



## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2017-1059; Project Identifier 2017-CE-035-AD; Amendment 39-21335; AD 2020-24-05]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Piper Aircraft, Inc. Airplanes**

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

**ACTION:** Final rule.

**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for certain Piper Aircraft, Inc. (Piper) Models PA-28-140, PA-28-150, PA-28-160, PA-28-180, PA-28-235, PA-32-260, and PA-32-300 airplanes. This AD was prompted by reports of corrosion found in an area of the main wing spar not easily accessible for inspection. This AD requires inspecting the left and right main wing spars for corrosion, and, if corrosion is found, taking all necessary corrective actions. The FAA is 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 Piper Aircraft, Inc., 2926 Piper Drive, Vero Beach, Florida 32960; telephone: (772) 567-4361; internet: <https://www.piper.com>. You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 901 Locust, Kansas City,

Missouri 64106. For information on the availability of this material at the FAA, call (816) 329-4148. It is also available on the internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2017-1059.

### **Examining the AD Docket**

You may examine the AD docket on the internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2017-1059; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, any comments received, and other information. The address for Docket Operations 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:** Dan McCully, Aerospace Engineer, FAA, Atlanta ACO Branch, 1701 Columbia Avenue, College Park, Georgia 30337; telephone: (404) 474-5548; fax: (404) 474-5606; email: [william.mccully@faa.gov](mailto:william.mccully@faa.gov).

### **SUPPLEMENTARY INFORMATION:**

#### **Background**

The FAA issued a supplemental notice of proposed rulemaking (SNPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain serial-numbered Piper Models PA-28-140, PA-28-150, PA-28-160, PA-28-180, PA-28-235, PA-32-260, and PA-32-300 airplanes. The SNPRM published in the *Federal Register* on August 4, 2020 (85 FR 47118). The FAA preceded the SNPRM with a notice of proposed rulemaking (NPRM) that published in the *Federal Register* on November 7, 2017 (82 FR 51583).

The NPRM proposed to require installing inspection access panels in the lower wing skin near the left and the right main wing spars (if not already there), inspecting for corrosion, and taking all necessary corrective actions if corrosion is found. The NPRM was prompted by reports of significant corrosion found in an area of the main wing spar not easily accessible for inspection.

After the NPRM was issued, Piper revised its service information to add a minimum thickness dimension for the top inboard wing skin and to include procedures for reapplying corrosion preventive compound if removed during the inspection. Also, at the request of some commenters, the FAA replaced the proposal in the NPRM to install access panels for the visual inspection with optional access methods: the use of existing access panels, installation of access panels, accessing the area during a concurrent inspection, or using a borescope through existing holes or openings. In the SNPRM, the FAA proposed to inspect the left and right main wing spar for corrosion, and, if corrosion is found, take all necessary corrective actions.

Corrosion of the main wing spar, if not detected and corrected, could cause the main wing spar to fail with consequent loss of control of the airplane. The FAA is issuing this AD to address the unsafe condition on these products.

### **Comments**

The FAA received a comment from an individual commenter. The commenter supported the SNPRM without change.

### **Changes to the SNPRM**

The FAA has removed the proposed requirement in paragraph (g) of the SNPRM to clean the inspection area in accordance with the instructions in the service information. Operators who access the inspection area by a method other than the inspection panels may not have sufficient access to clean the area as described in the service information.

The FAA has added language to paragraph (h)(1) of the SNPRM to clarify that if corrosion exceeds the minimum allowable limit, the structure must be repaired using a method approved by the FAA office specified in this AD.

## **Conclusion**

The FAA reviewed the relevant data, considered the comment received, and determined that air safety requires adopting the AD as proposed with the clarification previously described. Accordingly, the FAA is issuing this AD to address the unsafe condition on these products.

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

The FAA reviewed Piper Service Bulletin No. 1304A, dated August 14, 2018 (Piper SB 1304A). The service bulletin contains procedures for installing an inspection access panel in the lower wing skin near the left and the right main wing spars, if not already there, inspecting for corrosion, and, if corrosion is found, taking all necessary corrective actions. The service bulletin also contains procedures for applying corrosion prevention and for verifying that the top inboard wing skin thickness meets or exceeds the minimum thickness after corrosion is removed. 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.

## **Differences Between this AD and the Service Information**

Piper SB No. 1304A provides the manufacturer's procedures for installing access panels on the lower skin of the left wing and the right wing for easier access to the left and right main wing spar. This AD does not require installing the access panels, but instead allows the installation as an option to access the inspection area.

In addition, Piper SB 1304A contains actions labeled "Required for Compliance" (RC), and the language in the service bulletin and in paragraph (j)(3) of this AD indicates that operators must comply with all actions labeled RC for compliance with this AD. However, this AD does not require all of the steps labeled as RC. Operators only need to comply with the RC steps called out in paragraphs (g) and (h) of this AD.

## **Costs of Compliance**

The FAA estimates that this AD affects 11,476 airplanes of U.S. registry.

The FAA estimates the following costs to comply with this AD:

### Estimated Costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Main wing spar inspection	2 work-hours X \$85 per hour = \$170 to inspect both wings	Not Applicable	\$170 per inspection cycle	\$1,950,920 per inspection cycle

### Optional Costs

Optional Action	Labor cost	Parts cost	Cost per product
Install inspection access panel in the lower wing skin near the left and the right main wing spars	6 work-hours X \$85 per hour = \$510 to install the inspection access panel on both wings	\$220 for the kit that contains provisions for installing inspections access panels on both wings	\$730

This AD does not require the installation of the access panels for the visual inspection; however, it allows the installation of the panels, as one of four options, to access the inspection area.

### On-Condition Costs

The extent of damage found during the required inspection could vary significantly from airplane to airplane. The FAA has no way of determining how much damage may be found on each airplane, the cost to repair damaged parts on each airplane, or the number of airplanes that may require repair.

### **Authority for this Rulemaking**

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

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

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

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

- (1) Is not a "significant regulatory action" under Executive Order 12866,
- (2) Will not affect intrastate aviation in Alaska to the extent that it justifies making a regulatory distinction, and
- (3) 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.

### **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:

2020-24-05 **Piper Aircraft, Inc.**: Amendment 39-21335; Docket No. FAA-2017-1059; Project Identifier 2017-CE-035-AD.

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

This airworthiness directive (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 the following Piper Aircraft, Inc. model airplanes that are certificated in any category:

Table 1 to paragraph (c) of this AD – Affected Models and Serial Numbers

Model	Serial Numbers
PA-28-140	28-20001 through 28-26946, and 28-7125001 through 28-7725290
PA-28-150 and PA-28-160	28-1 through 28-4377, and 28-1760A
PA-28-180	28-671 through 28-5859, 28-7105001 through 28-7205318, and 28-7305001 through 28-7505261
PA-28-235	28-10001 through 28-11378, 28-7110001 through 28-7710089, and 28E-11
PA-32-260	32-04, 32-1 through 32-1297, and 32-7100001 through 32-7800008
PA-32-300	32-15, 32-21, 32-40000 through 32-40974, and 32-7140001 through 32-7840222

**(d) Subject**

Joint Aircraft System Component (JASC)/Air Transport Association (ATA) of America Code 5711, Wing Spar.

**(e) Unsafe Condition**

This AD was prompted by reports of corrosion found in an area of the main wing spar not easily accessible for inspection. The FAA is issuing this AD to detect and correct corrosion in the wing root area of the left and the right main wing spars. Corrosion of the main wing spar, if not detected and corrected, could cause the main wing spar to fail with consequent loss of control of the airplane.

**(f) Compliance**

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

**(g) Inspect the Left and Right Main Wing Spars for Corrosion**

Within the next 100 hours time-in-service (TIS) after the effective date of this AD or within the next 12 months after the effective date of this AD, whichever occurs first, and thereafter at intervals not to exceed 7 years, inspect the forward and aft surfaces of the left and right main wing spars between wing station (WS) 24.24 and WS 49.25 for corrosion as follows.

(1) Gain visual access to the inspection area by complying with either paragraph (g)(1)(i), (ii), (iii), or (iv) of this AD.

Note 1 to paragraph (g)(1) of this AD: Step 1 and figure 1 in Part I Wing Spar Inspection of Piper Aircraft, Inc. Service Bulletin No. 1304A, August 14, 2018 (Piper SB

No. 1304A), contain instructions you may use for identifying the inspection area and determining if wing access panels have been installed.

(i) Remove existing wing inspection access panels and fairings.

(ii) Install Inspection Access Hole Kit part number 765-106V, and then remove the wing inspection access panels and fairings.

(iii) Access the inspection area during concurrent maintenance such as a wing tank removal, wing removal, or wing skin repair.

(iv) Use a lighted borescope capable of 10X or higher power magnification display through existing access points (e.g., wing root fairing, landing gear panels, internal lightening holes, or other access points depending on model).

(2) Identify the wing spar configuration for your airplane in accordance with table 1 and figure 2 (sheets 1 and 2) in Part I Wing Spar Inspection of Piper SB No. 1304A. Visually inspect each spar component for evidence of corrosion, including irregularities such as blisters, flakes, chips, lumps, bulging skin, and missing rivets.

Note 2 to paragraph (g)(2) of this AD: Paint coatings may mask the initial stages of corrosion, and faying surfaces, such as riveted lap joints, may hide corrosion.

#### **(h) Corrective Actions**

(1) If any evidence of corrosion is found during any inspection required by paragraph (g) of this AD, before further flight, remove the corrosion and determine whether the thickness of the component meets or exceeds the minimum thickness at all locations in accordance with table 2 and step 5 in Part I Wing Spar Inspection of Piper SB No. 1304A. If the thickness of the component at any location is less than the minimum thickness specified in table 2 of Part I Wing Spar Inspection of Piper SB No. 1304A, before further flight, repair the structure in accordance with a method approved by the Manager, Atlanta ACO Branch, FAA. For a repair method to be approved by the Manager, Atlanta ACO Branch, as required by this paragraph, the Manager's approval letter must specifically refer to this AD.

(2) If corrosion preventative compound was removed as part of any inspection required by paragraph (g) of this AD, before further flight, apply corrosion preventative compound by following step 1 in Part III Return to Service of Piper SB No. 1304A.

**(i) Credit for Actions Done Following Previous Service Information**

This paragraph provides credit for the initial inspection and application of corrosion preventative compound required by paragraphs (g) and (h)(2) of this AD if you performed the inspection before the effective date of this AD using Piper Aircraft, Inc. Service Bulletin No. 1304, dated August 23, 2017, and no evidence of corrosion was found.

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

(1) The Manager, Atlanta 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) of this AD.

(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) For service information that contains steps that are labeled as required for Compliance (RC), the following provisions 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. 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**

For more information about this AD, contact Dan McCully, Aerospace Engineer, FAA, Atlanta ACO Branch, 1701 Columbia Avenue, College Park, Georgia 30337; telephone: (404) 474-5548; fax: (404) 474-5606; email: [william.mccully@faa.gov](mailto:william.mccully@faa.gov).

**(I) 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) Piper Aircraft, Inc. Service Bulletin No. 1304A, August 14, 2018.

(ii) [Reserved]

(3) For Piper Aircraft, Inc. service information identified in this AD, contact Piper Aircraft, Inc., 2926 Piper Drive, Vero Beach, Florida 32960; telephone: (772) 567-4361; internet: <https://www.piper.com>.

(4) You may view this service information at FAA, Airworthiness Products Section, Operational Safety Branch, 901 Locust, Kansas City, Missouri 64106. For information on the availability of this material at the FAA, call (816) 329-4148.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email: [fedreg.legal@nara.gov](mailto:fedreg.legal@nara.gov), or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued on November 13, 2020.

Lance T. Gant, Director,  
Compliance & Airworthiness Division,  
Aircraft Certification Service.

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