



Standard Specification for Airframe Emergency Parachutes¹

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1. Scope

1.1 This specification covers minimum requirements for the design, manufacture, and installation of parachutes for airframes. Airframe emergency parachutes addressed in this standard refer to parachute systems designed, manufactured, and installed to recover the airframe and its occupants at a survivable rate of descent. This standard is not applicable to deep-stall parachutes, spin recovery parachutes, drogue parachutes, or other airframe emergency aerodynamic decelerators not specifically intended for safely lowering the airframe and occupants to the ground. The standard is applicable to these types of parachutes if they are an integral part of an airframe emergency parachute system designed to recover the airframe and occupants at a survivable rate of descent.

1.2 The values stated in SI units are to be regarded as standard. There may be values given in parentheses that are mathematical conversions to inch-pound units. Values in parentheses are provided for information only and are not considered standard.

1.2.1 Note that within the aviation community mixed units are appropriate in accordance with International Civil Aviation Organization (ICAO) agreements. While the values stated in SI units are regarded as standard, certain values such as airspeeds in knots and altitude in feet are also accepted as standard.

1.3 *Airframe emergency parachute recovery systems have become an acceptable means of greatly reducing the likelihood of serious injury or death in an in-flight emergency. Even though they have saved hundreds of lives in many different types of conditions, inherent danger of failure, even if properly designed, manufactured and installed, remains due to the countless permutations of random variables (attitude, altitude, accelerations, airspeed, weight, geographic location, etc.) that may exist at time of usage. The combination of these variables may negatively influence the life saving function of these airframe emergency parachute systems. They are designed to*

be a supplemental safety device and to be used at the discretion of the pilot when deemed to provide the best chance of survivability.

1.4 *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 There are currently no referenced documents in this specification.

3. Terminology

3.1 *Definitions of Terms Specific to This Standard:*

3.1.1 *ballistic device, n*—may include rocket motor, mortar, explosive projectile, spring, or other stored energy device.

3.1.2 *completely opened parachute, n*—the parachute has reached its maximum design dimensions for the first time.

3.1.3 *parachute deployment, n*—process of parachute activation and inflation.

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 Materials shall be suitable and durable for the intended use.

4.1.2 Design values (strength) must be chosen so that no structural part is under strength as a result of material variations or load concentration, or both.

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

5. Reserved

5.1 This section is being used as a placeholder to maintain the previous section numbers.

6. Parachute System Design Requirements

6.1 *Strength Requirements:*

¹ 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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