



## Standard Specification for Airframe Emergency Parachutes for Light Sport Aircraft<sup>1</sup>

This standard is issued under the fixed designation F 2316; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

### 1. Scope

1.1 This specification covers minimum requirements for the design, manufacture, and installation of parachutes for light sport aircraft.

1.2 The values stated in inch-pound units are to be regarded as the standard. The values in parentheses are for information only.

1.3 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory requirements prior to use.*

### 2. Referenced Documents

#### 2.1 Referenced Document:

FAA Special Conditions 23-ACE-76 (Docket No. 118C), Ballistic Recovery Systems, Modified for Small General Aviation Aircraft<sup>2</sup>

### 3. Terminology

#### 3.1 Definitions of Terms Specific to This Standard:

3.1.1 *armed or arming, v*—the next action activates the system.

3.1.1.1 *Discussion*—Armed or arming is not simply removing a safety pin.

### 4. Materials and Manufacture

4.1 *Materials*—Materials used for parts and assemblies, the failure of which could adversely affect safety, must meet the following conditions:

4.1.1 The suitability and durability must be established by experience or tests.

4.1.2 The strength and other properties assumed in the design data must meet approved specifications.

4.1.3 The effects of environmental conditions, such as temperature and humidity, expected in service must be taken into account.

### 5. Parachute Model Designations

5.1 *Parachute System Parts List*—A parts list is required for each parachute system for each airframe model in accordance with this specification.

5.2 *New Parachute Model Designations*—Each new parachute system model must be qualified in accordance with this specification.

5.3 *Design Changes*—Design or configuration changes that impact the parachute installation, performance, or operability require a new parachute model designation. Each design change of a part or component of a parachute system qualified by this specification must be evaluated relative to the requirements of this specification.

5.4 *Installation Design Changes*—Any airframe manufacturer, builder, or owner changing the design of their aircraft under this specification shall, as soon as possible, inform the parachute manufacturer about changes that may affect the mounting, attaching, deployment, egress, or specifications of the parachute system.

### 6. Parachute System Design Requirements

#### 6.1 Strength Requirements:

6.1.1 Strength requirements are specified in terms of limits loads (the maximum loads to be expected in service) and ultimate loads (limit loads multiplied by prescribed factors of safety). The minimum factor of safety, or ultimate load factor, shall be 1.5. Compliance with strength requirements for components other than the parachute assembly may be demonstrated by analysis or testing.

6.1.2 System evaluation by analysis must use an accepted computational method that has been verified through testing. In other cases, load testing must be conducted.

6.1.3 System evaluation by testing must be supported with instrument calibration verified by an applicable weights and measures regulatory body, for example, state and federal governments.

6.2 *System Design*—The following minimum performance standards for the basic parachute system shall be met.

<sup>1</sup> This specification is under the jurisdiction of ASTM Committee F37 on Light Sport Aircraft and is the direct responsibility of Subcommittee F37.70 on Cross Cutting.

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<sup>2</sup> Available from Ballistic Recovery Systems, Inc., 300 Airport Rd., South St. Paul, MN 55075.