

## PIA TS 135

**4.3.5.3** Precondition for not less than 400 continuous hours with a 200 lbf (889.6 N) or greater load applied to compress the pack in a manner similar to that most likely to be encountered in actual use. Test drop within 1 hour after removing the load.

**4.3.5.4 Alternate preconditioning.** The preconditioning requirements for 4.3.5.1 and 4.3.5.3 may be combined as follows: The complete test parachute assembly may be placed in a vacuum bag and preconditioned at +180 °F (82.2 °C) for 18 hours at a constant vacuum of not less than 25" Hg (0.846 bar). Stabilize to ambient and drop.

### **4.3.6 STRUCTURAL OVERLOAD TESTS:**

No material(s) or device(s) that attenuates shock loads and is not an integral part of the parachute assembly or component being certified may be used. Tests may be conducted for either a complete parachute assembly or separate components. There shall be no evidence of material, stitch, or functional failure that will affect airworthiness. For reusable items the same items shall be used for all 4.3.6 tests. Peak opening force shall be measured on all 4.3.6 tests. The parachute must be functionally open within the number of seconds calculated for 4.3.8 tests. Parachute assemblies shall be tested in accordance with the following schedule:

- (a) Test weight = Maximum operating weight x 1.2  
Test speed = Maximum pack opening speed x 1.2

-OR-

- (b) Test weight = Maximum operating weight multiplied by the factor from Figure 1  
Test speed = Maximum pack opening speed multiplied by the factor from Figure 1

However, the test speed must not be less than 180 KEAS (333.4 km/h) for reserve and emergency parachute assemblies and the test weight must not be less than 264 lb. (120 kg).

For dual harness parachute assemblies the test weight must not be less than 600 lb. (272.7 kg) and the test speed must not be less than 200 KEAS (370.4 km/h).

### **4.3.6.1 STRENGTH TEST, COMPLETE PARACHUTE ASSEMBLY:**

Three drops shall be made with weight and speed in accordance with 4.3.6. When using test method (b), in 4.3.6 a 4<sup>th</sup> drop must be added using the same parachute under the same conditions in the first three drops. Where non-positive locking hardware is used to attach the canopy or riser(s) to the harness, a cross connector must be used and one of the above drops shall be with only one attachment engaged to test the cross connector and hardware.

### **4.3.6.2 STRENGTH TEST, ALTERNATE MEANS OF COMPLIANCE CANOPY (ONLY):**

Three drops shall be made with a gross weight and speed in accordance with 4.3.6. When using test method (b), in 4.3.6 a 4<sup>th</sup> drop must be added using the same canopy under the same conditions in the first three drops. A test vehicle (e.g., a bomb) may be used. The canopy and any required additional components (i.e., deployment device, pilot chute, and risers) shall be tested as a unit. The connector links (if used) shall be attached to the risers in the same manner as the intended use and the riser(s) should be secured to the test vehicle in a manner appropriate to the test objective. For example, if the parachute risers are to be tested on the bomb drop, it should be arranged in a manner as to duplicate the loading found on the personnel parachute harness. Where non-positive locking hardware is used to attach the canopy or riser(s) to the harness, a cross connector must be used and one of the above drops shall be with only one attachment engaged to test the cross connector and hardware.

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