Piper Aircraft, Inc.
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Vero Beach, FL, U.S.A. 32960

SERVICE NO. 1379B BULLETIN

PIPER CONSIDERS COMPLIANCE MANDATORY

Date: May 7, 2024 (S)

Service Bulletin (SB) 1379B supersedes SB 1379A in its entirety. Aircraft that were previously made compliant with SB 1379A are in compliance with SB 1379B.

SUBJECT: **RUDDER INSPECTION**

REASON FOR REVISION: To revise models and serial numbers affected.

MODELS AFFECTED:	**SERIAL NUMBERS AFFECTED**:
J-2 Cub	ALL
J-3/L-4/NE-1/NE-2 Cub	ALL
J-4 Cub Coupe	4-400 thru 4-1649
PA-11/L-18B Cub Special	11-1 thru 11-1353
PA-15 Vagabond	15-1 thru 15-388
PA-16 Clipper	16-1 thru 16-736
PA-16S Clipper Seaplane	16-1 thru 16-736
PA-17 Vagabond	17-1 thru 17-215
PA-18/-18A/-19/L-18C/L-21A/L-21B Super Cub	18-1 thru 18-9015, 18-7309016 thru 18-8309025, 1809002 thru 1809113, 19-1 thru 19-3
PA-20 Pacer	20-1 thru 20-1121
PA-22 Tri-Pacer	22-1 thru 22-533
PA-22-135 Tri-Pacer	22-534 thru 22-2377, 22-2379 thru 22-2424
PA-22-150/-160 Tri-Pacer	22-2378, 22-2425 thru 22-7642
PA-22-108 Colt	22-8000 thru 20-9848

COMPLIANCE TIME: To coincide with the next regularly scheduled maintenance event, but not to exceed the next 100 hours time in service.

APPROVAL: The engineering aspects of this service document have been shown to comply with the applicable Federal Aviation Regulations and are FAA approved.

ATA/JASC: 5540

(OVER)

PURPOSE:

Rudders installed on the affected aircraft may have a rudder post manufactured from American Iron and Steel Institute (AISI) 1025 carbon steel. Over time, rudder posts manufactured from 1025 steel are prone to fatigue failure, which could lead to loss of control of the aircraft.

If it cannot be confirmed that the rudder post is made of 4130N steel, this service bulletin mandates the replacement of the rudder with one that is known to contain a rudder post made from 4130N steel.

INSTRUCTIONS:

NOTE: Instructions contained within this service bulletin apply only to genuine Piper parts. Piper has no knowledge of the materials or manufacturing processes used by STC (Supplemental Type Certificate) or PMA (Parts Manufacturer Approval) holders that manufacture replacement parts for Piper products. Contact the component manufacturer for guidance.

NOTE: Replacement parts for affected aircraft may no longer be available from Piper.

NOTE: Early Piper Aircraft models were certified under CAR 3 rules and there is no regulatory requirement for a manufacture's maintenance manual. For aircraft models that do not have an Airplane Maintenance Manual (AMM) or Service Manual (SM), Piper recommends the use of AC 43-13-1B (or latest revision). See also "Civil Aeronautics Manual 18".

The affected aircraft will fall into one of the following categories:

- For aircraft with an airworthiness certificate issued prior to June 3rd, 1974, these aircraft were delivered from the factory with a rudder post made from 1025 steel. If a complete service history exists and it can be confirmed that the original rudder is still installed, proceed to Part II. Otherwise, proceed to Part I.
- For aircraft with an airworthiness certificate issued on or after June 3rd, 1974, these aircraft were delivered from the factory equipped with a rudder post made from either 1025 steel or 4130N steel. At owner/operator discretion, proceed to Part I. Otherwise, proceed to Part II.
- Aircraft equipped with a rudder of unknown or incomplete service history may have a rudder post made from either 1025 steel or 4130N steel. For these aircraft, the type of steel alloy used in the manufacture of the rudder post cannot be determined by visual inspection. At owner/operator discretion, proceed to Part I. Otherwise, proceed to Part II.

Part I. Inspection

Instructions in Part I are at owner/operator discretion. If Part I is not accomplished, proceed to Part II.

NOTE: As an alternative to the acid test method described in this service bulletin, a portable X-ray Fluorescence (XRF) analyzer may be used to determine the alloy used in the rudder post. Follow device manufacturer's instructions.

1. Remove the rudder from the aircraft and place on a flat horizontal work surface.
2. Mark the location along the rudder post according to Table 1. Remove fabric covering to reveal a 3–5 inch length of rudder post tube. Using 220-grit or finer abrasive paper, remove paint, primer and any visible corrosion, to achieve a bare metal surface free of contamination.
3. Solvent wipe area with isopropyl alcohol or acetone to remove any debris. Allow solvent to evaporate.
4. Obtain a small quantity of Certified ACS nitric acid (70% v/v). One possible source is Fisher Scientific under Catalog No. A200-500.

   NOTE: Thoroughly review the nitric acid Safety Data Sheet (SDS) that is supplied by the chemical manufacturer. Don all required personal protective equipment (PPE) and ensure all exposure controls are in place prior to performing the nitric acid test below.

   WARNING: NITRIC ACID IS HIGHLY CORROSIVE AND TOXIC. IT CAN CAUSE SERIOUS EYE AND/OR SKIN DAMAGE. IN CASE OF ACCIDENTAL RELEASE, DO NOT BREATHE VAPORS OR AEROSOLS. AVOID SUBSTANCE CONTACT.

   CAUTION: BEFORE CONDUCTING THE TEST, PREPARE A BAKING SODA PASTE TO NEUTRALIZE THE ACID AND ENSURE WATER IS AVAILABLE TO CLEAN THE RUDDER POST.

5. Apply one drop of the 70% nitric acid onto the surface of the part. Do not allow nitric acid to drip/run. Observe the drop for a reaction, which, if it occurs, will be immediate.
   - If the drop remains clear, the rudder post is made from 4130N steel. No replacement interval applies. Proceed to step 6.
   - If the drop turns a yellowish orange or brown, the rudder post is made from 1025 steel. In this configuration, the rudder is subject to a replacement interval. Proceed to Part II.

   NOTE: Regardless of findings, neutralize the drop of acid using a baking soda paste, followed by a clean water rinse and drying. Any unused waste nitric acid must be disposed of in accordance with the national and local regulations.
6. Finish all bare metal surfaces as follows: Apply primer that conforms to MIL-PRF-85582 Type 1 Class C2, or any one of the primers listed in Table 1. Follow with a top coat of Axalta Imron paint, or other compatible paint.
7. Repair the portion of the fabric covering that was removed to accomplish this inspection.
8. Reinstall the rudder onto the aircraft.
9. Perform a functional check on any systems that were disturbed during this inspection.
10. Make a logbook entry documenting compliance with Part I of this service bulletin, specifically stating the results of this inspection.

Part II. Replacement

1. Replace the rudder with a rudder that is known to contain a rudder post made from 4130N steel.
2. Make a logbook entry documenting compliance with Part II of this service bulletin.

TABLE 1

ACCEPTABLE EPOXY PRIMERS

Piper Part No.	Vendor Product Name	Vendor Product Number
279-179	PPG Aerospace PRC-DeSoto	EWDE072A/B
279-506	AkzoNobel Aerospace Coatings	10P8-10NF / EC-283
279-108	AkzoNobel Aerospace Coatings	10P30-5 / EC-275
279-359	Deft Inc.	44GN036

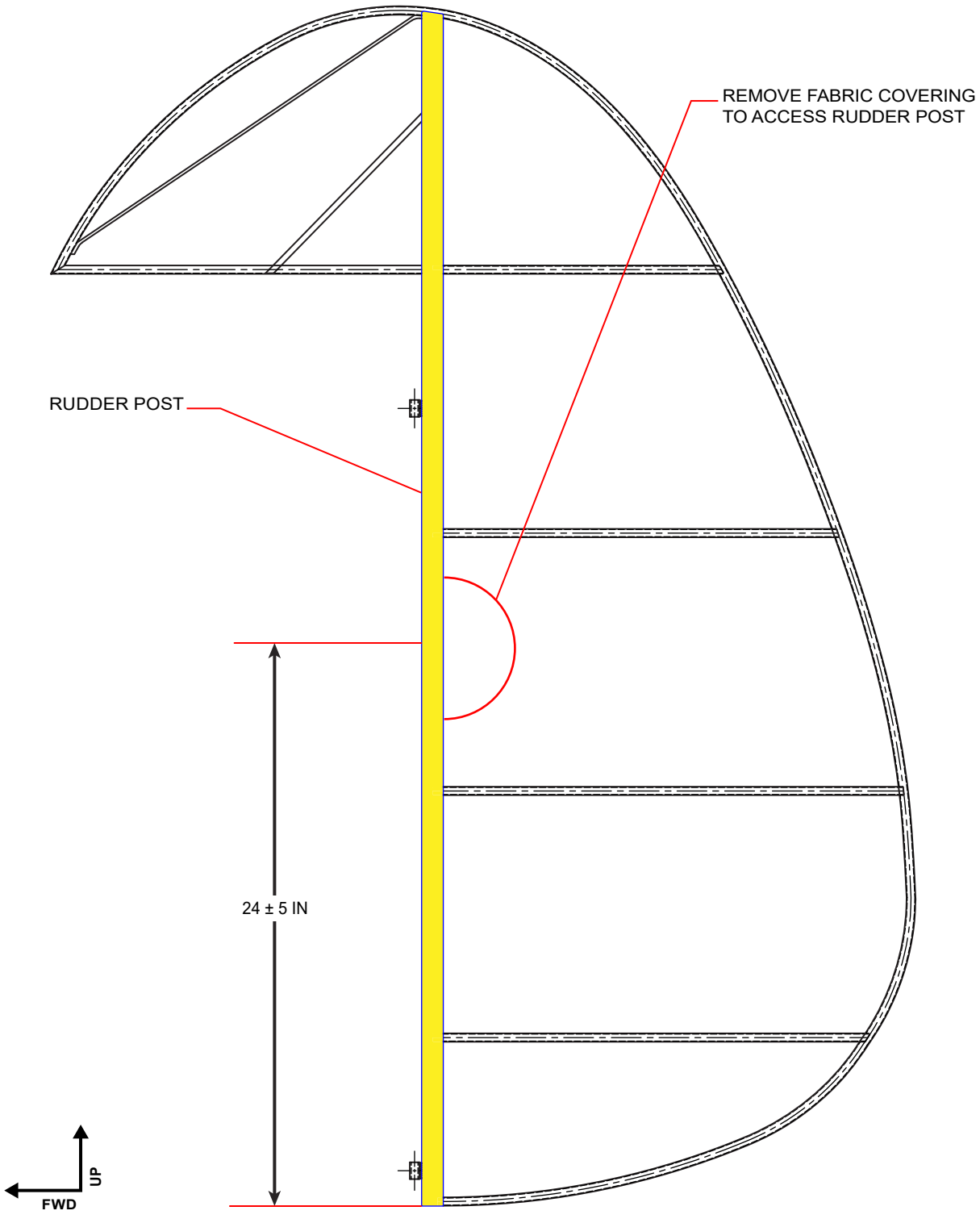

Figure 1
Rudder Assembly

MATERIAL REQUIRED: One (1) each, Rudder Assembly, per applicable specifications, per aircraft

EFFECTIVITY DATE: This service bulletin is effective on May 14, 2024.

SUMMARY: Please contact your Piper Approved Service Center to make arrangements for compliance with this service bulletin in accordance with the compliance time indicated.

NOTE: Please notify the factory of any address/ownership corrections. Changes should include aircraft model, serial number, and current owner's name and address.

Corrections and/or changes should be directed to:

PIPER AIRCRAFT, INC.
Attn: Customer Service
2926 Piper Drive
Vero Beach, FL 32960
or:
CustomerService@piper.com
Please include in subject line: "Aircraft ownership update"