

**INCH-POUND**

MIL-P-44188D

22 November 1993

SUPERSEDING

MIL-P-44188C

12 June 1991

**MILITARY SPECIFICATION****PARKA, COLD WEATHER, CAMOUFLAGE**

This specification is approved for use by all departments and agencies of the Department of Defense.

**1. SCOPE**

1.1 Scope. This specification covers a nylon, three-layer laminated, waterproof, and moisture-vapor-permeable parka, a component of the Extended Cold Weather Clothing System (ECWCS).

1.2 Classification. The parka shall be one type in the following sizes as specified (see 6.2).

Size	X-Short	Short	Regular	Long
X-Small	X	X	X	X
Small	X	X	X	X
Medium	X	X	X	X
Large		X	X	X
X-Large			X	X

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Defense Personnel Support Center, Clothing and Textiles Directorate, Attn: DPSC-FSSD, 2800 South 20th Street, Philadelphia, PA 19101-8419, by using the Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC N/A

FSC 8415

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## 2. APPLICABLE DOCUMENTS

2.1 Government documents

2.1.1 Specifications, standards, and handbooks. The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents shall be those listed in the issue of the Department of Defense Index of Specifications and Standards (DODISS) and its supplement as cited in the solicitation (see 6.2).

## SPECIFICATIONS

## FEDERAL

- A-A-50083 - Bag, Plastic, Folded Garment
- A-A-50186 - Cloth, Buckram, Woven and Non-Woven
- A-A-50199 - Thread, Polyester Core, Cotton- or Polyester-Covered
- A-A-52110 - Cloth, Plain Weave, Polyester/Cotton
- A-A-55176 - Fastener, Tapes, Hook and Loop, Synthetic
- V-F-106 - Fasteners, Slide, Interlocking
- V-T-285 - Thread, Polyester
- JJ-W-155 - Webbing, Textile (Cotton, Elastic)
- DDD-L-20 - Label: For Clothing, Equipage, and Tentage, (General Use)
- PPP-B-26 - Bag, Plastic (General Purpose)
- PPP-B-636 - Boxes, Shipping, Fiberboard

## MILITARY

- MIL-T-3530 - Thread and Twine: Mildew Resistant or Water Repellent Treated
- MIL-T-5038 - Tape, Textile and Webbing, Textile, Reinforcing Nylon
- MIL-F-10884 - Fasteners, Snap
- MIL-C-21852 - Cloth, Taffeta, Nylon
- MIL-L-35078 - Loads, Unit: Preparation of Semi-perishable Subsistence Items; Clothing, Personal Equipment, Equipage; General Specification For
- MIL-C-43701 - Cord, Elastic, Nylon
- MIL-C-44187 - Cloth, Laminated, Water-Proof and Moisture-Vapor Permeable

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## STANDARDS

## FEDERAL

- FED-STD-191 - Textile Test Methods  
 FED-STD-751 - Stitches, Seams, and Stitching

## MILITARY

- MIL-STD-105 - Sampling Procedures and Tables for  
 Inspection by Attributes  
 MIL-STD-129 - Marking for Shipment and Storage  
 MIL-STD-147 - Palletized Unit Loads

(Unless otherwise indicated, copies of federal and military specifications, standards and handbooks are available from the Standardization Documents Order Desk, Bldg. 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.)

2.2 Non-Government publications. The following document(s) form a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents which are DoD adopted shall be those listed in the issue of the DODISS cited in the solicitation. Unless otherwise specified, the issues of documents not listed in the DODISS are the issues of the documents cited in the solicitation (see 6.2).

## AMERICAN SOCIETY FOR TESTING AND MATERIALS

- D 3951 - Standard Practice for Commercial Packaging

(Applications for copies should be addressed to the American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103-1187.)

## AMERICAN ASSOCIATION OF TEXTILE CHEMISTS AND COLORISTS

- Test Method 135 - Dimensional Changes in Automatic Home Laundering of Woven and Knit Fabrics

- Evaluation  
 Procedure 1 - Gray Scale for Color Change

(Applications for copies should be addressed to American Association of Textile Chemists and Colorists (AATCC), P.O. Box 12215, Triangle Park, NC 27709-2215.)

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(Non-Government standards and other publications are normally available from the organizations that prepare or distribute the documents. These documents also may be available in or through libraries or other informational services.)

3.2 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 4.3.

3.2 Material. It is encouraged that recycled material be used when practical as long as it meets the requirements of this specification.

3.2.5 Cloth, laminated. The basic material for the parka shall be cloth, laminated, waterproof and moisture vapor permeable, woodland camouflage printed conforming to MIL-C-44187 except that the color of the back side of the laminated cloth shall be Olive Green 106 or Camouflage Green 483.

3.2.2 Cloth, plain weave. The material for the parka pockets, pocket linings, and upper right and left front linings shall be cloth, plain weave, Olive Green 106 or Camouflage Green 483, polyester/cotton conforming to A-A-52110.

3.2.3 Cloth, taffeta, nylon. The material for the parka lining shall be cloth, taffeta, nylon, Olive Green 106 or Camouflage Green 483, conforming to type III, class 2 of MIL-C-21852. Lining shall be overedged in accordance with Table II in order to resist fraying after five laundering cycles when tested as specified in 4.4.4.

3.2.4 Interlining. The interlining for left front, right front, and visor shall be buckram cloth, natural or bleached, conforming to type I of A-A-50186.

3.2.5 Seam sealing tape. The tape for covering and sealing all designated seams and stitching shall be cut in  $1 + 1/16$  inch strips from the material specified in 3.3.5.1 or 3.3.5.2 as applicable.

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3.2.5.1 Sealing tape for basic material made with polytetrafluoroethylene film. The sealing tape shall be Olive Green 106 or Camouflage Green 483 and shall be cut from laminated material fabricated in layers meeting the following requirements:

- a. Backing - Nylon tricot fabric weighing 1.2 ounces per square yard minimum.
- b. Middle layer - Microporous expanded polytetrafluoroethylene film weighing 0.5 ounces per square yard minimum.
- c. Adhesive - Thermoplastic in sufficient thickness to meet the requirements of 3.6.2.

3.2.5.2 Sealing tape for optional material with polyolefin film. The sealing tape shall be Olive Green 106 or Camouflage Green 483 and shall be cut from laminated material fabricated in layers meeting the following requirements:

- a. Backing - Nylon tricot fabric weighing 1.2 ounces per square yard minimum.
- b. Middle layer - Thermoset crosslinked urethane acrylic barrier weighing 1.0 ounces per square yard minimum.
- c. Adhesive - Low temperature polyurethane of sufficient thickness to meet the requirements of 3.6.2.

3.2.6 Hanger and hood drawcord tape. Neck hanger loop and hood drawcord shall be flat 1/2 inch nylon tape, Black, Olive Drab 7 or Camouflage Green 483 conforming to type III, class 2 of MIL-T-5038.

3.2.7 Webbing, elastic. The elastic webbing at the bottom of the windskirt shall be 7/8 inch natural unbleached cotton webbing conforming to type I, class 5 of JJ-W-155. As an alternate, polyester webbing may be used as long as it meets the requirements for type I, class 5 of JJ-W-155, with the exception that the mildew resistant treatment shall not apply.

3.2.7.1 Drawcord elastic. The parka waist drawcord shall be 3/16 inch diameter rubber elastic (multi-strand) with braided nylon or polyester covering, Olive Drab 7 or Camouflage Green 483 conforming to type II of MIL-C-43701.

3.2.8 Tape, fastener hook and loop. The nylon fastener tapes shall be Olive Green 106 or Camouflage 483 conforming to type II, class 1 of A-A-55126 and in the widths specified.

3.2.9 Fastener, slide, interlocking. All slide fasteners shall conform to V-F-106, lengths shall be as specified, and the color shall be black. Each slide fastener slider shall be equipped with a black thong.

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3.2.9.1 Front entry slide fastener. The front entry slide fastener shall be type IV, style 8, size MH, individual element molded plastic and be supplied with two sliders enabling a 2-way opening. The front entry slide fastener must meet 130 pounds minimum crosswise strength as specified in V-F-106.

3.3.9.2 Underarm slide fastener. The underarm slide fastener shall be type I, style 6, size MS, nylon or polyester continuous coil or ladder type configuration. The underarm slide fastener must meet 175 pounds minimum crosswise strength as specified in V-F-106.

3.2.10 Fastener, snap. The stud and post parts of the snap fastener shall be style 2A, finish 2 male and female complete, consisting of stud and eyelet size 1 or 2 with button size 1 or 2, and socket conforming to MIL-F-10884. An uncapped button may be used in areas where the surface will be concealed by a layer of base cloth.

3.2.11 Barrel lock. The barrel locks for the ends of the hood drawcord shall be black, ITW Nexus Barreloc or equivalent.

3.2.12 Thread. The thread for all seaming and stitching shall be polyester, size B, 2 or 3 ply, shade S-1, C.A. 66022 or Camouflage Green 483 conforming to type I, class 1, subclass B of V-T-285. As an alternate, size 40/2 or 3 ply polyester core thread conforming to A-A-50199 may be used. For overedging the windskirt, hood lining, and upper lining size 70/2 ply of A-A-50199 or size B of V-T-285 may be used. All thread shall be water-repellent treated as specified in MIL-T-3530.

3.2.13 Labels. Each parka shall have a Type VI class 1 identification label, class 2 size label, class 3 instruction label, or a class 14 combination size, identification and instruction label conforming to of DDD-L-20. The label color shall be Medium Green, C.A. 70034, 70130, or 70131 or Camouflage Green 483. The labels shall show fastness to laundering.

3.2.13.1 Identification label. The identification labels shall read "PARKA, COLD WEATHER, CAMOUFLAGE."

3.2.13.2 Size label. The size label shall be as follows:

X-Small X-Short

Height: Up to 63 in.  
Chest Mn: Up to 33 in.  
Chest Wn: Up to 36 in.  
Stock No: 8415-01-228-1306  
NATO Size: 5060/7484

Small X-Short

Height: Up to 63 in.  
Chest Mn: From 33 to 37 in.  
Chest Wn: From 36 to 40 in.  
Stock No: 8415-01-228-1310  
NATO Size: 5060/8494

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Medium X-Short

Height: Up to 63 in.  
 Chest Mn: From 37 to 41 in.  
 Chest Wn: From 40 to 44 in.  
 Stock No: 8415-01-228-1314  
 NATO Size: 5060/9404

X-Small Long

Height: From 71 in. and up  
 Chest Mn: Up to 33 in.  
 Chest Wn: Up to 36 in.  
 Stock No. 8415-01-228-1309  
 NATO Size: 8090/7484

Small Short

Height: From 63 to 67 in.  
 Chest Mn: From 33 to 37 in.  
 Chest Wn: From 36 to 40 in.  
 Stock No: 8415-01-228-1311  
 NATO Size: 6070/8494

Large Short

Height: Up to 67 in.  
 Chest: From 41 to 45 in.  
 Stock No: 8415-01-228-1318  
 NATO Size: 6070/0414

Medium Long

Height: From 71 in. and up  
 Chest Mn: From 37 to 41 in.  
 Chest Wn: From 40 to 44 in.  
 Stock No: 8415-01-228-1317  
 NATO Size: 8090/9404

Small Regular

Height: From 67 to 71 in.  
 Chest Mn: From 33 to 37 in.  
 Chest Wn: From 36 to 40 in.  
 Stock No: 8415-01-228-1312  
 NATO Size: 7080/8494

Large Regular

Height: From 67 to 71 in.  
 Chest: From 41 to 45 in.  
 Stock No: 8415-01-228-1319  
 NATO Size: 7080/0414

X-Large Long

Height: From 71 in. and up  
 Chest: From 45 in. and up  
 Stock No: 8415-01-228-1322  
 NATO Size: 8090/1424

X-Small Short

Height: From 63 to 67 in.  
 Chest Mn: Up to 33 in.  
 Chest Wn: Up to 36 in.  
 Stock No: 8415-01-228-1306  
 NATO Size: 6070/7484

Small Long

Height: From 71 in. and up  
 Chest Mn: From 33 to 37 in.  
 Chest Wn: From 36 to 40 in.  
 Stock No. 8415-01-228-1313  
 NATO Size: 8090/8494

Medium Short

Height: From 63 to 67 in.  
 Chest Mn: From 37 to 41 in.  
 Chest Wn: From 40 to 44 in.  
 Stock No: 8415-01-228-1315  
 NATO Size: 6070/9404

X-Small Regular

Height: From 67 to 71 in.  
 Chest Mn: Up to 33 in.  
 Chest Wn: Up to 36 in.  
 Stock No: 8415-01-228-1308  
 NATO Size: 7080/9404

Large Long

Height: From 71 in. and up  
 Chest: From 41 to 45 in.  
 Stock No: 8415-01-228-1320  
 NATO Size: 8090/0414

Medium Regular

Height: From 67 to 71 in.  
 Chest Mn: From 37 to 41 in.  
 Chest Wn: From 40 to 44 in.  
 Stock No: 8415-01-228-1316  
 NATO Size: 7080/9404

X-Large Regular

Height: From 67 to 71 in.  
 Chest: From 45 in. and up  
 Stock No: 8415-01-228-1321  
 NATO Size: 7080/1424

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3.2.13.3 Care instruction label. The care instruction label shall be as follows:

PARKA, COLD WEATHER, CAMOUFLAGE

WARNING!! DO NOT STARCH, BLEACH, DRY CLEAN OR PRESS THE ECWCS PARKA.

- A. Home Laundering (machine/hand): Permanent press machine setting or hand washing using a detergent. Rinse thoroughly in warm water. NOTE: Any residual detergent on the parka will decrease the water repellency.

Home Drying: Tumble dry on delicate, low temperature setting. Remove immediately from dryer. DO NOT OVERHEAT OR OVERDRY. To drip dry, place on rustproof hanger.

- B. Post Laundry: Parka shall be laundered utilizing "Natick Formula I".

- C. Field Laundry: Parka shall be laundered utilizing "Formula VIII" of FM 10-280.

Post/Field Drying: Tumble dry at low temperature setting. Remove immediately from dryer. DO NOT OVERHEAT OR OVERDRY.

3.5.1.1 Combination size, identification and instruction label. The identification label, size label, and instruction label may be combined into one label, conforming to type VI class 14 of DDD-L-20. The three labels shall be printed as one continuous label with the size label first and the identification and instruction labels placed below the size label. The size and identification labels may be combined and the contents placed above the instruction label. A space of 1/4 inch minimum shall be maintained between the labels. In addition, a solid line 1/16 inch minimum width shall extend across the entire label, approximately in the middle of the 1/4 inch blank space. The coating requirement shall conform to the class 3 label.

3.2.13.5 Label/tag. Each parka shall be individually bar-coded with the type VIII, class 17 label/tag of DDD-L-20. This label/tag shall be located so that it is completely visible on the folded and/packaged parka and shall cause no damage to the parka.



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3.3 Design. The parka shall be camouflage, with a drawcord closing hood, two-way closure front entry, elasticized waist, slide fastener underarm openings, fastener tape adjustable wrist tabs, and shall be fully lined, complete with windskirt.

3.4 Patterns. Standard patterns, which provide an allowance of 3/8 inch for all seams and 1/4 inch for all shell and shell-to-liners seams, will be furnished by the Government. The Government patterns shall not be altered in any way and are to be used only as a guide for cutting the contractor's working patterns. The working patterns shall be identical to the Government patterns.

3.4.1 Pattern parts. The component parts shall be cut from the material specified below and in accordance with the pattern parts indicated in Table I.

TABLE I. List of pattern parts

Material	Nomenclature	Parts
Cloth, laminated	Back	1
	Upper front	2
	Lower front	2
	Pocket flap	2
	Pocket flap facing	2
	Insignia tab 1/	2
	Slide fastener flap	2
	Crown	1
	Side crown	2
	Visor	1
	Hood tunnel	1
	Hood flap	1
	Sleeve	2
	Sleeve patch	2
	Sleeve pocket	1
	Sleeve pocket flap	1
	Pocket divider	1
	Sleeve tab	2
	Sleeve slide fastener welt	2
	Right front flap	1
Left front flap	1	
Cloth, plain weave	Upper front lining	2
	Upper pocket piece	2
	Lower front lining	2
	Lower pocket liner	2
	Lower pocket flap lining	2

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TABLE I. List of pattern parts

Material	Nomenclature	Parts
Cloth, taffeta, nylon	Yoke lining	1
	Lower back lining	1
	Winds skirt	1
	Crown lining	1
	Side crown lining	2
	Sleeve lining	2
Cloth, cotton buckram	Visor interlining	1
	Left front flap interlining	1
	Right front flap interlining	1

1/ Insignia tab may be cut in one piece with seam allowance along one side deducted.

3.5 Construction. The construction shall conform in all respects to the requirements specified in Table II and herein. Figure 1 is furnished solely for guidance and information. Should Figure 1 vary from the specification, the specification shall govern.

3.5.1 Stitches, seams, and stitching. All stitches, seams and stitching shall conform to FED-STD-751. The type of seam, stitching and stitches per inch shall be as specified in Table II. Seam allowances shall be maintained with seams sewn so that no-raw edges, run-offs, pleats, puckers or open seams occur. When two or more methods of seams or stitches are given for the same operation, any one may be used.

3.5.1.1 Type 301 stitching. Ends of all stitching shall be backstitched or overstitched not less than 1/2 inch except where ends are turned under or caught in other seams or stitching. Ends of a continuous line of stitching shall overlap not less than 1/2 inch. Thread tensions shall be maintained so that there will be no loose stitching resulting in loose bobbin or top thread or excessively tight stitching resulting in puckering of the materials sewn. The lock shall be embedded in the materials sewn. All 301 stitch and bartack thread ends shall be trimmed to a length of not more than 1/4 inch.

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

a. When thread breaks, skipped stitches, run-offs, or bobbin runouts occur during sewing, the stitching shall be repaired by restarting the stitching a minimum of 1/2 inch back of the end of the stitching. 1/

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b. Except for prestitching, thread breaks or two or more consecutive skipped or run-off stitches noted during inspection of the item shall be repaired by overstitching. The stitching shall start a minimum of 1/2 inch 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 stitching are not required to be backstitched.

3.5.1.2 Type 502, 503, 515 or 516 stitching. Thread tension shall be maintained so that there will be no loose stitching. All repairs shall be in accordance with 3.6.1.1.1a and b. Thread tension shall be maintained so that there will be no loose or excessively tight stitching resulting in puckering of the materials sewn. All thread ends shall be trimmed to a length not less than 1/4 inch but more than 1/2 inch.

3.5.1.3 Bartacks. Unless otherwise specified, all bartacks shall be  $5/8 + 1/32$  inch long and  $1/8 + 1/32$  inch wide, and shall contain 21 to 28 stitches. Bartacking shall be free from thread breaks and loose stitching. All thread ends shall be trimmed to a length of not more than 1/4 inch.

3.5.1.4 Automatic stitching. Automatic 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 are met; and at least three tying, overlapping or back stitches are used to secure the ends of the stitching.

3.5.2 Heat sealing. Seams and stitching as indicated in Table II shall be sealed with heat sealing tape on the inside of the parka. The entire width of the seam tape shall be uniformly sealed over the seam or stitching. All seam tapes shall be applied without tension and shall be applied so that a minimum of 1/8 inch overlap is on both sides of the sewn seam and the back knit of the laminated fabric adjacent to the seam tape shall not be melted to expose the plastic film layer of the laminated fabric. All seam tapes shall overlap a minimum of 3/4 inch at joining points and all seam tape ends shall be sealed such that the ends shall not be lifted when laundered. Sealed seams and sealed stitchings shall show no leakage, tape ends shall show no signs of lifting, and the tape, itself, shall show no sign of lifting, curling, bubbling or separation more than 1/8 inch of tape top knit shrinkage such that the tape middle layer is exposed when tested initially and after five laundering cycles as specified in 4.4.4.

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3.5.3 Appearance after laundering. After five laundering cycles as specified in 4.4.4, the fabric shall show no loss in color in the black printed areas of the woodland camouflage pattern greater than a visual "5" rating on the AATCC Gray Scale for evaluating change in color and also shall show no change in physical surface appearance when compared to a unlaundered sample.

3.6 Manufacturing operations requirements. The parka shall be manufactured in accordance with operation requirements specified in Table II. The contractor is not required to follow the exact sequence of operations provided the finished parka is identical to that produced by following the sequence as listed in Table II. Any holding or basting stitch is permissible provided it is removed, does not show on the finished garment, and does not interfere with proper seam taping. Minor modifications are permitted where necessary when using automatic equipment. These modifications shall not alter the dimensional, serviceability or appearance requirements cited in the specification.

3.6.1 Repairs. Repairing the parkas by mending, patching or darning is not allowed, and at no time is the removal of heat sealing tape permitted. However, up to 25 inches of heat sealing tape may be used for repairing leaking seams, missing yarns in the tricot knit, and for repair areas where the original tape does not overlap sewn seams by the minimum of 1/8 inch on both sides of the inside of parka. Up to five repair areas totaling 25 inches in length will be allowed. No more than five inches of repair using more than two layers of seam sealing tape is permitted, with the exception of the backside area of the sleeve pocket.

3.7 Use of automated apparel equipment. Automated apparel equipment may be used to perform any of the operations specified in Table II provided that the seam and stitch type are as specified and the finished component conforms to the required configuration.

3.8 Abbreviations in Table of Operations. The abbreviations used in Table II are as follows:

Stch	-	Stitch
In	-	Inch
Ndl	-	Needle
Bob	-	Bobbin
Lpr	-	Looper
Mchne	-	Machine
Brtck	-	Bartack
Comrcl	-	Commercial
Smlr	-	Similar
Btn	-	Button
Btnhl	-	Buttonhole
Incl	-	Including
Dbl	-	Double

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TABLE II. MANUFACTURING OPERATIONS REQUIREMENTS

NO.	OPERATION	STCH TYPE	SEAM/ STCH TYPE	STCH IN	THREAD NDL BOB/ LPR
1.	<p><u>Cutting and marking.</u></p> <p>a. Cut the parka in strict accordance with patterns furnished which show directional lines, size, placement for pockets and welt, hook and pile fastener tapes, and marks for proper assembly. The directional lines indicate the warp, unless otherwise specified. The directional lines may vary from the warp direction by not more than 2-1/2 inches on both front and back. Measurements shall be Taken from top and bottom of directional lines on pattern to selvage edge of the fabric and the difference between the two measurements shall not exceed 2-1/2 inches. Cut all parts of the parka shell out of one piece of material except the pocket flap facing, slide fastener flap, and slide fastener flap, and pocket divider.</p> <p>b. Cut drawcords, hanger tapes, and elastic cords with hot wire, lengths in inches as follows:</p>				

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TABLE II. MANUFACTURING OPERATIONS REQUIREMENTS (cont'd.)

NO.	OPERATION	STCH TYPE	SEAM/ STCH TYPE	STCH IN	THREAD																					
					NDL	BOB/ LPR																				
1.	<p><u>Cutting and marking.</u> (cont'd)</p> <p><u>Hood drawcord</u></p> <table> <tr> <td><u>X-Small</u></td> <td><u>Small</u></td> <td><u>Medium</u></td> </tr> <tr> <td>32-1/2</td> <td>33</td> <td>33-1/2</td> </tr> </table> <table> <tr> <td><u>Large</u></td> <td><u>X-Large</u></td> </tr> <tr> <td>34-1/4</td> <td>34-3/4</td> </tr> </table> <p>Tolerance for all hood drawcord sizes shall be <math>\pm 1</math>.</p> <p><u>Windshirt drawcord</u></p> <table> <tr> <td><u>X-Small</u></td> <td><u>Small</u></td> <td><u>Medium</u></td> </tr> <tr> <td>41-1/2</td> <td>45-1/2</td> <td>49-1/2</td> </tr> </table> <table> <tr> <td><u>Large</u></td> <td><u>X-Large</u></td> </tr> <tr> <td>53-1/2</td> <td>57-1/2</td> </tr> </table> <p>Tolerance for all windshirt drawcords shall be <math>\pm 1</math>.</p> <p>NOTE: As an alternate to hot wiring, drawcord ends may be dipped or impregnated with cellulose acetate or cellulose butyrate.</p>	<u>X-Small</u>	<u>Small</u>	<u>Medium</u>	32-1/2	33	33-1/2	<u>Large</u>	<u>X-Large</u>	34-1/4	34-3/4	<u>X-Small</u>	<u>Small</u>	<u>Medium</u>	41-1/2	45-1/2	49-1/2	<u>Large</u>	<u>X-Large</u>	53-1/2	57-1/2					
<u>X-Small</u>	<u>Small</u>	<u>Medium</u>																								
32-1/2	33	33-1/2																								
<u>Large</u>	<u>X-Large</u>																									
34-1/4	34-3/4																									
<u>X-Small</u>	<u>Small</u>	<u>Medium</u>																								
41-1/2	45-1/2	49-1/2																								
<u>Large</u>	<u>X-Large</u>																									
53-1/2	57-1/2																									

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TABLE II. MANUFACTURING OPERATIONS REQUIREMENTS (con'd.)

NO.	OPERATION	STCH TYPE	SEAM/ STCH TYPE	STCH IN	THREAD																					
					NDL	BOB/ LPR																				
1.	<p><u>Cutting and marking.</u> (cont'd)</p> <p style="text-align: center;"><u>Windskirt webbing</u></p> <table> <tr> <td><u>X-Small</u></td> <td><u>Small</u></td> <td><u>Medium</u></td> </tr> <tr> <td>23-3/4</td> <td>26-3/4</td> <td>30-3/4</td> </tr> </table> <table> <tr> <td><u>Large</u></td> <td><u>X-Large</u></td> </tr> <tr> <td>34-3/4</td> <td>38-3/4</td> </tr> </table> <p>Tolerance for all wind-shirt webbing sizes shall be <math>\pm 1</math>.</p> <p style="text-align: center;"><u>Hanger tape</u></p> <table> <tr> <td><u>X-Small</u></td> <td><u>Small</u></td> <td><u>Medium</u></td> </tr> <tr> <td>4-1/2</td> <td>4-1/2</td> <td>4-1/2</td> </tr> </table> <table> <tr> <td><u>Large</u></td> <td><u>X-Large</u></td> </tr> <tr> <td>4-1/2</td> <td>4-1/2</td> </tr> </table> <p>Tolerance for all hanger tape sizes shall be <math>\pm 1/4</math>.</p> <p>a. Underarm slide fasteners shall be of one length in accordance with patterns.</p> <p>b. Front closure slide fasteners shall be as follows in accordance with size:</p>	<u>X-Small</u>	<u>Small</u>	<u>Medium</u>	23-3/4	26-3/4	30-3/4	<u>Large</u>	<u>X-Large</u>	34-3/4	38-3/4	<u>X-Small</u>	<u>Small</u>	<u>Medium</u>	4-1/2	4-1/2	4-1/2	<u>Large</u>	<u>X-Large</u>	4-1/2	4-1/2					
<u>X-Small</u>	<u>Small</u>	<u>Medium</u>																								
23-3/4	26-3/4	30-3/4																								
<u>Large</u>	<u>X-Large</u>																									
34-3/4	38-3/4																									
<u>X-Small</u>	<u>Small</u>	<u>Medium</u>																								
4-1/2	4-1/2	4-1/2																								
<u>Large</u>	<u>X-Large</u>																									
4-1/2	4-1/2																									

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TABLE II. MANUFACTURING OPERATIONS REQUIREMENTS (cont'd.)

NO.	OPERATION	STCH TYPE	SEAM/ STCH TYPE	STCH IN	THREAD	
					NDL	BOB/ LPR
1.	<u>Cutting and marking.</u> (cont'd.)					
	<u>X-Small</u> <u>Small</u> <u>Medium</u> <u>Large</u> <u>X-Large</u>					
	25-5/8 <u>X-Short</u> 26-1/8    26-5/8					
	26-5/8 <u>Short</u> 27-1/8    27-5/8					
	28-1/8 <u>Regular</u> 28-5/8    29-1/8	29-5/8	30-1/8			
	29-5/8 <u>Long</u> 30-1/8    30-5/8	31-1/8	31-5/8			
	a. Mark front slide fastener to be matched with front center seams.					
2.	<u>Replacement of damaged parts.</u>  Care shall be exercised during the spreading, cutting, and manufacturing operations to assure that material, defects and damages, as classified in 4.4.2 are excluded and replaced with non-defective and properly matched material.					
3.	<u>Marking</u>  Mark, ticket or bundle all component parts to insure a correct shade and size throughout the parka. Drill holes shall not be used and marking shall not be visible on the outer shell of the parka.					



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TABLE II. MANUFACTURING OPERATIONS REQUIREMENTS (cont'd)

NO.	OPERATION	STCH TYPE	SEAM/ STCH TYPE	STCH IN	THREAD	
					NDL	BOB/ LPR
4.	<u>Assemble windskirt.</u>					
	a. Clip top corner of windskirt. Turn raw edges to inside (non-face side) 1/2 inch and stitch 1/4 to 3/8 inch from folded edge.	301	Efa-1	10 - 13	B	B
	b. With inside (non-face side) up, hem sides by folding in 1/2 + 1/8 inch, fold again 3/4 + 1/8 inch and stitch 1/16 to 1/8 inch from inside folded edge. Hem shall finish 5/8 to 7/8 inch.	301	Efb-1	10 - 13	B	B
	c. With windskirt, inside up, form tunnel by positioning drawcord 1-1/4 to 1-1/2 inches from top edge and folding skirt up around cord, back tacking ends of stitching and catching drawcord at back center in stitching. Tunnel shall be no more than 3/8 inch wide and stitching shall not catch cord except where tacked at center. Knot ends of cord.	301	Osf-1	10 - 13	B	B
d. Overedge the bottom edge of the windskirt (3/16 to 1/4 inch bite).	502, 503 or 505	Efd-1	7 - 9	70/2	70/2 or B B	

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TABLE II. MANUFACTURING OPERATIONS REQUIREMENTS (cont'd)

NO.	OPERATION	STCH TYPE	SEAM/ STCH TYPE	STCH IN	THREAD	
					NDL	BOB/ LPR
4.	<u>Assemble windskirt.</u> (cont'd.)					
	e. Hem windskirt by turning bottom edge to the inside 1/4 inch and folding again 1-1/8 to 1-1/4 inches. Place 7/8 inch elastic webbing inside hem and tack both ends in place 1/2 inch from side hem edge. Stitch length of windskirt hem 1/16 to 1/8 inch from folded edge taking care not to catch elastic webbing.	301	EFb-1	10- 13	B	B
	f. Set snaps at top and bottom of the left side with caps to the hem side of windskirt and set studs to the top and bottom of the right side to match caps.					
5.	<u>Assemble slide fastener protection flap.</u>					
	a. With face sides together and edges aligned, stitch 1/8 to 3/16 inch from edge around curve.	301	SSe-2(a)	10- 13	B	B
	b. Turn face side out and edge stitch 1/16 to 1/8 inch from seamed edge.	301	SSe-2(b)	10- 13	B	B

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TABLE II. MANUFACTURING OPERATIONS REQUIREMENTS (cont'd)

NO.	OPERATION	STCH TYPE	SEAM/ STCH TYPE	STCH IN	THREAD	
					NDL	BOB/ LPR
6.	<u>Assemble hood lining.</u>					
	a. Fold side crown piece (matching marks on pattern) to form dart and stitch dart.	301	SSa-1	10- 13	B	B
	b. With face sides together and raw edges aligned, stitch sides to center 3/8 inch from edges, catching ends of the two 4 to 4-1/2 inch strips of 7/8 inch elastic webbing, which have been placed per marks on patterns.	515 or 516	Ssa-2	10- 13	B	B
	c. Overedge the front And face area of assembled hood lining (3/16 to 1/4 inch bite).	502 503 or 505	Efd-1	7- 9	70/2	70/2 or B B
7.	<u>Assemble upper lining.</u>					
	a. Position instruction label to yoke lining, centered 1 to 1-1/2 inches down from raw edge of neck, and stitch all four sides 1/8 to 3/16 inch from edges. The identification label and size label shall be positioned on yoke lining to the right side of instruction label and stitched on all four sides 1/16 to 1/8 inch from edge.  or	301	LSbj-1	10- 13	B	B

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TABLE II. MANUFACTURING OPERATIONS REQUIREMENTS (cont'd)

NO.	OPERATION	STCH TYPE	SEAM/ STCH TYPE	STCH IN	THREAD	
					NDL	BOB/ LPR
7.	<u>Assemble upper lining.</u> (cont'd.)					
	When a combination size, identification, and instruction label is used, position label to yoke lining, with top edge centered 1 to 1-1/2 inches down from raw edge of neck, and stitch on all four sides 1/16 to 1/8 inch from edges.	301	LSbj-1	10- 13	B	B
	b. Hem bottom edge of Yoke lining and top edge of middle back lining, turn $1/2 \pm 1/8$ to inside (non-face side), turning $1/2 \pm 1/8$ inch again, and stitch 1/8 to 3/16 inch from inside fold.	301	Efb-1	10- 13	B	B
	c. With face sides up and side edges aligned, position yoke lining over middle back lining, per marks on patterns, and stay-stitch the two pieces together 1/8 to 1/4 inch from side edges.	301	SSa-1	10- 13	B	B
d. With face sides Together and edges Aligned, stitch sleeves to back lining at arm-holes (right or left respectively), 3/8 inch from edge.	515 or 516	SSa-2	10- 13	B	B	

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TABLE II. MANUFACTURING OPERATIONS REQUIREMENTS (cont'd)

NO.	OPERATION	STCH TYPE	SEAM/ STCH TYPE	STCH IN	THREAD	
					NDL	BOB/ LPR
7.	<u>Assemble upper lining.</u> (cont'd.)					
	e. With face side up, position 1 inch hook fastener tape. (appropriate length per size as indicated on patterns) to center front edge of left upper pocket piece 1/4 to 3/8 inch from raw edge. Stitch on all four sides 1/8 to 3/16 inch from edge. Repeat for right pocket lining.	301	LSbj-1	10- 13	B	B
	f. Position upper left front lining over upper left pocket piece inside to face side. Position sleeve (right and left respectively) to front lining at armhole with face sides together. Match all edges and stitch 3/8 inch from edge.	515 or 516	SSa-2	10- 13	B	B
g. With face sides together and edges aligned, stitch fronts to back and stitch underarm seam from bottom of upper lining to underarm opening (matching underarm seams), skipping over opening and continue seaming sleeve lining.	515 or 516	SSa-2	10- 13	B	B	

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TABLE II. MANUFACTURING OPERATIONS REQUIREMENTS (cont'd)

NO.	OPERATION	STCH TYPE	SEAM/ STCH TYPE	STCH IN	THREAD	
					NDL	BOB/ LPR
7.	<p><u>Assemble upper lining.</u> (cont'd.)</p> <p>h. As an alternate in attaching underarm slide fastener, (see Operation 22), when slide fastener is attached to lining, clip each end of underarm slide fastener openings following angle for point and allowing 3/4 inch opening width.</p> <p>i. With sleeve lining inside out fold sleeve lining under at wrist end of underarm opening leaving point extended. with slide fastener closed, face side down, and slide fastener pull towards underarm seam, position slide fastener bottom extension to point extension and stitch in place 1/4 inch from edge, stopping with needle down in corner. turn corner, pushing sleeve lining under as not to catch while leaving seam allowance extended. Turn slide fastener and stitch to seam allowance 1/4 inch from edge stopping with needle down in corner. repeat for last two sides, stitching 1/8 inch from edge. Repeat for second sleeve. If slide fastener will be attached to outershell (Operation 22), omit 7.h and i.</p>	301	SSa-1	10- 13	B	B

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TABLE II. MANUFACTURING OPERATIONS REQUIREMENTS (cont'd)

NO.	OPERATION	STCH TYPE	SEAM/ STCH TYPE	STCH IN	THREAD.	
					NDL	BOB/ LPR
7.	<u>Assemble upper lining.</u> (cont'd.)					
	j. With face sides together, position hood to upper lining at neckline, matching edges. stitch 3/8 inch from edge catching hanger tape by 1/4 inch at center back per marks on pattern with folded edge of dart facing toward the back of the hood.	515 or 516	SSa-2	10- 13	B	B
	k. Overedge the bottom of the sleeve lining (3/16 to 1/4 inch bite).	502, 503 or 505	Efd-1	7- 9	70/2	70/2 or B B
8.	<u>Assemble complete lining.</u>					
	a. With face sides together stitch left front flap lining to lower left front lining at both ends of pocket opening to outer edges per marks on pattern. Repeat for right front side.	301	SSa-1	10- 13	B	B
	b. Position face side of assembled lower pocket lining to inside of lower front left lining and face side of lower front left lining to face side of lower back lining at side seams. With all edges aligned, stitch with a 3/8 inch gauge safety stitch. Repeat for right side.	515 or 516	SSa-2	10- 13	B	B

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TABLE II. MANUFACTURING OPERATIONS REQUIREMENTS (cont'd)

NO.	OPERATION	STCH TYPE	SEAM/ STCH TYPE	STCH. IN	THREAD	
					NDL	BOB/ LPR
8.	<u>Assemble complete lining.</u> (cont'd.)					
	c. With face sides together, position upper assembled lining to lower assembled lining, matching edges and ends. Stitch 3/8 inch from edge for 1 to 1-1/4 inches. Place windskirt between lining seam with inside (non-face side) to lower lining, align all edges and continue stitching to end with windskirt ending 1 to 1-1/4 inches from end.	515 or 516	SSa-2	10- 13	B.	B
	d. Bartack each end of windskirt tunnel seam with a horizontal bartack. Bartack inside seam of neck hanger tape.	1/2 in brtck	---	28 per br- tck	B	B
e. With pull side up, position slide fastener to the top of face side of left front lining with slide fastener tape 1/8 to 3/16 inch from raw edge. Turn slide fastener top tail under, lay slide fastener protective flap between fastener and lining with wide end up at the top of the slide fastener. Stitch thru all plies 1/8 to 3/16 inch from edge of slide fastener tape taking care not to catch pocket lining. Repeat for right side slide fastener, omitting slide fastener flap.	301	LSq-2 (a)	10- 13	B	B	



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TABLE II. MANUFACTURING OPERATIONS REQUIREMENTS (cont'd)

NO.	OPERATION	STCH TYPE	SEAM/ STCH TYPE	STCH IN	THREAD	
					NDL	BOB/ LPR
8.	<u>Assemble complete lining.</u> (cont'd.)					
	f. Position 1 inch wide Loop fastener tape (approximate length to size) to the inside (non-face side) of left and right front linings, on slide fastener seams, per marks on patterns 1/4 to 3/8 inch from edge of parka, and stitch 1/8 to 3/16 inch from edge of tape.	301	LSbj-1	10- 13	B	B
9.	<u>Assemble insignia tab.</u>					
	a. Position snap Centered at point of tab With cap to the inside (non-face side) and set.					
	b. Position tab pieces With face sides together and edges aligned and stitch 1/4 inch from edge around sides and points.	301	SSe-2(a)	10- 13	B	B
	or					
	c. Crease all sides of one piece tab, fold in half lengthwise and stitch 1/16 inch from edges. Place a second row of stitching 1/8 inch from the first row of stitching.	301	Ssc-2	10- 13	B	B

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TABLE II. MANUFACTURING OPERATIONS REQUIREMENTS (cont'd)

NO.	OPERATION	STCH TYPE	SEAM/ STCH TYPE	STCH IN	THREAD	
					NDL	BOB/ LPR
9.	<u>Assemble insignia tab.</u> (cont'd.)					
	d. Turn face side out, pushing out corners, and edge stitch 1/16 to 1/8 inch from seamed edges.	301	SSe-2(b)	10-13	B	B
10.	<u>Assemble hood tunnel.</u>					
	a. Turn ends to inside 1/2 inch and stitch 1/4 inch from fold.	301	EFa-1	10-13	B	B
	b. Set barrel locks to both ends of drawcord, length appropriate to size, and tie with double twist knot.					
	c. Fold tunnel in half lengthwise with insides together, insert drawcord, and stitch the length of tunnel 1/4 inch from edge, taking care not to catch drawcord.	301	SSa-1	10-13	B	B
11.	<u>Assemble sleeve wrist tabs.</u>					
	a. Position a strip of 1-1/2 inch-wide hook fastener tape (length as indicated on pattern) to face side of tab per marks on patterns. Stitch all four sides 1/8 to 3/16 inch from edges.	301	LSbj-1	10-13	B	B
	b. Fold tab in half, face side out, and folding side raw edges in 3/8 inch, stitch 1/16 to 1/8 inch from folded edge, tacking ends.	301	EFn-2	10-13	B	B

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TABLE II. MANUFACTURING OPERATIONS REQUIREMENTS (cont'd)

NO.	OPERATION	STCH TYPE	SEAM/ STCH TYPE	STCH IN	THREAD	
					NDL	BOB/ LPR
11.	<u>Assemble sleeve wrist tabs.</u> (cont'd.)					
	or					
	c. Fold tab in half, Face sides together, and Stitch sides with a 3/8 Inch seam.	301	SSe-2(a)	10-13	B	B
	d. Turn face side out, pushing out points, and edgestitch side 1/16 to 1/8 inch from edge tacking ends.	301	SSe-2(b)	10-13	B	B
12.	<u>Assemble sleeve pocket flap.</u>					
	a. Position a strip of 5/8 inch hook fastener tape (length as indicated on pattern) to the face side of flap per marks on patterns and stitch on all four sides 1/8 to 3/16 inch from edges.	301	LSbj-1	10-13	B	B
	b. Fold flap in half, face sides together and with edges aligned, stitch both sides 1/4 inch from edge, tacking ends.	301	SSe-3(a)	10-13	B	B
	c. Turn face side out, pushing out points, and edge stitch 1/16 to 1/8 inch from edge around sides and bottom. Stitch second row of stitching 3/16 to 1/4 inch from first.	301	Sse-3(b)	10-13	B	B

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TABLE II. MANUFACTURING OPERATIONS REQUIREMENTS (cont'd)

NO.	OPERATION	STCH TYPE	SEAM/ STCH TYPE	STCH IN	THREAD	
					NDL	BOB/ LPR
13.	<u>Assemble sleeve pocket.</u>					
	a. Hem the top edges of the sleeve pocket and pocket divider pieces, and stitch 1/4 to 3/8 inch from fold.	301	Efa-1	10- 13	B	B
	b. Position a strip of 5/8 inch wide loop fastener tape (length as indicated on pattern) to the face side of the pocket per marks on pattern and stitch on all four sides 1/8 to 1/4 inch from edge.	301	SSa-1	10- 13	B	B
	c. With face side of pocket divider to face side of sleeve, stitch left side of divider 1/4 inch from edge on sleeve per marks on pattern with side and bottom of divider 1/4 inch turned in then turn divider face side out.	301	SSa-1	10- 13	B	B
d. Place pocket with face to face side of sleeve with right raw edge of pocket and right edge of divider superimposed 1/4 inch (pocket under divider). Stitch right raw edge of superimposed pocket and divider from top to bottom of divider and continue making sure bottom of divider is turned in 1/4 inch.	301	LSa-1	10- 13	B	B	

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TABLE II. MANUFACTURING OPERATIONS REQUIREMENTS (cont'd)

NO.	OPERATION	STCH TYPE	SEAM/ STCH TYPE	STCH IN	THREAD	
					NDL	BOB/ LPR
13.	<u>Assemble sleeve pocket.</u> (cont'd.)					
	e. Turn bottom of pocket in 1/4 inch and turn pocket face side up, top stitch right side of pocket 1/16 to 1/8 inch from edge (with bottom turned in), forming pleat on each side of pocket per marks on pattern. Stitch left edge of pocket to sleeve 1/16 to 1/8 inch with raw edge turned in 1/4 inch. Stitch bottom of pocket. Tack all ends of stitching.	301	SSb-1	10- 13	B	B
14.	<u>Assemble hand pocket flaps.</u>					
	a. Set snap cap to pocket flap facing per marks on patterns with cap to the inside (non-face side) of flap facing.					
	b. Position two strips of 1 inch loop fastener tape (length as indicated on pattern) to face side of flap facing per marks on patterns, and stitch on all four sides 1/8 to 3/16 inch from edges.	301	LSbj-1	10- 13	B	B
	c. With face sides together, position facing to flap, edges aligned, and stitch around curve/point edge and top end.	301	SSe-2(a)	10- 13	B	B

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TABLE II. MANUFACTURING OPERATIONS REQUIREMENTS (cont'd)

NO.	OPERATION	STCH TYPE	SEAM/ STCH TYPE	STCH IN	THREAD	
					NDL	BOB/ LPR
14.	<u>Assemble hand pocket flaps.</u> (cont'd.)					
	d. Turn face side out, pushing out points, and top stitch 1/4 to 3/8 inch from seamed edge.	301	SSe-2 (b)	10-13	B	B
	e. With face sides together, position flap lining to flap facing and stitch between marks on patterns. Clip seam to stitching and turn so insides (non-face sides) are together with unstitched seams extended. Repeat operation for the other side.	301	SSa-1	10-13	B	B
15.	<u>Assemble hand pockets.</u>					
	a. Position two strips of 1 inch hook fastener tape (length as indicated on pattern) to the face side of lower left pocket along front opening per marks on pattern, and stitch on all four sides 1/8 to 3/16 inch from edges. Repeat for lower right front.	301	SSa-1	10-13	B	B
	b. With face sides together, stitch flap facing to lower left pocket on both ends of opening per marks on patterns out to edges. Repeat for lower right pocket.	301	SSa-1	10-13	B	B

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TABLE II. MANUFACTURING OPERATIONS REQUIREMENTS (cont'd)

NO.	OPERATION	STCH TYPE	SEAM/ STCH TYPE	STCH IN	THREAD	
					NDL	BOB/ LPR
16.	<u>Assemble fronts.</u>					
	<p>a. With face sides together, position upper front to lower front assembly, edges aligned, and seam, backstitching over pocket flap/pocket overlap.</p> <p>b. With seams turned towards upper front, lay heat seaming tape over the seam on the inside and heat seal.</p>	301	SSa-1	10- 13	B	B
17.	<u>Assemble hood.</u>					
	<p>a. Fold edges of cut out on side crown and stitch dart with 1/4 inch seam, extending the stitching 1/2 inch past end of cut out.</p>	301	SSa-1	10- 13	B	B
	<p>b. With face sides together, position side pieces to center piece with edges aligned and stitch 1/2 inch from edge.</p> <p>c. With dart seams and joining seams toward center piece, lay heat seaming tape over seams and heat seal, extending seaming tape 1/2 inch past stitching of dart seams.</p>	301	SSa-1	10- 13	B	B

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TABLE II. MANUFACTURING OPERATIONS REQUIREMENTS (cont'd)

NO.	OPERATION	STCH TYPE	SEAM/ STCH TYPE	STCH IN	THREAD	
					NDL	BOB/ LPR
17.	<u>Assemble hood.</u> (cont'd.)					
	d. Position interlining to inside of visor piece with interlining offset 1/4 inch from the outer edge of visor piece and stitch the opposite edge to the visor.	301	SSa-1	10-13	B	B
	e. With right sides together, position brim unbasted edge to hood, matching marks per patterns and seam without catching interlining.	301	SSa-1	10-13	B	B
	f. Position preassembled tunnel centered to face side of front of hood, align edges and seam.	301	SSa-1	10-13	B	B
18.	<u>Assemble hood flap.</u>					
	a. Fold hood flap, face sides together, and stitch both ends.	301 or 401	SSa-1	10-13	B	B
	b. Turn ends right side out and top stitch along folded and stitched edges 1/16 inch from edge.	301	SSa-1	10-13	B	B
	c. Position eight strips of 1 inch wide loop fastener tape (length as indicated on pattern) to flaps as indicated on pattern, and stitch through both layers of flap 1/8 to 3/16 inch from edge on all four sides.	301	SSa-1	10-13	B	B



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TABLE II. MANUFACTURING OPERATIONS REQUIREMENTS (cont'd)

NO.	OPERATION	STCH TYPE	SEAM/ STCH TYPE	STCH IN	THREAD	
					NDL	BOB/ LPR
18.	<u>Assemble hood flap.</u> (cont'd.)  d. Set nine snap caps to flap as indicated on pattern.					
19.	<u>Set flap to hood.</u>  a. Center hood flap on the outside of parka as indicated on pattern with loop fastener tape side facing up, and stitch 1/16 to 1/8 inch from edge. The loop fastener tape shall face the front when the flap is attached to the hood.	301	LSb1-2(a)	10- 13	B	B
	b. Turn flap down and topstitch $1/4 + 1/16$ inch from folded edge. On the inside of the garment, seam seal tape the seam that attaches the flap to the hood.	301	LSb1-2(b)	10- 13	B	B
20.	<u>Assemble sleeves.</u>  a. Position elbow patches face side up to face side of sleeves with bottom and back seam edges aligned with sleeve edges. Turn inside edges (side and top) under 1/2 inch and stitch 1/8 to 3/16 inch from folded edges.	301	LSd-1	10- 13	B	B

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TABLE II. MANUFACTURING OPERATIONS REQUIREMENTS (cont'd)

NO.	OPERATION	STCH TYPE	SEAM/ STCH TYPE	STCH IN	THREAD	
					NDL	BOB/ LPR
20.	<u>Assemble sleeves.</u> (cont'd.)					
	b. With face sides together, position fronts to sleeve (right and left respectively). Align raw edges and seam.					
	c. Position a strip of loop fastener tape (length as indicated on pattern), per marks on patterns, and stitch on all four sides 1/8 to 3/16 inch from edge with 1/2 inch overlap stitching.	301	LSbj-1	10- 13	B	B
	d. Position preassembled sleeve tabs to the face side of sleeves per marks on pattern, lined up with fastener tape, and raw edges aligned and stitch 1/8 to 3/16 inch from edge tacking ends.	301	SSa-1	10- 13	B	B
	e. Position preassembled sleeve pocket flap to left sleeve, per marks on pattern. Stitch 1/4 inch from raw edge from beginning to end of flap.	301	LSbk-2(a)	10- 13	B	B
and						
Fold sleeve pocket flap down and top stitch 1/16 to 3/32 inch from fold. stitch second row of stitching 1/4 inch from the first.	301	LSbk-2(b)	10- 13	B	B	
or						

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TABLE II. MANUFACTURING OPERATIONS REQUIREMENTS (cont'd)

NO.	OPERATION	STCH TYPE	SEAM/ STCH TYPE	STCH IN	THREAD	
					NDL	BOB/ LPR
20.	<p><u>Assemble sleeves.</u> (cont.) Fold flap down and stitch 1/16 to 3/32 inch from fold with 1/4 inch spaced double row stitching, tacking ends.</p> <p>f. Lay heat seaming tape on the inside of sleeve, covering all stitching except fastener tape stitching, and heat seal.</p>	301	Lsa-2(b)	10- 13	B	B
21.	<p><u>Assemble parka shell.</u></p> <p>a. With face sides together, position sleeve to parka back at armhole (right and left respectively), with edges aligned and seam.</p> <p>b. With face sides together, position fronts to sleeve (right and left respectively). Align raw edges and seam.</p> <p>c. With face sides together, position lower front over lower back. align side seam edges, matching bottoms of lower front and back, underarm seams (with seam allowance toward sleeve), and underarm slide fastener opening. Seam beginning from lower front/back, backstitching 1/2 inch over pocket/pocket flap overlap. Continue seaming to underarm slide fastener opening, and seam to sleeve bottom.</p>	301	SSa-1	10- 13	B	B
		301	SSa-1	10- 13	B	B
		301	SSa-1	10- 13	B	B

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TABLE II. MANUFACTURING OPERATIONS REQUIREMENTS (cont'd)

NO.	OPERATION	STCH TYPE	SEAM/ STCH TYPE	STCH IN	THREAD	
					NDL	BOB/ LPR
21.	<u>Assemble parka shell.</u> (cont'd.)					
	d. With all seams toward the back of the parka, lay the heat seaming tape to the inside, over side seams, and sleeve attachment seams and heat seal.					
	e. With face sides together, position hood to parka neckline with edges aligned, marks on patterns matched, and stitch in place.	301	SSa-1	10- 13	B	B
	f. With seams turned toward hood, lay heat seaming tape on the inside of the parka and heat seal.					
	g. Position left interlining to inside (non-face side) of left front flap stitching 1/8 to 3/16 inch from edge. Repeat for opposite side.	301	LSbj-1	6- 8	B	B
h. Set two uncovered caps 1-5/8 inches from raw edge of each end of left flap. Equally space five caps between top and bottom caps with caps to the interlining side.						
i. Fold left front flap lengthwise and with face sides together, close top and bottom ends with a 1/4 inch seam seam.	301	SSe-2(a) And SSe-2(b)	10-	B	B	

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TABLE II. MANUFACTURING OPERATIONS REQUIREMENTS (cont'd)

NO.	OPERATION	STCH TYPE	SEAM/ STCH TYPE	STCH IN	THREAD	
					NDL	BOB/ LPR
21.	<u>Assemble parka shell.</u> (cont'd.)					
	Turn corners completely out and edge stitch top, folded side and bottom of flap using 3/16 inch margin. Repeat for opposite side.					
	j. Stitch left front flap to front with 1/8 inch seam, 1-3/8 inches from left front edge, 3/4 inch from top raw edge and finishing not less than 1-1/4 inches from bottom. Stitch right flap to front with 1/8 inch seam 1-3/8 inches from raw edge of right front, 1 inch from raw edge of top and finishing a minimum of 1-1/4 inches from bottom.	301	LSb1-2(a)	10-13	B	B
	k. Fold flaps toward center front and top-stitch length of flaps using 1/4 inch gauge.	301	LSb1-2(b)	10-13	B	B
l. From the inside, seam seal flap seams with tape over both rows of stitching.						
22.	<u>Set underarm slide fasteners.</u>					
	a. Clip each end of shell underarm slide fasteners following angle to allow 3/4 inch opening width.	301	SSa-1	10-13	B	B

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TABLE II. MANUFACTURING OPERATIONS REQUIREMENTS (cont'd)

NO.	OPERATION	STCH TYPE	SEAM/ STCH TYPE	STCH IN	THREAD	
					NDL	BOB/ LPR
22.	<u>Set underarm slide fasteners.</u> (cont'd.)					
	<p>b. Fold welts in half lengthwise and position on top of slide fastener tape (right and left sides respectively) with edges aligned. Stitch 1/8 to 1/4 inch from edge.</p> <p style="text-align: center;">and</p> <p>c. Turn sleeve inside out. Fold under at lower arm end of slide fastener opening, leaving point extended. Position closed slide fastener face side down on slide fastener opening, with slide fastener bottom extension even with point extension of opening. The slide fastener pull shall be located towards the underarm, and the welt shall face towards the sleeve front. continuously stitch 1/4 inch from all edges, beginning with bottom extensions of slide fastener, pivoting at each corner. Repeat for other sleeve.</p> <p style="text-align: center;">or</p>	301	SSa-1	10-13	B	B
		301	SSa-1	10-13	B	B

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TABLE II. MANUFACTURING OPERATIONS REQUIREMENTS (cont'd)

NO.	OPERATION	STCH TYPE	SEAM/ STCH TYPE	STCH IN	THREAD	
					NDL	BOB/ LPR
22.	<p><u>Set underarm slide fasteners. (cont.)</u></p> <p>d. If alternative method (see operation 7h) is used, omit b and c and with sleeve inside out, fold sleeve under at wrist end of underarm opening leaving point extended. Fold welt in half lengthwise and with welt toward sleeve front, position welt bottom extension and stitch in place 1/4 inch from edge, in corner. Repeat for top edge stitching 1/4 inch from edge. Finished welt shall measure 3/4 inches in width. Repeat for second sleeve.</p>	301	SSa-1	10- 13	B	B
23.	<p><u>Join shell and lining.</u></p> <p>a. Lay parka face side up, lay lining face side down, raw edges even along slide fastener tape edge. Start at bottom stitching on slide fastener and 1/4 inch on shell fly. Watch to match marks of slide fastener with neck and waist seam. Start sewing 1 + 1/8 inch from bottom of fastener tape and stop 1 + 1/8 inch from top of fastener tape.</p>	301	SSa-1	10- 13	B	B

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TABLE II. MANUFACTURING OPERATIONS REQUIREMENTS (cont'd)

NO.	OPERATION	STCH TYPE	SEAM/ STCH TYPE	STCH IN	THREAD	
					NDL	BOB/ LPR
23.	<u>Join shell and lining.</u> (cont'd.)					
	Join around hood (catching elastic webbing in seams), with raw edges even, and stitching 1/4 inch from edges. On other front, repeat in same manner leaving opening for flash pocket 1 + 1/8 inch from each end of fastener tape.					
	b. Join lining to slide fastener opening through flash pocket area. With raw edges even, sew 1/4 inch from edge, lining up to the stitching at each end of opening.	301	SSa-1	10- 13	B	B
	c. If alternate method for assembling underarm slide fastener is used, attach outershell with welt to lining with zipper (face sides together) at underarm opening by superimposing all plies following existing line of stitching, pivoting at each corner and stitching all four sides.	301	SSa-1	10- 13	B	B
24.	<u>Join lining to underarm slide fasteners.</u>					
	a. Clip each end of underarm slide fastener opening following angle for point to allow 3/4 inch opening width.					



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TABLE II. MANUFACTURING OPERATIONS REQUIREMENTS (cont'd)

NO.	OPERATION	STCH TYPE	SEAM/ STCH TYPE	STCH IN	THREAD	
					NDL	BOB/ LPR
24.	<u>Join lining to underarm slide fasteners.</u> (cont'd.)					
	b. With sleeve and lining (non-face side) out, fold sleeve under at slide fastener bottom and fold lining up to underarm opening, leaving point extended and stitch to slide fastener bottom. Continue as in 22.d. Repeat for second sleeve.	301	SSa-1	10- 13	B	B
25.	<u>Join sleeve and lining at wrist.</u>					
	a. With sleeve shell and lining wrong side out, position sleeve ends with face sides together and seam around bottom.	301	SSa-1	10- 13	B	B
26.	<u>Join lower pocket liner to lower pocket.</u>					
	a. With face sides together, stitch left pocket flap lining to left pocket flap facing at pocket opening. Repeat for right front side.	301	SSa-1	10- 13	B	B
	b. With face sides together, stitch lower front pocket liner to lower left front at pocket opening. Repeat for right front side.	301	SSa-1	10- 13	B	B
	or					

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TABLE II. MANUFACTURING OPERATIONS REQUIREMENTS (cont'd)

NO.	OPERATION	STCH TYPE	SEAM/ STCH TYPE	STCH IN	THREAD	
					NDL	BOB/ LPR
26.	<u>Join lower pocket liner to lower pocket.</u> (cont'd.)					
	c. Fold in raw edges of left pocket flap liner and left pocket flap facing and stitch across pocket opening 1/8 to 3/16 inch from folded edge. Repeat for right front side.	301	SSc-1	10-13	B	B
	d. Fold in raw edges of lower left pocket and left pocket liner and stitch across pocket opening 1/8 to 3/16 inch from folded edge. Repeat for right side.	301	SSc-1	10-13	B	B
	NOTE: If option to use operation 26.c and 26.d is exercised, operation 27.h shall be eliminated.					
27.	<u>Top stitch parka.</u>					
	a. Lay parka open, with lining up, topstitch lining (thru shell) 1/8 to 3/16 inch from slide fastener seam, beginning at top of hood fronts And stopping 1/4 to 3/8 inch into top of fastener tape on both fronts. Topstitch beginning 1/4 to 3/8 inch above the bottom of fastener tape to bottom of parka on both sides backtacking at hand pocket openings making sure shell is flat and smooth.	301	LSq-2(b)	10-13	B	B

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TABLE II. MANUFACTURING OPERATIONS REQUIREMENTS (cont'd)

NO.	OPERATION	STCH TYPE	SEAM/ STCH TYPE	STCH IN	THREAD NOL BOB/ LPR	
27.	<p><u>Top stitch parka.</u> (cont'd.)</p> <p>b. Separate fastener tape at hand pocket opening and topstitch lining, 1/8-3/16 inch from edge of lining, making sure shell is flat and smooth.</p> <p>c. Top stitch beginning 1/4 to 3/8 inch above the bottom end of fastener tape to the bottom of parka, 1/8 to 3/16 inch from liner/slide fastener seam, on both fronts of parka, making sure shell is flat and smooth.</p> <p>d. Topstitch center fold 1/8 to 3/16 inch from edge from top of hood to hem stitch line, making sure stitch line, making sure stitch does not catch drawcord, on both fronts of parka.</p> <p>e. Top stitch hood brim 3/16 to 1/4 inch from edge (catching interlining in top stitching) starting and stopping 1/4 to 3/8 inch from tunnel seam.</p> <p>f. Stitch 1/2 to 3/4 inch vertical bartack centered thru hood tunnel and drawcord at center of hood.</p> <p>g. Top stitch 1/8 to 3/16 inch from seamed edges around underarm slide fastener openings.</p>	<p>301</p> <p>301</p> <p>301</p> <p>301</p> <p>301</p> <p>301</p> <p>301</p>	<p>LSq-2 (b)</p> <p>LSq-2 (b)</p> <p>LSq-2 (b)</p> <p>SSe-2 (b)</p> <p>Efa-1</p> <p>LSq-2 (b)</p>	<p>10- 13</p> <p>10- 13</p> <p>10- 13</p> <p>10- 13</p> <p>10- 13</p> <p>10- 13</p> <p>10- 13</p>	<p>B</p> <p>B</p> <p>B</p> <p>B</p> <p>B</p> <p>B</p> <p>B</p>	<p>B</p> <p>B</p> <p>B</p> <p>B</p> <p>B</p> <p>B</p> <p>B</p>

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TABLE II. MANUFACTURING OPERATIONS REQUIREMENTS (cont'd)

NO.	OPERATION	STCH TYPE	SEAM/ STCH TYPE	STCH IN	THREAD	
					NDL	BOB/ LPR
27.	<u>Top stitch parka.</u> (cont'd.)					
	h. With sleeve shell and lining pulled straight and flat, top stitch around bottom of sleeve 3/16 to 1/4 inch from bottom edge with 1 inch over sew.	301	Osf-1	10- 13	B	B
	i. Top stitch around lower front openings (pocket to liner seam and flap facing to flap liner seam), 1/8 to 3/16 inch from edge.					
28.	<u>Attach insignia tab.</u>					
	a. Position the raw edge of the preassembled insignia tab to left front storm flap 1-1/2 inches above the third snap cap from the top, in the center of the flap, face sides together, point towards hood, and stitch 1/4 inch from raw edge.	301	LSbk-2(a)	10- 13	B	B
	b. Turn tab down and stitch 1/16 to 1/8 inch from fold with 1/4 inch spaced double row of stitching, tacking ends.	301	LSbk-2(b)	10- 13	B	B

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TABLE II. MANUFACTURING OPERATIONS REQUIREMENTS (cont'd)

NO.	OPERATION	STCH TYPE	SEAM/ STCH TYPE	STCH IN	THREAD	
					NDL	BOB/ LPR
29.	<u>Hem bottom of parka.</u>  Open parka with lining up. Turn bottom edges of shell and liner up 3/4 to 7/8 inch, fold again 3/4 + 1/8 inch and stitch 1/16 to 1/8 inch from the folded edge. The hem shall finish 5/8 to 7/8 inch wide.	301	SS1-1	10- 13	B.	B
30.	<u>Set studs.</u>  a. Set seven studs to right storm flap to match snap caps on left storm flap. Set one stud to left storm flap to match snap cap on insignia tab.  b. Set one stud to each lower front pocket, matching up to the snap Cap on pocket flaps.  c. Set one stud to each underarm welt, matching each up to the snap cap.					

3.9 Finished measurements. The measurements of the parka shall conform to the requirements specified in Table III.

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TABLE III. Finished measurements (inches)

	1/2 Chest <u>1/</u>	Back Length <u>2/</u>	Sleeve length <u>3/</u>	Hood flap length <u>4/</u>
<u>X-Short</u>				
X-Small	21	26-1/2	26-1/4	26-1/2
Small	23	27	26-1/2	27
Medium	25	27-1/2	26-3/4	27-1/2
<u>Short</u>				
X-Small	21	27-1/2	26-3/4	26-1/2
Small	23	28	27	27
Medium	25	28-1/2	27-1/4	27-1/2
Large	27	29	27-1/2	28
<u>Regular</u>				
X-Small	21	29	27-3/4	26-1/2
Small	23	29-1/2	28	27
Medium	25	30	28-1/4	27-1/2
Large	27	30-1/2	28-1/2	28
X-Large	29	31	28-3/4	28-1/2
<u>Long</u>				
X-Small	21	30-1/2	28-3/4	26-1/2
Small	23	31	29	27
Medium	25	31-1/2	29-1/4	27-1/2
Large	27	32	29-1/2	28
X-Large	29	32-1/2	29-3/4	28-1/2
<u>Tolerance</u>				
Plus	3/4	3/4	1/2	1/2
Minus	3/4	3/4	1/2	1/2

- 1/ With slide fastener closed and parka smooth and flat, measure 1/2 chest from folded edge to folded edge at base of armhole seams,
- 2/ Measure center back length from neck seam to bottom of hem.
- 3/ Measure sleeve length from armhole seam to bottom of sleeve along underarm seam.
- 4/ Measure seam joining hood flap to hood, from end to end, following the curve of the hood.

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3.9.1 Slide fastener finished measurements. After stitching, the front slide fasteners shall measure not less than 1/4 inch less than the minimum specified length in Table II operation 1.d.

3.10 Workmanship. The finished parka shall conform to the quality of product established by this specification. The occurrence of defects shall not exceed the applicable acceptable quality level.

#### 4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the contractor is responsible for the performance of all inspection requirements (examinations and tests) as specified herein. Except as otherwise specified in the contract or purchase order, 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 ensure supplies and services conform to prescribed requirements.

4.1.1 Responsibility for compliance. All items shall meet all requirements of sections 3 and 5. The inspection set forth in this specification shall become a part of the contractor's overall inspection system or quality program. The absence of any inspection requirements in the specification shall not relieve the contractor of the responsibility of ensuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the contract. Sampling inspection, as part of manufacturing operations, is an acceptable practice to ascertain conformance to requirements. However, this does not authorize submission of known defective material, either indicated or actual, nor does it commit the Government to accept defective material.

4.1.2 Responsibility for dimensional requirements. Unless otherwise specified in the contract or purchase order, the contractor is responsible for ensuring that all specified dimensions have been met. When dimensions cannot be examined on the end item, inspection shall be made at any point, or at all points in the manufacturing process necessary to ensure compliance with all dimensional requirements.

4.1.3 Certificate of compliance. Where certificates of compliance are submitted, the Government reserves the right to check test such items to determine the validity of the certification.

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

1. First article inspection (see 4.3)
2. Quality conformance inspection (see 4.4)

4.3 First article inspection. The first article, submitted in accordance with 3.2, shall be inspected as specified in 4.4.2 and 4.4.3 for compliance with design, construction, workmanship and dimensional requirements.

4.4 Quality conformance inspection. Sampling for inspection shall be performed in accordance with MIL-STD-105, except where otherwise indicated.

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

4.4.1.1 Component and material certification. Unless otherwise specified, a certificate of compliance will be acceptable as evidence that the heat sealing tape conforms to the requirements specified in 3.3.5.

5.2.2 End item visual examination. The end items shall be examined for defects listed in Table IV. The lot size shall be expressed in units of parkas. The sample unit shall be one parka. The inspection level shall be II and the acceptable quality level (AQL), expressed in terms of defects per hundred units, shall be 1.5 for major defects and 10 for (major and minor combined) defects.

TABLE IV. End item visual defects

Examine	Defect	Classification	
		Major	Minor
Material defects and damages	Any smash, multiple float or loose slub	101	
	Cut, tear, mend, burn, needle chew, or hole	102	
	Misweave, area of poor dye penetration, dyestreak, broken or missing yarn, visible mend, thin place, or shade bar <u>1/</u>	103	201



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

Examine	Defect	Classification	
		Major	Minor
Cleanliness (cont'd.)	Any spot, streak, or stain of a permanent nature on any portion of a garment which would be visible when parka is worn		202
	Removable spot, streak, or stain on outside of parka		203
	Thread ends not trimmed throughout parka		204
	Any holding or basting threads visible on outside of the finished parka when applicable		205
	Any defective component <u>1</u> /	104	206
Component and assembly	Any component part omitted	105	
	Any required operation omitted or improperly performed <u>1</u> /	106	207
	Any drawcord caught in hem or tunnel stitching restricting use of drawcord	107	
Drawcord	Any end not heat seared		208
	Any drawcord omitted	108	
	Any end not knotted		209
	Any drawcord insufficient in length	109	
	Any barrel lock omitted		210
	Not caught in center bartack		211
	Any part of slide fastener bent, broken, otherwise defective	110	
Slide fastener	Not closing as specified	111	
	Length not as specified	112	
	Color not as specified		212
	Thong not as specified		213

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

Examine	Defect	Classification	
		Major	Minor
Snap fasteners (cont'd.)	Any part of assembly missing, mismatched, broken, cracked, bent, not securely clinched, affecting function: -two or more snap fasteners - one snap fastener One or more clinched too tightly cutting surrounding fabric Loose, i.e., socket or stud spins freely or wobbles in con- nection portions One or more having rough or sharp edge	113	
			214
		114	
			215
		115	
			116
			117
Wrist tabs	Missing Improperly located <u>1</u> /		216
Labels	Missing, illegible, or incorrect Incorrectly placed or attached	118	
			217
Accuracy of seaming	Seam twisted, pleated, or puckered <u>1</u> / Part of parka caught in any unrelated oper- ation or stitching <u>1</u> / Thread break secured by stitching back of the break less than 1/2 inch Ends of all seams and stitchings when not caught in other seams or stitching, uneven or backtacked less than 1/2 inch Color not as specified Gage of stitching uneven or not as specified	119	218
		120	219
			220
			221
			222
			223

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

Examine	Defect	Classification	
		Major	Minor
Accuracy of seaming (cont'd.)	Edge of seam tape less than 1/8 inch from seam allowance	121	
	Seam tape lifting off fabric		122
	Visible scorching (heat degradation of fabric on the laminate) in excess of 3/16 inch width or 1/2 inch in length at any location along a taped seam	123	
Open seams	More than 1/8 inch up to 1/4 inch		224
	More than 1/4 inch	124	
	NOTE: One or more broken or two or more continuous skipped or run-off stitches constitute an open seam. On double stitched seams, a seam is considered open when one or both sides of the seam is open. Raw edge not securely caught in stitching shall be classified as on open seam.		
Seams and stitchings	Not specified seam or stitch type		225
	Missing, broken or skipped stitches <u>1</u> /	125	226
Stitch tension	Loose tension in any area: - more than 1 inch but not more than 2 inches		227
	- more than 2 inches	126	
	Tight tension (stitches break when normal strain is applied to the seam or stitching)	127	

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

Examine	Defect	Classification	
		Major	Minor
Stitch tension (cont'd.)	Missing, broken, or skipped stitches <u>1</u> /	128	
Stitches per inch (to be scored only when the con- dition exists on major portion of the seam)	Less than minimum specified:		
	- one stitch		228
	- two or more stitches	129	
	More than maximum specified		229
Pockets and flaps	Flap attached crookedly, i.e., distance between sides of pocket and underside of opened flap varies more than 1/4 inch		230
	Pocket or flap poorly shaped		231
	Flap not covering front or back edge of pocket by 3/16 or more		232
Heat sealed seams	Any seam tape not located as specified		233
	Any seam tape not 1/8 inch overlap on each side of sewn seam	130	
	Any seam tape not overlapped 3/4 inch minimum	131	
	Any required stitching not covered by seam tape		234
	Any needle punctures that have not been repaired using heat sealing tape		235
	Any area of the laminate knit fabric bordering the seam tape that is melted exposing laminate film	132	

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

Examine	Defect	Classification	
		Major	Minor
Repairs	Any heat sealing repairs extending beyond 25 inches in length	133	
	More than five repairs on any one item <u>1/</u>	134	
Seam tape adhesion	Seam tape lifting off fabric within 3/4 inch of seam <u>1/</u>	135	
	Visible scorching (heat degradation of the fabric on the laminate) in excess of 3/16 inch in width or 1/2 inch in length at any location along a taped seam.	136	
Shaded part	Variation in shade within an outside part <u>1/</u>	137	236
	Any part required to be cut from one piece of material shaded <u>1/</u>	138	237
	NOTE: Parts suspected as being shaded shall be examined at a distance of 3 feet against the background of the other-parts and colors of the garment. When the shade difference is readily discernible under these examining conditions, it shall be scored as a shaded part.		

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

Examine Fronts	Defect	Classification	
		Major	Minor
Length of fronts	Uneven by 1/4 inch or more at bottom when fastened		238
	Uneven by 1/4 inch or more at neck when fastened		239
Bartacks	Bartack omitted	139	
	Any bartack not in specified location, insecure, or not serving intended purpose:		
	- more than two	140	
	- two or less		240
	Any loose stitching, incomplete or broken		241
	Length or width not as specified		242
Hood flap	Snaps not in locations specified	141	
	Loop fasteners not in locations specified	142	
	Not heat sealed	143	
Label/tag	Bar-code omitted or not readable by scanner		243
	Human-readable- interpretation (HRI) omitted or illegible		244
	Not visible on folded, packaged item		245
	Causes damage to the parka	144	

1/ This defect shall be scored as major when seriously affecting serviceability and as a minor when affecting serviceability but not seriously.

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4.4.3 End item dimensional examination. The end items shall be examined for conformance to the dimensions specified in Table III. Any dimension not within the specified tolerance shall be classified as a defect. The lot size shall be expressed in units of one parka. The sample unit shall be one parka. The inspection level shall be S-3 and the AQL, expressed in terms of defects per hundred units, shall be 2.5.

4.4.4 End item testing. The end items shall be tested as specified in 4.5 for conformance to the requirements for the black print color of the camouflage pattern, fraying resistance of lining, hydrostatic resistance of seam tape, tape end lifting, tape integrity and physical surface appearance changes specified in 3.3.3, 3.6.2, and 3.6.3. The lot size shall be expressed in units of parkas. The sample unit shall be one parka. The inspection level shall be S-2 and the AQL, expressed in terms of defects per hundred units, shall be 4.0 for test failures.

4.4.5 Packaging examination. The fully packaged end items shall be examined for the defects listed below. The lot size shall be expressed in units of shipping containers. The sample unit shall be one shipping container fully packaged. The inspection level shall be S-2 and the AQL, expressed in terms of defects per hundred units, shall be 1.0.

<u>Examine</u>	<u>Defect</u>
Marking (exterior and interior)	Omitted, incorrect, illegible, of improper size, location, sequence, or method of application.
Materials	Any component missing, damaged, or not as specified.
Workmanship	Inadequate application of components such as: incomplete closure of container flaps, loose strapping, improper taping, inadequate stapling, bulged or distorted container.
Content	Number of items per shipping container is more or less than required. Size shown on one or more items not as specified on shipping container. <u>1/</u>

1/ For this defect, one item from each shipping container in sample shall be examined.

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4.4.6 Palletization examination. An examination shall be made to determine that palletization complies with the section 5 requirements. Defects shall be scored in accordance with the list below. The sample unit shall be one palletized unit load fully packaged. The lot size shall be the number of palletized unit loads in the end item inspected lot. The inspection level shall be S-1, and the acceptable quality level (AQL), expressed in terms of defects per hundred units, shall be 4.0 in accordance with MIL-STD-105.

<u>Examine</u>	<u>Defect</u>
Finished dimensions	Length, width, or height exceeds specified maximum requirements.
Palletization	Pallet pattern not as specified. Interlocking of loads not as specified. Load not bonded with required straps as specified.
Weight	Exceeds maximum load limits.
Marking	Omitted, incorrect, illegible, of improper size, location, sequence, or method of application.

4.5 Methods of testing

4.5.1 Hydrostatic resistance test. The hydrostatic resistance of laundering cycles (see 4.5.2), shall be tested in accordance with Method 5516 of FED-STD-191, except for the following: The test specimen need not be conditioned and does not need to be tested in a conditioned environment (ambient conditions may be used). The test may be performed on any device which tests the same specimen area at the equivalent pressure. The hydrostatic head shall be 50 centimeters pressure (or 0.8 psi) for 3 minutes. The parka shall be tested at four different locations as follows: one on hood seam, one on juncture of hood and neck seam, one on corner of left sleeve pocket, and one on straight torso seam. The water shall contact the outside of the garment. The sealed seam shall be centered in the 4-1/2 inch diameter test area of the testing machine. Evidence of leakage in one or more seam locations shall be considered a test failure. Leakage is defined as the appearance of one droplet of water anywhere in the 4-1/2 inch diameter test area. In cases of dispute the apparatus described in Method 5516 of FED-STD-191 shall be used.



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4.5.2 Parka laundering test. Place two (2) parkas, (one parka may be ballast) approximately 4 pounds total load, in an automatic washing machine set on permanent press cycle, high water level and warm (100 + 10, - 0° F) wash temperature. Prior to laundering, the sleeve patch (containing black print areas) of the right sleeve of each parka shall be removed (without damaging the sleeve pattern part or seam tape) and shall be retained for use as the unlaundered sample in evaluating the parka after laundering. The slide, hook/loop and snap fasteners of each parka shall be closed with the right side of each parka out during the wash and drying cycles. Place 28 grams of detergent conforming to type II of P-D-245 into the washer. The duration of each laundering cycle shall be 30 to 35 minutes. After laundering, place parkas in an automatic tumble dryer set on permanent press cycle, high heat setting (150-160° F) and run for approximately 30 minutes. Conduct five laundering and drying cycles. After the fifth laundering and drying cycle, test and evaluate the parkas for conformance to the required characteristics in 4.5.2.1. The laundering equipment (washer and dryer) shall be in accordance with AATCC test method 135.

4.5.2.1 Appearance after laundering

a. Lining fraying resistance. After five laundering cycles, the test parka shall be examined for any sign of lining fraying or lining separation from the seam (see 3.3.3). Any fraying or separation of the lining fabric in any seam area shall be considered a test failure.

b. Tape ends and integrity test. After five laundering cycles, the test parka shall be examined for any sign of tape end lifting, tape curling, bubbling, separation along tape edges or across the tape width, or tape top knit shrinkage more than 1/8 inch exposing the tape membrane or middle layer (see 3.6.2). The occurrence of any of these defects shall be considered a test failure.

c. Color loss in black print areas of woodland camouflage pattern. After five laundering cycles, the color loss shall be determined by comparing the test parka and the unlaundered sample. Any black color change on any area of the parka less than the required rating (see 3.6.3) on the AATCC Gray Scale for evaluating change in color shall be considered a test failure.

d. Physical surface appearance changes of the laminated fabric. After five laundering cycles, the woodland camouflage printed side of the test parka shall be visually examined on all visible pattern parts of the parka for any evidence of physical surface appearance changes as compared to the unlaundered sample (see 3.6.3). Any physical surface appearance change shall be considered a test failure.

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## 5. PACKAGING

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

5.1.1 Level A. Each parka, having all fasteners closed, shall have the arms folded down the front with the cuffs even at the waist. The parka shall then be folded across the front at the inside edge of each sleeve. Finally, the waist shall be folded up the front to the neck and the hood shall be folded over the waist at the neck. The folded parka shall have dimensions not exceeding 11 inches by 15 inches. The parka shall be placed in a close-fitting clear polyethylene bag conforming to A-A-50083 or type I or II, style 1 or 2 of PPP-B-26. The style 1 bag shall have a 1/4 inch hole located near a bottom corner to allow air to escape. As an alternate to the specified closure, a flap and reverse tuck may be used.

5.1.2 Commercial. Parkas shall be preserved in accordance with ASTM D 3951.

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

5.2.1 Level A packing. Twelve parkas of one size only, preserved as specified in 5.1, shall be packed within a snug-fitting fiberboard shipping container conforming to style RSC-L, class weather-resistant, variety DW, grade V15c of PPP-B-636. Level A unit packs shall be packed flat, two in length, one in width, and six in depth. Approximate dimensions of the container are 23 inches in length, 15 inches in width, and 15 inches in depth and are furnished as a guide only. Each shipping container shall be closed in accordance with method III, waterproofed in accordance with method V, and reinforced as specified in the appendix of PPP-B-636, except that the inspection shall be in accordance with 4.4.5. Shipping containers shall be arranged in unit loads in accordance with MIL-L-35078 for the type and class of load specified (see 6.2). Strapping shall be limited to non-metallic strapping, except for type II, class F loads.

5.2.2 Level B packing. Twelve parkas of one size only, preserved as specified in 5.1, shall be packed within a snug-fitting fiberboard shipping container conforming to style RSC-L, class domestic, grade 275 of PPP-B-636. Level A unit packs shall be packed flat, two in length, one in width, and six in depth. Approximate dimensions of the container are 23 inches in length, 15 inches in width, and 15 inches in depth and are furnished as a guide only. Each shipping container shall be closed in accordance with method II, as specified in the appendix of PPP-B-636, except that the inspection shall be in accordance with 4.4.5.

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5.2.2.1 Weather-resistant fiberboard container. 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 method III as specified in PPP-B-636, except that the inspection shall be in accordance with 4.4.5.

5.2.3 Commercial packing. Parkas of one size only, preserved as specified in 5.1, shall be packed in accordance with ASTM D 3951.

5.3 Palletization. When specified (see 6.2), parkas packed as specified in 5.2.2 or 5.2.3, shall be palletized on a 4-way entry pallet in accordance with load type 1a of MIL-STD-147. Pallet pattern shall be number 3 in accordance with the appendix of MIL-STD-147.

5.4 Marking. In addition to any special marking required by the contract or purchase order, unit packs, shipping containers and palletized unit loads shall be marked in accordance with MIL-STD-129 or ASTM D 3951, as applicable.

## 6. NOTES

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

6.1 Intended use. The parka is intended for use by members of the Department of Defense as a component of the Extended Cold Weather Clothing System.

6.2 Acquisition requirements. Acquisition documents should specify the following:

- a. Title, number and date of this specification.
- b. Size (see 1.2).
- c. Issue of DODISS to be cited in the solicitation and, if required, the specific issue of individual documents referenced (see 2.1.1 and 2.2).
- d. When first article inspection is required (see 3.1, 4.3, and 6.3).
- e. Levels of preservation and packing (see 5.1 and 5.2).
- f. Type and class of unit load required (see 5.2.1).
- g. When weather-resistant grade fiberboard shipping containers are required for level B packing (see 5.2.2).
- h. When palletization is required (see 5.3).

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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 FAR 52.209. The first article should be a preproduction sample. The contracting officer should specify the appropriate type of first article and the number of units to be furnished. The contracting officer should also include specific instructions in acquisition documents regarding arrangements for selection, inspection, and approval of the first article.

6.4 Standard samples. For access to standard samples, address the contracting activity issuing the invitation for bids or request for proposal.

6.5 Subject term (key word) listing.

ECWCS  
Garment  
Outerwear  
Wet/dry

6.6 Changes from previous issue. Asterisks are not used in this revision to identify changes from the previous issue because they are too extensive to be annotated.

Custodians:

Army - GL  
Navy - NU

Preparing Activity:

DLA - CT

Project No. 8415-0938

Review Activities:

Army - MD  
Navy - MC

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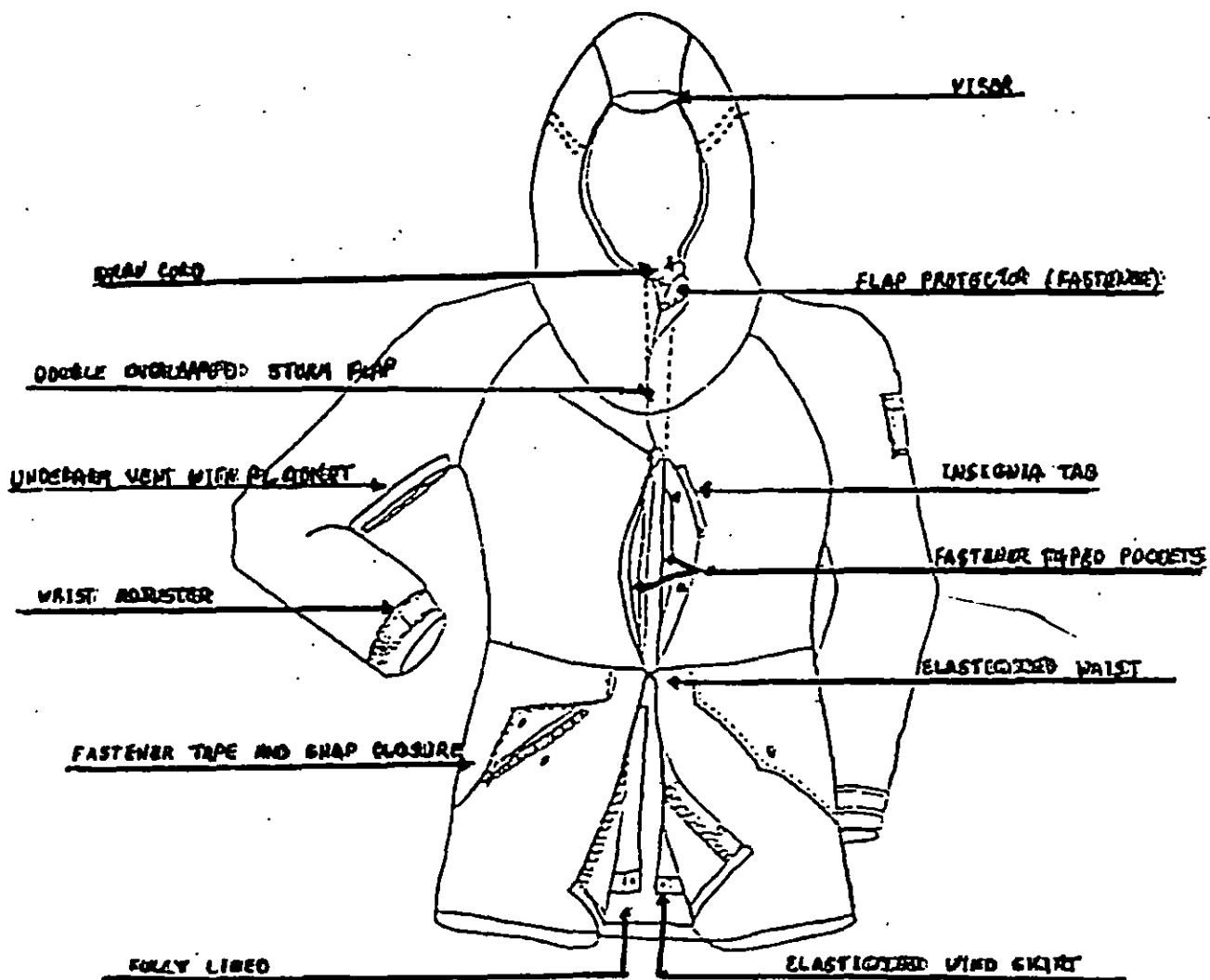


Figure 1. Parka, Cold Weather, Camouflage