



RECOMMENDED

**Flight Trim Check for Xaos-27 Series canopies
made between OCT 2010 and APR 2011**

**SERVICE BULLETIN
SB111214**

1) Effectivity

This Service Bulletin applies to Xaos-27 canopies manufactured between 01 OCT 2010 and 15 APR 2011

2) Non-Effectivity

This Service Bulletin does not apply to any canopies unless described above.

3) Identification

All Precision Aerodynamics canopies have a serial number containing eight digits. All Xaos-27 canopies have serial numbers whose first two numbers are "83". To date, four canopies are known to be affected by SB111214, although it is possible that there may be others. The canopies that are known to be affected have all been located and are identified with the following serial numbers:

83049461 83049462 83049465 83049466

4) Background

Systematically, each Xaos-27 lineset is custom made for its serial numbered canopy. At the request of, and in response to overwhelming input from advanced teams of sponsored athletes, competitors, and other users of Xaos-27 canopies, beginning 01 OCT 2010 we improved the canopy design by extending all line sets of the Xaos-27 series by 25cm (~10 inches) over the original trim specifications. The result of this of this extension smoothes the deployment sequence, controls the recovery arc and enhances the bottom end flare at the point of landing.

In the beginning of this change, the 25cm (~10 inch) extension was "added on" in the calculation process when the linesets were manufactured. In the case of the four canopies mentioned above, all of the linesets were made from a single "set-up" rather than being done in the traditional systematic fashion. On these four specific canopies, the "B2" lines were cut shorter than specified by a dimension of approximately 9cm (~3.5 inches). Each canopy contains 2 "B2" lines which are non-cascaded and located on the inboard seam of each endcell.

Several hundred jumps were made on these four canopies mentioned above by different jumpers without incident. On 20 May 2011 a jumper was severely injured when his canopy collapsed in during turbulent conditions at a low altutude, but the cause of the collapse has not been determined. We continue to evaluate and jump test canopies intentionally rigged with the replicated shortened "B2" lines without incident but these canopies exhibit slightly more "sluggish" performance when compared to specified rigging. Beginning April 15, 2011, programming was instituted to include the additional 25cm (~10 inches) into the production of new linesets without the need for manual calculation.

Precision Aerodynamics issues
Service Bulletins in 3 types:

1) MANDATORY

MANDATORY Service Bulletins contain information that is critical to flight safety. MANDATORY Service Bulletins contain modifications and/or inspections in which compliance is MANDATORY. MANDATORY Service Bulletins are identified with the red "MANDATORY" stamp in the upper right-hand corner of the Service Bulletin.

2) RECOMMENDED

RECOMMENDED Service Bulletins contain information or modifications that are not considered MANDATORY at the time of issuance, but compliance is highly RECOMMENDED for the benefit of the user at an increased level of performance. RECOMMENDED Service Bulletins are identified by the black "RECOMMENDED" stamp in the upper right-hand corner of the Service Bulletin.

3) OPTIONAL

OPTIONAL Service Bulletins contain information regarding modifications or improvements, and compliance is left to the discretion of the owner. OPTIONAL Service Bulletins are identified by the blue "OPTIONAL" stamp in the upper right-hand corner of the Service Bulletin.

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5) Manpower and Required Credentials

Compliance with this Service Bulletin may be accomplished by any person capable of understanding the appropriate Trim Chart and taking simple measurements with a normal Imperial or Metric tape measure and comparing the measurements with the correct design data. No Rigger rating is required. Estimated time of compliance is 30 minutes.

6) Accomplishment Instructions

- a) go to the Precision Aerodynamics website's Line Trim Specifications Sheets location at <http://precision.aero/TrimSpecs/trimspecs.aspx>
- b) from the dropdown Canopy menu, select the canopy type Xaos-27
- c) in the Size box, input the canopy size in square feet and press ENTER or click on "update". If you do not press ENTER or click on the "update" tab, the data will not refresh and will not be accurate.
- d) line attachment points are lettered from leading edge to trailing edge A-B-C-D, and numbered from center cell outward 5-4-3-2-1 with 1 being on the outside. The control line attachment points are lettered T and numbered 4-3-2-1 with 1 being on the outside. Values for line lengths are given in both inches and centimeters for the respective positions.

line measurements are taken under 5 lbs tension from inside loop on one end to inside loop on the other end.

(not to scale)

- e) compare the measured line length with the number associated on the Trim Specifications Sheet. best flight performance tolerance is $\pm 0.5\%$ differential across all line lengths. If measured line differentials are more than $\pm 0.5\%$ differential across all line lengths, contact Precision Aerodynamics to arrange a factory inspection and correction at no charge.

7) Distribution

Registered Owners of Record
Parachute Dealerships and Lofts
National and International Parachuting Publications
PIA and Commercial Parachute Riggers Lists
Precision Aerodynamics' website <http://www.precision.aero>
Parachute Industry Association website <http://www.pia.com>

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