

(A) If none of the four screws have a Torx head, before further flight, reassemble the buckle (if necessary) by following the Accomplishment Instructions, paragraphs D.(1)(f) through (l), of SB 1111475-25-001-2023 Rev 001, and reidentify the buckle with “INS. A” by following the Accomplishment Instructions, paragraph B.(6), of SB 1111475-25-001-2023 Rev 001.

(B) If at least one of the four screws has a Torx head, before further flight, with the buckle removed, replace each Torx head screw with a hex head screw, reassemble the buckle, and reidentify the buckle with “MOD. A” by following the Accomplishment Instructions, paragraphs D.(1)(e) through (m), of SB 1111475-25-001-2023 Rev 001, except you are not required to return any parts to Parker Meggitt. If a screw head breaks off during disassembly, before further flight, replace the buckle with an airworthy buckle.

(2) For airplanes with buckle P/N 1111548-01, within 12 months after the effective date of this AD, inspect each buckle screw for cracked, loose, and missing screw heads by following the Accomplishment Instructions, paragraph B.(1), of Parker Meggitt SB 1111548-25-001-2023, Revision 001, dated December 1, 2023 (SB 1111548-25-001-2023 Rev 001).

(i) If any screw has a cracked, loose, or missing screw head, before further flight, replace the buckle with an airworthy buckle.

(ii) If none of the four screw heads are cracked, loose, or missing, before further flight, inspect each screw to determine which screws have a Torx head by using one of the following methods in the Accomplishment Instructions of SB 1111548-25-001-2023 Rev 001: paragraph B.(3)(a) (except use Figure 6 for placement of the shim tool and use Figure 5 to distinguish the screw head types) (Inspection); or paragraph C. (removing the buckle from the restraint system) and paragraphs D.(1)(a) through (c) (disassembling the buckle). Before further flight, with the buckle removed, replace each Torx head screw with a hex head screw, reassemble the buckle, and reidentify the buckle with “MOD. A” by following the Accomplishment Instructions, paragraphs D.(1)(d) through (m), of SB 1111548-25-001-2023 Rev 001, except you are not required to return any parts to Parker Meggitt. If a screw head breaks off during disassembly, before further flight, replace the buckle with an airworthy buckle.

Note 1 to paragraph (g): SB 1111475-25-001-2023 Rev 001 and SB 1111548-

25-001-2023 Rev 001 refer to a magnifying glass as an “eye loupe.”

(h) Parts Installation Prohibition

As of the effective date of this AD, do not install a buckle identified in paragraph (c) of this AD on any airplane unless the buckle is marked with “MOD. A” or “INS. A”.

(i) Alternative Methods of Compliance (AMOCs)

(1) The Manager, West Certification 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 responsible Flight Standards Office, as appropriate. If sending information directly to the manager of the West Certification Branch, send it to the attention of the person identified in paragraph (j) of this AD.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the responsible Flight Standards Office.

(j) Additional Information

For more information about this AD, contact David Kim, Aviation Safety Engineer, FAA, 3960 Paramount Boulevard, Lakewood, CA 90712; phone 562-627-5274; email david.kim@faa.gov.

(k) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference 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) Parker Meggitt Service Bulletin 1111475-25-001-2023, Revision 001, dated December 1, 2023.

(ii) Parker Meggitt Service Bulletin 1111548-25-001-2023, Revision 001, dated December 1, 2023.

(3) For service information identified in this AD, contact Parker Meggitt Services, 1785 Voyager Avenue, Simi Valley, CA 93063; phone 877-666-0712; email TechSupport@meggitt.com; website meggitt.com/services_and_support/customer_experience/update-on-buckle-assembly-service-bulletins.

(4) You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th Street, Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(5) You may view this material at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, visit www.archives.gov/federal-register/cfr/ibr-locations, or email fr.inspection@nara.gov.

Issued on February 12, 2024.

Victor Wicklund,
Deputy Director, Compliance & Airworthiness Division,
Aircraft Certification Service.

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