

**MINIMUM PERFORMANCE STANDARDS FOR PARACHUTE
ASSEMBLIES AND COMPONENTS, PERSONNEL**

1. SCOPE:

This document defines the minimum performance standards for personnel parachute assemblies to be carried in aircraft or worn by passengers, crew, or parachutists for emergency use.

This document covers three types of personnel carrying parachute assemblies and the operating limitations for each:

1.1 Types:

1.1.1 Single harness reserve parachute assembly (and components thereof).

1.1.2 Emergency parachute assembly (and components thereof).

1.1.3 Dual harness reserve parachute assembly (and components thereof).

1.2 Maximum Operating Limits, General:

Parachute assemblies, or components, may be certificated for any operating weight limit equal to or greater than 220 lb (100 kg), and for any pack opening airspeed equal to or greater than 150 KEAS (277.8 km/h).

1.2.1 Dual Harness Reserve Parachute Assembly: The maximum operating weight need not be the same for each harness; however, the maximum operating limits must not be less than 400 lb (181.4 kg), 200 lb (90.7 kg) in each harness, and 175 KEAS (324.1 km/h).

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2. REFERENCES:

2.1 Definitions:

2.1.1 GENERAL: For purposes of this document a parachute assembly normally, but not exclusively, consists of the following major components:

- a. Deployment initiation device (pilot chute, drogue, or functional equivalent); bridle, if applicable
- b. Deployment control device (sleeve, bag, diaper, or functional equivalent), if used
- c. Canopy(s) (includes suspension lines, connector links if used, and reefing device, if used)
- d. Riser(s), if used, when not integral with harness and/or canopy
- e. Stowage container
- f. Harness(es)
- g. Primary actuation device (ripcord or functional equivalent, including reserve static line, if used)

2.1.2 SINGLE HARNESS RESERVE PARACHUTE ASSEMBLY: A certificated parachute assembly (including the reserve deployment initiation device, deployment control device, canopy, risers, stowage container, harness, and actuation device) that is worn in conjunction with a main parachute assembly used for premeditated jumps.

2.1.3 MAIN PARACHUTE ASSEMBLY: A noncertificated parachute assembly (excluding the reserve deployment initiation device, deployment control device, canopy, risers, stowage container, harness, and actuation device) that is worn in conjunction with a certificated reserve parachute assembly as the primary parachute (the one intended for use) for premeditated jumps.

2.1.4 EMERGENCY PARACHUTE ASSEMBLY: A certificated parachute assembly worn for emergency, unpremeditated use only.

2.1.5 DUAL HARNESS RESERVE PARACHUTE ASSEMBLY: A certificated parachute assembly that is used for a premeditated jump by two people: A parachutist in command and a passenger (each in own harness), utilizing one main parachute assembly and one reserve parachute assembly.

2.1.6 FAILURE OF A PARACHUTE ASSEMBLY OR COMPONENT: The term "failure" in this document shall mean any change in a component or assembly that adversely affects its airworthiness.

2.1.7 FUNCTIONALLY OPEN: Functionally open shall mean a parachute sufficiently deployed to provide a rate of descent equal to or less than the limit specified in 4.3.7.

2.1.8 RESERVE STATIC LINE: A device connected to the main canopy that is capable of actuating the reserve parachute assembly following a breakaway from the main canopy.

2.1.9 MAXIMUM OPERATING WEIGHT: The maximum operating weight is the total weight of all individuals or dummies and their equipment.

2.1.10 MAXIMUM OPERATING SPEED: The maximum operating speed equals the maximum pack open speed in KEAS.

3. MATERIALS AND WORKMANSHIP:

Materials and workmanship shall be of a quality which documented experience and/or tests have conclusively demonstrated to be suitable for the manufacture of parachutes. All materials shall remain functional for storage and use from -40 to +200 °F (-40 to +93.3 °C), and from 0 to 100% relative humidity. All plated ferrous parts shall be treated to minimize hydrogen embrittlement.

4. DETAIL REQUIREMENTS:

4.1 Design and Construction:

4.1.1 Materials: All materials shall be designed to support the proof loads specified in the applicable specification, drawing, or standard, without yielding. In the absence of an applicable specification, drawing, or standard for a particular material, successful completion of the 4.3 tests shall be considered adequate evidence of suitability.

4.1.2 Stitching: Stitching shall be of a type that will not ravel when broken.

4.1.3 Main Parachute Assembly: The main parachute assembly when installed but not deployed shall not interfere with the proper function of the reserve parachute assembly.

4.1.4 Primary Actuation Device/Ripcord/Reserve Static Line: The primary actuation device/ripcord/reserve static line, including all joints, shall withstand the test loads of 4.3.1 without failure and shall meet the functional requirements of 4.3.2.

4.1.5 Harness Release: The harness shall be so constructed that the parachutist can separate himself from the reserve canopy and/or harness assembly unaided.

On a dual harness reserve parachute assembly: The parachutist in command must be able to separate himself and the passenger from the reserve canopy and/or harness assemblies unaided.

4.1.6 Main Parachute Release: A device capable of releasing the main parachute assembly from the harness of a reserve parachute assembly is optional. If used, the main parachute assembly release shall meet the applicable functional requirements of 4.3.2.

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4.1.7 Dual Harness Reserve Parachute Assembly, Reserve Static Line: A reserve static line, or functionally equivalent device, is required on dual harness reserve parachute assemblies.

4.1.8 Dual Harness Parachute Assembly, Drogue Release: On dual harness parachute assemblies the use of a drogue is optional. If a drogue is used, it shall meet the functional requirements of 4.3.2.

4.2 Marking:

Except as noted below, the following information shall be legibly and permanently marked on each major component in a location subject to a minimum of obliteration:

- a. Part number, including dash numbers
- b. Manufacturer's name and address
- c. Date of manufacture (month and year) and serial number
- d. FAA TSO-C23 ()
- e. Maximum operating limits (see 1.2 and 4.3.4)

NOTE: These items need not be marked at the same location on the component as long as all of the pertinent information is permanently marked and readily available.

4.2.1 Stowage Container: The information in 4.2 shall be marked on or attached to the outside of the parachute stowage container (pack), and a space provided to mark the information from 4.2.3 and 4.2.4. The lowest maximum operating weight of any component in the assembly (canopy, harness, etc.) and the lowest maximum operating speed of any component (canopy, harness, etc.) shall be marked on the outside of the stowage container (pack) in such a location as to be readily visible to the user during donning of the parachute assembly and subject to a minimum of obliteration during use. Such markings shall be in a block type face, in a minimum size of 3/8 in (9.5 mm) tall (27 point type). The other information required by 4.2, 4.2.3, and/or 4.2.4 may be marked in another location, if desired. In addition, the stowage container shall be provided with a parachute data card pocket constructed such that the card will not be easily lost but will be readily accessible.

4.2.2 Primary Actuation Device/Ripcord: The following information shall be marked on the primary actuation device/ripcord:

- a. Part number, including dash number
- b. Manufacturer's identification
- c. TSO-C23()
- d. Batch, serial number, or date of manufacture (month and year)