

ref SB142Luff Line Attachment Loops

SERVICE BULLETIN NUMBER 142, ISSUE 4.

TITLE	Luff line attachment webbings.
CLASSIFICATION	P&M Aviation have classified this bulletin essential.
COMPLIANCE	For sails over 200 hours airtime, Inspection before further flight.
APPLICABILITY	Pegasus XL- Q, Quasar, Quantum, Quik, Mainair Gemini Flash2A, Blade, P&M Quik, Quik GT450.

1) INTRODUCTION

The port inner luff line attachment webbing failed on a GT450 wing with 620 hours airtime during taxiing.

The polyester webbing loop had chafed against the chrome plated brass eyelet. The webbing wear was visible from the top side, but not from the underside of the sail.



Fig 1 example of damaged webbing when removed from the eyelet.

A detached luff line is hazardous as it may go into the propeller. Pitch stability in a steep dive or in turbulence would also be compromised.

It appears that the eyeleting process has been forming a ridge inside it capable of damaging the webbing. New tooling has been introduced at the Factory to prevent recurrence of the problem.

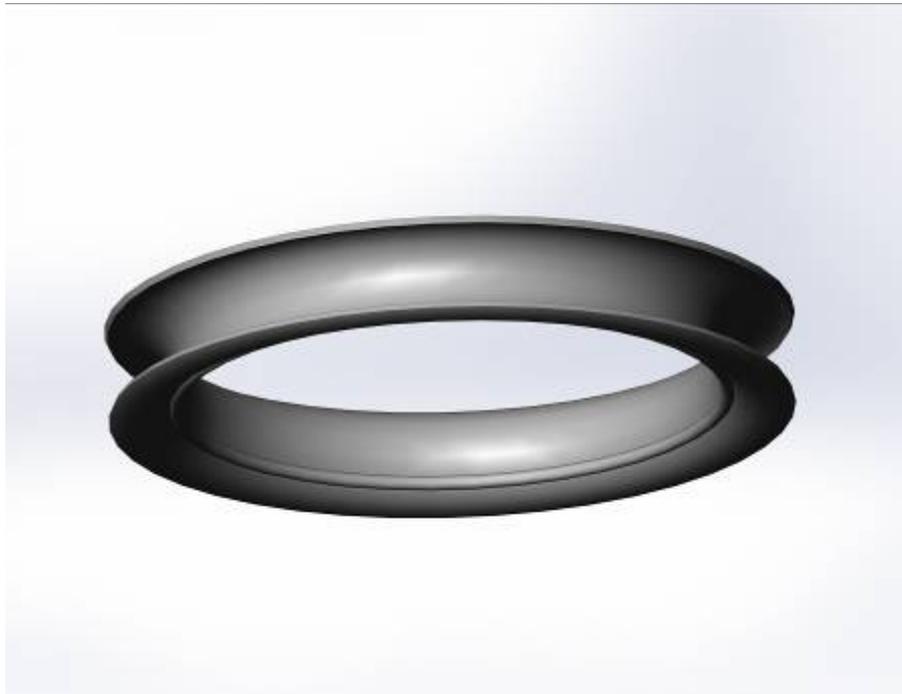


Fig 2 ridge at the bottom of the eyelet.

2) ACTION

2.1 before further flight

Inspect the luff line attachment webbings closely from the **top** and bottom of the sail where it bears against the eyelet. Damage may be easier to spot if the sail trailing edge is raised so as to take the tension off the luff line.

If there is no sign of fraying, the aircraft may continue in service providing the area is closely inspected *from both top and bottom sides* every 50 hours.

2.2 Within the next 50 hours

It is recommended to remove the luff lines and inspect the inside surface of the eyelets. If there is a ridge, it may be removed e.g. with a Dremel tool or fine file. The inner surface should be polished with a length of cord or webbing and a fine abrasive (metal polish or toothpaste) to leave a smooth surface. Try to keep polish residue off the sail.

The webbing may also be protected against further wear by covering it with 2 layers of 9mm clear heat shrink tube (P&M Part PHS6-001). Disconnect the luff line, put a piece of wire (e.g. locking wire) through the webbing, slip the tube over it, push the tube through the eyelet hole and remove the wire. Shrink the first layer down using minimum heat with a hot air gun, then slide the second layer over it, shrink that down. Reconnect the luffline, ensure the clevis pin ring is correctly engaged. All rings may be replaced with a 5/64" X 1/2" s316 stainless steel split pin (P&M part no. FPSP-005) if desired.

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Fig 3 protection by heat shrink tubing.

2.3 If there is webbing damage

If the webbing is damaged, it must be replaced before further flight and any ridge removed from the eyelet. Alternatively, if facilities are not available, the following backup load path may be installed:

Using 2.7mm polyester braided cord (P&M part no. VNR-002) form a loop as shown below through the sail eyelets.

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Fig 4 showing the cord loop and the routing through the eyelets. The free ends are tied around the clevis pin.



Fig 5 loop the cord through both eyelets, tie the ends off around the clevis pin with a reef knot. Use pliers to get it really tight. Apply cyanoacrylate to the knot (superglue). . Note there should be no slack in the cord.

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Fig 6 cut and seal the ends of the cord using a hot knife or soldering iron.

3) Documentation

At the initial inspection, the aircraft technical log must be signed “ Service bulletin SB142 (luff line attachment webbing) carried out” by an owner/operator against his or her pilot’s licence number.

4) Continued Airworthiness

At each permit revalidation, the inspector must check that the technical logbook has been signed, that there is no damage to the luff line attachment webbing loops and/or the cord backup is installed. If the loops are in good condition they may also be protected with heat shrink tubing as described. The webbing loops must be inspected every 50 hours.

ISSUED BY W.G.Brooks

DATE

Approved		Date 23/09/2016
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Checked		Date 23/09/16
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