



**TP-460**  
**PERFORMANCE SPECIFICATIONS**



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## INTRODUCTION

Performance Designs, Inc. created the Tandem Phoenix main parachute. Unlike reserve parachutes, main parachutes are not required by the federal government to meet TSO requirements. Performance Designs Inc. has established its own rigorous test requirements. While reviewing the test results, adequate safety margins must be added to these figures to derive operational limitations.

All test results are from jumps that have been made with new equipment. Experienced test jumpers perform all test jumps.

## SUMMARY OF TEST CRITERIA AND RESULTS

The TP-460 has been tested to have soft, reliable openings over a wide range of both weight and speed. The TP-460 has been deployed at weights up to 1000 pounds (454 kg), which is well in excess of the recommended maximum of 850 pounds (386 kg). The parachute is forgiving to errors in body position during deployment.

The TP-460 can reach a descent rate of zero with a flared landing after a normal stabilized approach. The parachute still maintains its landing flare performance even at wing loadings well above the maximum. Our test jumps involved good landings at weights up to 850 pounds. Test jumps were conducted with the TP-460 at various field elevations up to 10000 ft MSL, the highest field elevation to which we have had access. Both full flare and deep brakes techniques were used successfully.

Another item successfully tested was the parachute's performance of flat turns while in brakes. Flat turns decrease the descent rate while in the turn. The parachute also exhibits good stability and responsiveness in poor weather conditions when loaded reasonably for those weather conditions.

Stability and responsiveness were tested for and observed at wing loadings below 0.45-lbs/sq ft. The weather conditions ranged from fair to lightly turbulent. Based on this testing, we have chosen a minimum wing loading of 0.52-lbs/sq ft for the TP-460, when flown in reasonable weather conditions.

All the tests were completed satisfactorily, and all parameters were met.



## PERFORMANCE SPECIFICATIONS

Exit Weight Range	Minimum Bundle Diameter	Max. Deployment Altitude (MSL) (7-10 sec freefall)***	Max Deployment Altitude (MSL) (extended freefall: 25K-35K MSL)	Max landing field elevation (MSL)	Minimum exit altitude, "clear and pull"
≤ 650 lbs (≤294.8 kg)	24 in* (60 cm)	25000 ft (7620 m)	18000 ft (5486 m)	15000 ft (4572 m)	4500 ft AGL** (1372 m)
651-750 lbs (295.3 – 340.2 kg)	30 in (75 cm)	25000 ft (7620 m)	18000 ft (5486 m)	10000 ft (3048 m)	4500 ft AGL** (1372 m)
751-850 lbs (340.6 – 385.6 kg)	36 in (90 cm)	25000 ft (7620 m)	15000 ft (4572 m)	7500 ft (2286 m)	4500 ft AGL** (1372 m)

\* Limitations for tandem personnel jumps are as per 24-inch (61 cm) tethered bundle operations.

\*\* Minimum exit altitude over water is 3500 ft (1066.8 m) above water level.

\*\*\* Recommended airspeed on exit for 7-10 second delays is 120 KIAS/KEAS, with a maximum of 150 KIAS/KEAS.

**NOTE:** Minimum landing weight is 240 lbs (108.9 kg).

