

VAN'S AIRCRAFT

TOTAL PERFORMANCE

14401 Keil Road NE, Aurora, Oregon, USA 97002

PHONE 503-678-6545 • FAX 503-678-6560 • www.vansaircraft.com • info@vansaircraft.com

Service Letters and Bulletins: www.vansaircraft.com/public/service.htm

SERVICE BULLETIN 18-02-03

Date Released: February 2, 2018

Date Effective: February 2, 2018

Subject: Inspect anti servo tab (AST) skins for cracks and replace AST ribs at the control horns with upgraded parts.

Affected Models: Van's RV-12 and empennage kits shipped prior to December 09, 2016.

Required Action: Inspect the HS-1221 AST Skin for cracks, stop drill and install skin doublers as described in this service bulletin. Replace two inboard ribs with upgraded versions.

Time of Compliance: Inspect before further flight.

- If no cracks are detected, re-inspect at every annual condition inspection or until the modifications required by this service bulletin have been completed.

- If cracks are detected above 3/8in in length the modifications required by this service bulletin must be completed before further flight.

- If cracks are detected stop drill the end of the crack before further flight. The modifications required by this service bulletin must be completed before or at the next condition inspection.

Supersedes Notice: Not applicable.

Labor Required / SLSA Warranty Allowance: 1.5 Hrs, to replace ribs only; or 1.75 Hrs, to replace ribs and add doublers.

Level of Certification: ELSA - Minimum, Repairman (LSA) with inspection rating
SLSA - Minimum, Repairman (LSA) with maintenance rating, or
A&P

Synopsis:

Three reported cracked HS-1221 Anti Servo Tab Skins in aircraft with over 900 hours. This Service Bulletin provides procedures for the repair of cracked skins and for upgrading the sub-structure to prevent cracks from developing.

Parts shipped after December 09, 2016 are not affected by this service bulletin.

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Method of Compliance:

- Inspect AST skins for cracks during each annual condition inspection until upgraded inboard ribs are installed.
- Remove and replace AST inboard ribs with an upgraded version (recommended even if no cracks are detected)
- If cracks are found in AST skins, remove and replace AST inboard ribs w/ upgraded version, stop drill cracks and add doublers.

Step 1: Inspect the HS-1221-L/R AST Skins upper and lower surfaces for cracks in the area depicted in Figure 1. If no cracks are found skip to Step 4 or re-inspect during next annual condition inspection.

Step 2 (Cracked Skins): Stop drill cracks using a #40 bit. If cracks are very small, less than 1/8 in. long, stop drill at or just beyond the end of the crack.

Step 3: See the Kit Assembly Instructions (KAI), Chapter 11, for removal of the AST.

NOTE: Only the left AST will be shown below. The right AST is a mirror of the left. Repeat the following steps for the right AST.

Step 4 (Rib Replacement Only): Remove the 10 rivets called out in Figure 1. For more instruction on removing rivets see Section 5. Remove the Horn Assembly(rib & horn).

Step 5 (Cracked Skins): Remove all rivets called out in Figure 1. Remove the Horn Assembly(rib & horn).

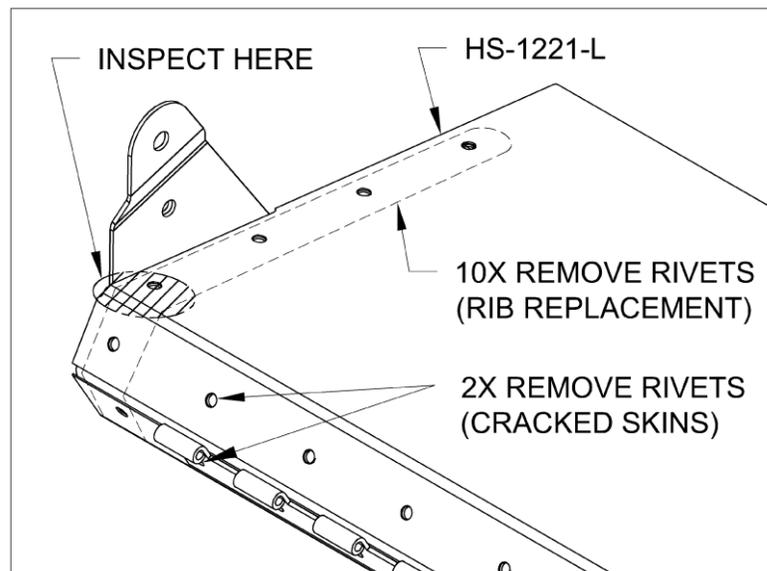


FIGURE 1: INSPECT FOR CRACKS

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Step 6: Remove the rivets attaching the HS-1220-L AST Control Horn to the HS-1222 AST Rib. See Figure 2. Discard the rib.

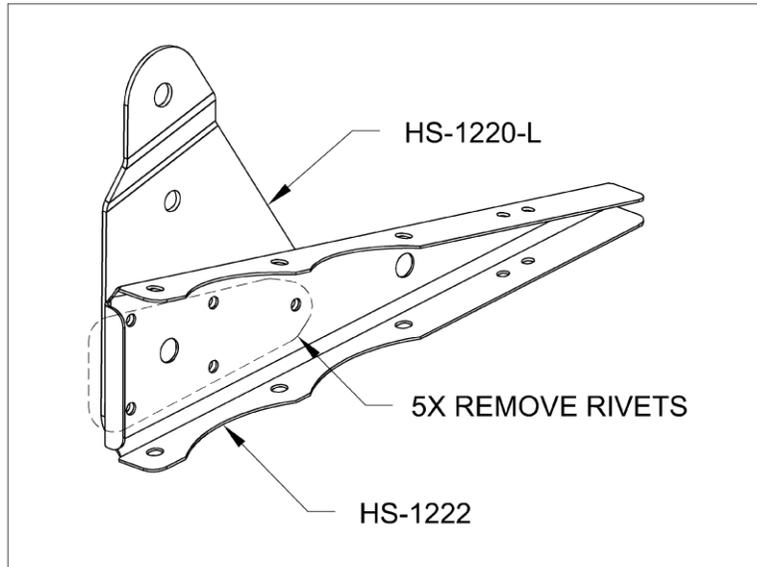


FIGURE 2: REMOVE HORN FROM RIB

Step 7: Cleco the HS-1230 Inbd Rib into the AST as shown in Figure 3.

NOTE: Drill the HS-1230 Inbd Rib flanges using a new bit, high speed, and very little pressure to avoid drilling the hole off-center. Be patient. This takes time.

Step 8: Match-Drill #30 the HS-1230 Inbd Rib flanges at the spar using the holes in the skin/spar as guides. See Figure 3.

Final-Drill #30 the aft holes in the rib. Remove the rib and deburr. Mark the rib a "LEFT." See Figure 3.

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Step 9: Prime and paint parts at this time if desired.

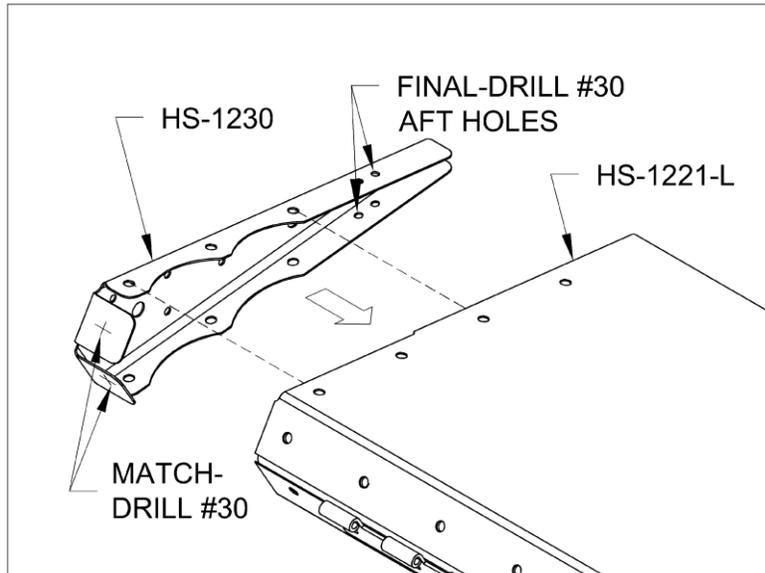


FIGURE 3: MATCH-DRILL RIB

Step 10: Rivet the HS-1230-L Inbd Rib to the HS-1220-L AST Control Horn per the call-outs in Figure 4. Hereafter refer to the horn and rib as the Horn Assembly. Insert the Horn Assembly into the AST.

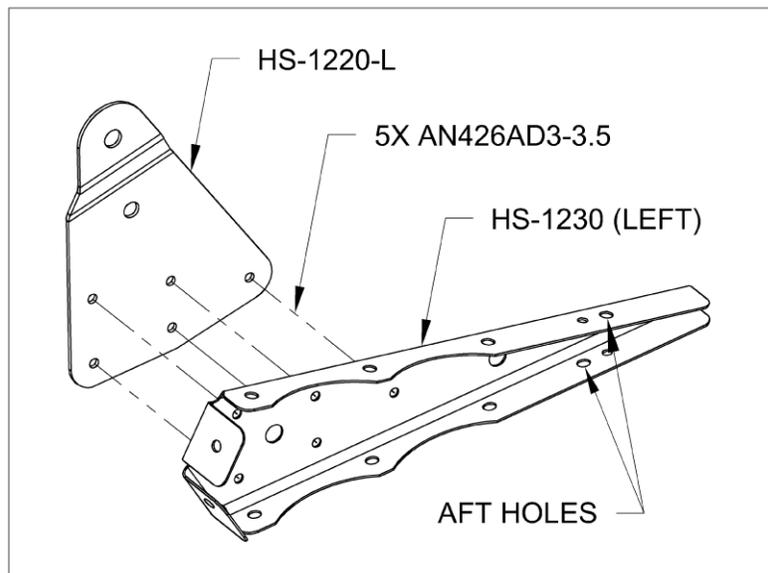


FIGURE 4: HORN ASSEMBLY

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NOTE: Use the wedge tool to install rivets near the horn. See Section 5.

Step 11 (Rib Replacement Only): Rivet the Horn Assembly into the AST using the rivets called out in Figure 5. Skip to Step 23.

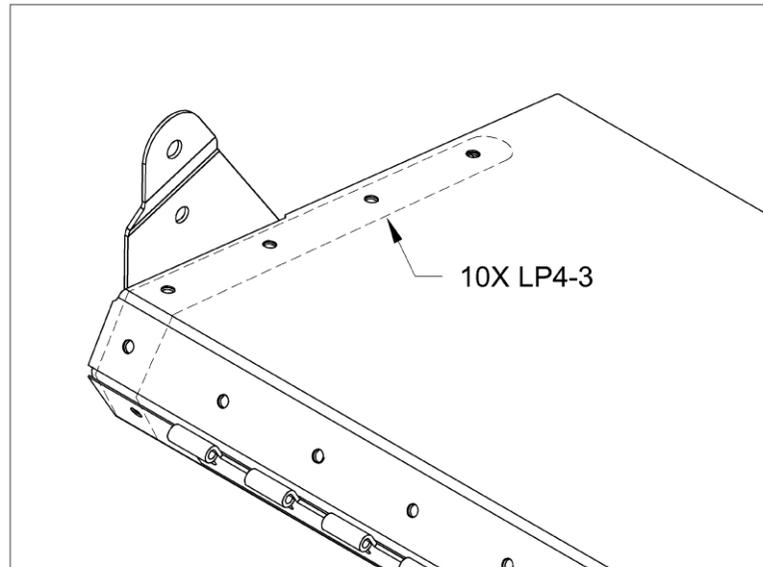


FIGURE 5: INSTALL INBD RIB

Step 12 (Cracked Skins): Separate the HS-1226 Doubler into two parts as shown in Figure 6.

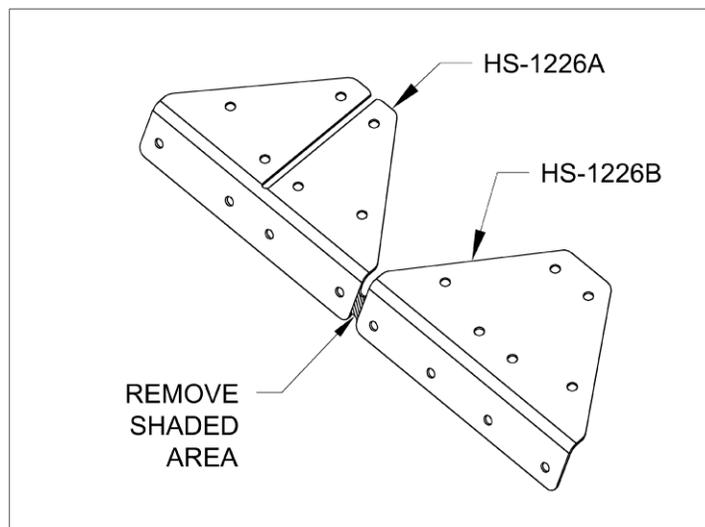


FIGURE 6: SEPARATE DOUBLERS

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Step 13 (Cracked Skins): Dimple the HS-1226B Doubler where indicated in Fig 7.

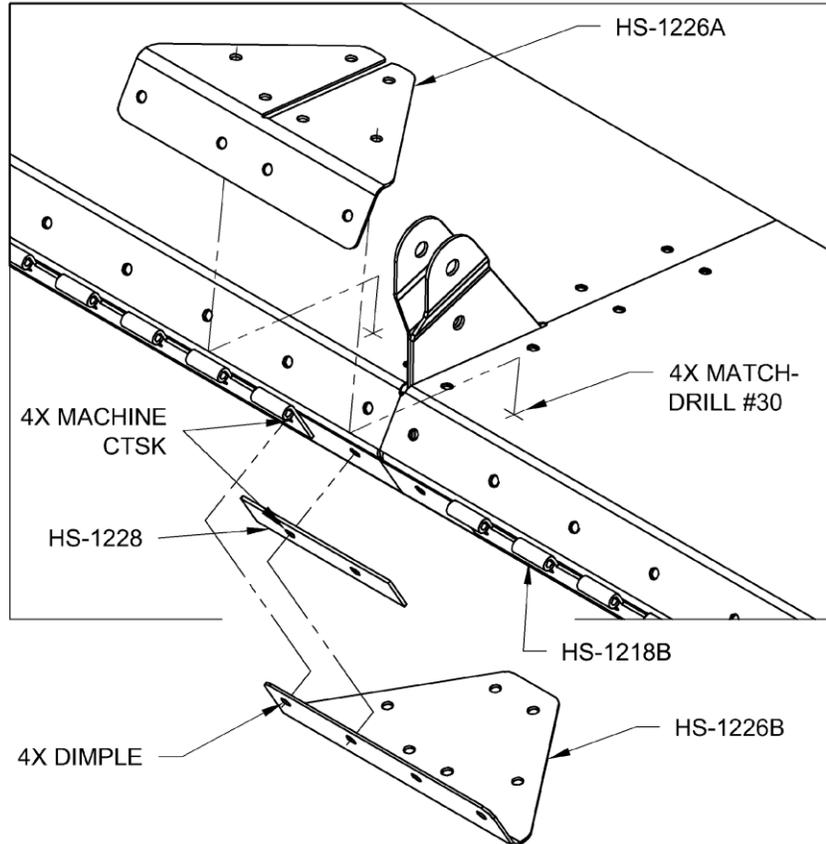


FIGURE 7: PREPARE FOR ASSEMBLY

Step 14 (Cracked Skins): Machine countersink the HS-1228 Spacer to receive the dimpled HS-1226B Doubler.

Step 15 (Cracked Skins): Machine countersink the HS-1218B AST Hinge to receive the dimpled HS-1226B Doubler.

Step 16 (Cracked Skins): Cleco the HS-1226A and B Doublers to the AST and match-drill the skins per the call-out in Figure 7. Remove and deburr.

Step 17 (Cracked Skins): Cleco the aft holes of the Horn Assemblies to the AST.

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Step 18 (Cracked Skins): Cleco the HS-1226A, HS-1226B and HS-1228 Spacer to the AST as shown in Figure 8.

Step 19 (Cracked Skins): Attach the two halves of the AST using an AN5258R8 screw, AN960-8 washer and AN365-832A nut.

NOTE: Though not critical, check alignment of the two halves during assembly.

Step 20 (Cracked Skins): Lay the AST on a bench with the horns downward.

Step 21 (Cracked Skins): Rivet first the HS-1226B Doubler to the lower surface of the AST, then install the remainder of the rivets on the lower side.

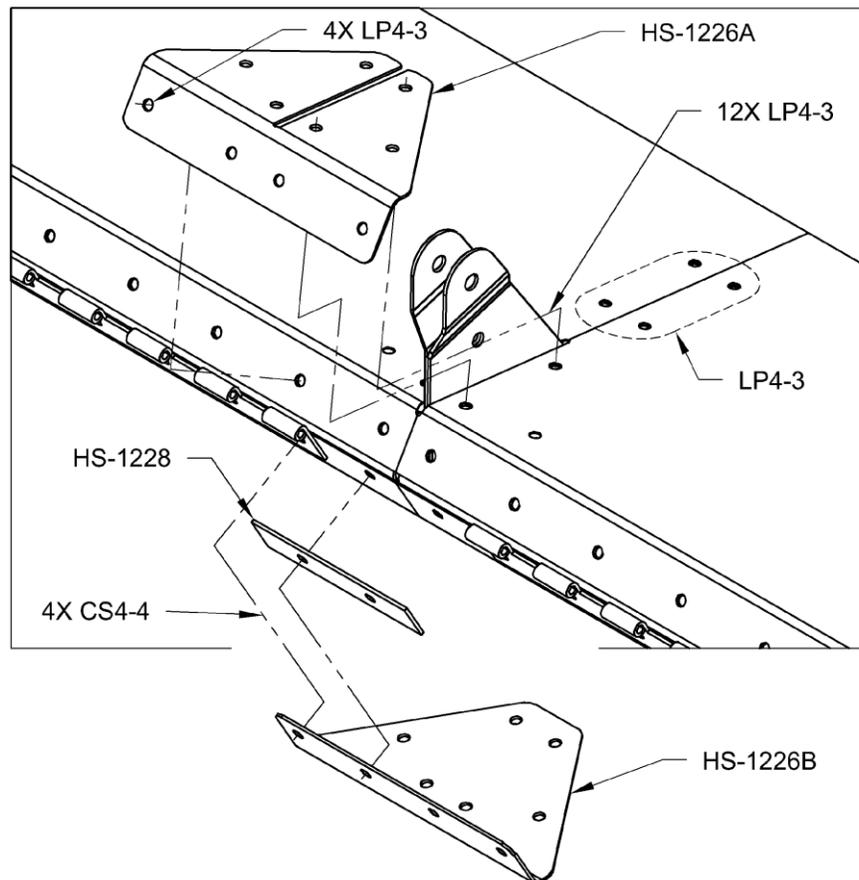


FIGURE 8: INSTALL SPACER & DOUBLERS

Step 22 (Cracked Skins): Turn the AST over and rivet the HS-1226A Doubler to the AST, then install the remainder of the rivets.

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Step 23: Installation of the AST onto the stabilator is the reverse of removal. For more information see the KAI, Chapter 11.

Step 24: Bolt the AST Pushrod to the AST Control Horns.

Step 25: Check the AST for smooth operation.

Step 26: Make a logbook entry indicating compliance with this service bulletin.

Place a copy of this service bulletin in the back of the maintenance manual for your aircraft. Note the addition of this service bulletin to the bottom of the maintenance manual table of contents. No weight and balance adjustment is required.

PART NUMBERS:

Purchase from Van's Aircraft: SB 18-02-03