

X-Back Life vest:

During the design phase, the focus was to improve the overall comfort of the product, without sacrificing the safety of the product. Other designs aim to minimize the footprint of the life vest, which creates a very dense and uncomfortable lump when it is being worn. The unique geometry and layout of the X-Back improves the overall experience and fit of the product while performing critical functions (Figure 1a and b).



Figure 1a. X-Back in use with a five-point harness.



Figure 1b. Five-point harness highlighted (Note the location of the harness is interior to any hard components.)

The positioning of each component was critical in this design to ensure that the comfort of the unit was maintained without sacrificing functionality.

Oral Tube: The oral tubes are in the inverted position to optimize the alignment with the inflation cylinder and eliminate any potential for interference with the wearer when jumping from an elevated surface. Inverting the oral tubes, allowed for positioning the base lower on the cell, that ultimately improved the comfort and safety of the life vest (Figure 2a and b).



Figure 2a. Profile picture of the X-Back



Figure 2b. Profile of the X-Back with the internal components highlighted.

The positioning of the oral tubes was critical to the overall functionality and comfort of the product. Switlik recognizes that this positioning is not the traditional or expected orientation; however, the product was successfully qualified by verifying access to both oral tubes and subsequently inflating the unit (Figures 3, 4a and b).



Figure 3. Oral tube positioning in the flat



Figure 4a. Inflating the bottom tube



Figure 4b. Inflating the top tube