

# VAN'S AIRCRAFT

## TOTAL PERFORMANCE

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### SERVICE BULLETIN 18-09-17

**Date Released:** September 17, 2018

**Date Effective:** September 17, 2018

**Subject:** Cracking of the F-01478 Aft Fuse Forward Bottom Skin

**Affected Models:** RV-14/14A empennage kits shipped prior to 9/26/2018

**Required Action:** Inspect the F-01478 Aft Fuse Forward Bottom Skin for cracks at the aft ends of the F-01486C-L & -R and F-01486D J-Stiffeners in the area of the F-01408 Bulkhead. If cracks are discovered, complete the modifications described in this document. If no cracks are discovered, annual inspections are required.

**Time of Compliance:** Inspect at or before the next annual condition inspection. If no cracks are detected, re-inspect at every annual condition inspection, or until the modifications described in this document have been completed.

#### Synopsis:

Cracks have been discovered in the F-01478 Aft Fuse Forward Bottom Skin in the area of the F-01408 Bulkhead propagating from the aft most rivet in the F-01486C-L & -R and F-01486D J- Stiffeners. These cracks have been discovered in the factory RV-14/14A aircraft, as well as some flying aircraft in the field.

*Empennage Kits shipped after 9/26/2018 are not affected by this service bulletin.*

#### Materials Required:

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

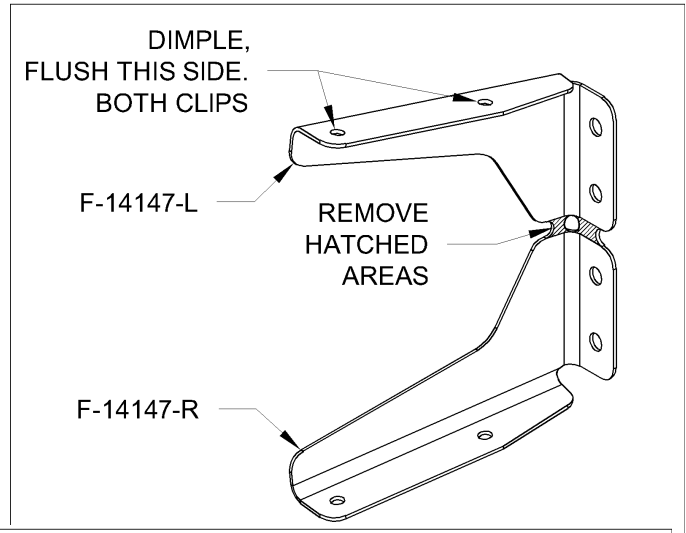
For RV-14/14A Empennage Kits shipped prior to 9/26/2018  
Purchase from Van's Aircraft: Part no. SB 18-09-17

**Method of Compliance:**

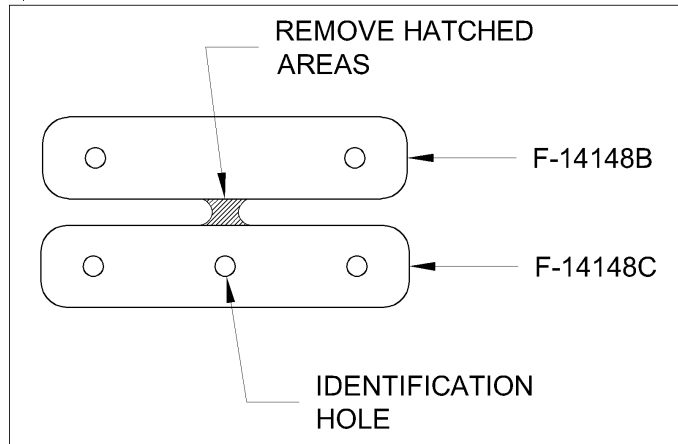
Step 1: Obtain SB 18-09-17 parts from Van's Aircraft.

Step 2: Separate the F-14147 Stiffener Clip by removing the hatched areas shown in Figure 1.

Step 3: Dimple the #40 holes in the flanges of the F-14147-L & -R as indicated.



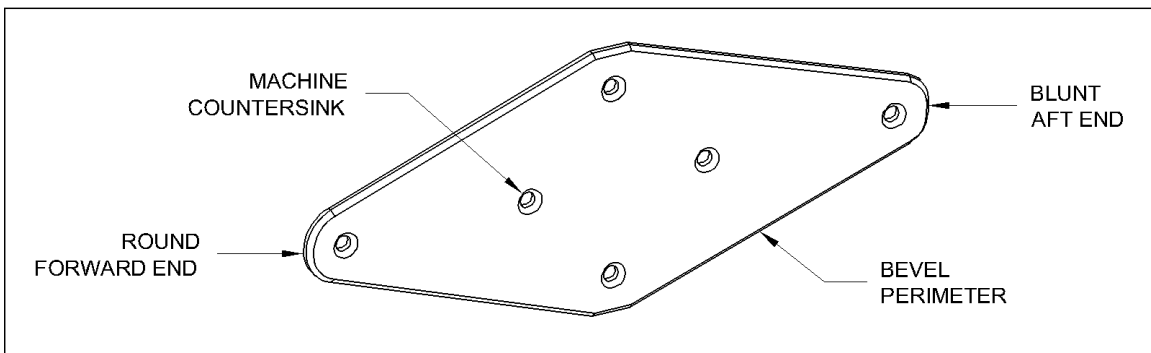
Step 4: Separate the F-14148BC Stiffener Doubler by removing the hatched areas shown in Figure 2.



**FIGURE 2:** F-14148BC STIFFENER DOUBLER

Step 5: Machine countersink the holes on one side of the F-14148A Skin Doubler for the heads of AN426AD3 rivets, and, on the same side, bevel the perimeter to approximately half the thickness. See Figure 3.

For reference, the forward end of the doubler is round while the aft end is blunt.



**FIGURE 3:** F-14148A SKIN DOUBLER

For flying aircraft. Proceed to Step 6 below.

For aircraft under construction.

1. If the F-01408-L & -R Bulkheads, bottom skin, and J-stiffeners have been dimpled and riveted, proceed to Step 7 below.
2. If the F-01408-L & -R Bulkheads, bottom skin, or J-stiffeners have not yet been dimpled, dimple the parts as normal according to Section 10 (Pages 10-11 and 10-13), but do not dimple or rivet the holes common to the F-14148A Skin Doubler and do not rivet the holes common to the F-14147 Stiffener Clips (see Figures 4 and 5). After completing Page 10-14, proceed to Step 9 below and complete the remainder of the steps in this document, then return to Section 10 and proceed as normal.
3. If the F-01408-L & -R Bulkheads, bottom skin, or J-stiffeners have been dimpled but not riveted, rivet the parts as normal according to Section 10 (Page 10-13), but do not rivet the holes common to the F-14148A Skin Doubler or F-14147 Stiffener Clips (see Figures 4 and 5). After completing Page 10-14, proceed to Step 8 below and complete the remainder of the steps in this document, then return to Section 10 and proceed as normal.

Step 6: Stop-drill #40 any cracks in the bottom skin. (Typically, a crack in aluminum aircraft structure extends beyond the point where it is visible with the naked eye. Stop-drilling at the apparent endpoint could miss the end of the crack allowing it to continue to propagate. Therefore, when stop-drilling a crack, the center point of the stop-drill hole should be positioned slightly beyond the apparent end of the crack. This way, if the crack continues to propagate, it will do so toward the hole and then stop.)

Step 7: Drill out the two AN426AD3 rivets (see Section 5.4) in the end of each J-stiffener and the two rivets in the flange of the F-01408-L & -R Bulkheads that will be used to attach the F-14147-L & -R Stiffener Clips and the F-14148A, B, & C Doublers. See Figures 4 and 5.

Step 8: Machine countersink the four #40 holes (not the identification hole, see Figure 2) in the F-14148B & C Stiffener Doublers for the dimples in the F-01486D & E J-Stiffeners. See Figures 4 and 5.

Step 9: See Figure 4: cleco the F-14147-L & -R Stiffener Clips to the F-01486C-L & -R J-Stiffeners, then match-drill #30 the holes in the vertical flange of the stiffener clips into the F-01408-L & -R Bulkheads. While drilling, back-up the bulkheads with a wood block and cleco each hole.

Remove the stiffener clips and deburr the bulkheads.

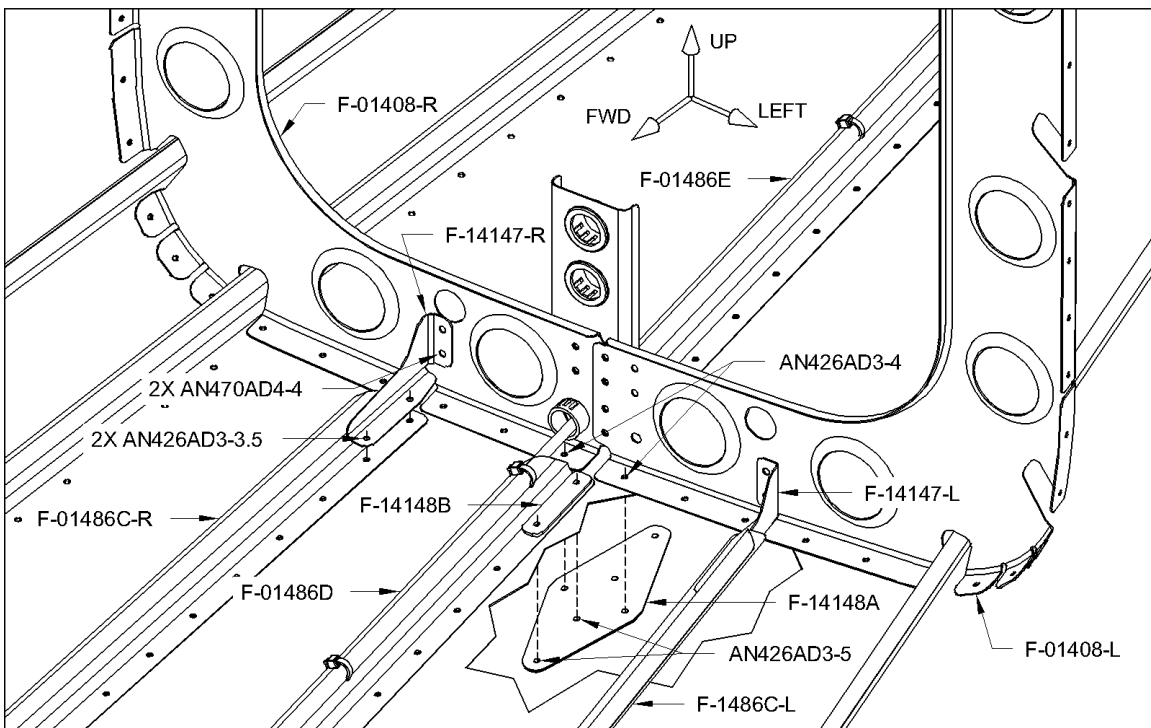
Step 10: Prime the stiffener clips and doublers if/as desired.

For completed aircraft, the F-14148A Doubler can be painted before installation.

**Step 11:** Cleco the F-14148A, B, & C Doublers in place as shown in Figures 4 and 5. The round end of the F-14148A Doubler is forward, the blunt end is aft.

**Step 12:** Rivet the stiffener clips and doublers in place using the rivets called out in Figures 4 and 5.

**Step 13:** Flying Airplanes: Make a logbook entry indicating compliance with SB 18-09-17.



**FIGURE 4:** STIFFENER CLIPS AND DOUBLERS.  
FRONT VIEW

