



Σ SIGMA RESERVE II

SPECIFICATIONS:

- Wing Span: 29.3 ft.
- Wing Chord (End Cell): 10.36 ft.; Wing Chord (Center Cell) 11.95 ft.
- Aspect Ratio: 2.52:1
- Canopy weight: 12.5 lbs.
- Pack Volume: Designed to fit Micro Sigma container
- Approved for use as reserve parachute canopy per TSO-C23f
- Minimum exit weight per TSO-C23f: 200 lbs.
- Maximum exit weight per TSO-C23f: 550 lbs.
- Fabric type: All F-111 (1.1 oz 0.5-3 cfm, 30 Denier Nylon, Rip Stop)
- Line type:
 - A/C = 1,500 lbs. Vectran
 - B/D = 1,000 lbs. Vectran
 - Lower Control Line = 1,500 lbs. Vectran
 - Upper Control Lines = 1,000 lbs. Vectran

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GENERAL

The Sigma-II Reserve 340 is an all low-permeability nylon, slightly tapered, nine cell, dual-harness reserve parachute.

The Sigma-II Reserve 340 (SR-340) is a modern 9-cell slightly tapered ram-air design that fully compliments UPT's Sigma Tandem System. The SR's maximum weight limit is higher than the legacy VR-360 tandem reserve. This reserve canopy is designed to open, fly and land far more like a tandem main parachute than a traditional reserve.

Following years of development and refinement, the Sigma-II Reserve in both sizes (340 & 370 sq.ft.) has met and/or exceeded the required test standards of TSO-C23f.

The primary goal of the Sigma-II Reserve tandem canopy developmental program was to provide an even higher level of safety to the tandem skydiving community. After many years of development and drop testing we are confident that the performance and reliability of this reserve parachute will speak for itself.

PACKING

Ease of packing by certificated parachute riggers was a consideration throughout the development of the Sigma-II Reserve Parachute. The introduction of a cascaded Vectran line set means easier bulk distribution and a reduction in overall pack volume compared to the continuous Dacron line set used on the VR-360.

The modern planform design of the Sigma-II Reserve is slightly tapered at the leading and trailing edge which makes parts of the pack job stack staggered at some locations. To aide in packing organization we use alternating white and black line tabs to easily identify line groups. The recommended packing method is pro-pack style reserve, see the manual for detailed packing instructions.



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OPENINGS

Sub-terminal openings are typically soft and comfortable, with a short snivel and an even, progressive inflation that develops from the center to the outboard cells. Terminal openings typically involve light to moderate snatch forces, with signs of a brief snivel, before progressing into an inflation that is quick but not hard.

Tandem reserve deployments are unique in that they can occur from an inflated main parachute with a very low speed SkyHook deployment or from the very high speeds of drogueless tandem terminal. The Sigma-II Reserve development specifically took this broad speed range into consideration to provide an opening that meets the altitude or time loss requirements specified by TSO-C23f. Careful attention was placed on minimizing opening forces for safety, especially in the high-speed spectrum.* Our test jumps also included deployments with several induced line twists, where we found that the Sigma-II Reserve opened and inflated at generally the same rate. With reasonable body position, it remained centered overhead with no tendency toward diving or losing additional altitude.

* IMPORTANT NOTE: The FAA requires reserves to be tested beyond their placarded weights and speeds to provide an additional margin of safety. The Sigma-II Reserves have been tested per the FAA's requirements; however, you should NEVER exceed the maximum placarded weight for a reserve or deploy it at a higher airspeed than the maximum placarded speed. The deployment time and altitude described in the TSO should not be used to determine a minimum safe altitude for reserve deployment. You should always perform emergency procedures at or above the minimum altitude recommended in the Sigma Tandem Manual and Instructor Training Course.

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FLIGHT CHARACTERISTICS

GLIDE

The Sigma-II Reserve has a slightly flatter glide than the VR-360. Descent rate and glide more closely resembles that of a similar-sized main canopy than other reserves.

TURNS

The Sigma-II Reserve has an overall intuitive response to control inputs. The Sigma-II feels similar in toggle turns to a tandem main canopy of the same size, making the control range more familiar and easier to adapt to.

CONTROL RANGE

The Sigma-II has a fairly long control range for a reserve parachute, with excellent slow flight characteristics. The stall point is very deep for a reserve, so much so that it may be possible to fly at full arm extension for a few seconds prior to getting a stall. Altitude permitting, it is best to check the control range, i.e. practice flares and braked flight performance of the Sigma-II prior to landing.

LANDINGS

The Sigma-II Reserve is designed to minimize toggle effort while maximizing the flare power on landing. Customers will find that the increase in flare power and familiar toggle stroke make the Sigma-II Reserve's landing performance and predictability more closely resembles that of a main parachute.

The canopy responds directly to proper flare input. The beginning of the flare is easy to find, starting around mid stroke. With the long control range and powerful response, it is easier to land well, with timing of the input being less critical than for other reserve parachutes of similar size.

*Exercising proper skill and technique will result in a flaring must be timed well. Regardless of how great the flare potential is with the Sigma-II Reserve, a hard landing will be the likely result from a poorly timed flare.