

ANSI/AIAA
S-017-1991

Standard

Standard for Aerodynamic Decelerator and Parachute Drawings

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American National Standard

Standard for Aerodynamic Decelerator and Parachute Drawings

Sponsor

American Institute of Aeronautics and Astronautics

Approved December 20, 1991

American National Standards Institute

Adopted January 3, 1992

Department of Defense

Abstract

This AIAA Standard establishes terminology for 260 terms critical to communication about the design and function of parachutes. It further sets requirements for the graphic description of materials, stitching, seams, view, and projections, with related dimensions and tolerances, all of which are consistent with current procurement practice. Many figures are included to illustrate the requirements. Additional illustrations of several types of parachutes are provided in an appendix.

American National Standard

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Foreword

The purpose of this standard is to help government and private organizations prepare parachute drawing details in a reasonably uniform format. For parachute drawings, it offers guidelines on exceptions to basic drawing standards; general notes; views and projections, seams and stitching, identification markings; and finished and pattern dimensions.

Every attempt has been made to base this standard on widely-accepted usage by government and industry. By following the requirements and recommendations of this standard, developing groups will help create consistent parachute drawings which will enhance their usefulness in design and manufacturing applications.

This AIAA Standard was prepared by the AIAA Aerodynamic Decelerator Systems Committee on Standards, functioning as a subcommittee of the Technical Committee of the same name. A need for a national standard for decelerator drawing had been perceived, and this document is the response to that need. Because of some unique properties, aerodynamic decelerator drawings need some special conventions. In addition to improved clarity, it is intended to help prevent misunderstanding and disagreements about interpretation and problems with quality control or inspection due to differing drawing conventions.

A standard used by Sandia Laboratories was proposed as a starting point. Drawing practices from several industry sources were incorporated in the first draft. Several revisions were discussed at meetings of the Aerodynamic Decelerators Technical Committee; comments were incorporated before final balloting. Additional inputs to the consensus were provided by members of the Parachute Industry Association and individuals who participated in the coordination by U. S. Army Natick Research, Development, and Engineering Center prior to adoption of this standard on behalf of the Department of Defense. The official DoD adoption notice is reprinted on page vi.

The Chairman of the AIAA Aerodynamic Decelerators Committee on Standards is Robert B. Calkins (McDonnell Douglas Corp., Long Beach, CA).

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Ms. Susan Smith (Naval Weapons Center) supplied substantial support in the preparation.

This Standard was approved by the AIAA Standards Technical Council in May 1991.

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NOTICE OF
ADOPTION

ADOPTION NOTICE 1
3 January 1992 for
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20 December 1991

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1.0 Introduction

This Standard supplements the requirements of MIL-T-31000, "Product Drawings and Associated Lists," for drawings with conventions for textile drawings used for parachutes and components. Uniform practices for stating and interpreting these conventions are established herein.

Where drawings are based on this Standard, this fact shall be noted on the drawings or in a document referenced on the drawings. References to this Standard shall state "ANSI/AIAA-S-017-1991"

This Standard is intended to supplement rather than replace MIL-STD-100 and the following American National Standards:

American National Standard Y14.2M *Line Conventions and Lettering*, New York, 1979

American National Standard Y14.3 *Multi and Sectional View Drawings*, New York, 1975

American National Standard Y14.5M *Dimensioning and Tolerancing*, New York, 1982

American National Standard Y14.26.3 *Computer-aided Preparation of Product Definition Data (including Engineering Drawings), Terms and Definitions*, New York, 1975

The following standards and specifications are also referenced in this Standard: FED-STD 751, MIL-I-6903, and MIL-F-21840. In the event of a conflict between the text of this Standard and the references cited, the text of this Standard shall take precedence.

The figures in this Standard are intended only as illustrations to aid the user in understanding the principles and methods of representing textile drawings given in the text. The absence of a figure illustrating the desired application is neither reason to assume inapplicability nor basis for rejection of the drawing. In some instances figures show added detail for emphasis, in other instances figures are incomplete by intent.

Notes herein in capital letters are intended to appear on finished drawings. Notes in lower case are explanatory only and are not intended to appear on drawings. Notes as given are generic in nature and should be adapted to the specific end-item requirements.

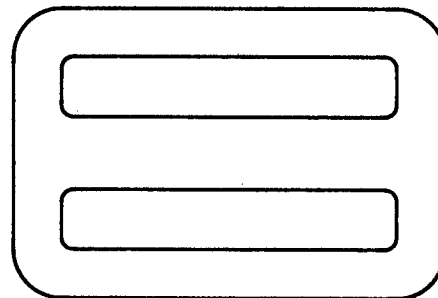
2.0 Definitions

The following is a glossary of parachute drafting terms:

Accordion folding see Folding, accordion

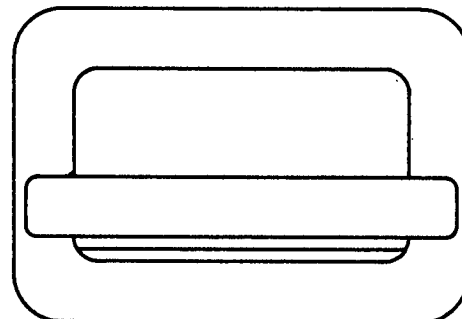
Actuator, automatic parachute a device that automatically withdraws the ripcord from a parachute.

Adapter, harness strap a rectangular metal fitting with a cross bar. It is incorporated in a parachute harness to permit proper adjustment of webbing.



Harness Strap Adapter

Adapter, harness, quick fit an adapter with the fixed crossbar replaced by a floating friction grip. The adapter is incorporated in a harness web to permit quick adjustment. Also called a friction adapter.



Quick Fit Harness Adapter