PIA Technical Standard 100

Parachute Industry Association Publications

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Standardized Nomenclature for Ram-Air Parachutes

Introduction

This Technical Standard was adopted by the Parachute Industry Association (PIA) on March 27, 2015. Input concerning revisions and additions should be submitted to:

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Definitions

Airlock: On a canopy, a valve which permits air flow more easily in one direction, and restricts airflow in the opposite direction. In most case, airlocks are installed in the nose of the canopy to permit air to enter during deployment and flight, and restrict air from flowing out the nose to ensure better pressurization in turbulent air.

Angle of

Attack: The angle formed between the flight path and the chord line. The Greek letter alpha (α) is used to denote the angle of attack. See Figure 3.

Trim: The angle formed between the horizontal reference line and the trim line. The Greek letter theta (θ) is used to denote the angle of trim. Used instead of the somewhat analogous aircraft term “angle of incidence.” See Figure 1b.

Area,

Airfoil Section: The finished cross sectional area of a given rib (airfoil) section. When ribs are not identical, the specific rib must be identified. Used for calculations of pack volume and internal volume of canopy.

Planform: The product of the average chord times the average span of the canopy.

Projected: The area of an inflated canopy as viewed from above, perpendicular to the chord line at the centerline of the parachute. Due to canopy curvature and cell inflation bulging the projected area is always smaller than the planform area.

Aspect Ratio: $Span^2/Area$, which for a rectangular planform reduces to Span/Chord.