



U.S. Department
of Transportation
**Federal Aviation
Administration**

Aircraft Certification Service
Compliance & Airworthiness Division

Atlanta ACO Branch
1701 Columbia Ave.
College Park, Georgia 30337

May 9, 2018

In reply, refer to FAA Correspondence #: 7A0-18-4944

Mr. Thomas E. Anderson
5401 Crooked Tree Dr.
Mason, OH 56040

Subject: Alternative Method of Compliance (AMOC) to Airworthiness Directive (AD) 2015-08-04.

Dear Mr. Anderson:

The Federal Aviation Administration (FAA) has received your letter dated May 1, 2018 proposing a Global AMOC to paragraphs (h)(1) and (h)(2) of Airworthiness Directive (AD) 2015-08-04.

The Atlanta ACO approves your proposal to use the borescope procedure outlined in the above AMOC request letter to meet the inspection requirements of paragraphs (h)(1) and (h)(2) of AD 2015-08-04. This AMOC applies to aircraft models listed in paragraph (c) "applicability" of AD 2015-08-04.

This FAA AMOC is transferable with the aircraft to another owner/operator.

Before using this AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local Flight Standards District Office/Certificate Holding District Office.

The preceding paragraph also applies to any applicable foreign-registered aircraft upon transfer of the aircraft to the U.S. registry if compliance with the AMOC has not been accomplished.

All provisions of AD 2015-08-04 that are not specifically referenced above remain fully applicable and must be complied with accordingly.

If you have any questions, please contact Dan McCully at 404-474-5548 or william.mccully@faa.gov.

Sincerely,

FOR

Christina M. Underwood
Manager, Atlanta ACO Branch

Thomas E. Anderson
5401 Crooked Tree Dr.
Mason, Ohio 56040
Phone 513-398-2656

May 1, 2018

Christina Underwood
Manager, Atlanta ACO
1701 Columbia Avenue
College Park, GA 30337

RE: AMOC for AD 2015-08-04

Dear Ms. Underwood

The purpose of this letter is to propose a general Alternate Means of Compliance (AMOC) for AD 2015-08-04 Paragraphs (h)(1) and (h)(2). Paragraph (f) and Paragraph (h) requires inspection of Piper wing lift struts for corrosion in accordance with the instructions in Piper Service Bulletin (SB) 528D, dated October 19, 1990, or Piper SB 910A, dated October 10, 1989, as applicable, at intervals not to exceed 2 calendar years except for struts modified per STC SA4635NM which must be inspected every 60 months per paragraph (i)(3). The Service Bulletins specify that the lower 11 inches of the top and bottom surfaces on all wing lift struts be "punch" tested every 1/4 inch using the Maule "Fabric Tester." AD 2015-08-04 paragraph (h)(2) also allows ultrasonic inspection of the struts per the Appendix to the AD.

This proposed AMOC requests that a visual method of inspection be allowed using an appropriate light source to illuminate the inside of the strut after removal of the strut fork, or, the use of an appropriate boroscope to view and inspect the inside surfaces of the strut for corrosion. If no corrosion is found, the strut shall be considered airworthy. If corrosion is found, the requirements of paragraph (h)(1) or (h)(2) shall be followed.

When performing a visual inspection this AMOC recommends that a light source with an illumination output of 75 lumens minimum be used to illuminate the interior of the strut. The illumination source must be small enough to fit through the 3/8 in. dia. strut fork hole in the bottom of the strut and have long enough leads to permit illuminating the lower 11 inches of the strut. A 2040 T2.25 wedge base miniature bulb that put out 132 lumens can be adapted to fit through the threaded fork port of the original struts and when assembled with long leads and attached to 1/16 dia. welding rod works well for the visual inspection allowing sufficient space around the leads to view the strut interior. Other bulbs may work as well. More bulb options are available for inspecting struts that have been modified with the F. Atlee Dodge STC SA4635NM which has a 7/8 in. dia. strut port.

When performing a boroscope or video scope inspection this AMOC permits boroscope inspection of the strut interior. The boroscope probe must be small enough to fit through the 3/8 in. threaded hole in the bottom of the strut and provide enough illumination to view the interior surfaces. An Oasis Scientific Inc. Vividia VA 400 HD Ablescope with a 3.5mm diameter probe and an articulated tip works well for inspecting original or modified struts. Other boroscopes / videoscopes may work as well as long as they are small enough in diameter and provide sufficient illumination to see the interior surfaces. More boroscope / videoscope options are available for inspecting struts that have been modified with the F. Atlee Dodge STC SA4635NM which has a 7/8 in. dia. strut port.

The following inspection procedures are proposed as part of this AMOC.

1. Disconnect the lift struts and remove the lift strut fork assemblies (noting the rod end distance for rerigging).
2. Inspect forks, clamps, hardware, fairleads and jury struts for condition and replace as necessary per AD 2015-08-04.
3. Turn each lift strut upside down and tap gently to remove any debris or corrosion particles. Drain out any oil and/or water that may have accumulated in the strut. Some struts may have oil that has congealed in the lower end of the strut and it may be necessary to use a wire to dig oil out.
4. Prepare the light probe or the boroscope / videoscope for the inspection
5. Place upper outboard end of strut on the shop floor and raise the other end up so as to place the strut in approximately a 30° slanting position if using the light probe or an optical boroscope for the inspection. If using a video scope for the inspection the strut can be placed on a level surface.
6. Insert the inspection light into the end of strut and slowly move it in and out 12 to 16 inches. Inspect for corrosion on the inside of the strut wall.
7. If no corrosion is found, treat (corrosion impediment) each strut per Piper SB 528D or SB 910A, as applicable; return strut to service; and reinspect at intervals specified in AD 2015-08-04. If any corrosion is found, remove/clean-up the corrosion particles and assess the amount of material loss by performing the Maule punch test on the strut as specified by AD 2015-08-04, or performing the ultrasonic inspection as specified by AD 2015-08-04 prior to further flight. If uniform surface corrosion is found on the lower 11 inches inspected and no rust (scale) particles or pitting are detected, the corrosion on at least the lower six inches of the strut wall shall be removed/cleaned-up and the amount of material loss assessed by performing the Maule punch test on the strut as specified by AD 2015-08-04, or performing the ultrasonic inspection as specified by AD 2015-08-04. If the strut wall thickness in any location is equal to or less than .024 inch after the corrosion removal process, the strut shall be replaced prior to further flight in accordance with paragraph (i) AD 2015-08-04. If the strut wall thickness is found to be greater than .024 inch after the corrosion removal process and thickness assessment, treat (corrosion impediment) the applicable strut as specified in SB 528D or 910A, as applicable, and reinspect at intervals specified in AD 2015-08-04.

8. Reinstall the lift strut fork assemblies, reconnect the struts, and rig per SB 528D or SB 910A, as applicable.
9. Record the following documentation in the logbook in addition to the maintenance record entry required by FAR Part 43:
 - a. Equipment used for inspection, including any tools for corrosion removal or for material thickness measurement; and
 - b. Summary of results/findings.