



BRITISH MICROLIGHT AIRCRAFT ASSOCIATION SERVICE BULLETIN

Reference: BMAA Service Bulletin 2360 issue 1
Title: UV degradation of microlight aeroplane sails / covers
Applicability: All BMAA-administered aircraft
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Classification: Advisory

1 INTRODUCTION

Unpainted sails / covers, such as those fitted to weight-shift control and 'rag-and-tube' 3-axis control microlights, are degraded by exposure to sunlight. This degradation is due to ultra-violet (UV) radiation, which is present in large quantities in sunlight. Affected microlight types are subject to residual strength testing as part of the annual inspection for revalidation of their Permits to Fly. This testing usually takes the form of the Betts test.

The BMAA are concerned that sails / covers are sometimes failing the Betts (or similar) test after only a very few years. The sails / covers involved are therefore losing a significant amount of strength each year. This leads to the possibility that a sail / cover may degrade to such an extent that it becomes unsafe between annual tests.

A SUCCESSFUL PERMIT TO FLY REVALIDATION INSPECTION DOES NOT GUARANTEE THAT THE SAIL / COVERS WILL REMAIN AIRWORTHY FOR THE NEXT 12 MONTHS!
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This service bulletin is issued to advise owners of how to store and operate their aircraft to minimise sail / cover degradation due to UV radiation. It also advises owners when to consider performing additional Betts (or similar) testing between Permit to Fly revalidation inspections.

2 AIRCRAFT AFFECTED BY THIS SERVICE BULLETIN

3 IMPLEMENTATION OF THIS SERVICE BULLETIN

When not being flown, aircraft with UV-sensitive sails / covers should be stored out of direct sunlight and in as dark a place as possible.

All aircraft are stored for many more hours than they are flown, so storage UV exposure is critical.

- Direct sunlight. Direct sunlight has a high UV radiation content.
- Scattered sunlight. UV radiation is scattered by clouds: the UV content of sunlight on a bright, but (thinly) overcast, day may not be significantly less than that of direct sunlight.
- Reflected sunlight. UV radiation is reflected by surfaces: the amount reflected is very dependent on the actual surface ranging from less than 2% for grass through 12% for concrete to over 80% for snow.
- Filtered sunlight. Typical window glass blocks a certain amount of UV radiation; the exact proportion depends on the type of glass and the wavelength of the UV radiation.
- Aircraft should be stored out of direct sunlight. Direct sunlight through a skylight or window still contains significant UV radiation. If stored out of direct sunlight, but in an open building with a good view of the sky, UV radiation on bright days may still be significant.
- Aircraft should be stored in as dark an area as possible to minimise the UV radiation from scattered or reflected sunlight. If not dark, a closed building where the light enters through windows will have less UV radiation than an open building.

Therefore

Aircraft should be stored out of direct sunlight.

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