

TOTAL PERFORMANCE VAN'S AIRCRAFT

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SERVICE BULLETIN 14-11-03

Date Released: December 31, 2014

Date Effective: December 31, 2014

Subject: RV-12 wing skin/spar flange rivet wear.

Affected Models: All flying RV-12 aircraft incorporating wing kits shipped prior to December 24, 2014.

Required Action: Inspect the condition of the rivets at the root end of the lower surface of the wing that attach the W-1201 Inbd Skin to the flange of the W-1206A Spar Assembly. Inspect for any indications of wear including a smoky or greasy appearing film around the rivet head. Signs of rivet wear require the modifications described in the Method of Compliance section of this document.

Time of Compliance: At or before the next annual condition inspection. If no rivet wear is found, make a log entry indicating compliance with the inspection portion of this service bulletin and re-inspect at every annual condition inspection or until the modifications described in this document are completed. (Builders with affected wing kits under construction or not yet flying may install the additional parts as below at their discretion.)

Labor Required / SLSA Warranty Allowance: 3.0 Hours / \$240 (Allowance applies to SLSA aircraft currently under warranty that exhibit rivet wear at the time of inspection.)

Level of Certification: ELSA - Owner, LSR- I, A&P
SLSA - A&P, LSA Repairman Maintenance

Synopsis: The rivets attaching the root end of the lower wing skin to the flange of the main spar showed signs of wear on the Van's Aircraft demonstrator RV-12 aircraft.

Method of Compliance: (Installing W-1201A Doublers)

Step 1: Obtain parts kit: 12 WING DOUBLER INSTALL KIT from Van's Aircraft.

Step 2: Remove both wings from the fuselage according to Section 5 of the Maintenance Manual and place them upside-down on a carpet or blanket covered work table.

NOTE: Only the parts, assemblies, and installations for the left wing will be shown. Repeat all steps for the right wing.

Step 3: Carefully remove the inboard 20 rivets attaching the W-1201-L Inbd Wing Skin to the flange of the W-1206A-L Spar Assembly and the single indicated rivet attaching the skin to the W-1210 Main Rib. See Figure 1.

When removing blind rivets:

- (1) Drive out the center mandrel of the rivet with a hammer and a 1/16" diam. pin punch by inserting the pin punch into the small hole in the manufactured head of the rivet, and then tap the mandrel out through the shop head of the rivet.
- (2) Drill through the rivet using a 1/8" drill bit. Use a combination of high rpm and very low pressure on the drill bit to help prevent the rivet from spinning. (Back-up the small tab of the main rib with a piece of wood to prevent bending the tab while drilling.)
- (3) If a rivet does spin, hold the shop head of the rivet with a pair of pliers while drilling.

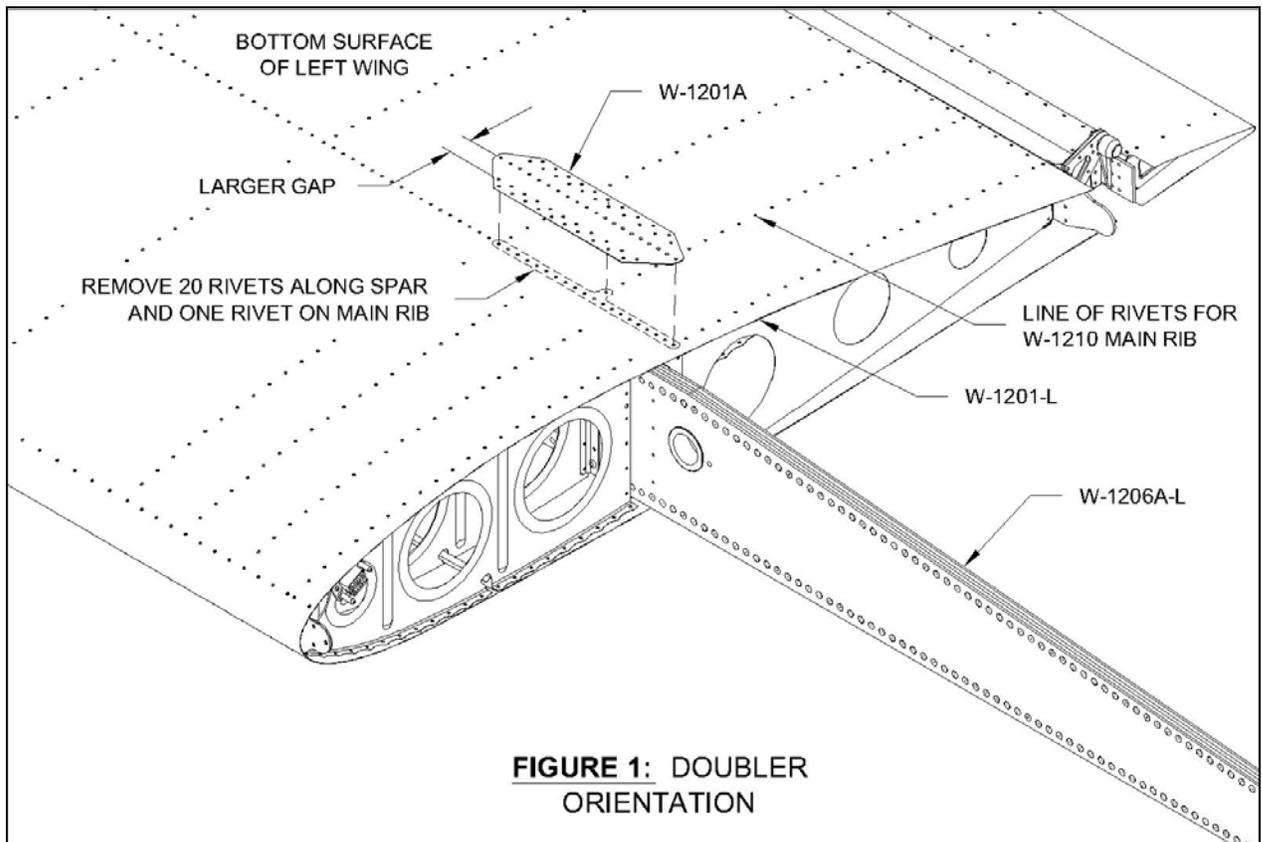


FIGURE 1: DOUBLER ORIENTATION

Step 4: Depending on the presence and thickness of paint, the rivet heads may stay in place after drilling. Use a 1/8" diam. pin punch to pop the rivet heads off of the skin surface.

Step 5: Once the rivet heads are removed, any remaining paint buildup caused by the rivet heads must be removed. This can be done by shaving them flush with a sharp wood chisel, sanding them with a small sanding block, etc. See Figures 2 and 3.



FIGURE 2: RIVET HEAD
PAINT BUILDUP



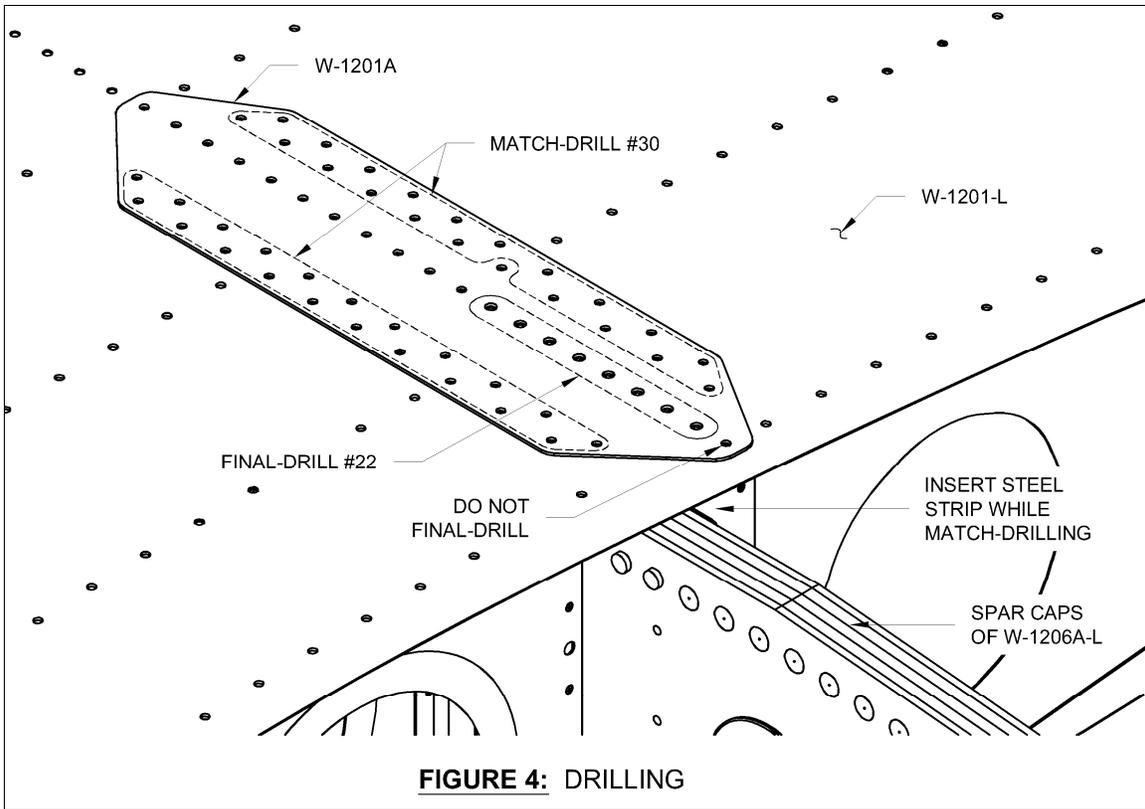
FIGURE 3: REMOVED RIVET
HEAD PAINT BUILDUP

Step 6: Cleco the W-1201A Doubler, oriented as shown in Figure 1, to the skin and spar flange with the larger gap between rivet rows forward, and with the hole for the main rib aligned with its corresponding hole in the doubler.

WARNING: When match-drilling the doubler to the left wing in the next step, **DO NOT ALLOW THE DRILL TO CONTACT THE UNDERLYING SPAR CAPS** on the spar assembly. Protect the spar caps by temporarily inserting a thin strip of steel between the skin and the spar caps. (.040 max. thickness to allow room for clecos) The spar caps on the right wing do not underly any of the holes to be match drilled.

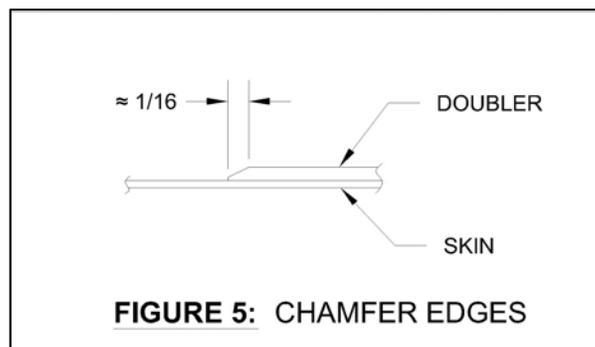
Step 7: Match-Drill #30 all of the remaining holes of the doubler into the skin. Cleco every second or third hole while drilling. See Figure 4.

Step 8: Final-Drill #22 the eight holes indicated in Figure 4 that are common to the doubler and to the flange of the spar assembly. As indicated, do not final-drill the inboard most hole.



Step 9: Remove the doubler and deburr the holes. Confirm that there are no chips trapped between the skin and the spar flange. Any chips or large burrs around the holes that overly the spar caps of the left wing can be knocked off using a chip chaser or the end of a steel ruler.

Step 10: Chamfer the perimeter of the doubler. See Figure 5.



Step 11: If desired, prime both sides of the doubler. If a paint coat is desired over the primer, only apply paint to the non-mating surface (the side that will show).

Step 12: Rivet the doubler to the skin and to the flange of the spar assembly using the rivets called out in Figure 6.

For aesthetic purposes, blind rivet heads can be painted prior to installation to match the color of the doubler:

- (1) Paint the rivet head.
- (2) Allow the paint to dry.
- (3) Apply protective tape to the rivet head.
- (4) Install the rivet.
- (5) Remove the protective tape.

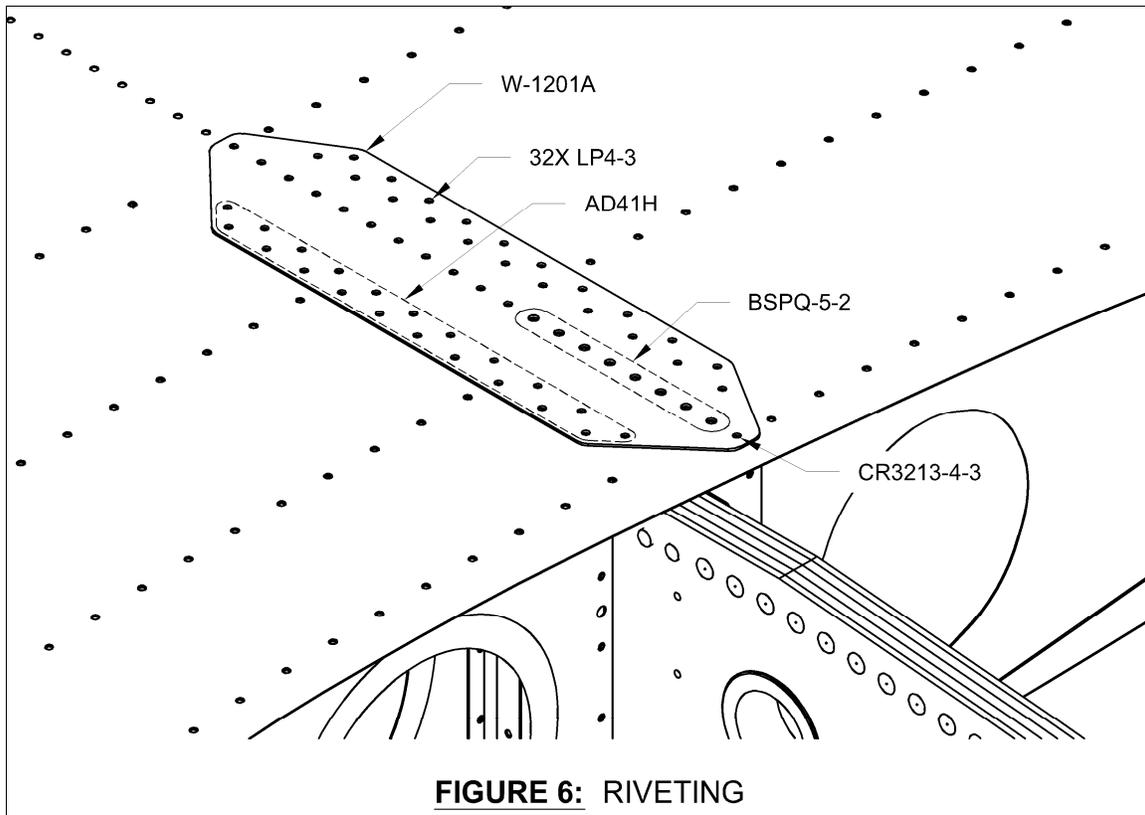


FIGURE 6: RIVETING

Step 13: Reinstall the wings according to Section 5 of the Maintenance Manual.

Step 14: Make an airframe logbook entry indicating compliance with this SB. Weight of doublers and pulled rivets is ~0.35lbs (159gm) located 93.5" aft of the datum.

PARTS REQUIRED:

12 WING DOUBLER INSTALL KIT:

2ea. W-1201A

1ea. BAG 2631

18.000 N RIVET BSPQ-5-4

42.000 RIVET AD-41H

66.000 RIVET LP4-3

3.000 RIVET CR3213-4-3

5/32 POP RIVET

POP RIVET TANK BAFFLE

POP RIVET

CHERRY RIVET ROUND