



Piper Aircraft, Inc.
2926 Piper Drive
Vero Beach, FL, U.S.A. 32960

SERVICE NO. 1357 BULLETIN

PIPER CONSIDERS COMPLIANCE MANDATORY

Date: October 27, 2020

(S)

SUBJECT:

**WING RIB INSPECTIONS AT WS 106.19 AND
WS 123.15**

MODELS AFFECTED:

PA-28-151 Warrior
PA-28-161 Cadet
PA-28-161 Warrior II

PA-28-161 Warrior III
PA-28-181 Archer II

PA-28-181 Archer III

PA-28-201T Turbo Dakota
PA-28-236 Dakota

PA-28R-201 Arrow III

PA-28R-201T Turbo Arrow III

PA-28RT-201 Arrow IV
PA-28RT-201T Turbo Arrow IV

SERIAL NUMBERS AFFECTED:

28-7415450 through 28-7715314
2841001 through 2841365
28-7716001 through 28-8216300; 28-8316001 through
28-8616057; 2816001 through 2816109
2816110 through 2816119; 2842001 through 2842420
28-7690001 through 28-8690056; 28-8690061,
28-8690062; 2890001 through 2890205
2890206 through 2890231; 2843001 through 2843949;
2881001 through 2881263
28-7921001 through 28-7921095
28-7911001 through 28-8611008; 2811001 through
2811050
28R-7737002 through 28R-7837317; 2837001 through
2837061; 2844001 through 2844182
28R-7703001 through 28R-7803374; 2803001 through
2803012
28R-7918001 through 28R-8218026
28R-7931001 through 28R-8631005; 2831001 through
2831038

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.

PURPOSE:

Some of the affected airplanes may have wing ribs that were fabricated in such a manner that they may develop cracks in the forward edge of the web. This service bulletin provides instructions for a one-time inspection of wing ribs at wing station (WS) 106.19 and WS 123.15 for cracks. Left undetected, a crack in a wing rib could propagate to a critical length, potentially resulting in the structural failure of the wing and loss of control of the aircraft.

ATA/JASC: 5712

(OVER)

INSTRUCTIONS:

WARNING: FLIGHT WITH KNOWN CRACKS IN THE AIRCRAFT STRUCTURE IS NOT PERMITTED.

WARNING: ANY CRACKS DISCOVERED IN THE AIRCRAFT STRUCTURE MUST BE REPAIRED PRIOR TO THE NEXT FLIGHT. AN AIRPLANE WITH A CRACK IN THE STRUCTURE DOES NOT MEET ITS TYPE DESIGN AND NO LONGER POSSESSES ITS REQUIRED TYPE DESIGN STRENGTH.

NOTE: The following instructions apply to both left and right wings.

NOTE: Temporary removal of adjacent access plates and inspection panels will facilitate this inspection.

There are two types of inspections described in this service bulletin: an initial inspection and a detailed inspection.

- The initial inspection is to determine the rib configuration, and is applicable to all wing ribs at WS 106.19 and WS 123.15. The initial inspection can be accomplished with the naked eye, a mirror and a suitable light source.
- The detailed inspection is to inspect for cracks, and is applicable only on condition based upon the findings of the initial inspection.

NOTE: Prior to any detailed inspection, wipe surfaces clean using a soft cloth dampened with isopropyl alcohol, mineral spirits, naphtha, or other suitable cleaning agent.

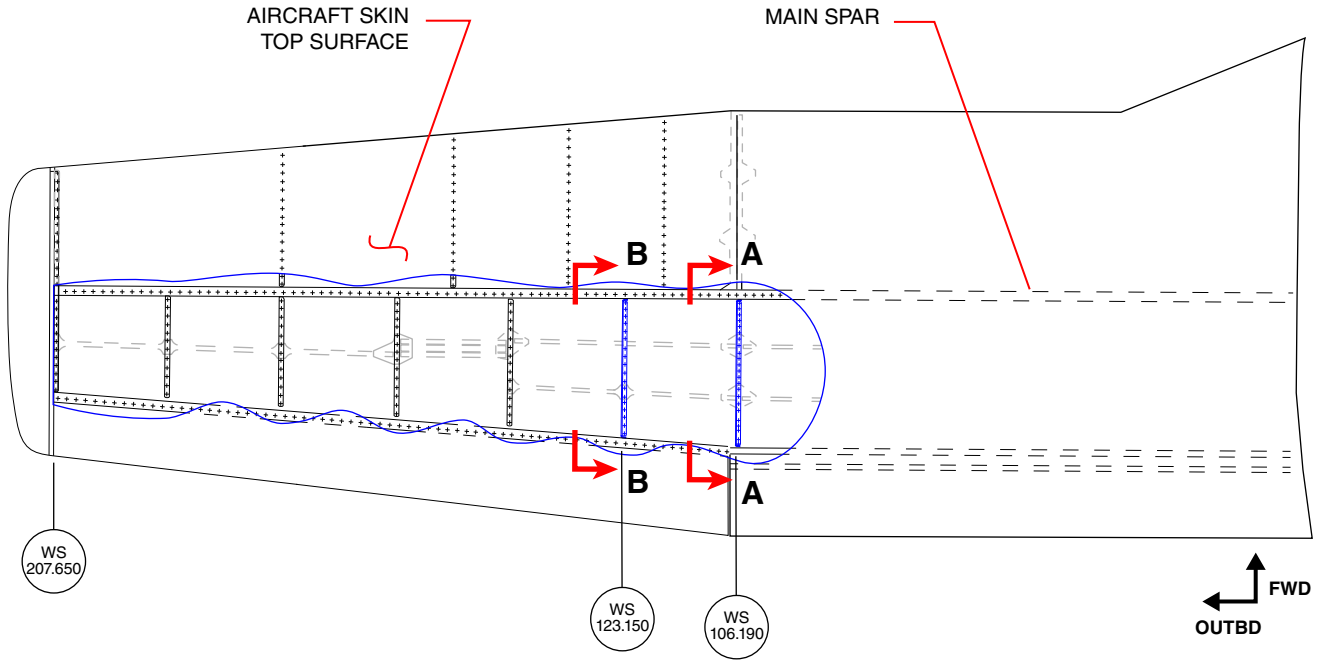
- The detailed inspection described in this service bulletin shall be accomplished using a 10X magnifier, a mirror and a suitable light source, or other equipment capable of providing equal or better resolution.
- Optionally, instead of the above inspection, perform a fluorescent penetrant inspection on the outboard surface of wing ribs, at the areas of inspection identified in Figure 1, View A–A and View B–B, using guidance from FAA Advisory Circular AC 43.13-1B, Chapter 5, Section 5, “Acceptable Methods, Techniques, and Practices – Aircraft Inspection and Repair.”

1. Gain visual access to the outboard face of the wing ribs at WS 106.19 and WS 123.15, which are located aft of the main wing spar. Refer to Figure 1.
2. Locate the area of inspection, identified in Figure 1, Views A–A and B–B and perform an initial inspection, to determine the rib configuration.
 - If the web of the rib is flat (that is, it's a planar surface), then no further inspection of the specific rib is required. Continue with the initial inspections of the remaining ribs.
 - If the web of the rib includes one or more fluting features, such as those shown in Figure 2, then a detailed inspection is required. Inspect for cracks, with emphasis on the bend radii of the fluting features.
 - If no cracks are discovered, continue with the initial inspections of the remaining ribs.
 - If any crack is discovered, repair or replace the damaged parts prior to next flight.

Upon completion of all initial inspections (and on condition, detailed inspections and/or repairs), proceed to Step 3.

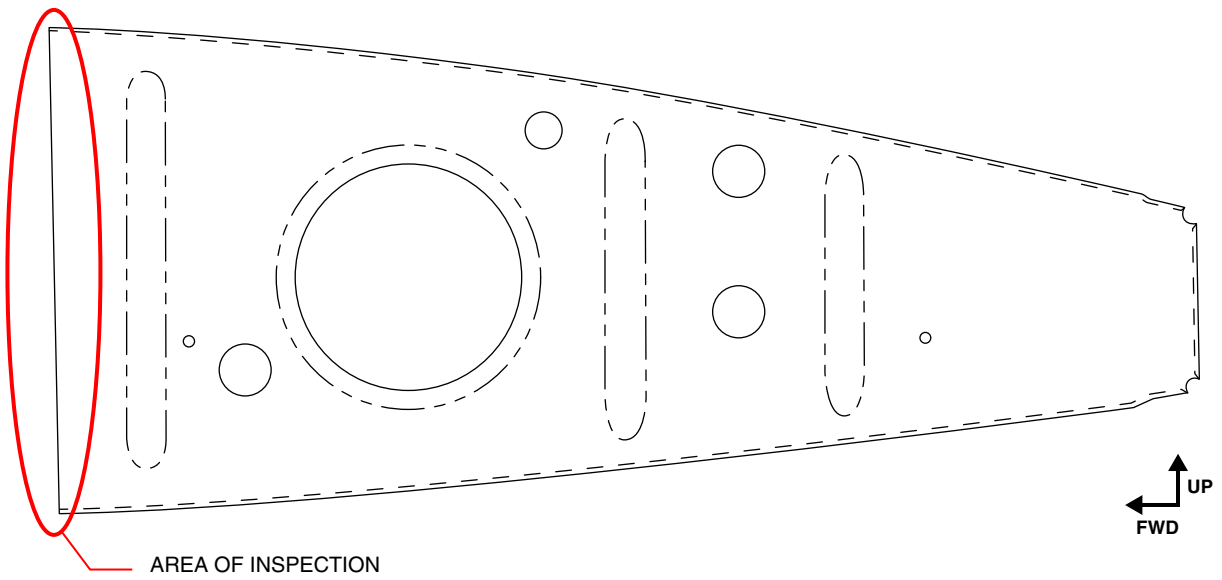
NOTE: At the discretion of the owner/operator, contact Piper for repair guidance. Piper Customer Service can be reached at (+1) 772-299-2141 or CustomerService@piper.com. Piper's normal business hours are Monday through Friday, 7:30 a.m. to 4:30 p.m. (Eastern).

3. Perform a functional check on any systems that were disturbed during this inspection.
4. Make a logbook entry documenting compliance with this service bulletin.



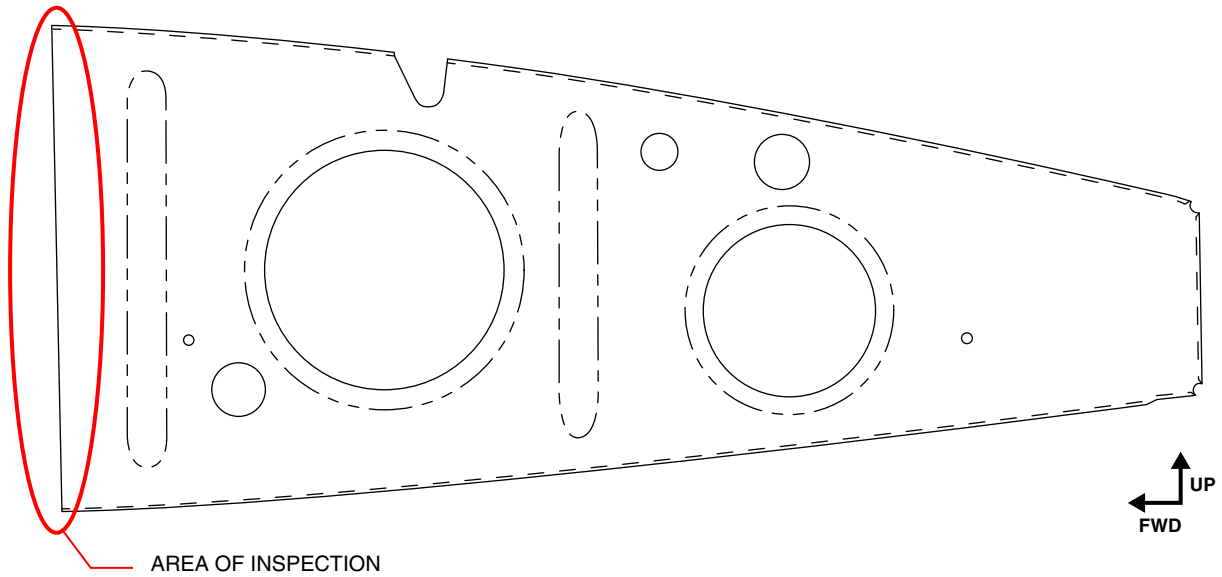
WING
LOOKING DOWN
LEFT WING SHOWN (RIGHT WING OPPOSITE)

Figure 1 – Sheet 1 of 2
Wing Rib Inspection Locations



VIEW A-A

LOOKING INBOARD
RIB AT W.S. 106.190

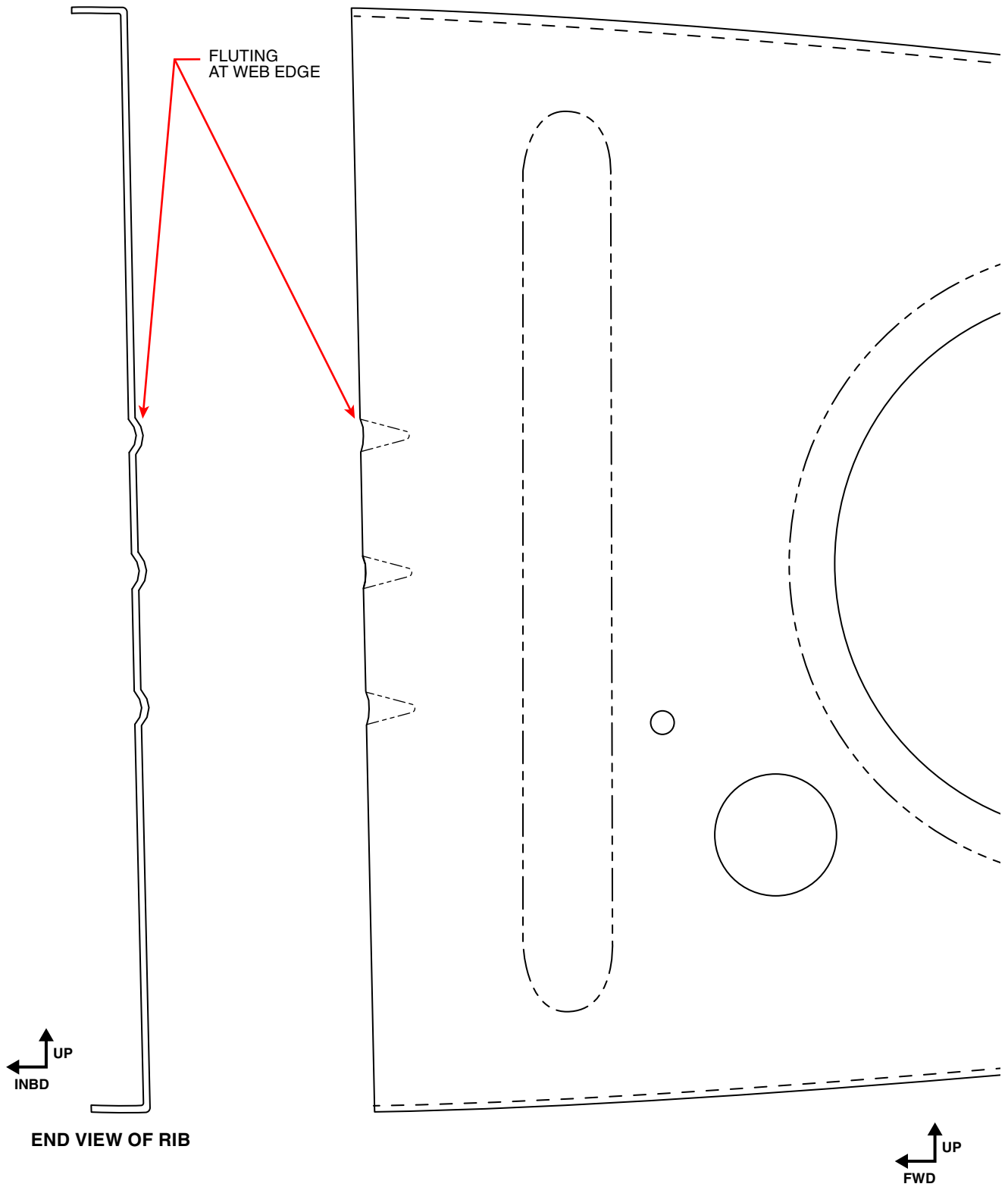


VIEW B-B

LOOKING INBOARD
RIB AT W.S. 123.150

(ADJACENT COMPONENTS OMITTED FOR CLARITY IN BOTH VIEWS)

Figure 1 – Sheet 2 of 2
Wing Rib Inspection Locations



TYPICAL VIEW OF AREA OF INSPECTION
CONFIGURATION SHOWN REQUIRES A DETAILED INSPECTION

Figure 2
Wing Rib Assembly with Fluting

MATERIAL REQUIRED: On condition, and at the discretion of the owner/operator, based upon the findings of the inspection in this service bulletin, any applicable ribs or rib assemblies. Refer to the applicable Piper Airplane Parts Catalog for the applicable aft wing ribs, as required, for example:

- Rib – Sta. 106.19
- Rib – Sta. 123.15

AVAILABILITY OF PARTS: Your Piper Approved Service Center

EFFECTIVITY DATE: This service bulletin is effective upon receipt.

SUMMARY: Applicable factory participation is limited to new aircraft in warranty at the time of compliance. Factory participation will remain in effect for a period of time not to exceed 180 days from the date of this service bulletin.

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.
Att'n: Customer Service
2926 Piper Drive
Vero Beach, FL 32960

or:

CustomerService@piper.com

Please include in subject line: "Aircraft ownership update"