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SERVICE BULLETIN

IMPORTANCE	ADVISORY
AREA AFFECTED	Maintenance Manual – Trilam Maintenance Schedule
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1. Applicability:

All BushCat/Cheetah XLS aircraft with Trilam covering.

2. Subject:

Revision of the stipulated service life of the Trilam before recovering is required.

3. Purpose:

This advisory service bulletin serves to inform owners of a change in the life cycle limits of the Trilam covering used on the aircraft. It allows all aircraft owners to be informed of the point at which these surfaces should be replaced.

4. Background:

The lifecycle of the Trilam covering has been changed on occasion, based largely on physical observations of aircraft in the field. Due to lack of information from the Trilam sail manufacturer, this has been the only viable way to suggest a lifecycle limit.

However, due to different aircraft being hangared differently, exposed to different weathering conditions, exposure to dust, storage with dust covers, cleaning methods and techniques: the stipulated figures (current, and obsolete), were found to not fully, and accurately give the actual time at which the Trilam would expire, and therefore need changing.

On one hand, some aircraft had reached a stipulated limit from a maintenance manual, and the covers were still in perfect condition, without any signs of wear, damage, or degradation. On the other hand, some aircraft having been extensively used, and exposed to some more severe weather, have had to have some covers redone after only a few years. Interestingly enough, even these sails which needed replacing after only a few years, were localised, to specific surfaces and areas, and occasionally even the other side of that control surface was still in perfect condition.

This necessitated a revision of the limits, since the blanket mandatory replacement limit did not accurately describe the correct conditions for Trilam replacement. These conditions are actually based on the condition of the Trilam, and any degradation to it. This takes the form of some delamination and peeling of the surface, becoming brittle, and any other physical reduction of structure.

5. Discussion:

In order to ensure the correct performance of the Trilam covering of the aircraft, only good quality covering is suitable for optimal continued flight. This does not mean that any defect renders the aircraft unsafe, but when a surface has a cover that has delamination, brittleness, and cracking in a large area: that individual surface should be replaced. However, since the time at which this occurs can vary greatly, as described above, a blanket replacement time

figure needs to be replaced by an actual periodic inspection to determine when any sail needs to be replaced.

Therefore, all aircraft with Trilam covering, need to use a new standard for determination of the correct time to replace Trilam coverings. This would override the time and life cycle limits stipulated in the maintenance manuals that precede this advisory.

Since there is no fixed location of the sails that are definitely more likely to wear, this inspection will need to be done all around the aircraft, at regular, but not necessarily too frequent intervals.

6. Required action:

The required action is to simply change the time period for changing or replacing of sails to being on inspection and discovery of inadequate sail condition. To aid in determining this condition, the following guidelines are provided.

Periodicity:

1. During a normal pre-flight inspection, if any sails or sections of sails appear to be worn or not in normal condition, a more detailed inspection should be performed.
2. A full walk-around of the aircraft should be done, visually inspecting all sails during the normal maintenance schedule of the aircraft.
3. Any time that sails are noticed to have noticeable discoloration or physical degradation, a detailed inspection should be done.
4. At a yearly inspection, a thorough physical check of all sails should be done.

Detailed/Physical Inspection:

This procedure applies to the cases of when there is a concern, as well as when there is just a period need to inspect the sails. This should be performed on the section of interest, which can be defined as the area which appears to be degraded/damaged.

1. First, visually inspect the area in question to see if there is in fact visible evidence of damage and/or degradation. Significant visible delamination, other separation, cracking, or breaking, are all significant enough to require a recovering of that section. Discolouration in and of itself does not mean that the sail is in anyway physically compromised (but does warrant closer inspection, as mentioned above).
2. For a physical inspection, simply push your thumb against the sail with enough force to displace the sail by approximately 5mm. This must be done on all individual sail panels on the upper surface of the aircraft. These will receive the highest concentration of UV and infrared exposure and are therefore expected to degrade before the other surfaces. If there is a noticeable crackling sound, or if you can feel what feels like the sail crinkling rather than just normal movement, these both imply that the general physical structure is starting to degrade. However, if there is no visible flaking, or delamination present at that point (or any other) after the pressure is released, the sails are still usable.

Urgency and Extent of Recovering

- The aircraft can still be operated safely as long as there is only mild delamination (top layer of material flaking) and this flaking/delamination does not cover more than 10% of the entire surface area of the particular sail. This is on condition that the delamination/degradation of the skins does not get worse, and applies for a maximum of 12 months since first noticing the degradation. Thereafter, the sails must be replaced.
- Only the actual sails that have degraded areas need to be replaced. Any sails that are still in good condition can still be used.



Figure 1: Example of Delamination and Cracking of an Aileron Sail

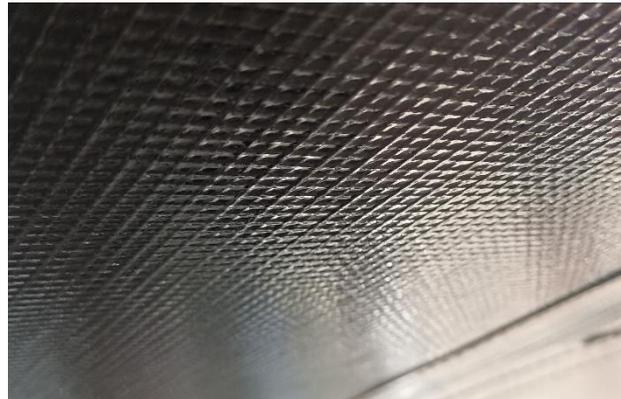


Figure 2: Note that the underside of the same sail is still undamaged

7. Approved personnel:

This work prescribed in this advisory may be carried out by the owner themselves if their country of registration allows, or by an approved person such as:

- In South Africa: Approved Person (AP), SACAA Aircraft Maintenance Engineer (AME) or higher, or person approved by the manufacturer.
- In USA: FAA Light sport repairman (LSRM) or higher, or person approved by the manufacturer.
- The relevant repair person approved by your local aviation authority.

8. Effective date:

This notice takes effect as of the 1st of March 2023.

9. Contact:

Questions and/or comments regarding this safety advisory should be directed to Rainbow SkyReach (Pty) Ltd on:

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