

INCH-POUND

MIL-DTL-44475A (GL)
9 September 1996
SUPERSEDING
MIL-R-44475 (GL)
8 November 1993

DETAIL SPECIFICATION

RELEASE, PARACHUTIST'S INDIVIDUAL EQUIPMENT

This specification is approved for use by the Natick Research, Development, and Engineering Center, Department of the Army, and is available for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers one type of a fabric release assembly.

2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in sections 3 and 4 of this specification. This section does not include documents cited in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements documents cited in sections 3 and 4 of this specification, whether or not they are listed.

2.2 Government documents.

2.2.1 Drawing. The following Government drawing forms a part of this document to the extent specified herein. Unless otherwise specified, the issue is that cited in the solicitation.

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Commander, U.S. Army Natick Research, Development, and Engineering Center, Attn: SSCNC-UTE Natick, MA 01760-5017 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

DRAWING

U.S. ARMY NATICK RESEARCH, DEVELOPMENT AND ENGINEERING
CENTER

11-1-6860 - Release, Parachutist's Individual Equipment

(Copies of drawings are available from the U.S. Army Natick Research, Development and Engineering Center, ATTN: AMSSC-S-IMI, Natick, MA 01760-5017).

2.3 Order of precedence. In the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 First article. When specified (see 6.2), a sample shall be subjected to first article inspection in accordance with 4.2.

3.2 Materials and components. Materials and components shall conform to the requirements on the applicable drawings, to subsidiary specifications and standards applicable thereto, and as specified herein.

3.2.1 Recycled, recovered, or environmentally preferable materials. Recycled, recovered, or environmentally preferable materials should be used to the maximum extent possible provided the material meets or exceeds the operational requirements, and promotes economically advantageous life cycle costs.

3.3 Construction. The construction shall conform in all respects to the drawing listed in Section 2 and all subsidiary drawings pertaining thereto, and as specified herein.

3.3.1 Stitching, machine. All machine stitching shall be as specified on the applicable drawings and as specified herein.

3.3.1.1 Types 301 and 308 stitching. Ends of all type 301 stitching shall be backstitched or overstitched not less than 1/2 inch in accordance with the required stitch pattern. Ends of type 308 stitching shall be secured by crowding a minimum of three stitches (accomplished by not allowing the materials to move) at the beginning and end of the stitching. Thread tension shall be maintained so that there will be no loose stitching resulting in the puckering of the material sewn. The lock shall be embedded in the materials sewn.

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3.3.1.1.1 Repairs of type 301 stitching. Repairs of type 301 stitching shall be as follows:

a. When thread breaks or bobbin run-outs occur during the stitching, the stitching shall be repaired by restarting the stitching a minimum of 1 inch (1/2 inch for box-x and W-W stitching) from the end of the stitching. 1/

b. Thread breaks or two or more consecutive skipped or run-off stitches noted during inspection of the item (in-process or end item) shall be repaired by over stitching. The stitching shall start a minimum of 1 inch from the defective area, (1/2 inch for box-x and W-W stitching), continue over the defective area, and continue a minimum of 1 inch (1/2 inch for box-x and W-W stitching) beyond the defective area onto the existing stitching. Loose or excessively tight stitching shall be repaired by removing the defective stitching, without damaging the materials, and restitching in the required manner. 1/

1/ When making the above repairs, the ends of the stitching are not required to be backstitched.

3.3.1.1.2 Repairs of type 308 stitching. Repairs of type 308 stitching shall be in accordance with 3.3.1 .1.1 a and 3.3.1 .1.1 b, except that the stitching shall over stitch the defective area a minimum of three stitches onto the existing stitches.

3.3.1.2 Automatic stitching. Automatic stitching machines may be used to perform any of the required stitch patterns provided the requirements for the stitch pattern, stitches per inch, and size and type of thread arc met, and at least three or more tying, overlapping, or back stitches are used to secure the ends of stitching.

3.3.2 Thread ends. All thread ends shall be trimmed to a maximum length of 1 /4 inch.

3.3.3 Setting of grommets. Holes shall be prepunched to receive the grommets. Holes prepunched to receive the grommets shall be smaller than the outside diameter of the grommet barrel so that the barrel must be forced through the hole. The grommet shall be securely clinched without cutting the adjacent material.

3.3.4 Finishing of the jacketed wire rope ends. All wire rope ends shall be finished by either the melt method specified in 3.3.4.1 or by the dip method specified in 3.3.4.2 such that the ends are completely enclosed with the melted coating flush with the unmelted nylon jacket.

3.3.4.1 Melt method. Heat the wire rope end nylon jacket with a suitable electrical heating element so as to melt the nylon over the end to form a smooth round surface. Remove any melted residue on the jacket surface with a fine abrasive material such that the surface is not damaged and is finished smooth.

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3.3.4.2 Dip method. Coat the wire rope end with a nylon II or nylon 6/6 powder. Heat the coated end for 10 seconds at $405 \pm 15^{\circ}\text{F}$ using either an induction coil (2 to 4-inch) with an automatic timer control or an electric melting pot with an automatic temperature control (see 6.3).

3.4 Replacement of defective components. During the spreading, cutting and manufacturing process, components having material defects or damages that are classified as defects in table I shall be removed from production and replaced with nondefective and properly matched components.

3.5 Repairs. Repairs such as mends, darns, patches, or splices are not permitted on the release.

3.6 Workmanship. The finished and assembled release shall conform to the quality of product established by this specification.

4. VERIFICATION

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

- a. First article inspection (see 4.2)
- b. Conformance inspection (see 4.3)

4.2 First article inspection. When a first article inspection is required (see 3.1 and 6.2) it shall be examined in accordance with 4.3. Sampling for first article inspection shall be as specified in the contract or purchase order (see 6.2).

4.3 Conformance inspection. Conformance inspection shall include the examination of 4.3.1, 4.3.2, 4.3.3 and 4.3.4. Sampling for the inspections in 4.3.3 and 4.3.4 shall be as specified in the contractor purchase order (see 6.2).

4.3.1 Component and material inspection. Components and materials shall be inspected in accordance with all the requirements of referenced documents unless otherwise excluded, amended, modified, or qualified in this specification or applicable purchase document.

4.3.2 In-process inspection. Inspection of subassemblies shall be made to ascertain that construction details and dimensional requirements which cannot be examined in the finished product are in accordance with specified requirements. The Government reserves the right to exclude from consideration for acceptance, any material or service for which in-process inspection has indicated nonconformance.

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4.3.3 End item visual examination. The end items shall be examined for visual defects. Each noncompliance shall be scored as a defect in accordance with table I.

TABLE I. End item visual defects

| Examine | Defect | Classification | |
|--------------------|--|----------------|-------|
| | | Major | Minor |
| Webbing or tape | Not specified type or class | 101 | |
| | Color not as specified | | 201 |
| | Any hole, cut, or tear | 102 | |
| | Edge frayed, beaded, corded, or torn | | 202 |
| | Ends not seared as specified | 103 | |
| Fastener tape | Cut or tear | 104 | |
| | Hooks crushed affecting closure | 105 | |
| | Any fastener tape reversed, i.e., pile tape attached where hook tape is required or vice versa | 106 | |
| | Not specified type and color | | 203 |
| Cord | Not specified type and color | | 204 |
| Hardware | Fractured, malformed, or bent | 107 | |
| | Burrs or sharp edges | 108 | |
| | Protective finish omitted or not as specified, any corroded area | 109 | |
| | Not specified type, size or style | 110 | |
| | Adapter attached with friction grip facing wrong direction | 111 | |
| Jacketed wire rope | Not specified type or size | 112 | |
| | Ends not nylon coated or wire material not completely enclosed | 113 | |
| | Surface of nylon coated end not smooth or flush with unmelted jacketed surface | 114 | |

TABLE I. End item visual defects (cont'd.)

| Examine | Defect | Classification | |
|---|--|----------------|-------|
| | | Major | Minor |
| Swaged wire rope sleeve | Missing | 115 | |
| | Not specified type or Size | 116 | |
| | Not swaged as specified | | 205 |
| | One sleeve swage omitted | | 206 |
| | Two sleeve swages omitted | 117 | |
| | Swaged excessively tight, cutting wire rope material | 118 | |
| | Swaged loosely, permitting sleeve to rotate freely | 119 | |
| Brass grommets | Clinched excessively tight, cutting adjacent material | 120 | |
| | Insecurely clinched to a degree that grommet may be detached from material | 121 | |
| | Washer installed on incorrect side of material | | 207 |
| | Barrel split | | 208 |
| | Loosely clinched, permitting grommet to rotate freely within the hole | | 209 |
| | Washer omitted | 122 | |
| Thread | Not specified type, class, or size | 123 | |
| | Not specified color | | 210 |
| Open seams | 1/2 inch or less | | 211 |
| | More than 1/2 inch | 124 | |
| NOTE: A seam shall be classified as open when one or more stitches joining a seam are broken or when two or more consecutive skipped or run-off stitches occur. | | | |
| Seam and stitch type | Wrong seam or stitch type | 125 | |
| Stitches and stitching | Stitching pattern not as specified | 126 | |
| | Any row of stitching missing | 127 | |
| | One stitch per inch under or over minimum and maximum specified | | 212 |

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TABLE I. End item visual defects (cont'd.)

| Examine | Defect | Classification | |
|---------------------------------|--|----------------|-------|
| | | Major | Minor |
| Stitches and stitching (cont'd) | Two or more stitches per inch under or over minimum and maximum specified | 128 | |
| | Thread breaks, bobbin run outs, or two or more consecutive skipped or run-off stitches not overstitched or restitched as specified | 129 | |
| | Ends of stitching not backstitched or secured as specified | | 213 |
| | Tension loose resulting in loose top or bottom thread, or tight tension causing puckering of material at stitch line | 130 | |
| | Needle chews or bunched stitching | 131 | |
| Components and assembly | Any component part omitted or not as specified or required operation omitted (unless otherwise classified herein) | 132 | |
| | Any component misplaced or not assembled as specified | 133 | |
| Identification marking | omitted, illegible, incorrect, misplaced, or size of characters not as specified | 134 | |
| | Color not as specified | | 214 |
| Cleanness | Dirt, grease or oil or foreign matter clearly noticeable | | 215 |
| | Thread ends not trimmed to 1/4 inch or less | | 216 |
| Construction and assembly | Any component missing, or not assembled or joined as specified | 135 | |

4.3.4 End item dimensional examination. The end items shall be examined for conformance to the dimensions specified on the drawings. Only those dimensions that can be evaluated without damaging or disassembling the end items shall be examined. Any dimension not within the specified tolerance shall be classified as a defect.

5. PACKAGING

5.1 Packaging. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When actual packaging of materiel is to be performed by DoD personnel, these personnel need to contact the responsible packaging activity to ascertain requisite packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activity within the Military Department or Defense Agency, or within the Military Department's System Command. Packaging data retrieval is available from the managing Military Department's or Defense Agency's automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.

6. NOTES

(This section contains information of a general or explanatory nature which maybe helpful, but is not mandatory).

6.1 Intended use. The fabric release assembly is used by airborne personnel to release a container assembly during a parachute descent.

6.2 Acquisition requirements. Acquisition documents must specify the following:

- a. Title, number and date of this specification
- b. When first article is required (see 3.1)
- c. Sampling plan, lot size, sample size (see 4.3)
- d. Packaging requirements (see 5.1)

6.3 Source for heat sealing equipment. A source for the heat sealing equipment for forming the ends of the nylon jacketed wire rope (see 3.3.4.2 - induction coil dip method) is Boyd Coatings Research Co., Inc., 51 Parmenter Road, Hudson, MA 01749.

6.4 Subject term (key word) listing.

Airborne jump operations

6.5 Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

Custodian:
Army - GL

Preparing activity:
Army - GL

Review activity
Army - AV

(Project 1670-A853)

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

INSTRUCTIONS

1. The preparing activity must complete blocks 1, 2, 3, and 8. In block 1, both the document number and revision letter should be given.
2. The submitter of this form must complete blocks 4, 5, 6, and 7.
3. The preparing activity must provide a reply within 30 days from receipt of the form.

NOTE: This form may not be used to request copies of documents, nor to request waivers, or clarification of requirements on current contracts. Comments submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or to amend contractual requirements.

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|---|--|--|---------------------------------------|
| I RECOMMEND A CHANGE: | | 1. DOCUMENT NUMBER MIL-DTL-44475A(GL) | 2. DOCUMENT DATE (YYMMDD) 96 09 09 |
| 3. DOCUMENT TITLE Release, Parachutist's Individual Equipment | | | |
| 4. NATURE OF CHANGE (Identify paragraph number and include proposed rewrite, if possible. Attach extra sheets as needed.) | | | |
| | | | |
| 5. REASON FOR RECOMMENDATION | | | |
| | | | |
| 6. SUBMITTER | | | |
| a. NAME (Last, First, Middle Initial) | | b. ORGANIZATION | |
| c. ADDRESS (Include Zip Code) | | d. TELEPHONE (Include Area Code) (1) Commercial (2) AUTOVON (if applicable) | 7. DATE SUBMITTED (YYMMDD) |
| B. PREPARING ACTIVITY | | | |
| a. NAME | | b. TELEPHONE (Include Area Code) (1) Commercial (2) AUTOVON | |
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| c. ADDRESS (Include Zip Code) | | IF YOU DO NOT RECEIVE A REPLY WITHIN 45 DAYS, CONTACT: | |
| Commander, U.S. Army Natick RD&E Center ATTN: SSCNC-WEF Natick, MA 01760-5018 | | Defense Quality and Standardization Office 5203 Leesburg Pike, Suite 1403, Falls Church, VA 22041-3466 Telephone (703) 756-2340 AUTOVON 289-2340 | |