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2842 Highway 231 North, Shelbyville, TN 37160

SERVICE BULLETIN	
Service Bulletin #	AASB-1-1-2011
Superseded Bulletin #	n/a
Issue Date	1-31-2011
Effective Date	1-31-2011
Limitations for Completion	Next scheduled inspection
Make & Model Affected	Lightning LS-1 SLSA & ELSA
	SN87 thru 107
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1. Applicability: Lightning LS-1 SLSA or ELSA aircraft in the effected serial range of SN87 thru SN107.

2. Background: Aircraft in the above serial number range were manufactured with a rear spar box V1 , which if landed hard enough or landed over the 1320lbs gross weight limit on SLSA aircraft may deform at the gear attach points. Static testing of the structure per ASTM standards showed no deformation when loaded to the max landing loads, however it has been noted in the field that the spar box has on rare occasions deformed. The deformation of the rear box has been limited to the gear attach point and does not appear to cause an issue with the spar truss carry thru, thus not requiring immediate action. Damaged rear spar boxes were examined and a solution to prevent the deformation has been devised. The addition of compression tubes starting at the gear socket plate which run to the upper cross members have been added. In addition a gusset across the socket plate has been added to prevent it from deforming. In no cases have the spar box gear attach points failed.



Figure 1: deformation of rear ½" tube box V1



Figure 2: deformation of lower socket plate V1

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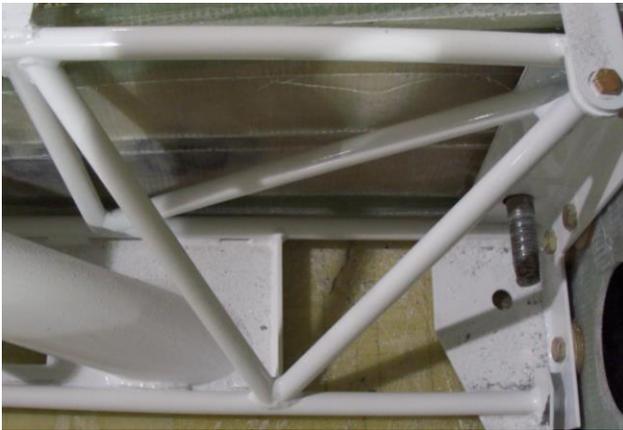


Figure 3: Compression tubes added V2



Figure 4: Gusset added to lower plate V2

3. Compliance with- Implementation Schedule.

An inspection of the gear leg attach socket must be completed within the next 25 hours of service or at the next scheduled service interval, i.e. oil change or head torque, whichever comes first. Additionally, if the aircraft has sustained a hard landing the spar box must be inspected in accordance with this SB.

Refer to figure 1: The lowest and most aft tube adjacent to the gear plate must be inspected. This tube is about 1/2" in diameter and should be flat with no upwards bowing to it. If deformed upwards it will be the greatest at the outboard end of the lower socket plate. Use a straight edge on the tube to determine if it is bent. Any deformation in this tube is cause for replacement.

Refer to figure 2: The lower socket plate must be inspected as well. This plate may have up to 1/16" flex upwards and be with in serviceable tolerance. However should more than that be found upon inspection the box should be replaced. Check by using a short straight edge set between the spar box tubes across the plate. Measure the deflection if any.



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If the spar box does not show signs of deformation than no further action is required, however the box should be inspected in accordance with this Service bulletin at each 50 hour service interval.

If it is found that upon inspection the rear spar-box has deformed, section 4 of this SB must be complied with, within the next 25 hours of service. Arion Aircraft LLC must be notified before any service is to take place.

4. Procedure:

Arion Aircraft LLC shall complete the required work at the Shelbyville TN manufacturer's facility at no cost to the owner. It is the Owners responsibility to get the aircraft to Arion Aircraft LLC in Shelbyville TN, and arrange pick up or delivery after the work is completed.

5. Level of certification required for SLSA Lightning LS-1.

Any work required by this bulletin must be carried out by personnel holding a Light Sport Repairman / Maintenance rating or a licensed A&P mechanic or licensed A&P with IA. On completion of the work, the authorized repairman must note the completion of the actions required by this letter in the aircraft's maintenance logbook. This note should specify what work was carried out, reference this Notification, indicate the date of the work and the identity (including license number where appropriate) of the person carrying out the work.