

MIL-R-43608A
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 SUPERSEDING
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MILITARY SPECIFICATION
 RIPCORDS, PARACHUTE, PERSONNEL, GENERAL
 SPECIFICATION FOR

This specification is approved for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers the general requirements for personnel parachute ripcords.

1.2 Classification. Ripcords shall be of the following types, styles and sizes, as specified (see 6.2).

Type I - Cloverleaf grip

Style 1
 Size A
 Size B
 Style 2
 Style 3
 Size A
 Size B
 Style 4

Type II - "T" grip

Style 1
 Style 2
 Size A
 Size B
 Style 3

Type III - Trapezoidal grip

Style 1
 Size A
 Size B
 Style 2
 Style 3
 Size A
 Size B

Type IV - Oval grip

Style 1
 Style 2
 Style 3

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: US Army Natick Research and Development Laboratories, Natick, MA 01760 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

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2. APPLICABLE DOCUMENTS

2.1 Issues of documents. The following documents, of the issue in effect on date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein:

SPECIFICATIONS

FEDERAL

- PPP-B-26 - Bag, Plastic, Polyethylene
- PPP-B-601 - Boxes, Wood, Cleated-Plywood
- PPP-B-636 - Boxes, Shipping, Fiberboard

STANDARDS

MILITARY

- MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attributes
- MIL-STD-129 - Marking for Shipment and Storage
- MIL-STD-1188 - Commercial Packaging of Supplies and Equipment
- MS 70112 - Ripcords, Parachute, Personnel

DRAWINGS

US ARMY NATICK RESEARCH AND DEVELOPMENT LABORATORIES

- 11-1-313 - Ripcord Pin Check Gage
- 11-1-2524 - Ripcord Assembly

AIR FORCE

- 42B10916 - Method of Testing Parachute Ripcord Locking Pins

NAVY

- 60A113C42 - Test Method, Ripcord Locking Pin, Parachute

(Copies of specifications, standards, drawings and publications required by contractors in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

3. REQUIREMENTS

3.1 First article. When specified (see 6.2), the contractor shall furnish a sample for first article inspection and approval (see 4.3 and 6.3).

3.2 Materials. The materials, construction, and supplementary processes involved in the fabrication of the ripcord shall conform to the requirements specified or shown on MS 70112 or 11-1-2524, applicable drawings, and the detail drawings subsidiary thereto.

3.3 Performance.

3.3.1 Locking pin joint. Each swaged locking pin joint shall show no evidence of loosening when pull tested in accordance with 4.4.3.2.1.

3.3.2 Locking pin. Each locking pin shall not take a permanent set when tested in accordance with 4.4.3.2.2.

3.3.3 Welded, brazed or soldered joints. Welded, brazed or soldered joints on ripcord grips shall show no evidence of separation when pull tested in accordance with 4.4.3.2.3.

3.4 Identification marking. Each ripcord shall be permanently marked with the part number (detail drawing number) and the manufacturer's identification or readily identifiable trademark. If impression stamping is not used, the method of marking shall be subject to the approval of the procuring activity. Marking shall be in a location that will not affect serviceability.

3.5 Workmanship. The workmanship shall conform to the quality established by this specification.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract, the contractor is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract, the contractor may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

4.2 Classification of inspections. The inspection requirements specified herein are classified as follows:

- (a) First article inspection (see 4.3).
- (b) Quality conformance inspection (see 4.4).

4.3 First article inspection. When a first article is required (see 6.2), it shall be examined for the defects specified in 4.4.3.1.1 and 4.4.3.1.2. The presence of any defect shall be cause for rejection of the first article.

4.4 Quality conformance inspection. Unless otherwise specified, sampling for inspection shall be performed in accordance with MIL-STD-105.

4.4.1 Component and material inspection. In accordance with 4.1, components and materials shall be inspected in accordance with all the requirements of referenced specifications, drawings, and standards unless otherwise excluded, amended, modified, or qualified in this specification or applicable purchase document.

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4.4.2 In-process inspection. Inspection shall be made of ripcords at appropriate stages of fabrication to determine conformance to the requirements of this specification. The Government reserves the right to exclude from consideration for acceptance any material for which in-process inspection has indicated nonconformance.

4.4.3 End item inspection.

4.4.3.1 End item examination. The end item shall be examined in accordance with 4.4.3.1.1 and 4.4.3.1.2. The sample unit shall be one ripcord and inspection lots shall be expressed in units of ripcords.

4.4.3.1.1 Visual examination. The end item shall be examined for the defects listed in table I. The inspection level shall be II and the acceptable quality level (AQL) shall be 1.5 major and 6.5 total (major and minor combined) defects per hundred units.

TABLE I. Visual defects

Examine	Defect	Classification	
		Major	Minor
Construction and workmanship	Any component missing or not joined as specified	X	
	Any operation omitted or not performed as specified	X	
	Any component damaged, malformed, or misaligned	X	
	Cable end not flush or recessed as specified		X
	Welding or brazing not finished smoothly where specified		
	Broken wire in cable	X	
	Any sharp edges, burrs, or metal slivers	X	
Identification marking	Missing, illegible, incorrect, improper location, or not applied as specified		X

4.4.3.1.2 Dimensional examination. The completely fabricated ripcords shall be examined for conformance with the dimensional requirements of MS 70112, applicable drawings, and the detail drawings subsidiary thereto. The sample unit shall be one ripcord. The inspection level shall be S-4 and any deviation from the specified dimensions shall be cause for rejection of the lot.

4.4.3.2 End item testing.

* 4.4.3.2.1 Swaged locking pin joint testing. Each swaged locking pin joint shall be pull tested as specified on Air Force Drawing 42B10916 or Navy Drawing 60A113C42 as referenced on the applicable detail drawing. Any loosening of the swaged joint

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shall be cause for rejection of the ripcord. When testing in accordance with Air Force Drawing 42B10916, the specified pulling bar may be replaced by any test fixture so constructed that it will not deform the pins, cable or handle during the test.

- * 4.4.3.2.2 Locking pin bend testing. Each locking pin shall be tested as specified on Air Force Drawing 42B10916 or Navy Drawing 60A113C42 to determine conformance with the requirements of 3.3.2. After the bend test load has been removed the pin shall be inspected for straightness, using the gage described on Drawing No. 11-1-313. The gage shall fit over the pin without the use of force until the end of the pin is flush with or protrudes from the end of the gage. Failure of the pin to enter the gage freely and completely shall be cause for rejection of the ripcord.

4.4.3.2.3 Welded, brazed or soldered joint testing. On ripcord grips that contain welded, brazed or soldered joints, each joint shall be pull tested to 40 pounds and examined for joint separation. Evidence of joint separation shall be cause for rejection of the ripcord.

- * 4.4.4 Packaging inspection. An examination shall be made to determine that preservation, packing and marking comply with the section 5 requirements. Defects shall be scored in accordance with the list below. The sample unit shall be a shipping container fully packaged except that it need not be closed. The lot size shall be the number of shipping containers in the end item inspection lot. The inspection level shall be S-2 and the AQL shall be 2.5 defects per hundred units.

<u>Examine</u>	<u>Defect</u>
Markings	Omitted; incorrect; illegible; of improper size, location, sequence, or method of application.
Materials	Component missing or damaged.
Contents (interior packs and shipping containers)	Number per intermediate pack or shipping container is more or less than required.

* 5. PACKAGING

5.1 Preservation. Preservation shall be level A or Commercial as specified (see 6.2).

5.1.1 Level A. Each ripcord, with the cable coiled (when length permits) and the free end of the cable flexed to the handle, shall be unit packed in a close-fitting 0.003-inch nominal thickness polyethylene bag conforming to type I or II, style 1 of PPP-B-26. Prior to or during the closure operation, excess air within the bag shall be expelled.

5.1.1.1 Intermediate packaging. Twelve ripcords of one description only, unit packed as specified in 5.1.1, shall be packed in a snug-fitting intermediate fiberboard box conforming to style RSC, grade W6c of PPP-B-636. The top and bottom flaps of each fiberboard box shall be securely closed with water-resistant tape as specified in the appendix of PPP-B-636.

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5.1.2 Commercial. Ripcords shall be preserved in accordance with MIL-STD-1188.

5.2 Packing. Packing shall be level A, B or Commercial as specified (see 6.2).

5.2.1 Level A packing. One hundred and ninety-two ripcords of one description only, preserved as specified in 5.1, shall be packed in a snug-fitting shipping container conforming to style RSC, grade V2s of PPP-B-636; or overseas type, style A or I, grade A or B, type 2 load of PPP-B-601. Each shipping container shall be closed and reinforced in accordance with the appendix of the applicable container specification.

5.2.2 Level B packing. One hundred and ninety-two ripcords of one description only, preserved as specified in 5.1, shall be packed in a snug-fitting fiberboard shipping container conforming to style RSC, type CF (variety SW) or SF, class domestic, grade 275 of PPP-B-636. Each shipping container shall be closed in accordance with method II as specified in the appendix of PPP-B-636.

5.2.2.1 Weather-resistant containers. When specified (see 6.2), the shipping container shall be a grade V3c, V3s or V4s fiberboard box fabricated in accordance with PPP-B-636 and closed in accordance with the appendix of the container specification.

5.2.3 Commercial packing. Ripcords, preserved as specified in 5.1, shall be packed in accordance with MIL-STD-1188.

5.3 Marking. In addition to any special marking required by the unit packs and shipping containers shall be marked in accordance with MIL-STD-129 or MIL-STD-1188, as applicable.

5.3.1 Polyethylene bagged unit packs. Polyethylene bagged unit packs shall have the required information legibly printed or stamped in black directly on the bag as to permit ready identification.

6. NOTES

6.1 Intended use. The ripcords are designed to secure parachute packs in a closed condition and effect the release of the canopy when withdrawn.

6.2 Ordering data. Procurement documents should specify the following:

- (a) Title, number and date of this specification.
- (b) Type, style and size required (see 1.2).
- (c) When a first article is required (see 3.1, 4.2 and 6.3).
- (d) Selection of the applicable levels of preservation and packing (see 5.1 and 5.2).
- (e) When weather-resistant grade fiberboard shipping containers are required for level B packing (see 5.2.2.1).

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6.3 First article. When a first article is required, it shall be inspected and approved under the appropriate provisions of DAR 7-104.55. The first article should be a preproduction sample. The first article should consist of one complete ripcord. The contracting officer should include specific instructions in all procurement instruments regarding arrangements for inspection and approval of the first article.

6.4 Changes from previous issue. The margins of this specification are marked with an asterisk to indicate where changes (additions, modifications, corrections, deletions) from the previous issue were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the last previous issue.

Custodians:

Army - GL
Navy - AS
Air Force - 11

Preparing activity:

Army - GL
Project No. 1670-0642

Review activities:

Army - AV
Navy - MC
Air Force - 99

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DOCUMENT IDENTIFIER (Number) AND TITLE

MIL-R-43608A Ripcords, Parachute, Personnel, General Specification For

NAME OF ORGANIZATION AND ADDRESS OF SUBMITTER

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