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SERVICE BULLETIN 11-12-14

Date Released: December 14, 2011

Date Effective: December 14, 2011

Subject: RV-12 Fuel Tank Frangible Attach Bolts

Affected Models: All RV-12 Finish Kits shipped prior to December 5, 2011.

Required Action: Upgrade fuel tank to current configuration

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

Synopsis:

An RV-12 accident resulted in a breach of the fuel tank. While the severity of the impact was such that a breach of the fuel tank is not surprising, the tank can nonetheless be made more breach resistant by the addition of clips and by the use of frangible bolts.

Finish Kit parts shipped after December 5, 2011 are not affected by this service bulletin.

Method of Compliance:

In order to upgrade to the required configuration, the fuel tank must be modified by addition of T-00008 Inboard Clips and T-00009 Outboard Clips.

The installation of the fuel tank must have the AN3-7A fuel tank attach bolts replaced with BOLT-00002 Frangible Head Bolts.

The frangible head bolts are AN3-7A bolts that have been modified to allow the heads to break away if the bolt tension load is excessive. This may prevent a breach of the fuel tank such as occurred in the severe impact described above.

Replacement and Modification Procedures:

REQUIRED PARTS

Qty 4	AN426AD3-6
Qty 2	BOLT-00002
Qty 2	MC-240-B1/2 Tank Sealant
Qty 18	MSP-42 blind rivet
Qty 1	T-00008 tank clip
Qty 1	T-00009 tank clip

REFERENCE DOCUMENTATION

Page 37-02, Revision 2

Page 37-06, Revision 2

Posted on website: <http://www.vansaircraft.com/public/notices2.htm>

Step 1: Drain all fuel from the aircraft.

Step 2: Remove the fuel sender wire from the Fuel Tank Assembly. Remove the fuel tank assembly from the aircraft.

Step 3: Remove the T-1209 Sender Plate from the Fuel Tank Assembly. See Page 37-04, Figure 3. Clean the cured sealant from the mating surfaces of the sender plate and the T-1202 Fwd Tank Bulkhead.

Step 4: Drill-off the two K1000-3 Nutplates that are attached to the aft side of the T-1205 Fwd Tank Bracket. See page 37-02, Revision 1, Figure 3.

Step 5: Position the T-00008 Inboard Clip and T-00009 Outboard Clip against the T-1201 Main Tank Skin as shown on Page 37-02, Revision 2, Figure 3.

Mark the head of the rivet attaching the main tank skin to the T-1202 Fwd Tank Bulkhead that must be removed in order to allow installation of the T-00008 Inboard Clip.

Mark the heads of the two rivets attaching the main tank skin to the T-1202 Fwd Tank Bulkhead that must be removed in order to allow installation of the T-00009 Outboard Clip.

Drill-out the three rivets that were just marked.

Step 6: Cleco the T-00008 Inboard Clip and the T-00009 Outboard Clip to the aft side of the T-1205 Fwd Tank Bracket and to the T-1201 Main Tank Skin as shown in Page 37-02, Revision 2, Figure 3.

Match-Drill #30 the main tank skin using the holes in the inboard and outboard clips as templates.

Uncleco the inboard and outboard clips and deburr the newly drilled holes.

Prime and/or paint the inboard and outboard clips if/as desired.

NOTE: Read Section 5S for more information on fuel tank sealant. The tank is assembled much like any other structure with two important differences: Apply sealant between scuffed and cleaned parts that comprise a seam through which fuel could conceivably leak. This includes every fastener. Spin fastener shanks in sealant to apply a thin even coating before they are inserted. Read through this section and scuff mating parts before beginning assembly. Set rivets slowly using a hand blind rivet puller, allowing the tank sealant to displace before the rivet is completely set.

Step 7: Rivet the T-00008 Inboard Clip and T-00009 Outboard Clip to the T-1201 Main Tank Skin as shown on Page 37-02, Revision 2, Figure 3.

Coat the shop heads of the inboard and outboard clip rivets with fuel tank sealant.

Step 8: Rivet one of the nutplates removed per step 4 above to the T-1205 Fwd Tank Bracket and T-00008 Inboard Clip as shown in Page 37-02, Revision 2, Figure 3.

Rivet the second nutplate removed per step 4 above to the fwd tank bracket and T-00009 Outboard Clip as shown in Page 37-02, Revision 2, Figure 3.

Step 9: Check to be thoroughly sure that no chips or construction debris remain in the Fuel Tank Assembly.

Step 10: Re-install the T-1209 Sender Plate with fuel tank sealant using the hardware called out on Page 37-04, Figure 3.

Use a 1/16 inch thick layer of sealant between the sender plate and the T-1202 Fwd Tank Bulkhead and in place of the IE F-385 Gasket. Tighten screws just enough to cause sealant to bulge evenly from underneath the perimeter of the sender plate.

Step 11: Re-install the Fuel Tank Assembly as shown on Page 37-06, Revision 2, Figure 1 and Page 37-07, Figure 3.

CAUTION: BOLT-00002 torque should be standard AN value 20-25inlb, plus the prevailing nutplate torque (usually <10inlb). Torque in excess of this may shear the frangible head.

Re-install the Fuel Sender Wire as shown on Page 37-08, Figure 1.

Step 12: Make an entry in the aircraft logbook indicating that this Safety Bulletin has been complied with.

CAUTION: The tank sealant must be fully cured before refueling the aircraft for return to service.