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DATE: 25 SEP 2020

SUBJECT: Stabilizer Support Assembly

**REVISION: C**

**AIRCRAFT MODELS AFFECTED: A-1, A-1A, A-1B, A-1C-180 & A-1C-200**

**ALL AIRCRAFT SERIAL NUMBERS ARE AFFECTED**

***(CERTIFIED IN ANY AIRWORTHINESS CATEGORY)***

**PURPOSE**

To inform aircraft owners and operators of the affected aircraft models and serial numbers listed above of a **Mandatory Requirement** to perform an inspection of the Stabilizer Support Assembly.

**DESCRIPTION**

The stabilizer support assembly, part numbers 35086-501 or 38086-501, are attached to the fuselage structure with AN bolts and serves as one attachment point for the horizontal stabilizer assembly.

Aviat Aircraft Inc. has received reports from the field involving broken stabilizer support assemblies. The broken stabilizer support assemblies were discovered during pre-flight inspections of the aircraft. Aircraft involved had more than 1200 hours of operating time.

**COMPLIANCE**

"Inspect the stabilizer support assembly for cracks per paragraph (f) of AD 2020-16-06".

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**\*NOTE:**

- Only FAA certified mechanics are to perform the instructions in this service bulletin.
- It is the responsibility of owner/operator to have only FAA certified mechanics perform this work.
- Complete and send Aviat Aircraft, Inc. the compliance letter to the address provided.

**ACCOMPLISHMENT INSTRUCTIONS**

Step 1. An FAA authorized mechanic must perform this aircraft inspection to determine if the stabilizer support assembly is broken or has cracks that could lead to a failure.

Step 2. Locate the stabilizer support assembly as shown in figure 1. The use of illustrated parts catalog (IPC) section on tail surface installation can be helpful with disassembly and reinstallation.



Figure 1, Stabilizer Support Assembly, fabric removed for clarity. Tube 30800-111



Figure 2, Inspection access hole cover LH side

Step 3. Remove adjacent inspection hole cover located just behind and below the horizontal stabilizer assembly leading edge. There are inspection holes on both right and left sides of the fuselage. Either hole can be used to gain access to the stabilizer support assembly. See figure 2.

To remove the hole cover, remove two PK screws and slide the hole cover forward to release the mounting tabs on the back side of the hole cover. With the hole cover removed you will have access to the stabilizer support assembly mounted to the fuselage.



Figure 3 Uncut inspection ring

If the inspection ring is not cut out as shown in figure 3 then the inspection ring will need to be cut out to gain access to inspect the stabilizer support assembly.



Figure 4, Cut out inspection ring

To cut out the inspection ring, use a sharp knife such as an exacto knife and cut out the inside portion of the inspection ring as shown in figure 4. An inspection hole cover P/N 61659 and mounting screws P/N 59146 x 2 can be purchased from Aviat Aircraft Inc.

The stabilizer support assembly does not need to be removed to perform the required inspection. With visual aids such as light and a mirror or a borescope, inspect the stabilizer support assembly for cracks in the large tube portion of the assembly.



Figure 5, Typical crack location

Cracks reported originated at the toe of the welded bushings, see figure 5.

Inspect both the right end, left end, and the forward and rear sides of the stabilizer support assembly tube in the area shown in figure 5 for the presence of cracks.

If no signs of a broken or cracked stabilizer support assembly is discovered during the inspection replace the inspection hole cover in reverse order as removed or install a new hole cover and record this initial inspection in the aircraft's logbook. Complete and return the compliance letter to Aviat Aircraft Inc. at the address provided.

If a broken or cracked stabilizer support assembly is discovered during this inspection, it must be replaced. The following pages of this service bulletin describes the removal and replacement of the stabilizer support assembly.



Figure 6, Tail fairings removed and AN3 attach bolts shown

Step 4. To replace a stabilizer support assembly, start by removing the stabilizer tail fairings. Horizontal stabilizer tail fairings are located on the top and the bottom of the horizontal stabilizers at the fuselage. See figure 6.

To remove the tail fairings top and bottom, remove the PK screws holding the fairings to the horizontal stabilizers.



Figure 7, Stabilizer strut assembly

Next remove the stabilizer strut assemblies from the horizontal stabilizers and fuselage.



Figure 8

Step 5. Remove the AN4 bolt holding the elevator assembly to the horizontal stabilizer. See figure 8. *Note: elevators must be supported from the bottom side as the elevators are still attached to the control system.* Next remove the two AN3 bolts holding each horizontal stabilizer to the fuselage. See figure 6. The horizontal stabilizers can now be removed from the fuselage by pulling them off the mounting tube at the fuselage.



Figure 9, AN4 Bolts, fabric removed for clarity

Step 6. With the inspection hole cover opened, the horizontal stabilizers taken off and the elevators supported, remove the two AN4 bolts attaching the stabilizer support assembly to the fuselage. See figure 9.

For removal of the stabilizer support assembly a small amount of glued fabric may need to be removed around each side of the stabilizer support assembly as it exits the fuselage. Additionally, a small slit in the fabric directly above and below the stabilizer support assembly, approximately ¼ inch long may aid in the removal. Remove the stabilizer support assembly by sliding it out of the fuselage on the right or left side.

Step 7. Once the stabilizer support assembly is removed verify the P/N as 35086-501 or 38086-501 located on each assembly. See figure 10. The stabilizer support assembly must be replaced with the same P/N as the removed assembly.





Figure 10, Stabilizer Support Assemblies

Step 8. *Note: All self-locking nuts must be replaced during re installation and all nuts should be installed using the torques as specified by AC 43.13.* Install the new stabilizer support assembly first by sliding the assembly back into place and install the AN4 bolts with a washer below the nut and tighten. If fabric was removed or slit to aid in the removal of the stabilizer support assembly, it must be repaired in accordance with AC 43.13.

Step 9. With the new stabilizer support assembly installed in the fuselage the horizontal stabilizers can be reinstalled. Slide the horizontal stabilizer assembly back on to the fuselage tube in the rear and onto the newly installed stabilizer support assembly and attach with the two removed AN3 bolts and tighten. Next install the removed AN4 bolt at the elevator hinge location and tighten. Reinstall the stabilizer strut assembly and tighten hardware.

Step 10. Verify the tail rigging in accordance with section 1 of the latest revision of the applicable Instructions for Continued Airworthiness (ICA).



Figure 11

Step 11. If an inspection ring was cut out to perform this inspection a new hole cover must be installed. To install a new hole cover, place one side of the mounting tab behind the fabric and slide the hole cover in the direction of the mounting tab behind the fabric. See figure 11.

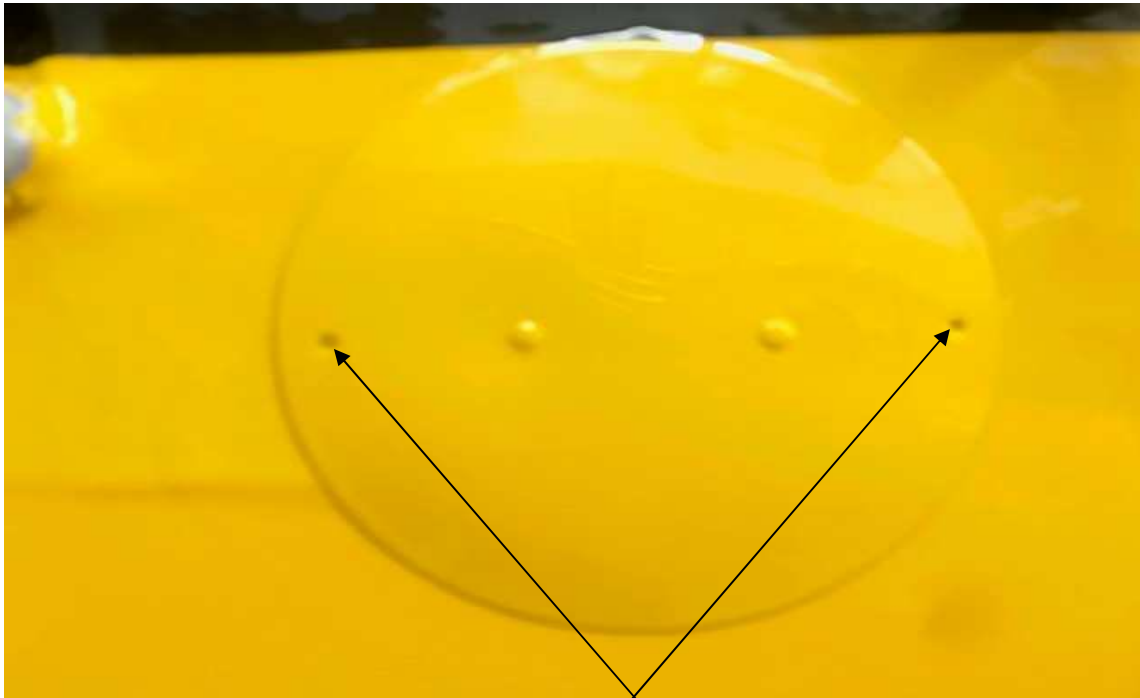


Figure 12, mounting holes

Next place the other mounting tab behind the fabric and slide the hole cover until it centers over cut out inspection hole. See figure 12.

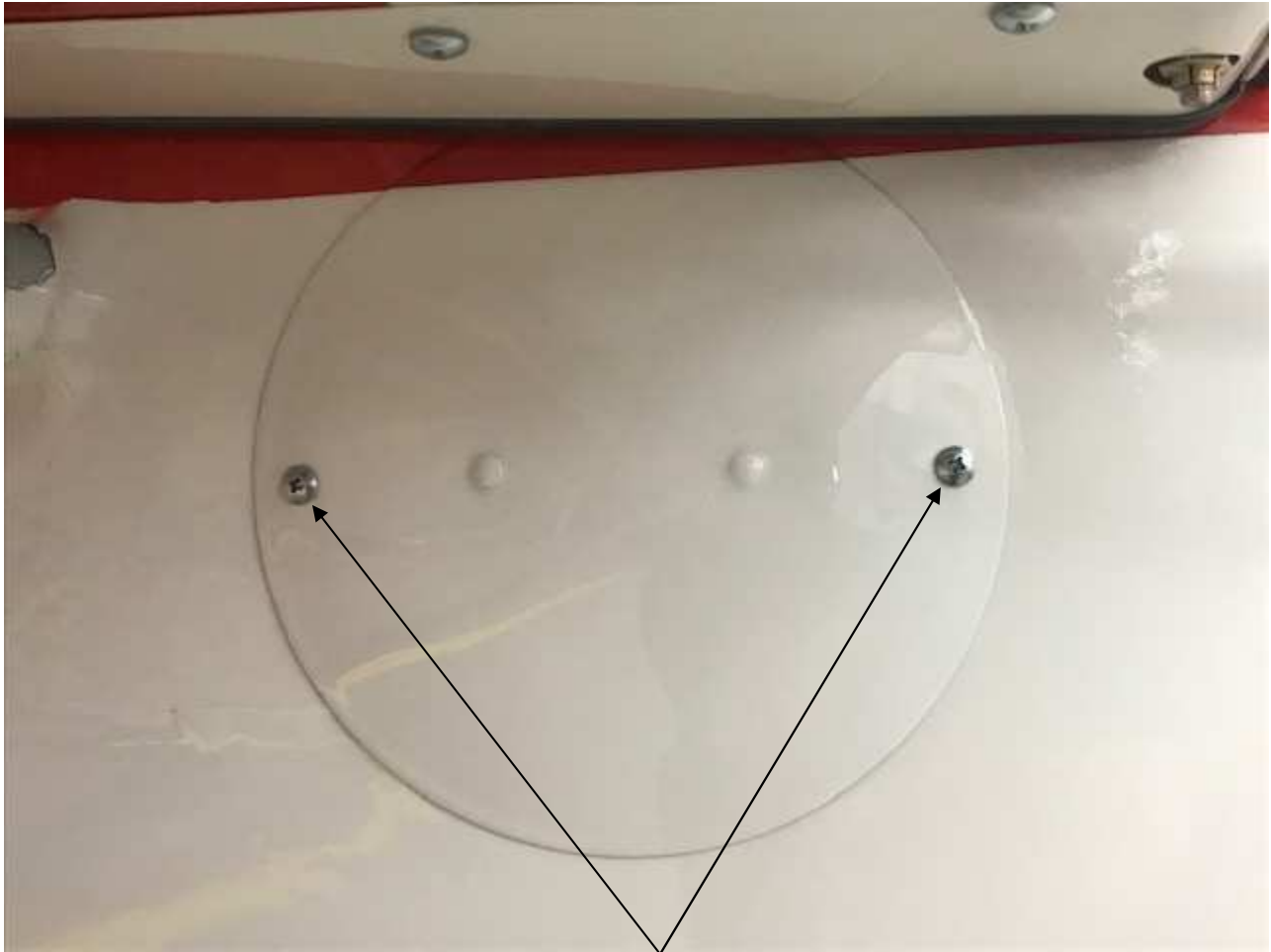


Figure 13, PK screws installed

Using a # 40 drill bit, drill in the existing two holes in the hole cover, drill through the fabric and install two PK screws. See figure 13. If there is any question about installation of a hole cover refer to one of the other installed hole covers for reference.

Step 12. Record the replacement of the stabilizer support assembly in the aircraft's logbook per this service bulletin. Complete and return the compliance letter to Aviat Aircraft Inc. at the address provided.

**COMPLIANCE LETTER**

This is to certify that I have complied with Service Bulletin 34 on airplane:

Model: \_\_\_\_\_ Serial No: \_\_\_\_\_

Registration Number: \_\_\_\_\_

Date: \_\_\_\_\_ Aircraft Hours: \_\_\_\_\_

Answer questions with a (yes) (no) or (N/A)

Were cracks discovered in the Stabilizer Support Assembly during this Inspection?  
\_\_\_\_\_.

If cracks were discovered during inspection was the Stabilizer Support Assembly replaced? \_\_\_\_\_.

Was Service Bulletin 28 used to inspect tube P/N 30800-111? \_\_\_\_\_.

If cracks were discovered in tube P/N 30800-111 was it repaired in accordance with Service Bulletin 28? \_\_\_\_\_.

Was this aircraft used for glider tow operations? \_\_\_\_\_.

FAA Certified Repairman: \_\_\_\_\_

License No.: \_\_\_\_\_

Signed: \_\_\_\_\_

Return completed compliance letter to:

Aviat Aircraft, Inc.  
Engineering Department  
P.O. Box 1240  
Afton, WY 83110  
Fax: 307-885-9674  
Email: [engineering@aviataircraft.com](mailto:engineering@aviataircraft.com)

(Attach any comments on a separate sheet)