SERVICE LETTER # 1

# VIVA and SPORT PARACHUTE RIGGING

Over a period of years a few pilots of a particular design Viva and Sport balloons have advised Cameron Balloons that the parachute valve in some instance did not close as quickly and surely as the pilot had expected. This Service Letter reviews procedures for the correct operation of the parachute valves in these balloons and describes an envelope modification which makes the parachute valve in these envelopes more forgiving of inadvertent operation outside the Operating Limitations.

In some Viva and Sport envelopes delivered before November 1989, if the parachute valve is opened farther, or held open longer, than the Operating Limitations allow, the parachute valve may close more slowly than expected, with the result that more hot air and lift is lost than was intended.

If the balloon is in flight, this occurrence without immediate heating could result in a descent more rapid than intended and possible collision with an obstruction, another balloon, or the ground.

If the balloon is on the ground, or just coming into contact with the ground during a landing, this occurrence without immediate heating could result in the envelope deflating. Such deflation could occur only because the ground prevents the balloon from accelerating downward. In flight, downward acceleration resulting from loss of lift causes the several tons of unaccelerated air within the envelope to slam the parachute shut as the balloon begins to accelerate downward.

Pilots reporting this phenomenon have included some most accustomed to parachute valves in other makes of balloon which require great force to operate. These pilots may have been relying on their total exertion, instead of the published Operating Limitations, as a gauge of proper parachute valve use.

While the pilot reports of over venting have been very few over the seven and a half years this design of balloon has been in service, these reports do focus attention on the importance of operating within the published Operating Limitations. Failure to comply with the Operating Limitations could create a risk of injury to persons or damage to property.

## IMPORTANT REMINDER

Operating Limitations in your FLIGHT MANUAL (section 2.7 in balloons built before February, 1989, or Section 2.8 in later balloons) limits the opening distance and time for the parachute top as follows:

**Operation of parachute valve is limited to three seconds in flight.**

**Except when landing, discharges through the parachute valve must not exceed 3 seconds duration each. The envelope must be allowed to reinflate fully between activations of the parachute valve. This limitation is based on a pull of about 6 feet (2 meters) on the parachute control line. If the parachute control line is pulled farther than this, the duration of the operation must be shortened.**

SERVICE LETTER # 1

# VIVA and SPORT PARACHUTE RIGGING MODIFICATION OFFERED

Viva and Sport models delivered since November 1989 incorporate parachute rigging which is more tolerant of inadvertent over venting. The parachute rigging in the older models can be modified to the current production design standard.

To assure that all the balloons we have delivered continue to best meet our customers' needs and desires, Cameron Balloons U S will, **free of charge**, upgrade any of the subject Viva or Sport envelopes to the current production parachute rigging standard. While this modification is not mandatory, you are urged to have it incorporated into your envelope so that you can benefit from the performance of the latest design features in this model.

In general, the modifications make the valve centering lines shorter and relocate the shroud lines from gore-centers to vertical-load-tapes.

More specifically, the valve centering line attachment point vertical reinforcement tapes are extended one panel higher, the valve centering line attachment points are moved up one panel, a new internal horizontal load tape is installed at the location of the new valve centering line attachment points, the parachute shroud lines (which pull the parachute open) are retied from the gore center positions to the vertical load tape positions, and the parachute valve centering lines are retied to the new attachment points and adjusted.

Completion of the modifications of this Service Letter will make your envelope functionally conform to the latest model Viva and Sport rigging specifications.

To assure that these modifications are correctly completed, only personnel factory-trained in this procedure may perform the work. At present, this work may be performed either at the factory by Cameron Balloons U S or by AirVenture BalloonPort of Plano, Texas (phone: (214) 422-0212).

## HOW TO ARRANGE THESE OPTIONAL MODIFICATIONS

To arrange these modifications to your envelope, call Cameron Balloons U S at 313 426-5525, or contact a repair facility factory-approved to do this modification. **There is no charge for the modifications.** You must call and schedule a time for this work to be done **before you bring or ship your envelope**. The modification requires about five (5) person-hours of work and can usually be completed within a day or so. This work may be completed at the time of your next Annual Inspection. When you call, also schedule any other inspection or repair work you may wish done to your envelope on the same visit.

At present, there is no expiration date on this offer to modify the rigging on your Viva or Sport envelope.

Please complete and return the enclosed postcard. Please also **place this Service Letter in your Flight Manual for future reference.**

Cameron Balloons US · P.O. Box 3672 · Ann Arbor, MI 48106
· Phone (313) 426-5525 · FAX (313) 426-5026

CAMERON BALLOONS

December 03, 1996



# SERVICE LETTER #2

## SMART VENT™ ACTIVATION LINE MODIFICATIONS:

Until recently Cameron Balloons U.S. used a 1/2" flat strap at the pull end of the Smart Vent activation line. The red flat strap was permanently attached to a 3/8" round rope in such a fashion that the junction would run freely through our standard pulley. This system has and still does function properly. Through pilot feedback (mostly operators of large balloon systems used for commercial passenger flights) and our own on-going research and development program, we have determined that when some pilots wear thick gloves, the 1/2" strap may be difficult to hold on to when activating the Smart Vent deflation system. Cameron Balloons U.S. has decided that a wider and slightly thicker flat strap would be the best solution for this inconvenience.

Cameron Balloons U.S. now uses, as standard, a 1" wide Kevlar™ core flat strap that has a Nomex™ jacket woven around it. This 1" strap has a tensile strength of 3000 pounds. minimum. It also has red Nomex™ sewn around the bottom portion to comply with FAR 31.57 (c). When we changed the width of the strap we changed the pulley system as well. We now route the 1" flat strap from the pull end all the way to the termination point. In order to accomplish this, we replaced the pulley with a 1 3/4" I. D. x 5/16" thick stainless steel ring. The ring has a breaking strength of 12,800 pounds. and is attached to the envelope at the same position and in the same manner as the pulley it replaces.

To assure that all the balloons we have delivered continue to best meet our customers' needs and desires, Cameron Balloons U.S. will, **FREE OF CHARGE**, upgrade any of the previous Smart Vent equipped envelopes to the current production standard. While this modification is not mandatory, you may wish to have it incorporated into your envelope so that you may benefit from the performance of the latest design features.

Completion of the modifications addressed in this Service Letter will make your envelope conform to the latest Smart Vent specifications.

To assure that these modifications are correctly completed, only personnel factory-trained in this procedure may perform the work. At present, this work **MUST** be performed at the Cameron Balloons U.S. factory.

## HOW TO SCHEDULE THESE OPTIONAL MODIFICATIONS.

To schedule these modifications to your envelope, please call Cameron Balloons U.S. at 313-426-5525 from 7:00 AM to 5:00 PM E.S.T. Monday thru Friday. **THERE IS NO CHARGE FOR THESE MODIFICATIONS,** however, transportation to and from the factory is your responsibility. You must call and schedule a time for this work to be done **before you bring or ship your envelope**. The modifications require about 8 person-hours of work and can usually be completed within a day or so. However, since your envelope must be inflated for complete modification inspection, the weather will determine the total length of time required to complete the modifications. This work may be completed at the time of your next Annual Inspection. When you call, also schedule any other inspection or repair work you may wish performed on your envelope.

At present, the expiration date on this offer is **December 31, 1997**. All arrangements must be completed before this date.

Please complete and return the enclosed postcard. Please also **place this Service Letter in the back of your Flight Manual for future reference**.

**Cameron Balloons US P.O. Box 3672 Ann Arbor, MI 48106**
**Phone (313) 426-5525 FAX (313) 426-5026**

# Cameron Balloons U.S. Service Letter 3

***1. General: This Service Letter is issued to improve the parachute seal in Envelope Models Concept 60, 80 and 100 (C-60, C-80 & C-100)***

| | |
|---|---|
| **(a) No.:** | 3 |
| **(b) Revision / Date** | Revision 0 / Date: March 25, 2009 |
| **(c)Title:** | Concept Parachute - Seal Improvement |
| **(d)Description:** | Addition of a vertical - free web tape between the existing spider tape and the envelope top tape |
| **(e)Applicability:** | Models Concept-60, Concept-80 & Concept-100. |
| **(f)Effectivity:** | All Models Concept-60, Concept-80 & Concept-100. |

***2. Background:*** It has been found that on Concept models the parachute seal may be enhanced by the addition of a vertical - free web tape installed between the existing spider tape and the envelope top tape.

**3.** ***Compliance (Category):*** Recommended

***4. Consequences of Non-Compliance (Possible):*** Decreased fuel economy

***5. Accomplishment Instructions:*** Install a vertical - free web tape between the existing spider tape and the envelope top tape. Refer to Figure 1.

***6. Materials:*** For the C-60 & C-80, 12 ea. 20" long pieces of matching color 3/4" nylon tubular web tape (VLT). For the C-100, 16 ea. 20" long pieces of matching color 3/4" nylon tubular web tape (VLT).

Standard nylon - size 69 - twisted thread.

***7. Instructions:*** Refer to Figure 1. In every gore, locate and mark on the spider tape and on the envelope top tape the center point between each set of vertical load tapes. Use these marks to locate the vertical - free web tapes on top of the existing spider tape and envelope top tape. Attach the vertical free web tapes to the spider and envelope top tapes with a "Cameron Box Stitch" (see Figure 1).

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# Cameron Balloons U.S.
# Service Letter 3

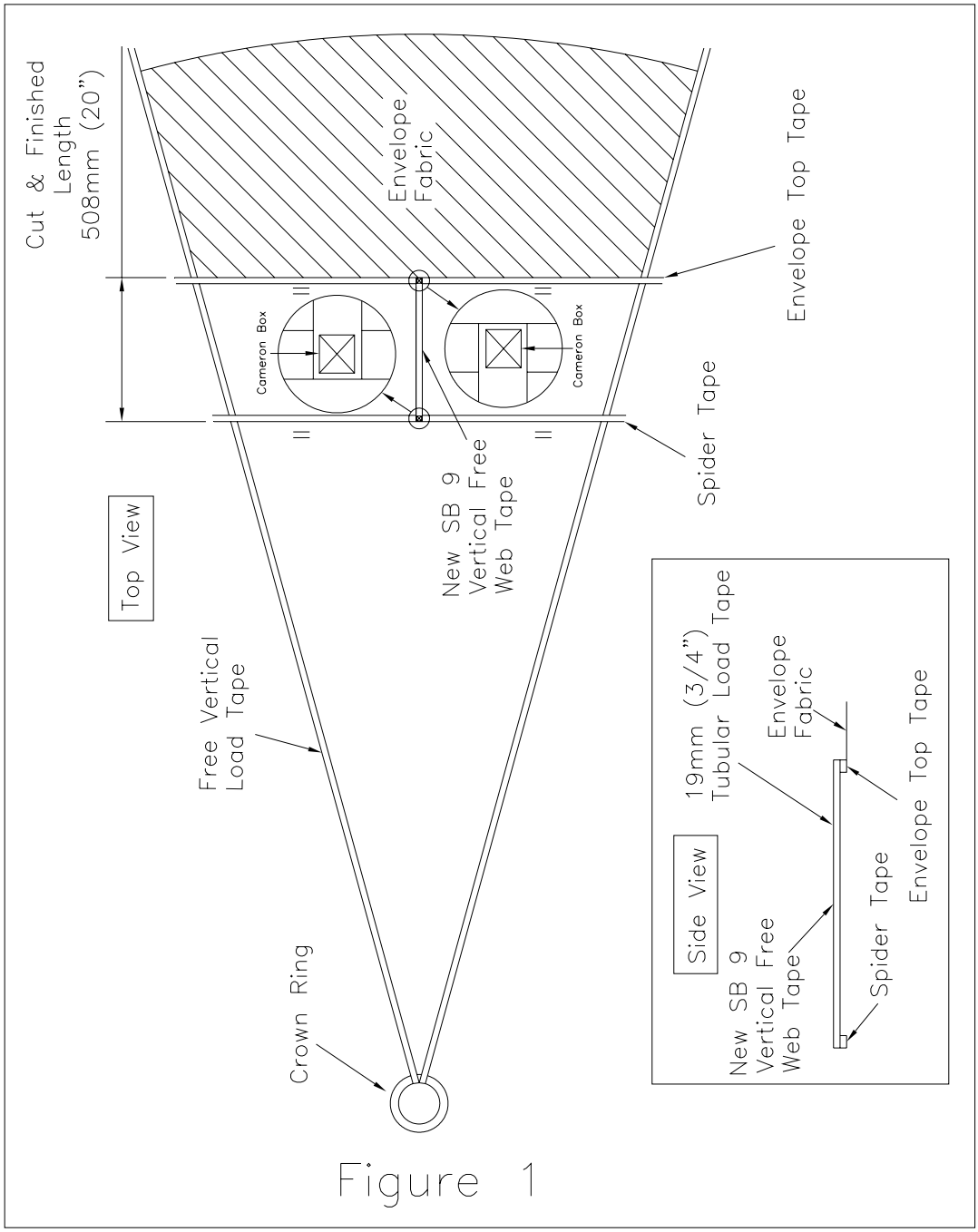


Figure 1

**Cameron Balloons U.S.**
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