

Kavanagh Balloons Service Letter KSL225-02

Control line defects

This service letter contains details for inspection and rectification for lumps in deflation system control lines.

Background

A number of operators have reported lumps forming in deflation system control lines. If left unchecked, the core of the rope may haemorrhage through the sheath and may present a risk of jamming in pulleys.

Lumps are formed when the polyester sheath shrinks relative to the Vectran core. The core then bunches up forming the lump.

Refer to KAV-SB-007 for further details.

1. Inspection

Inspect the full length of each deflation system control line for lumps (fig1) or haemorrhage (fig2).

Any area of the control line exposing the core (fig2) is grounds for immediate grounding of the aircraft until repairs are carried out.

The standard rope diameter is ~9mm. Control lines identified with lumps that are over 12mm in diameter or can't be run through a control line pulley without resistance is grounds for immediate grounding of the aircraft until repairs are carried out.

Control lines with lumps that are under 12mm in diameter and can be run through a control line pulley without resistance may remain in service but must be noted for rectification at or before the next periodic inspection.

Where a control line is remaining in service pending repairs, a re-inspection must be scheduled every 30 days until repairs are carried out.

Due to the affected batches of rope going back as far as 2019, it is expected that in most cases the lumps found will be small or not enough to have raised questions on pre-flight or previous annual inspections.



Fig1. Lumps



Fig1. Haemorrhage

2. Rectification - replacement

Control lines with Haemorrhaging will typically be replaced under warranty however an attempt to restore the rope is suggested if there is no broken strands in the core or sheath of the rope.

To order a replacement rope, contact sales@kavanaghballoons.com.au with the balloon serial number, failed control line details and photos of the defect.

3. Rectification - core length reduction

Control lines with lumps may be rectified in situ. The following should only need to be done once in the life of the control line as any shrinkage of the sheath should have finished after the first few heating / flight cycles. A maximum of 1000mm of core can be removed from any control line.

- Count the total number of lumps in the control line
- Multiply the number of lumps by 50. This will give a length in mm of core to be removed. ie: 10 lumps = 500mm. Maximum allowed is 1000mm
- Where the number of lumps exceeds 20, attempt rectification with the maximum 1000mm of core removed.
- From one end of the control line, trim the sewn end off and extract the required length of core. Do not cut yet.
- Tie a knot to secure the sheath and core at the end of the control line (fig3), there will be a section of excess sheath bunched up.
- Work the excess sheath along the length of the control line checking that each lump in the core can be smoothed out. Ensure there is not an excess of sheath at either end of the control line.
- If lumps remain, extract a little more core and repeat.
- Trim the core, hot cut the sheath and re-sew the end (fig4) to secure the sheath to the core.

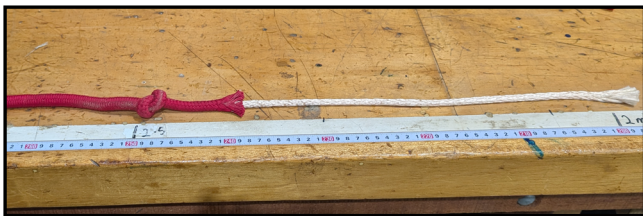


Fig3. Extract core



Fig4. Sew end

If required or applicable, control lines may be extended as per Maintenance Manual section 2.10.1.

4. Deflations system functional check

Provided all work is done from the basket end of the control line or adequate measures are taken to ensure a disconnected control line is returned to the same attachment point without disturbance to the rigging, a functional check of the deflation system recommended but optional.

If there is any possibility that control lines have been mishandled then a deflation system functional check must be performed as per MM section 2.14.1

5. Reporting

Please report all defects found to Kavanagh Balloons detailing the aircraft, rope colour and TTIS, status of the rope - original or date and details of replacement.

Reporting to Kavanagh Balloons can be done online : <https://www.kavanaghballoons.com.au/kav-sb-007-reporting>

Major defect reporting to CASA is required where the control lines are unserviceable.

6. Certification

Note in the aircraft logbook that the control lines have been inspected / rectified IAW this service letter. Where a control line is remaining in service pending repairs, a re-inspection must be scheduled every 30 days until repairs are carried out.