



## SERVICE BULLETIN 00002

**Date Released:** November 5, 2020  
**Date Effective:** November 5, 2020  
**Subject:** Bottom Rudder Hinge Bracket Replacement  
**Affected Models:** RV-10

Tail kits shipped on or before 09/30/2020

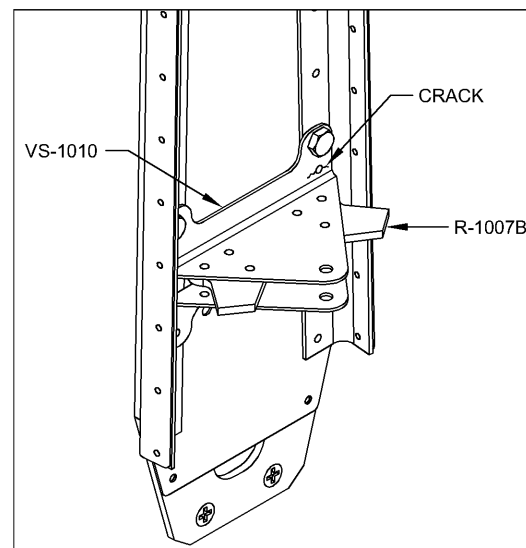
**Required Action:** Inspect the VS-1010 Bottom Rudder Hinge Bracket for cracks. See Figure 1 for crack location. If cracks are present, replace the hinge bracket with the VS-01010-1 as described in this service bulletin. If cracks are not present, inspect at every annual condition inspection or until the modification described in this service bulletin have been completed.

**Time of Compliance:** At or before the next annual condition inspection

**Level of Certification:** Check the rules of the local controlling agency and the operating limitations for your aircraft

### Synopsis:

Several aircraft have developed cracks in the vertical flange of the VS-1010 Bottom Rudder Hinge Bracket. The cracks propagate from the attachment rivet holes of the hinge bracket and are due to ground-gust-induced rudder impact loads on the R-1007B Rudder Stop. See Figure 1.



**FIGURE 1:** POTENTIAL CRACK LOCATION

### Materials Required:

The following materials are required to complete the steps necessary to achieve compliance with this Service Bulletin:

Service bulletin kit: SB-00002 (Available for purchase from Van's Aircraft)

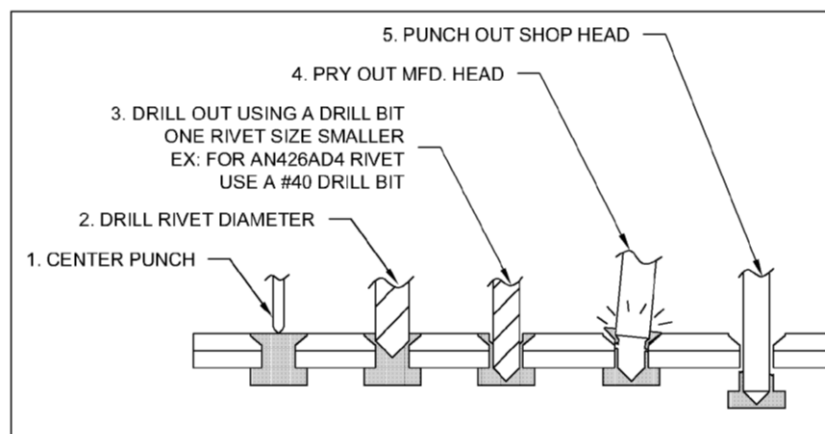
### Method of Compliance:

Step 1: Remove the F-1094B Empennage Fairing. See KAI Section 12.

Step 2: Remove the rudder from the vertical stabilizer. See KAI Section 11.

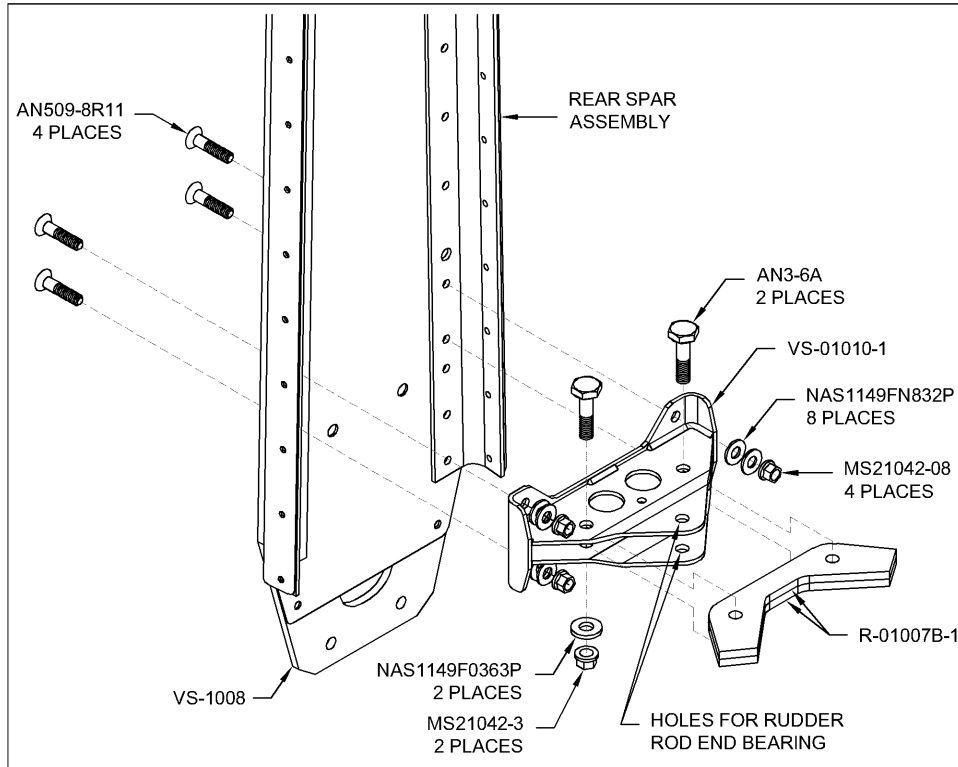
Step 3: Remove the vertical stabilizer from the tailcone. See KAI Section 11.

Step 4: Drill out the six AN426AD4 rivets attaching the two VS-1010 Bottom Rudder Hinge Brackets to the rear spar of the vertical stabilizer. Use the technique shown in Figure 2.



**FIGURE 2:** DRILLING OUT RIVETS

Step 5: Cleco the VS-01010-1 Bottom Rudder Hinge Bracket to the rear spar in the location shown in Figure 3. Note that the new bracket clecos in the same location as the original brackets but only captures four of the original eight holes.



**FIGURE 3: BOTTOM HINGE BRACKET INSTALLATION**

**Step 6:** Install AN426AD4-7 rivets back into the two holes in the rear spar just below the hinge bracket. These rivets are no longer used to attach the hinge bracket.

**Step 7:** Final-Drill #19 the four holes common to the hinge bracket and the rear spar. Drill from the hinge bracket (aft side of the spar) forward into the aluminum parts and be careful to keep the drill bit perpendicular to the spar web. To maintain part alignment, temporarily insert a #8 screw into each hole when drilled.

**Step 8:** Remove the hinge bracket, then machine countersink the four #19 holes in the VS-1008 Spar Doubler (see Figure 3) that were drilled in the previous step. Machine countersink the holes flush on the forward side for AN509 screws.

**Step 9:** Use a #12 drill bit to remove the powder coating from the three sets of #12 holes in the hinge bracket. These holes are used to bolt on the R-01007B-1 Rudder Stops and the bottom rod end bearing of the rudder. See Figure 3.

**Step 10:** Heavily deburr (and straighten if necessary) the two R-01007B-1 Rudder Stops, then bolt them in the VS-01010-1 Bottom Rudder Hinge Bracket as shown in Figure 3.

**Step 11:** Attach the hinge bracket to the rear spar using the hardware called out in Figure 3.

Step 12: Reattach the vertical stabilizer to the tailcone. See KAI Section 11. An additional washer will need to be placed under the nut of the two attachment bolts that previously passed through the bottom rudder hinge bracket.

Step 13: Reattach the rudder to the vertical stabilizer and check for correct rudder deflection; make any necessary adjustments. See KAI Section 11.

Step 14: Reinstall the F-1094B Empennage Fairing. See KAI Section 12.

Step 15: Make a logbook entry indicating compliance with SB-00002 per the requirements of the controlling authority.

Place a copy of this notification in the back of the maintenance manual for your aircraft. Note the addition of this notification to the bottom of the Maintenance Manual table of contents.

If you are no longer in possession of this aircraft, please forward this information to the present owner/operator and notify Van's Aircraft, Inc.

Contact: <https://www.vansaircraft.com/qr/transfer-of-ownership/>