

PURCHASE DESCRIPTION

PARKA, WORKING, US NAVY

This purchase description is approved for use by the Navy Clothing and Textile Research Facility, Department of the Navy.

1. SCOPE

1.1 Scope. This purchase description covers a waterproof, moisture-vapor-permeable parka that accepts a zip-in liner for use by US Navy personnel.

1.2 Schedule of sizes. The parka is available in the following sizes and lengths (see 6.2):

<u>Size</u>	<u>X-Short</u>	<u>Short</u>	<u>Regular</u>	<u>Long</u>	<u>X-Long</u>
X-Small	X	X	X	X	
Small	X	X	X	X	X
Medium	X	X	X	X	X
Large	X	X	X	X	X
X-Large		X	X	X	X
XX-Large			X	X	X

2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in sections 3 or 4 of this purchase description. This section does not include documents cited in other sections of this purchase description 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 shall meet all specified requirements of documents cited in sections 3 or 4 of this purchase description, whether or not they are listed.

DISTRIBUTION STATEMENT: This notice is to advise you that the Government possesses intellectual property/trademark rights in the following Navy patterns and logos: digitized pattern; the blue, gray, and black coloration; and the anchor/Constitution/eagle (ACE) logo (hereafter collectively referred to as "intellectual property"). The Government claims exclusive ownership of the above-mentioned intellectual property. Therefore, no entity other than the Government, or those contracted by or having obtained proper permission or licenses from the Government to do so, are permitted to produce, sell, or transfer in any manner any items (clothing or non-clothing) containing or copying, in whole or in part, the intellectual property. Doing so will be considered an infringement on the Government's intellectual property rights and will be subject to legal action.

2.2 Government documents.

2.2.1 Specifications, standards, and handbooks. The following specifications, standards, and handbooks form a part of this purchase document to the extent specified herein. Unless otherwise specified, the issues of these documents shall be those listed in the solicitation or contract.

COMMERICAL ITEM DESCRIPTIONS

- 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 for Pockets (Water Repellent)
- A-A-55126 - Fastener, Tapes, Hook and Loop, Synthetic
- A-A-55634 - Zippers (Fasteners, Slide, Interlocking)

DEPARTMENT OF DEFENSE SPECIFICATIONS

- MIL-T-3530 - Thread and Twine: Mildew Resistant Or Water Repellent Treated
- MIL-PRF-5038 - Tape, Textile and Webbing, Textile, Reinforcing Nylon
- MIL-DTL-10884 - Fasteners, Snap
- MIL-DTL-32072 - Thread, Polyester
- MIL-DTL-32075 - Label: For Clothing, Equipage, and Tentage, (General Use)
- MIL-PRF-32142 - Cloth, Waterproof and Moisture Vapor Permeable
- MIL-C-43701 - Cord, Elastic, Nylon or Polyester

(Copies of these documents are available online at <http://assist.daps.dla.mil> or from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

2.2.2 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this document to the extent specified herein. Unless otherwise specified, the issues are those specified in the solicitation or contract.

NAVY CLOTHING AND TEXTILE RESEARCH FACILITY

- NCTRF PD 12-06 - Liner, Parka, US Navy

(Copies of this document is available at Defense Supply Center Philadelphia, 700 Robbins Avenue, Philadelphia PA 19111

2.3 Non-government publications. The following documents form a part of this purchase description to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract.

AMERICAN ASSOCIATION OF TEXTILES CHEMISTS AND COLORISTS (AATCC)

- AATCC 8 - Colorfastness to Crocking: AATCC Crockmeter Method
- AATCC 15 - Colorfastness to Perspiration
- AATCC 16 - Colorfastness to Light
- AATCC 22 - Water Repellency: Spray Test
- AATCC 61 - Colorfastness to Laundering, Home and Commercial:
Accelerated
- AATCC 118 - Oil Repellency: Hydrocarbon Resistance Test
- AATCC 119 - Color Change due to Flat Abrasion (Frosting)
- AATCC 127 - Water Resistance: Hydrostatic Pressure Test
- AATCC 135 - Dimensional Changes of Fabrics After Home Laundering

(Copies of these documents are available online at <http://www.aatcc.org> or AATCC, P.O. Box 12215, Research Triangle Park, NC 27709.)

AMERICAN SOCIETY FOR QUALITY (ASQ)

- ASQ Z1.4 - Sampling Procedures and Tables for Inspection by Attributes

(Copies of this document are available online at <http://www.asq.org> or from American Society for Quality, P.O. Box 3005, Milwaukee, WI 53201-3005.)

ASTM INTERNATIONAL

- ASTM D 751 - Standard Test Methods for Coated Fabrics
- ASTM D 1776 - Standard Practice for Conditioning Textiles for Testing
- ASTM D 2582 - Standard Test Method Puncture Propagation Tear
Resistance of Plastic Film and Thin Sheeting
- ASTM D 3776 - Standard Test Method Mass Per Unit Area (Weight) of
Woven Fabric
- ASTM D 3884 - Standard Test Method for Abrasion Resistance of Textile
Fabrics
- ASTM D 3951 - Standard Practice for Commercial Packaging
- ASTM D 5034 - Standard Test Method for Breaking Strength of Textile
Fabrics
- ASTM D 6193 - Standard Practices for Stitches and Seams
- ASTM E 96 - Standard Test Methods for Water Vapor Transmission of
Materials

(Copies of these documents are available on line at <http://www.astm.org> or from ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.)

TECHNICAL ASSOCIATION OF THE PULP AND PAPER INDUSTRY (TAPPI)

TAPPI Method 451 – Stiffness of Paperboard (Clark Stiffness Method)

(Applications for copies of referenced documents are available via <http://www.tappi.org> or should be addressed to TAPPI Press, Technology Park/Atlanta, P.O. Box 105113, Atlanta, GA 30348-5113.)

2.4 Order of precedence. In the event of a conflict between the text of this purchase description and the references cited herein, the text of this purchase description shall take precedence. Nothing in this purchase description, however, shall supersede 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 Recycled, recovered, or environmentally preferable materials. Recycled, recovered, or environmentally preferable materials should be used to the maximum extent possible provided that the material meets or exceeds the operational and maintenance requirements, and promotes economically advantageous life cycle costs.

3.2.1 Disposal of rejected garments. Non-usable garments shall be disposed by contacting the Contracting Officer to determine if there is an alternate use for rejected finished garments.

3.3 Materials. The materials and components shall conform to applicable specifications, standards, and drawings required herein. Equivalent materials and parts require approval by the Navy Clothing and Textile Research Facility, Natick, MA. Requests for use of equivalent items shall be submitted to the contracting officer.

3.3.1 Basic material. The basic material for the parka shall be a laminated, waterproof and moisture vapor permeable cloth conforming to MIL-PRF-32142, Type III.

3.3.2 Upper pocket material. The upper chest pockets of the parka shall be made from cloth, plain weave, black, polyester/cotton conforming to A-A-52110.

3.3.3 Reinforcement material. The reinforcement cloth used in the elbow patches shall be digital printed nylon and shall match the basic material as specified in 3.3.1, (see 6.2), water repellent treated, resist fraying and conform to the following requirements stated in Table I when tested in accordance with 4.4.1.1.

Table I – Reinforcement material requirements

Characteristic	Requirement
Weight, oz/sq. yd	5.6 to 6.0
Breaking strength: Warp Fill	200 155
Colorfastness to: Crocking Laundering Light Perspiration (Alkaline/Acid)	Dry and wet: 3.5 min. except for Black 3235, 1.5 min. for Black 3235 Equal to or better than “3-4” rating on AATCC Gray Scale For Color Change Equal to or better than “3-4” rating on AATCC Gray Scale For Color Change Navy Blue 3387, Deck Grey 3104, and Light Grey 3125 - not less than grade 3 rating Black 3235 – not less than 1.5 rating
Spray rating (minimum): Initial After 1 Laundering	100, 100, 90 90, 90, 80
Stiffness (cm), maximum Warp Filling	11.0 11.0
Puncture Propagation of Tear, kgf (minimum) Warp Filling	7.0 6.0
Resistance to Organic liquid	No wetting by N-Tetradecane
Resistance to Frosting	Equal to or better than the original
Dimensional Stability: Percent (maximum) Warp Fill	4.0 4.0
Abrasion Resistance	800 cycles (min) – no visible abrasion

3.3.4 Inside collar, parka hood tunnel, throat tab, inside slide fastener facings and lower inside pocket. The black cloth for the inside collar, parka hood tunnel, throat tab, inside slide fastener facings and lower inside pocket shall be a three layer-knit laminate conforming to the following requirement stated in Table II when tested in accordance with paragraph 4.4.1.1.

Table II – Knit laminate requirements

Characteristic	Requirement
Weight, oz/sq. yd.	4.0 ± 0.4
Stiffness, cm (maximum)	8.0
Hydrostatic Resistance, psi (minimum): Initial Taffeta Restraint After Deet	220 120
Puncture Propagation Tear, kgf (minimum): Warp Fill	3.5 3.5
Water permeability Initial After Synthetic Perspiration	No leakage No leakage
Moisture Vapor Transmission Rate (gm/sq. m/24 hours) (minimum): Procedure B - Initial Procedure BW - Initial	600 5000
Physical surface appearance after laundering	No change after 20 launderings when compared to unlaundered

3.3.5 Interlining. The interlining for the attached hood visor and chest pocket welt shall be cotton buckram cloth, natural or bleached, conforming to Type I of A-A-50186, except that the minimum breaking strength in the warp direction shall be 60 lbs.

3.3.6 Seam sealing tape. The tape for covering and sealing all designated seams and stitching shall be cut in 1 (± 1/16) inch wide strips or ½ (± 1/32) inch wide for the inside slide fastener facing (backside) from material that is compatible with the back side of the cloth specified in MIL-PRF-32142. As an alternate, 1-1/2 (± 1/16) inch wide strips of tape as specified above may be used on the top and bottom of the sleeve pockets, flaps and fastener tapes. The exposed side of the seam sealing tape shall be black.

3.3.7 Reinforcement Tape. The nylon reinforcement tape for reinforcing the upper pockets to the parka and sleeve attachment tab **assemblies shall** be a black plain weave cloth with an

adhesive of not less than 1.5 mils thick, cut into 1 (+ 1/16) inch wide strips. The reinforcement tape shall not to be used to seam seal stitched seams.

3.3.8 Hood drawcord tape, hanger tape, barrel lock anchors and snap attachment assembly tabs.

The hood drawcord tape and the snap attachment assembly tabs shall be a flat 1/2 inch wide nylon tape, black in color conforming to type III of MIL-PRF-5038. The tape for the hanger loop and barrel lock anchors inside lower front pocket shall be a flat 3/8-inch wide nylon tape, black in color, conforming to type III of MIL-PRF-5038. The snap attachment assembly tabs shall be located as indicated by the pattern marks and shall contain a male and female snap (see Figure 1). The measurement of the snap attachment assembly tabs shall be taken from the stitch box to the folded end of the tab as shown in Figure 1. The lengths for the hood drawcord, hanger tapes, barrel lock anchors, and snap attachment assembly tabs are listed in Table III:

Table III - Lengths for hood drawcords, hanger tapes, barrel lock anchors, and snap attachment assembly tabs (in inches)

Size	Hood drawcords (cut length)	Hanger tape (finished length)	Barrel lock anchors (inside lower pockets)	Snap attachment assembly tabs (unsnapped/finished length)
All sizes	36	2 (+ 1/4)	4-1/2 (+ 1/4)	4 (+ 1/4)

3.3.9 Collar, waist, hood, and hem drawcord. The collar, waist, hood and hem drawcords shall be 3/16 inch in diameter multi-strand rubber elastic with braided nylon or polyester covering, black conforming to type II of MIL-C-43701, or a 3/16 (+ 1/32) inches in diameter, non-elastic polyester cord with a minimum tensile strength of 200 pounds in black, i.e. Rhode Island Textile style #13239 or equal. The cut lengths for the drawcords are specified in Table IV.

Table IV - Cut lengths for collar, waist & hem drawcords (in inches)

Size	Collar	Waist	Hem
X-Small	30	41-1/2	48
Small	31	45-1/2	52
Medium	31	49-1/2	56
Large	32	53-1/2	60
X-Large	32	57-1/2	64
XX-Large	34	59-1/2	68
Tolerance	± 1	± 1	± 1

3.3.10 Fastener tape, hook and loop. The nylon fastener tapes shall conform to type II, class 1 of A-A-55126. The color shall be black. The widths and lengths shall be as specified in Table V.

Table V – Hook and loop tape requirements (in inches)

Location	Quantity	Length and Width	
		Hook	Loop
Outer Collar	3		1 x 2
Hood	3	1 x 2	
Insignia tab	1	1 x 1	
Parka (left front)	1		1 x 1
Sleeve	2		1-1/2 x 5-1/2
Sleeve tab	2	1-1/2 x 1-1/2	
Sleeve pocket flap	4		1-1/2 x 1
Sleeve pocket	4	1-1/2 x 1	
Lower pocket flap	4		1 x 2
Lower pocket	4	1 x 2	
Tolerance		± ¼	± 1/4

3.3.11 Fastener, slide, interlocking. All slide fasteners components and tapes shall be black and conform to A-A-55634.

3.3.11.1 Front closure slide fastener and thong. The front closure slide fastener shall be a Type III, style 8, size 8, continuous element polyester monofilament coil, equipped with a single long tab pull, automatic locking reverse bale slider with a hole large enough to accommodate a 3/8 inch thong. The front closure slide fastener shall meet 200 pounds minimum crosswise strength as specified in A-A-55634. The tape side of the fastener tape shall be coated with a polyurethane coating not less than 2.5 mils thick and the tape side with a film laminate allowing seam sealing of the slide fastener to the garment. The slide fastener thong may be made from the basic material or a 3/8 inch width black webbing conforming to Type III of MIL-PRF-5038. The slide fastener thong shall be not less than 2 or more than 2-1/2 inch in length for all slide fasteners. The front slide fastener lengths shall be as specified in Table VI.

3.3.11.1.1 Slide fastener finished measurements. After stitching, the slide fasteners tolerances shall measure as stated in A-A-55634; Zippers (Fasteners, Slide, Interlocking).

Table VI - Front slide fastener lengths (in inches)

Garment Size	Length
X-Small-X-Short	26
X-Small-Short	27
X-Small-Regular	28-1/2
X-Small-Long	30
Small-X-Short	26-1/2
Small-Short	27-1/2
Small-Regular	29
Small-Long	30-1/2
Small-X-Long	32
Medium-X-Short	27
Medium-Short	28
Medium-Regular	29-1/2
Medium-Long	31
Medium-X-Long	32-1/2
Large-X-Short	27-1/2
Large-Short	28-1/2
Large –Regular	30
Large –Long	31-1/2
Large-X-Long	33
X-Large-Short	29
X-Large –Regular	30-1/2
X-Large –Long	32
X-Large- X-Long	33-1/2
XX-Large-Regular	31
XX-Large- Long	32-1/2
XX-Large-X-Long	34

3.3.11.2 Underarm and upper pocket slide fasteners and thongs. The underarm and upper pocket slide fasteners shall conform to A-A-55634, Type I, style 7, size 5, continuous element polyester monofilament coil equipped with a single reverse bale slider. The tape side of the fastener chain shall be coated with a polyurethane coating not less than 2.5 mils thick. The minimum crosswise breaking strength shall be 175 pounds. The underarm slide fastener length shall be 15 ($\pm 1/8$) inches and be equipped with a non-locking, short tab pull slider. The upper pocket slide fastener length shall be 9 ($\pm 1/8$) inches and be equipped with a short tab pull, automatic locking slider. The slide fastener thongs may be from the basic material or a 3/8 inch

width black webbing conforming to Type III of MIL-PRF-5038. The sliders shall have a hole large enough to accommodate a 3/8 inch wide thong. The slide fastener thong shall be not less than 2 or more than 2-1/2 inch in length for all slide fasteners.

3.3.11.3 Inside slide fastener facing – for liner attachment. The inside facings slide fastener for the liner attachment shall be an interchangeable (per paragraph 2.2.12 of A-A-55634) individual element molded, separating fastener with single reversible automatic locking slider (roll over pull tab), Size 5, with 9/16 or 5/8 inch wide tape (YKK Style #898011). The tape and slide fastener shall be black. The strength and performance shall conform to A-A-55634; Table V; paragraph A - J (Plastic, Class 1) (see 6.8.5). The slide fastener shall not have a fabric or webbing thong. The lengths for the inside slide fastener facing front opening shall be as specified in Table VII:

Table VII – Lengths for inside slide fastener facing for liner attachment) (in inches)

Size		X-Small	Small	Medium	Large	X-Large	XX-Large
Slide fastener length	X-Short	24 ½	25	25 ½	26	---	---
	Short	25 ½	26	26 ½	27	27 ½	---
	Regular	27	27 ½	28	28 ½	29	29 ½
	Long	28 ½	29	29 ½	30	30 ½	31
	X-Long	---	30 ½	31	31 ½	32	32 ½

3.3.12 Barrel lock. The barrel lock for the collar, hood, waist and hem drawcords shall be a black, toaster ellipse conforming to ITW NEXUS part # 3500 or equal. All barrel locks shall have the loose ends anchored except for the collar adjustment and waist adjustment drawcords. The drawcords shall be black.

3.3.13 Thread. The thread for all seaming and stitching shall be polyester, size B, 2 or 3 ply, conforming to type I, class 1, subclass B of MIL-DTL-32072. As an alternate, size 40, 2 or 3 ply polyester core thread conforming to Type I of A-A-50199 may be used. All thread shall be water-repellent treated as specified in MIL-T-3530 except for the thread used in the assembly of the inside upper pockets. The thread color shall be black.

3.3.14 Fastener, snap (liner attachment tabs). The snap fastener shall be style 2A, finish 2 male and female complete, consisting of stud and eyelet (size 1 or 2), button and socket, conforming to MIL-F-10884 with the exception that the socket shall be “Easy Action” or equal. The snap fastener shall be black. The distance between the male and female snap shall be 1-7/8 (± 1/8) inch measured from center to center (see Figure 1). The female snap shall be placed 3/4 (± 1/16) inch from folded end of two ply of attachment tab nylon tape. All components of the snap fastener shall be from the same supplier.

3.3.15 Labels. Each parka shall be labeled as follows.

3.3.15.1 Combination personal/identification/care label. Each parka shall have a combination personal/identification/care instruction label conforming to type VI, classes 10 and 15 of MIL-DTL-32075. The label shall be placed on the wearer’s right inside chest pocket positioned against the wearer. The label shall be stitched on all four sides 1/8 to 3/16 inch from its edge.

All of the printing shall be legible throughout the expected life of the parka. The color of the label shall be white or neutral. The printing shall show fastness to laundering and shall bear the following inscription:

NAME:
SERVICE NO:
PARKA, WORKING, US NAVY
100% NYLON SHELL AND LINER, PTFE LAMINATE
CONTRACT NO: SPO100-00-C-0000 (EXAMPLE)
NAME OF CONTRACTOR:
NAME OF MANUFACTURER: (IF OTHER THAN CONTRACTOR)
DATE OF MANUFACTURE (MM/YY):

**LAUNDERING INSTRUCTIONS:
WARNING!!
DO NOT STARCH, BLEACH, DRY CLEAN OR PRESS THE PARKA
DO NOT USE FABRIC SOFTENERS**

Home Laundering (Machine/Hand):
Use a Permanent Press or Normal Cotton Machine Setting
or
Hand Wash Using a Mild Detergent. Rinse Thoroughly in Warm Water.
NOTE: Any Residual Detergent on The Parka Will Decrease The Water Repellency.
Home Drying:
Tumble Dry on Permanent Press or Cotton Setting, Remove Immediately From Dryer.
Do not drip dry.
or
Shipboard Laundry:
Parka Shall be Laundered Utilizing **"Shipboard Formula III"**
Shipboard Drying:
Tumble Dry at Low Temperature Setting. Remove Immediately From Dryer. Do Not Overheat
or Over Dry. For Restoration of Water Repellent Finish, Dry at a Temperature
Not to Exceed 150°F. Do not drip dry.
DO NOT REMOVE THIS LABEL

3.3.15.2 Size label. Each parka shall have a size label, with the height and chest measurements indicated, conforming to type VI, class 2 of MIL-DTL-32075. The label shall be placed on the wearer's right inside chest pocket. All printing shall be legible for the life of the garment. The inscription shall be as stated below. There shall be no abbreviations for size and length except for "X" and "XX" in lieu of extra and extra, extra. The size label can be combined with the combination personal/identification/care instructions label.

Medium X-Short (Example)
Height: Up to 63 in.
Chest From 37 to 41 in.
NSN: 8415- XX-XXX-XXXX

NCTRF PD 15-06F

X-Small X-Short

Height: Up to 63 in.
Chest: Up to 33 in.
NSN: 8415-XX-XXX-XXXX

X-Small Short

Height: From 63 to 67 in.
Chest: Up to 33 in.
NSN: 8415- XX-XXX-XXXX

X-Small Regular

Height: From 67 to 71 in.
Chest: Up to 33 in.
NSN: 8415- XX-XXX-XXXX

X-Small Long

Height: From 71 in. to 75 in.
Chest: Up to 33 in.
NSN: 8415- XX-XXX-XXXX

Small X-Short

Height: Up to 63 in.
Chest: From 33 to 37 in.
NSN: 8415- XX-XXX-XXXX

Small Short

Height: From 63 to 67 in.
Chest: From 33 to 37 in.
NSN: 8415- XX-XXX-XXXX

Small Regular

Height: From 67 to 71 in.
Chest: From 33 to 37 in.
NSN: 8415- XX-XXX-XXXX

Small Long

Height: From 71 in. to 75 in.
Chest: From 33 to 37 in.
NSN: 8415- XX-XXX-XXXX

Small X-long

Height: Height: Over 75 in.
Chest: Up to 33 in.
NSN: 8415- XX-XXX-XXXX

Medium X-Short

Height: Up to 63 in.
Chest: From 37 to 41 in.
NSN: 8415- XX-XXX-XXXX

Medium Short

Height: From 63 to 67 in.
Chest: From 37 to 41 in.
NSN: 8415- XX-XXX-XXXX

Medium Regular

Height: From 67 to 71 in.
Chest: From 37 to 41 in.
NSN: 8415- XX-XXX-XXXX

Medium Long

Height: From 71 in. to 75 in.
Chest: From 37 to 41 in.
NSN: 8415- XX-XXX-XXXX

Medium X-long

Height: Over 75 in.
Chest: From 37 to 41 in.
NSN: 8415- XX-XXX-XXXX

Large X-Short

Height: Up to 63 in.
Chest: From 41 to 45 in.
NSN: 8415-XX-XXX-XXXX

Large Short

Height: Up to 67 in.
Chest: From 41 to 45 in.
NSN: 8415- XX-XXX-XXXX

Large Regular

Height: From 67 to 71 in.
Chest: From 41 to 45 in.
NSN: 8415- XX-XXX-XXXX

Large Long

Height: From 71 in. to 75 in.
Chest: From 41 to 45 in.
NSN: 8415- XX-XXX-XXXX

Large X-Long

Height: Over 75 in.
Chest: From 41 to 45 in.
NSN: 8415- XX-XXX-XXXX

X-Large Short

Height: From 63 to 67 in.
Chest: From 45 to 49 in.
NSN: 8415-XX-XXX-XXXX

X-Large Regular

Height: From 67 to 71 in.
Chest: From 45 in. to 49 in.
NSN: 8415- XX-XXX-XXXX

X-Large Long

Height: From 71 in. to 75 in.
Chest: From 45 in. to 49 in.
NSN: 8415- XX-XXX-XXXX

X-Large X-long

Height: Over 75 in.
Chest: Over 45 to 49 in.
NSN: 8415- XX-XXX-XXXX

XX-Large Regular

Height: From 67 to 71 in.
Chest: Over 49 in.
NSN: 8415- XX-XXX-XXXX

XX-Large Long

Height: From 71 in. to 75 in.
Chest: Over 49 in.
NSN: 8415- XX-XXX-XXXX

XX-Large X-Long

Height: Over 75 in.
Chest: Over 49 in.
NSN: 8415- XX-XXX-XXXX

3.3.15.3 Bar code label. Each item shall be individually bar-coded with a paper tag for personal clothing items. The paper used for the tags shall be a standard bleached sulfate having a basis weight of 100 pounds with a smooth finish to accept thermal transfer and direct printing. The tags shall have a hole and be attached to each item by a fastener, clearly legible and readable by scanner. The bar code element shall be a 13 digit national stock number (NSN). There shall be a twelve digit Universal Product Code (UPC) assigned for all NSNs by the Government. The initials "UPC" shall appear beneath code. The bar codes for NSN and UPC shall be a medium to high density and shall be located so that they are completely visible on the item when it is folded and or packaged as specified. The parka label/tag shall be attached to the slide fastener pull tab of the front closure.

3.3.16 Non-wicking buffer. The non-wicking buffer shall be a polyurethane adhesive, 2 (+0, -1/4) inches in width and a minimum of 4.5 ml thick and shall be applied to the sleeve hems and parka hem across all seams unless otherwise specified.

3.4 Design. The parka shall have a collar with a drawcord for adjustment and a stowed hood, a water resistant slide fastener front closure and underarm openings. The parka shall have two upper chest pockets with concealed water resistant slide fastener openings, two lower pockets with flaps and concealed hand warmer pockets, adjustable wrist tabs, an insignia tab, and waist and hem drawcord adjustments that are concealed inside the lower pockets. A hanger loop shall be located on the top edge of the collar, metal chain shall not be used. The parka shall have an interoperable inside front slide fastener to interface with NCTRF PD 12-06 liner. The parka shall also have snap attachment assembly tab located at the inside bottom of each sleeve as indicated on the pattern (see Figure 1), for attaching the optional liner. The drawcords shall be anchored except for collar adjustment and waist adjustment drawcords. The bottom hems of sleeves and parka shall be even.

3.5 Patterns. Standard patterns, which provide an allowance of 1/4 inch for all sealed seams and 3/8 inch for all other 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. Minor modifications are permitted to accommodate automatic equipment however, the design and finished measurements shall be maintained. These modifications shall not alter the serviceability, dimensions or appearance requirements.

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

Table VIII - List of pattern parts

Piece Name	Nomenclature	Cut Parts
<u>Cloth, laminated</u>		
CENTR_FRONT	Center front	2
CT_FT_PK_EX	Center front pocket extension	2
UND_PKT_EXT	Upper pocket extension	2
UPPER_BACK	Upper back	1
LOWER_BACK	Lower back	1
UPPER_FRONT	Upper front	2
LOWER_FRONT	Lower front	2
POCKET_FLAP	Pocket flap	2
LOWER_POCKET	Lower pocket	2
INSIGNIA_TB	Insignia tab <u>1/</u>	1
HOOD	Hood	2
UPPR_SLEEVE	Upper sleeve	2
LOWR_SLEEVE	Lower sleeve	2
SLEEV_POCKET	Sleeve pocket	2
LFT_PEN_PKT	Left pencil pocket	1
SLV_PKT_FLP	Sleeve pocket flap	2
SLEEVE_TAB	Sleeve tab	2
VISOR	Visor	1
OUTSID_CLLR	Outside collar	1
WST_CRD_CSG	Waist cord casing	1
<u>Cloth, nylon reinforcement</u>		
ELBOW_PATCH	Elbow patch	2
<u>Cloth, plain weave</u>		
CHEST_POCKET	Chest pocket	4
<u>Cloth, cotton, buckram</u>		
VISOR_INT	Visor interlining	1
CHS_PKT_WLT	Chest Pocket Welt	2
<u>Cloth, three-layer knit</u>		
INSIDE_CLLR	Inside collar <u>2/</u>	1
HOOD_TUNNEL	Hood tunnel	1
THROAT_TAB	Throat tab	2
LWR_PKT_BCK	Lower pocket back	2

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

2/ Cloth, laminated may be substituted.

3.6 Construction. The construction shall conform in all respects to the requirements specified in Table IX and herein.

3.6.1 Stitches, seams, and stitching. All stitches, seams and stitching shall conform to ASTM-D-6193. The type of seam, stitching and stitches per inch shall be as specified in Table IX. Seam allowances shall be maintained with seams sewn so that no raw **or cut 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.

3.6.1.1 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. All 301 stitch and bartack thread ends shall be trimmed to a length of not more than 1/4 inch.

3.6.1.1.1 Repairs of type 301 or 401 stitching. Repairs of type 301 stitching shall be as follows:

a. When thread breaks, skipped stitches, run-offs, or bobbin run outs 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/

b. 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 re-stitching in the required manner. 1/

c. Repairs of 401 stitching shall be in accordance with 3.6.1.1.1.a and 3.6.1.1.1.b except utilizing a 301 stitch type.

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

3.6.1.2 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 3.6.1.1.1. 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 not more than 1/2 inch.

3.6.1.3 Bartacks/Linetacks. Unless otherwise specified, all bartacks shall be 3/8 (\pm 1/32) inch in length, 1/8 (\pm 1/32) inch wide, and shall contain 21 to 28 stitches. The 5/8 inch bartacks shall be 5/8 (\pm 1/32) inch in length, 1/8 (\pm 1/32) inch wide, and shall contain 35 to 46 stitches. All linetacks shall be 5/8 (\pm 1/32) inch in length. Bartacking and linetacking 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.

3.6.1.4 Sewn eyelets. All eyelets shall be 3/16 inch in **inside diameter** with a minimum of 19 stitches per eyelet with purling on the outside.

3.6.1.5 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 shall have at least three tying, overlapping or back stitches are used to secure the ends of the stitching.

3.6.2 Heat sealing. Seams and stitching as indicated in Table IX shall be sealed with heat sealing tape on the inside of the parka and concealed hood. 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 ends of seam tape or taped cross-over areas shall be spot sealed without additional repair tape in accordance with seam tape manufacturer temperature, time and pressure recommendations for application with cross-over heat sealing machine. As an alternate, spot sealing for taped ends can be eliminated if hot air machine can automatically cut and seal ends of seam tape without any loose ends. However, spot sealing for taped cross-over areas shall remain. Sealed seams, cross-over area 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 fifteen laundering cycles as specified in 4.4.4.

3.6.3 Appearance after laundering. After fifteen laundering cycles as specified in 4.4.4, the base fabric shall show colorfastness in the black printed areas of the digital patterns equal to or better than “3-4” rating on the AATCC Gray Scale for evaluating change in color and also shall show no significant change in physical surface appearance when compared to an unlaundered parka both in the base fabric and taped areas. Minor defects not affecting appearance, such as puckering on seam line or creases around taped area due to manufacturing operations are acceptable and shall be used for comparison to laundered sample.

3.7 Manufacturing operations requirements. The parka shall be manufactured in accordance with operation requirements specified in Table IX. 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 IX. Any holding or basting stitch is permissible and shall be removed, shall not show on the finished garment, and shall 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 purchase description.

3.7.1 Repairs. Repair of the parka by mending, patching or darning shall not be allowed, and at no time shall removal of the heat sealing tape be permitted. However, up to 25 inches of heat sealing tape may be used to repair leaking seams, missing yarns in the tricot knit, and to repair areas where the original tape does not overlap the sewn seams by a minimum of 1/8 inch on both

sides of the inside of parka. Up to five repair areas totaling 25 inches in length shall be allowed. No more than five inches of repair using more than two layers of seam sealing tape shall be permitted, with the exception of the backside area of the sleeve pocket.

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

Table IX. - Manufacturing Operation Requirements

NO.	OPERATION	STCH TYPE	SEAM/ STCH TYPE	STCH PER 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 loop fastener tapes, and marks for proper assembly. The directional lines indicate the warp direction, 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 shell parts out of one piece of material except the inside slide fastener facing, pencil pocket, hood tunnel, visor and inside collar. As an alternate, slide fastener thongs may be cut from the basic material.</p> <p>b. Cut drawcords, elastic cords, hanger tape and fastener tape lengths in accordance with the tables in paragraphs 3.3.6, 3.3.7, 3.3.8, 3.3.9 and 3.3.10. The drawcords shall be anchored except for the collar and waist adjustment drawcords.</p> <p>NOTE: If not hot wire cut, as an alternate, drawcord ends may be dipped or impregnated with cellulose acetate or cellulose butyrate to eliminate fraying.</p>				

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NO.	OPERATION	STCH TYPE	SEAM/ STCH TYPE	STCH PER IN	THREAD NDL BOB/ LPR
1 con't	<p>c. Inside slide fastener facing shall be strip cut of the three layer knit laminate 1-1/2 (-0, +1/8) inches wide and long enough to finish 1/8 inch from the finished top of the collar and 3/4 inch from the cut edge of the bottom of parka. The strip cutting shall be cut with the length in the wale direction.</p>				
2.	<p><u>Replace damaged parts.</u></p> <p>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.</p>				
3.	<p><u>Marking.</u></p> <p>Mark, ticket, or bundle all component parts to insure a correct shade and size throughout the parka. Drill holes shall not be used and markings shall not be visible on the outer shell of the parka.</p>				
4.	<p><u>Assemble collar.</u></p> <p>a. Place eyelet reinforcement piece, (1/2 inch wide by 1 inch) on inside of outer collar, 1/4 inch below top cut edge at center of outer collar.</p> <p>b. Make a 3/16 inch eyelet in center of outer collar top edge, 5/8 inch down from cut edge and centered on the reinforcement piece.</p> <p>c. Hem bottom outer collar by turning up the bottom edge 1/4 inch and stitching 1/8 to 3/16 inch from folded edge.</p>	301	Whip or purl type EFa-1	19 min 10-13	70/2 or B B B B

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NO.	OPERATION	STCH TYPE	SEAM/STCH TYPE	STCH PER IN	THREAD NDL BOB/ LPR
4 con't	<p>d. Position three strips of loop (two horizontal and one in a vertical position) fastener tape on the tricot side of the collar in accordance with marks on pattern and stitch all four sides 1/8 to 3/16 inch from edges.</p> <p>e. Position inside collar, face to face on outside collar and stitch together along upper edge. Turn and top stitch 1/16-1/8 inch from edge.</p> <p>f. Insert drawcord with barrel lock attached through the eyelet and stitch ends to front ends of inside collar.</p> <p>g. Topstitch collar together with a second row of stitching 1/2 inch from first row of stitching. Note: Do not catch drawcord in stitching.</p> <p>h. Attach hanger loop using 3/8 inch wide nylon tape to the top edge of the inside collar at center back. Finished opening length shall be 2 (\pm 1/4) inches. The hanger loop shall lay flat and parallel with ends turned under and shall be bartacked. Bartack shall be 3/8 inch. Note: Do not catch drawcord in stitching.</p>	301 BRTK	LSbj-1 SSe-2 SSa-1 SSe-2(b)	10-13 10-13 10-13 10-13	B B B B B B B B
5.	<p><u>Assemble throat tab.</u></p> <p>a. With face sides together and edges aligned, stitch 1/4 inch from edges of flaps.</p> <p>b. Turn, work out corners or curves and edges. Stitch 1/8 to 3/16 inch from turned edge.</p>	301 or 401 301	SSe-2(a) SSe-2(b)	10-13 10-13	B B B B
6.	<p><u>Assemble insignia tab.</u></p> <p>a. Center hook fastener tape at point of tab per marks on pattern and stitch 1/8 to 3/16 inch from folded edge.</p>	301	LSbj-1	10-13	B B

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NO.	OPERATION	STCH TYPE	SEAM/ STCH TYPE	STCH PER IN	THREAD NDL BOB/ LPR
6 con't	<p>b. Crease sides and point of the one piece tab. With face of the creased edges aligned, stitch around tab 1/4 inch from edge.</p> <p style="text-align: center;">- or -</p> <p>c. Position tab pieces face to face with edges aligned and stitch around sides and points 1/4 inch from edge.</p> <p>d. Turn tab, work out corners and edges. Stitch 1/16 to 1/8 inch from turned edges.</p>	<p>301 or 401</p> <p>301 or 401</p> <p>301</p>	<p>SSa-1</p> <p>SSe-(a)</p> <p>SSe-(b)</p>	<p>10-13</p> <p>10-13</p> <p>10-13</p>	<p>B B</p> <p>B B</p> <p>B B</p>
7.	<p><u>Assemble sleeve tabs.</u></p> <p>a. Position hook fastener tape on face of tab in accordance with marks on pattern. Stitch all four sides 1/8 to 3/16 inch from edges.</p> <p>b. Fold tab in half, face side out, and crease side cut edges. Stitch 1/16 to 1/8 inch from folded edges.</p> <p style="text-align: center;">- or -</p> <p>c. Fold tab in half, face sides together, and stitch.</p> <p>d. Turn face side out, work out corners and edges. Stitch 1/4 inch from edges.</p>	<p>301</p> <p>301</p> <p>301 or 401</p> <p>301</p>	<p>LSbj-1</p> <p>EFn-2</p> <p>SSe-2(a)</p> <p>SSe-2(b)</p>	<p>10 –13</p> <p>10-13</p> <p>10 –13</p> <p>10-13</p>	<p>B B</p> <p>B B</p> <p>B B</p> <p>B B</p>
8.	<p><u>Assemble sleeve pocket flaps.</u></p> <p>a. Position two loop fastener tapes on face of flap in accordance with marks on pattern. Stitch around all four sides 1/8 to 3/16 inch from edges.</p> <p>b. Fold flap in half, (face sides together) and with edges aligned, stitch ends of flap.</p>	<p>301</p> <p>301</p>	<p>LSbj-1</p> <p>SSe-2(a)</p>	<p>10-13</p> <p>10-13</p>	<p>B B</p> <p>B B</p>

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NO.	OPERATION	STCH TYPE	SEAM/STCH TYPE	STCH PER IN	THREAD NDL BOB/ LPR
8 con't	c. Turn flap, work out corners and edges. Stitch 1/4 inch from edge along sides and bottom of flap.	301	SSe-2(b)	10-13	B B
9.	<u>Assemble sleeve pockets and left sleeve pencil pocket.</u> a. Fold under top cut edge of left sleeve pencil pocket 3/8 inch. Stitch 1/16 to 1/8 inch from folded edge. b. Fold under top cut edge of sleeve pocket 1/2 inch. Stitch 1/8 to 3/16 inch from folded edge. c. Position two hook fastener tapes on face of sleeve pocket in accordance with marks on pattern. Stitch on all four sides 1/8 to 3/16 inch from edge. d. Form bellows by folding sides of pocket in accordance with marks on pattern and stitch 1/16 to 1/8 inch from folded edge.	301 or 401 301 or 401 301 301 or 401	EFa-1 EFa-1 LSbj-1 EFa-1	10-13 10-13 10-13 10-13	B B B B B B B B
10.	<u>Assemble lower pocket flaps.</u> a. Position two loop fastener tapes on face of flap in accordance with marks on pattern. Stitch on all four sides 1/8 to 3/16 inch from edges. b. Fold flap in half, with face sides together and edges aligned, stitch ends. c. Turn flap, work out corners and edges. Stitch 3/16 to 1/4 inch from edge around sides and bottom.	301 301 or 401 301	LSbj-1 SSe-2(a) SSe-2(b)	10-13 10-13 10-13	B B B B B B
11.	<u>Assemble lower outside pockets.</u> a. On inner lower pocket, make a 3/16 inch eyelet in location indicated on pattern.		Whip or purl type	19 min	70/2 or B B

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NO.	OPERATION	STCH TYPE	SEAM/ STCH TYPE	STCH PER IN	THREAD NDL BOB/ LPR	
11 con't	<p>b. Turn under top edge of lower pockets 1/2 inch and stitch 1/4 to 3/8 inch from folded edge.</p> <p>c. Position two strips of hook fastener tape on face of pocket in accordance with marks on pattern. Stitch all four sides 1/8 to 3/16 inch from edges.</p> <p>d. Position lower inside pocket on outside pocket, with face sides together and notches aligned, stitch to the back side of pocket 1/4 inch from edge. Turn outside pocket face side out and stitch 1/8 inch from turned edge.</p>	301	EFa-1	10-13	B	B
		301	LSbj-1	10-13	B	B
		301	SSe-2	10-13	B	B
12.	<p><u>Assemble hood.</u></p> <p>a. Position hood pieces face to face, align edges and stitch 1/4 inch from edge.</p> <p>b. With joining seam facing either side, place seaming tape over seam and heat seal.</p> <p>c. Position three strips of hook fastener tape in accordance with marks on pattern on outside bottom of hood. Stitch on all four sides 1/8 to 3/16 inch from edges. (The middle hook tape shall be centered over the hood joining seam).</p> <p>d. Place heat seaming tape over fastener tape stitching and heat seal.</p> <p>e. Position interlining on inside of visor piece. Stitch to straight edge of visor 1/8 ($\pm 1/16$) inch from edge.</p> <p>f. Turn under ends of hood tunnel 3/8 inch and stitch 1/4 inch from folded edge.</p>	301	SSa-1	10-13	B	B
		301	LSbj-1	10-13	B	B
		301	SSa-1	10-13	B	B
		301 or 401	EFa-1	10-13	B	B

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NO.	OPERATION	STCH TYPE	SEAM/ STCH TYPE	STCH PER IN	THREAD NDL BOB/ LPR
12 con't	g. Center drawcord on hood tunnel. Fold hood tunnel over drawcord and stitch edges together 3/16 to 1/8 inch from cut edge. At center of tunnel, vertically tack tunnel and drawcord.	301 or 401	EFa-1	10-13	B B
	h. Position visor (face to face) on hood and stitch 1/4 inch from edge. Turn and force out curved edges and stitch 1/8 inch from turned edge of visor.	301	SSe-2	10-13	B B
	i. Position hood tunnel to face side of hood at the front notch and stitch 1/4 inch from the cut edge up to the visor junction, continue stitching across the straight edge of visor, and along remaining cut edge of hood to opposite front notch.	301	SSa-1	10-13	B B
	j. Turn hood tunnel to inside of hood and stitch 1/8 inch from folded edge until it overlaps the visor edge stitching. Repeat operation on opposite side of hood.	301	LSbp(b)-1	10-13	B B
	k. Set barrel locks on ends of drawcord tape. Extend drawcord tape beyond barrel locks and knot cord 1 inch from edge and stitch ends of drawcord tape to knit side of finished front edges of hood.	301	SSa-1	10-13	B B
	l. Place heat seaming tape over the hood tunnel stitching to the bottom edge of hood neckline seam and heat seal.				

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NO.	OPERATION	STCH TYPE	SEAM/STCH TYPE	STCH PER IN	THREAD NDL BOB/ LPR
13.	<p><u>Assemble upper front of parka and inside upper pockets.</u></p> <p>a. Position size label and combination label on right (as worn) upper pocket, 3-1/4 ($\pm 1/8$) inch from pocket top for all sizes and for sizes X-Small and Small 1 ($\pm 1/8$) inch, for sizes Medium – XX-Large 2-1/2 ($\pm 1/8$) inches from straight raw edge (side finishing nearest the slide fastener). Stitch labels to upper pocket, 1/8 inch from edges.</p> <p>b. Overedge front edge of inside upper pocket to the center front pocket extension.</p> <p>c. Stitch chest pocket welt interlining, upper front and upper pocket extension together catching slide fastener in between. Stitch center front and center front pocket extension together catching other side of slide fastener. Stitch upper front and center front together above and below pocket, ending at the notches.</p> <p>d. Stitch pocket bags to extensions.</p> <p>e. Sew the front pocket extension and the under pocket extension together catching ends of slide fastener tape, and stitch a 3/8 inch seam, starting at the notch and along top end of extension. Backstitch ends of seam. Repeat operation for bottom of extension and opposite side.</p>	<p>301</p> <p>502, 503, 505, Or 516</p> <p>301</p> <p>502, 503, 505, Or 516</p> <p>301</p>	<p>LSbj-1</p> <p>Efd-1</p> <p>SSa-1</p> <p>Efd-1</p> <p>SSa-1</p>	<p>10 -13</p> <p>7 - 9</p> <p>10-13</p> <p>7 – 9</p> <p>10- 13</p>	<p>B B</p> <p>70/2 70/2 or B B</p> <p>B B</p> <p>70/2 70/2 or B B</p> <p>B B</p>

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NO.	OPERATION	STCH TYPE	SEAM/ STCH TYPE	STCH PER IN	THREAD NDL BOB/ LPR	
13 con't	<p>f. With face sides together and edges aligned, stitch around curved pocket edges 3/16 to 1/4 inch from edge.</p> <p>g. Attach two 2-inch reinforcement tape tabs to the edge of pocket. The pocket shall be stitched on the tape, i.e., the finished position of the tape shall be between the pocket and the parka. One tape shall be positioned at the top curved edge of the pocket and the other 6 to 7-1/2 inches lower on the back edge of the pocket. Center a 1 inch line tack through reinforcement tape and pocket (on the safety stitching).</p> <p>h. Position insignia tab on left (as worn) upper parka front, in accordance with mark on pattern and stitch 1/8 inch from folded edge of tab.</p> <p>i. Position loop fastener tape on left front according to marks on pattern and align with hook portion of fastener tape on insignia tab.</p>	<p>515 or 516</p> <p>301</p> <p>301</p> <p>301</p>	<p>SSa-2</p> <p>SSa-1</p> <p>SSa-1</p> <p>SSa-1</p>	<p>10 -13</p> <p>10-13</p> <p>10-13</p> <p>10-13</p>	<p>B B</p> <p>B B</p> <p>B B</p> <p>B B</p>	
14.	<p><u>Assemble sleeves.</u></p> <p>a. Position elbow patches, in accordance with marks on pattern, face side up on face of upper sleeves. Fold under front side, diagonal, and top edges 1/4 inch and stitch to sleeve 1/8 to 3/16 inch from folded edge.</p> <p>b. Position lower sleeve (face to face) on upper sleeve. Stitch sleeve together catching bottom edge of elbow patch.</p> <p>c. Turn down lower sleeve and with seam allowance facing up, stitch 1/16 to 1/8 inch from turned under edge of upper sleeve.</p>	<p>301</p> <p>301</p> <p>301</p>	<p>LSd-1</p> <p>LSq-2(a)</p> <p>LSq-2(b)</p>	<p>10 -13</p> <p>10 -13</p> <p>10 -13</p>	<p>B B</p> <p>B B</p> <p>B B</p>	

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NO.	OPERATION	STCH TYPE	SEAM/STCH TYPE	STCH PER IN	THREAD NDL BOB/ LPR
14 con't	d. Position a strip of loop fastener tape on lower sleeve as indicated by marks on pattern. 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
	e. Position sleeve tab on sleeve in accordance with notches and in alignment with loop fastener tape. Stitch tab to sleeve 1/8 to 3/16 inch from edge.	301	SSa-1	10 -13	B B
	f. Position pencil pocket, in accordance with marks on pattern, onto left sleeve with back side on face side of sleeve. Turn under left cut edge only 1/4 inch and stitch 1/8 to 3/16 from edge to bottom notch.	301	LSbj-1	10 -13	B B
	g. Place left sleeve pocket on left sleeve and align right cut edges of pocket and pencil pocket. Stitch cut edge of pockets together along right edge and across bottom.	301	LSbj-1	10 -13	B B
	h. Position right sleeve pocket, according to marks on pattern, face side up and turn under pocket edges 1/4 inch and stitch to sleeve 1/16 to 1/8 inch from edges. Finished pockets are to be centered above elbow patches.	301	SSb-1	10 -13	B B
	i. Position sleeve pocket flap on sleeve in accordance with marks on pattern, centered over the pocket. Stitch to sleeve. Fold sleeve pocket flap down and topstitch 1/4 (± 1/16) inch from fold, burying cut edge.	301	LSbk-2 Or LSbl-2	10 -13	B B
	j. Lay heat seaming tape on inside of sleeve, covering all stitching and heat seal.				

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NO.	OPERATION	STCH TYPE	SEAM/ STCH TYPE	STCH PER IN	THREAD NDL BOB/ LPR
15.	<p><u>Assemble fronts – attach pockets and flaps.</u></p> <p>a. Position outside lower pocket assembly, face up, on lower front. Align pocket with bottom cut edges of front and cut edge of waist seam. Stitch around pocket at waist seam, front catching barrel lock and tape for hem drawcord and bottom, 1/8 inch from edge.</p> <p>b. Close back of pocket and form hand opening by stitching back edge of pocket to front starting at the waist seam, coming down 1/2 to 3/4 inch below top edge of pocket and backtack, creating a 7 1/2 (± 1/4) inch opening, backtack and continue stitching to bottom of front. Bartack or linetack top and bottom of hand opening with a horizontal 3/8 inch tack.</p> <p>c. Stitch lower pocket flaps to upper front in alignment with upper pocket opening stitch line. Flaps shall be positioned according to pattern marks to finish even with the back edge of pocket. Flaps shall be turned down and 1/4 inch topstitched in finished position above joining seam of upper and lower fronts.</p> <p>d. Lay heat seaming tape over the stitching attaching the back end of pocket to lower front and heat seal.</p>	<p>301</p> <p>301</p> <p>Brtck</p> <p>301</p>	<p>SSa-1</p> <p>SSa-1</p> <p></p> <p>SSa-1</p>	<p>10 -13</p> <p>10 -13</p> <p>28/brtk or 10-13 per linetack</p> <p>10 -13</p>	<p>B B</p> <p>B B</p> <p>B B</p> <p>B B</p>
16.	<p><u>Assemble parka.</u></p> <p>a. With face sides together stitch lower fronts to lower back at side seams.</p>	<p>301</p>	<p>SSa-1</p>	<p>10-13</p>	<p>B B</p>

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NO.	OPERATION	STCH TYPE	SEAM/STCH TYPE	STCH PER IN	THREAD NDL BOB/ LPR
16 con't	<p>b. Make a 3/16 inch eyelet at each end of waist drawcord casing in accordance with marks on pattern. Center of eyelet shall finish 1-1/4 (+1/8) inch from cut end of casing. Thread elastic cord through eyelets and barrel locks and tie with knot.</p> <p>c. Position waist drawcord casing on lower front in accordance with marks on pattern. Turn under ends and lower edge. Stitch 1/8 inch from folded edges.</p> <p>d. With face sides together and edges aligned, position sleeves on parka (right and left respectively) and stitch.</p> <p>e. With face sides together and edges aligned, stitch upper parka side seams to underarm opening notch on upper sleeve and back tack. Continue seaming from lower sleeve notch to bottom of sleeve, catching sleeve tab in stitching.</p> <p>f. With face sides together position upper parka on lower parka. Align front edges, match side seams and stitch parka together catching upper edge of waist drawcord casing in stitching. Do not catch waist drawcord in stitching.</p> <p>g. Lay the heat seaming tape on the inside of parka over side seams, center front/inside upper pocket seams, waist seam, sleeve attachment seams, top and bottom pocket extensions and heat seal.</p> <p>h. Position collar on parka and with face sides together and front edges aligned, stitch collar (inner and outer) to parka as far as first notch. Insert hood and continue stitching inner collar and hood to the opposite front notch. Continue stitching collar (inner and outer) to parka.</p>	<p></p> <p>301</p> <p>301</p> <p>301</p> <p>301</p> <p>301</p> <p>301</p>	<p>Whip or purl type</p> <p>SSb-1</p> <p>SSa-1</p> <p>SSa-1</p> <p>SSa-1</p> <p>SSa-1</p> <p>SSa-1</p>	<p>19 min</p> <p>10-13</p> <p>10 -13</p> <p>10 -13</p> <p>10 -13</p> <p>10 -13</p>	<p>70/2 or B B</p> <p>B B</p> <p>B B</p> <p>B B</p> <p>B B</p> <p>B B</p> <p>B B</p>

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NO.	OPERATION	STCH TYPE	SEAM/ STCH TYPE	STCH PER IN	THREAD NDL BOB/ LPR
17.	<p><u>Set underarm slide fastener.</u></p> <p>a. At each end of slide fastener, clip shell under arm seam at an angle to allow a 3/4 inch opening width.</p>				
	<p>b. Position slide fastener face down on underarm seam outlet between notches and with back edge of fastener tape even with cut edge of outlet. Stitch 1/4 (\pm 1/16) inch from back edge of tape. Tack top and bottom of the angle clipping (tongue notch) to end of slide fastener tape.</p> <p>c. Turn under slide fastener to finished position and topstitch underarm seam thru all plies 3/8 (\pm 1/16) inch from folded edge. The slide fastener pull shall finish toward bottom of sleeve.</p> <p>d. Lay heat seaming tape over top, sides and bottom of slide fastener stitching, sleeve seams and heat seal.</p>	301	SSa-1	10 -13	B B
		301	SSe-1	10-13	B B

NO.	OPERATION	STCH TYPE	SEAM/STCH TYPE	STCH PER IN	THREAD NDL BOB/ LPR
18.	<p><u>Attach front slide fastener.</u></p> <p>a. Position back edge of slide fastener tape even with left (as worn) front edge of parka and align with top of collar, top of throat tab and front edge. The throat tab shall be visible when the tab is set into the parka. Fold under top end of slide fastener tape between tab and parka. Stitch to parka front 1/4 inch from front edge catching tab and lower pocket in the stitching. Match opposite slide fastener tape with right front (as worn) at bottom and repeat operation. Fold front edge of parka forming a slide fastener welt and stitch 3/8 inch from folded edge (through both layers of parka and the slide fastener tape). The edges of the finished welts shall finish flush with each other when the slide fastener is closed.</p> <p>b. From the inside, lay heat seaming tape over stitching of slide fastener and collar, and heat seal.</p>	301	SSa-1	10-13	B B
		301	Like LSq-2	10-13	B B
19.	<p><u>Apply non-wicking buffer.</u></p> <p>The non-wicking buffer shall be applied to the inside of parka bottom fronts, inside of the parka bottom backs, sleeve hems and over any seams located in the areas specified. When properly applied 1-1/4 to 1-3/4 inches of the non-wicking buffer shall be visible.</p> <p>a. Attach (heat seal) a 2 inch (+0, - 1/4) inch wide non-wicking buffer tape 1-3/8 (\pm 1/4) inches from the bottom cut edge of parka, no less than 1/2 inch from front edges.</p> <p>b. Attach (heat seal) a 2 inch (+0, - 1/4) inch wide non-wicking buffer tape 1-3/8 (\pm 1/4) inches from the bottom cut edge of sleeves, no less than 1/2 inch from underarm seams.</p>				

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NO.	OPERATION	STCH TYPE	SEAM/STCH TYPE	STCH PER IN	THREAD NDL BOB/ LPR
20.	<p><u>Hem sleeves.</u></p> <p>Turn under edge of sleeve 1/4 to 3/8 inch, fold up hem 1/2 (± 1/8) inch and stitch 1/16 to 1/8 inch from the folded edge. The hem shall finish 3/8 to 5/8 inch wide. Attach two (2) 1/2 inch wide sleeve attachment tab assemblies (see Figure 1) to two 2 inch long pieces of reinforcement tape. Heat seal to bottom of sleeve cuff as indicated on pattern.</p>	<p>301</p> <p>301 (box stitch)</p>	<p>EFb-1</p> <p>SSa-1</p>	<p>10 –13</p> <p>10-13</p>	<p>B B</p> <p>B B</p>
21.	<p><u>Slide fastener facing assembly</u> <u>Note: These operations shall be performed on left and right side of parka front.</u></p>				
	<p>a. Place slide fastener facing 1/8 inch from top of finished collar and staystitch to the backside of the parka slide fastener tape down center front, insuring the parka shell fabric is not caught in stitching. Slide fastener facing shall finish at bottom hem notch. Staystitching shall be stitched as close to the fold as possible. (Note: This stitching shall be caught with 1/2 inch seam seal tape and collar will be finished but the bottom will not be hemmed). The bottom of the facing assembly will be caught in the bottom hem stitching.</p>	301	LSa-1	10-13	B B
	<p>b. With slide fastener facing in same position as operation 21.a., seam shall be seam sealed with 1/2 inch tape. Tape shall be centered and covering slide fastener facing seam allowance and fold of the shell.</p>				
	<p>c. Position slide fastener facing away from center front. Seam seal slide fastener facing with 1 inch tape running parallel with parka slide fastener. Seam seal shall not interfere with the smooth operation of the parka front slide fastener.</p>				
	<p>d. Fold under the cut edge of slide fastener facing that extends past the 1 inch seam seal tape and stay stitch with 1/8 inch from folded edge.</p>	301	Efa-1	10-13	B B

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NO.	OPERATION	STCH TYPE	SEAM/STCH TYPE	STCH PER IN	THREAD NDL BOB/ LPR
21 con't	e. Attach the liner's slide fastener to the slide fastener facing with the slider side on the left (throat tab) side of the parka and the pin side on the right side of the parka slide fastener facing. Lay the pre-hemmed facing on the slide fastener and stitch the slide fastener tape with stitching superimposed on the pre-hem facing stitching. The top of the slide fastener shall be 3/4 inch from top of finished collar and 2-1/2 to 3 inches from the unhemmed parka bottom or 1-1/2 to 2 inches from the finished hem.	301	SSb-1	10-13	B B
	f. Position the liner's slide fastener away from the parka slide fastener and 5/8 inch bartack facing assembly to parka at top of the collar perpendicular to collar drawcord channel.	Brtck		46/brtk	B B
22.	<u>Hem bottom of parka.</u> Turn under bottom cut edge of parka 1/4 inch, fold hem up 3/4 (+ 1/8) inch covering drawcord and eyelets. Ends of hem shall be angled at center front to allow for ease of front slide fastener operation. Stitch 1/16 to 1/8 inch from top of folded edge of hem. Stitching shall start and finish 3/4 (+/- 1/8) inch from the folded edge of slide fastener welt – this allows drawcord to extend into lower pocket. The hem shall finish 5/8 to 7/8 inch wide. Thread drawcord thru lower pocket eyelet and into barrel locks with knot. The hem drawcord and barrel lock shall be accessible inside the lower front pockets and the hems shall be even.	301	EFb-1	10 -13	B B
23.	<u>Heat seal reinforcement tape.</u> a. Heat seal all reinforcement tapes positioned on the inside of upper and lower pocket lining to the parka.				

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NO.	OPERATION	STCH TYPE	SEAM/ STCH TYPE	STCH PER IN	THREAD NDL BOB/ LPR	
24.	<p><u>Attach thong to slide fastener.</u></p> <p>a. Insert a thong into the front slide fastener slider.</p> <p style="text-align: center;">- or -</p> <p>b. Fold braid in half lengthwise, insert loop into end of pull, pass the free ends through loop and pull tight. Knot free ends together with an overhand knot. Thong shall finish no less than 2 or more than 2- 1/2 inches in length.</p> <p style="text-align: center;">- or -</p> <p>c. As an alternate make stripping for the thong using base fabric, printed side up, by folding stripping with the edges abutted at center and stitch with each row of stitching not less than 1/16 inch from edge and covering stitch on the underside. The finished stripping shall measure 5/16 to 3/8 inch wide. Attach stripping to slide fastener, same as above (operation 30.a). Knot or 3/8" bartack free ends of stripping. The thong shall finish less than 2 inches or more than 2- 1/2 inches in length.</p>	<p style="text-align: center;">406</p> <p style="text-align: center;">Brtck</p>	<p style="text-align: center;">EFh-1</p>	<p style="text-align: center;">10 –13</p> <p style="text-align: center;">28/brtck</p>	<p style="text-align: center;">B B</p> <p style="text-align: center;">B B</p>	

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

Table X. Finished measurements (inches).

	1/2 Chest A	Back length B	Sleeve length C
<u>X-Short</u>			
X-Small	22-1/4	27-1/2	23-1/2
Small	24-1/4	28	23-3/4
Medium	26-1/4	28-1/2	24
Large	28-1/4	29	24-1/4
X-Large	-	-	-
XX-Large	-	-	-
<u>Short</u>			
X-Small	22-1/4	28-1/2	24
Small	24-1/4	29	24-1/4
Medium	26-1/4	29-1/2	24-1/2
Large	28-1/4	30	24-3/4
X-Large	30-1/4	30-1/2	25
XX-Large	-	-	-
<u>Regular</u>			
X-Small	22-1/4	30	25
Small	24-1/4	30-1/2	25-1/4
Medium	26-1/4	31	25-1/2
Large	28-1/4	31-1/2	25-3/4
X-Large	30-1/4	32	26
XX-Large	32-1/4	32-1/2	26-1/4
<u>Long</u>			
X-Small	22-1/4	31-1/2	26
Small	24-1/4	32	26-1/4
Medium	26-1/4	32-1/2	26-1/2
Large	28-1/4	33	26-3/4
X-Large	30-1/4	33-1/2	27
XX-Large	32-1/4	34	27-1/4
<u>X-Long</u>			
X-Small	-	-	-
Small	24-1/4	33-1/2	27-1/4
Medium	26-1/4	34	27-1/2
Large	28-1/4	34-1/2	27-3/4
X-Large	30-1/4	35	28
XX-Large	32-1/4	35-1/2	28-1/4
<u>Tolerance</u>			
Plus/Minus	3/4	3/4	1/2

A. 1/2 Chest. Measure 1/2 chest from folded edge to folded edge at base of armhole seams, with slide fastener closed and parka smooth and flat.

B. Back length. Measure center back length from neck seam to bottom of hem.

C. Sleeve length. Measure sleeve length from armhole seam to bottom of sleeve along underarm seam.

3.10 Figures. Figure(s) shall be referenced for design, construction, placement/location, dimensional and stitching details.

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

4. VERIFICATION

4.1 Classification of inspection. Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract or order, the supplier 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 purchase description where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements

4.1.1 Classification of compliance. All items shall meet all requirements of sections 3 and 5. The inspection set forth in this purchase description shall become a part of the contractor's overall inspection system or quality program. The absence of any inspection requirements in the purchase description shall not relieve the contractor of the responsibility of assuring 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.

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

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

4.3 First article inspection. The first article, submitted in accordance with 3.1, shall be inspected as specified in 4.4.2 and 4.4.3 for compliance with design, construction, workmanship and dimensional requirements and tested in accordance with 4.4.4.

4.4 Conformance inspection. Sampling for inspection shall be performed in accordance with ASQ Z1.4, 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 purchase description or applicable procurement documents.

4.4.1.1 Component testing. The components specified in paragraphs 3.3.3 and 3.3.4 shall be tested for the characteristics listed in Table XII in accordance with the test method cited.

TABLE XII. Component tests requirement

Characteristic	Reference Paragraph	Test method
Cloth, Reinforcement		
Weight	3.3.3	ASTM D-3776 (Opt C)
Breaking Strength	3.3.3	ASTM D-5034
Colorfastness to:		
Crocking	3.3.3	AATCC-8
Laundering	3.3.3	AATCC-61, Test1A
Light (after 75 kilojoules)	3.3.3	AATCC-16, Opt. 3
Perspiration	3.3.3	AATCC-15
Spray Rating (initial)	3.3.3	AATCC-22
Spray Rating (after one laundering)	3.3.3	AATCC-135 & AATCC-22
Stiffness	3.3.3	TAPPI-T-451 <u>7</u> /
Puncture Propagation Tear (kgf)	3.3.3	ASTM D-2582 <u>8</u> /
Resistance to Organic Liquid	3.3.3	AATCC-118
Resistance to Frosting	3.3.3	AATCC 119
Dimensional Stability	3.3.3	AATCC-135 VAii
Abrasion Resistance	3.3.3	ASTM-D-3884
Cloth, Knit laminate (three-layer knit)		
Weight	3.3.4	ASTM D-3776 (Method C)
Stiffness	3.3.4	TAPPI -T-451 <u>7</u> /
Hydrostatic Resistance (initial taffeta restraint)	3.3.4	ASTM D-751
Hydrostatic Resistance (after Deet taffeta restraint)	3.3.4	ASTM D-751 <u>1</u> /

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Puncture PropagationTear (kgf)	3.3.4	ASTM D-2582 <u>8/</u>
Water permeability		
Initial	3.3.4	AATCC-127 <u>2/</u>
Water Permeability		
after synthetic perspiration	3.3.4	AATCC-127 <u>3/</u>
Moisture Vapor		
Transmission Rate (g/m ² /24 Hrs)		
Procedure (B)	3.3.4	ASTM E-96 <u>4/</u>
Procedure (BW)	3.3.4	ASTM E-96 <u>5/</u>
Physical Surface Condition		
changes after laundering	3.3.4	<u>6/</u>

1/ Five 4 x 4 inch specimens shall be laid flat, face side up on a glass plate, 4 x 4 inches by 1/4 inch thick. Three drops of diethyltoluamide (Deet) shall be applied to the center of each specimen. A glass plate shall be placed on each specimen and a four pound weight placed on top. After 16 hours, remove the specimen and test immediately for water permeability.

2/ The water permeability shall be measured as specified in AATCC No. 127, except that a fixed hydrostatic head of 50 centimeters shall be held for 10 minutes, the face side of the test cloth shall contact the water and five specimens shall be tested. The report shall only include measurement of the appearance of water droplets. Leakage is defined as any visual appearance of one (1) or more areas where weeping/wicking/or a droplet of water appears within the 4-1/2 inch diameter test area. In the case of a weeping or wicking type failure, use blotting paper to confirm wetness or leakage.

3/ The specimen, 8 inches by 8 inches, shall be cut and exposed to synthetic perspiration as follows: the synthetic perspiration solution shall be made by combining 3.0 grams sodium chloride, 1.0 gram trypticase soy broth powder, 1.0 gram normal propyl propionate, 0.5 gram of liquid lecithin and 500 ml of distilled water. Cover the solution and stir while heating to 50°C until all ingredients are dissolved. Then, cool the solution to 35°C, remove cover and dispense it immediately with a pipette or other suitable measuring device. Dispense 2 ml of perspiration solution at 35°C, onto the center of an 8 inch by 8 inch by 1/4 inch glass plate. Place the specimen on the glass plate with the knit side contacting the glass. Dispense an additional 2 ml of the synthetic perspiration solution onto the center of the specimen. Place second 8 inch by 8 inch by 1/4 inch glass plate on top of the specimen and then place a 4 pound weight on top of and in the center of the assembly. After 16 hours, remove the specimen (do not rinse) and air dry the specimen before testing. Test the specimen for water permeability as specified in AATCC-127.

4/ The back side of the cloth shall face the water, the free stream air velocity shall be 550 ± 50 FPM as measured 2 inches above the fabric specimens. The airflow shall be measured at least 2 inches from any surface. The test shall run for 24 hours and weight measurements shall be taken at only the start and completion of the test. At the start of the 24 hour test period, the air gap between the water surface and the back of the specimen shall be 3/4 (± 1/16) inch. Five (5) initial specimens shall be tested.

5/ The back side of the test cloth shall face the water. The free stream air velocity shall be 550 ± 50 FPM as measured two (2) inches from any other surface. The specimen cups shall be inverted such that the water inside each cup contacts the back side of the specimen. The cups shall be examined for water seepage/leakage of the specimen or the cup seal; specimen cups exhibiting water seepage/leakage shall be replaced. The test shall run for two (2) hours and weight measurements shall be taken at the start and completion of the test. Five (5) initial specimens shall be tested. The specimens shall be sealed in any manner which prevents water wicking and/or leaking out of the cup.

6/ Conduct 15 laundering and drying cycles in accordance with 4.5.2, except that a 2 pound load and 14 grams of detergent shall be used. The drying cycle shall be 30 minutes. Each sample, 48 inches in length by full width shall be cut in half across the width of the cloth. One half of the sample (24 inches in length) shall be laundered and the remaining half retained as the unlaundered portion for the final evaluation, as necessary. After each drying cycle, examine both sides of the cloth for changes in physical surface appearance when compared to the unlaundered sample.

7/ Preferred Procedure (1) except that five specimens shall be tested under standard textile test conditions as specified in ASTM D-1776.

8/ Five warp and five filling specimens shall be tested. Specimen size shall be 8 inches by 8 inches. Only one tear shall be made on a single specimen. The specimen shall be positioned with the face side toward the probe and with the designated yarns of the face fabric at right angles to the direction of the tear. The test shall be conducted using the standard drop height of 508 ± 2 mm. If the tear is not straight on the face side of the specimen, the result shall be considered invalid and another specimen shall be tested. The thickness of the specimen is not measured.

Note: **This test shall be performed at least once at the beginning of each new contract.** The government reserves the right to test this characteristic when samples are sent for verification testing.

4.4.1.2 Component and material certification. Unless otherwise specified, a certificate of compliance will be acceptable as evidence that the heat sealing tape and reinforcement tape conforms to the requirements specified in 3.3.6 and 3.3.7.

4.4.1.2.1 Slide fastener interoperability. The parka is constructed with a slide fastener for attachment of a zip in liner (NCTRF PD 12-06). The operation of the liner slide fastener shall be validated with the use of interoperability guide samples provided as Government Furnish Material (see. 6.9) to insure the specified slide fasteners were used in the manufacture of the parka. To evaluate the slide fastener interoperability, a guide sample in the appropriate size shall be engaged to the respective, inside facings of the parka to validate the size and length, dynamic operation (opening and closing), top stop alignment, location/placement, and the specified construction are in accordance with the requirements stated in this document.

4.4.2 End item visual examination. The end items shall be examined for major and minor defects listed in Table XIII. Liner attachment slide fastener not as specified or not

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interchangeable or interoperable with the zip in liner slide fastener (NCTRF PD 12-06), slide fastener melted individual elements, position reversed (pin side or retainer box/slider of slide fastener installation reversed) shall be classified as a critical defect. The lot size shall be expressed in units of parkas. The sample unit shall be one parka.

Table XIII. End item visual defects.

Examine	Defect	Classification	
		Major	Minor
Material defects and damages	Any smash, multiple float or loose slub	X	
	Cut, tear, mend, burn, needle chew, or hole	X	
	Misweave, area of poor dye penetration, dyestreak, broken or missing yarn, visible mend, thin place, or shade bar	X	
Cleanness	Any spot, streak, or stain of a permanent nature on any portion of a garment which would be visible when parka is worn		X
	Removable spot, streak, or stain on outside of parka or concealed		X
	Thread ends not trimmed throughout parka		X
	Any holding or basting threads visible on outside of the finished parka when applicable		X
Component and assembly	Any defective component	X	
	Any component part omitted	X	
	Any required operation omitted or improperly performed	X	
	Required component not interlined		X
Drawcord	Any drawcord caught in hem, casing or tunnel stitching restricting use of drawcord	X	
	Any end not heat seared		X
	Any drawcord omitted	X	
	Any end not knotted		X
	Any drawcord insufficient in length	X	
	Any barrel lock omitted		X
	Not caught in center bartack when specified		X
Not anchored (except collar & hood adjustment)	X		
Slide fastener	Any part of slide fastener bent, broken, otherwise defective	X	
	Not closing as specified	X	
	Length not as specified	X	
	Color not as specified		X
	Thong not as specified		X
	Component catching in slide fastener during opening or closing	X	
Snap fastener	Any part of assembly missing, misdated, broken, cracked, bent, not securely clinched, affecting function	X	

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	Improperly placed		X
	Too tight, cutting surrounding fabric	X	
	Loose, i.e., socket or stud spins freely or wobbles in connection portions		X
	One or more having rough or sharp edge	X	
Sleeve			
Wrist tabs	Missing	X	
	Improperly located	X	
Labels	Missing, illegible, or incorrect	X	
	Incorrectly placed or attached		X
Accuracy of seaming and seam tape	Seam twisted, pleated, or puckered	X	
	Part of parka caught in any unrelated operation or stitching	X	
	Thread break secured by stitching back of the break less than 1/2 inch		X
	Ends of all seams and stitches, when not caught in other seams or stitching, uneven or backtacked less than 1/2 inch		X
	Thread color not as specified		X
	Gage of stitching uneven or not as specified		X
	Edge of seam tape less than 1/8 inch from seam allowance	X	
	Seam tape lifting off fabric	X	
	Seam tape not as specified		X
	Seam seal tape not parallel to slide fastener teeth and interferes with operation of slide fastener	X	
Open seams	More than 1/8 inch up to 1/4 inch		X
	More than 1/4 inch	X	

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 or cut edge not securely caught in stitching shall be classified as an open seam.

Seams and stitchings	Not specified seam or stitch type		X
Stitch tension	Missing, broken or skipped stitches	X	
	Loose tension in any area:		
	- more than 1 inch but not more than 2 inches		X
	- more than 2 inches	X	
	Tight tension (stitches break when normal strain is applied to the seam or stitching)	X	

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Stitches per inch (to be scored only when the condition exists on major portion of the seam)	Less than minimum specified:			
	- one stitch		X	
	- two or more stitches	X		
	More than maximum specified		X	
Pockets, flaps and insignia tab	Flap attached crookedly, i.e., distance between sides of pocket and underside of opened flap varies more than 1/4 inch		X	
	Pocket or flap poorly shaped		X	
	Flap not covering front or back edge of bottom pocket by more than 1/4 or less than 1/8 inch		X	
	Insignia tab set crookedly		X	
	Pencil pocket not properly placed		X	
	Pocket flaps and lower front pockets out of alignment by more than 1/4 inch	X		
	Edge of under pocket exposed beyond lower front pocket edge	X		
	Flap not completely covering pocket/pocket opening	X		
	Flap not centered over pocket	X		
	Bellows exposed beyond edge of sleeve pocket by more than 1/8 inch	X		
	Heat sealed seams and non-wicking buffer	Any seam tape not located as specified		X
		Non-wicking buffer missing	X	
		Non-wicking buffer not properly placed	X	
Any seam tape not 1/8 inch overlap on each side of sewn seam		X		
Any seam tape not overlapped 3/4 inch minimum		X		
Any required stitching not covered by seam tape			X	
Any needle punctures that have not been repaired using heat sealing tape			X	
Any area of the laminate knit fabric bordering the seam tape that is melted exposing laminate film		X		
Melted away, abraded or cut			X	
Scorched		X		
Reinforcement Tape	Not as specified, missing or abraded or cut	X		
	Any tape not located as specified		X	
	Use for seam sealing		X	
	Not properly adhered	X		
	Any area of the laminate knit fabric bordering the seam tape that is melted exposing laminate film	X		

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	Melted away, abraded or cut		X
	Scorched	X	
Repairs	Any heat sealing repairs extending beyond 25 inches in length	X	
	More than five repairs on any one item	X	
Seam tape adhesion	Seam tape lifting off fabric within 3/4 inch of seam	X	
	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	X	
Shaded part	Variation in shade within an outside part	X	
	Any part required to be cut from one piece of material shaded	X	
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.		
Length of fronts	Hem uneven by 1/4 inch or more at bottom of fronts when slide fastener is closed		X
	Uneven by 1/4 inch or more at top of collar neck when slide fastener is closed		X
Bartacks/ Linetacks	Bartack or linetacks omitted	X	
	Any bartack or linetack not in specified location, not secure or serving intended purpose:		
	- more than two	X	
	- two or less		X
	Any loose stitching, incomplete or broken		X
	Length or width not as specified		X
Hood flap	Loop fasteners not in locations specified	X	
	Not heat sealed	X	
Barcode label/tag	Barcode omitted or not readable by scanner		X
	Human-readable-interpretation (HRI) omitted or illegible		X
	Not attached to location specified		X
	Causes damage to the parka	X	
Fastener tape hook & loop	Not properly placed	X	
	Not specified length		X

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Hanger Loop	Not as specified	X	
	Not properly placed	X	
	Missing	X	
	Color or material not as specified	X	
Inside slide fastener facing	Not as specified	X	
	Not properly placed as indicated on patterns		X
	Missing	X	
	Slide fastener not as specified	X	
	Slide fastener length not as specified	X	
	Slide fastener top stops not in alignment	X	
	Slide fastener does not lay flat along facing		X
	Slide fastener seam seal tape not uniformly parallel, bunched, or crooked		X
	Adhesive on slide fastener affecting operation	X	
Slide fastener top stop not in alignment	X		
Sleeve attachment Tab	Not as specified		X
	Not properly placed		
	Missing		X
	Placement not as indicated on pattern ($\pm 1/8$ inch of pattern mark)		X
	Lengths not as specified		X
Construction	Excessive roping of front slide fastener welts	X	
	Excessive roping of underarm slide fastener welts		X
	Roping or twisting of bottom hem		X
	Stitching overrunning component part by more than one stitch		X
	Interlining visible, not flat		X
	Slide fastener welts not flush, overlapping more than 1/16 inch	X	
Reinforcement Material	Color not as specified		X
	Omitted	X	
	Orientation not as specified	X	

4.4.3 End item dimensional examination. The end items shall be examined for conformance to the dimensions specified in Table XI. Any dimension not within the specified tolerance shall be classified as a defect. The lot size shall be expressed in units of one parka.

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 printed pattern, hydrostatic resistance of seam tape,

tape end lifting, tape integrity and physical surface appearance changes specified in 3.6.2, and 3.6.3. The lot size shall be expressed in units of parkas. The sample unit shall be one parka.

4.5 Methods of testing.

4.5.1 Hydrostatic resistance test. The hydrostatic resistance of sealed seam areas of the parka, before and after fifteen laundering cycles (see 4.5.2), shall be tested in accordance with AATCC 127, 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 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 any visual appearance of one (1) or more areas where weeping/wicking/or a droplet of water appears within the 4-1/2 inch diameter test area. In the case of a weeping or wicking type failure, use blotting paper to confirm wetness or leakage. In cases of dispute the apparatus described in AATCC 127 shall be used.

4.5.2 Parka laundering test. Select parkas in accordance with the criteria specified in paragraph 4.4.4. Prior to laundering, one parka shall be retained for use as the unlaundered sample in evaluating the parkas after laundering. 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. Taped areas of the parka shall be visually examined prior to laundering for physical surface appearance characteristics and initial tape end and integrity conditions. The sliders, hook/loop tapes 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 1993 AATCC Standard Reference Detergent (non-phosphate) without optical brighteners 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 approximately for 45 minutes. Conduct fifteen laundering and drying cycles. After the fifteenth 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 135.

4.5.2.1 Appearance after laundering.

4.5.2.1.1 Tape ends integrity test. After fifteen laundering cycles, the test parka shall be examined for any sign of tape ends lifting, within 3/4 inch of sewn seam; tape ends lifting more than 1/8 inch when tape extends beyond 3/4 inch of the sewn seam, tape curling, bubbling, separation along tape edges or across the tape width, or tape outer layer more than 1/8 inch. The occurrence of any of these defects shall be considered a test failure. Tape ends lifting more than 1/8 beyond 3/4 inch of the sewn seam shall be tested for hydrostatic resistance in accordance with paragraph 4.5.1 and are acceptable if no leakage occurs.

4.5.2.1.2 Color loss in black print areas of digital pattern. After fifteen 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 3.8.3) on the AATCC Gray Scale for evaluating change in color shall be considered a test failure. Any physical surface appearance characteristic noted in a taped area on the unlaundered parka (see 4.5.2) shall not be considered a test failure on the laundered parka if there is no change in the characteristic. Puckering and creases within taped areas, not adversely affecting appearance shall not be considered a test failure.

4.5.2.1.3 Physical surface appearance changes of the laminated fabric. After fifteen laundering cycles, the digital printed side of the test parka shall be visually examined on all visible pattern parts 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. Any physical surface appearance characteristic noted in a taped area on the unlaundered parka, (see 4.5.2) shall not be considered a test failure on the laundered parka if there is no adverse change in the characteristic. Puckering and creases within taped areas, not adversely affecting appearance shall not be considered a test failure.

5. PACKAGING

5.1 Packaging. For acquisition purposes, the packaging requirements shall be as specified in the contract or purchase order (see 6.2). When actual packaging of material 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's System Command. Packaging data retrieval is available from the managing Military Department 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 that may be helpful, but is not mandatory.)

6.1 Intended use. The parka is intended for use by US Navy personnel when weather conditions dictate and as the outer layer protection when used during cold/wet weather operations.

6.2 Acquisition requirements. Acquisition documents should specify the following:

- a. Title, number and date of this purchase description.
- b. Size and length required. (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. Packaging requirements (see 5.1).

6.3 First article. When first article inspection (see 3.1) is required, the contracting officer should provide specific guidance to offerors whether the item(s) should be first article sample, a first production item, or a standard production item from the contractor's current inventory, and the number of items to be tested as specified in 4.2. Invitations for bids should provide that the Government reserves the right to waive the requirement for samples for first article inspection to those bidders offering a product which has been previously acquired or tested by the Government and that bidders offering such products, who wish to rely on such production or tests, must furnish evidence with the bid that prior Government approval is presently appropriate for pending contract. Bidders should not alternate submit bids unless specifically requested to do so in the solicitation.

6.4 Information requests. For access to information such as patterns, drawings, standard samples, etc. visit DSCP's Warfighter website, <http://warfighter.dla.mil>. Choose Vendor Info > Specification/Pattern Request. Complete the request form, and then submit form.

6.5 Alternative seam tape set-up procedures. As with any seam tape, it is always best to consult the seam tape manufacturer for recommended settings depending on type of taping machine utilized. However, it has been determined that the following set-up procedures offer the best results for taping the polyolefin based material with the alternative tape:

Set the seam tape machine nozzle as close to 1/16 inch and evenly aligned as possible to the edges of the seam tape without touching the adhesive layer. Adjust the heat setting and run at the desired roller speed without exceeding 20 feet per minute. Place an unseamed sample of option material face down into the rollers. Set the roller pressure as to create a positive feed with no slippage. While bonding tape onto the material knit backing, adjust the nozzle air pressure such that only the fabric knit backing is scorched within a 3/8-5/8 inch center area relative to heat reflected off the tape. This condition can be achieved using a very low nozzle pressure. Under no circumstances can the option material knit backing be scorched a full 1 inch width, otherwise leakage will occur. Also, any change in heat setting vs. roller speed will create varying reflected heat scorching patterns and therefore the nozzle pressure would be expected to be changed. Record the setting to achieve the correct reflected scorching pattern.

NOTE: CONTRACTOR USING THE ALTERNATE TAPE SHOULD VERIFY THAT SEAM SEAL MACHINE SETTINGS FOR APPLYING THE SEAM SEAL TAPE ARE OPTIMIZED TO PRODUCE A PRODUCT THAT PASSES HYDROSTATIC PRESSURE TESTS ON STRAIGHT, CURVED AND CROSSOVER SEAMS.

6.6 Subject term (key word) listing.

Laminate Garment Outerwear Wet/dry

6.7 Or equal. Prior to the use of an "or equal" item, the supplier will submit the item with supporting data to the contracting officer for subsequent approval or disapproval by the responsible military agency.

6.8 Suggested Sources of supply.

6.8.1 Slide Fasteners conforming to the requirements of this document may be obtained from YKK (USA) Inc., c/o Diversified Marketing Group, 109 Forrest Avenue, Narberth, PA 19072, 610-667-5589.

6.8.2 Cord locks conforming to the requirements of this document may be obtained from ITW Nexus USA, 194 E. Algonquin Road, Des Plaines, IL 60016, (630) 595-1888.

6.8.3 Snaps conforming to the requirements of this document may be obtained from YKK Snap Fasteners America, Inc., P.O. Box 240, Lawrenceburg, KY40342, (502) 893-6971.

6.8.4 Drawcord conforming to the requirements of this document may be obtained from Rhode Island Textile Company, P.O. Box 999, Pawtucket, RI 02862-0999, (401) 722-3700.

6.8.5 Slide Fasteners conforming to the requirements of this document may be obtained from YKK (USA) Inc., c/o Diversified Marketing Group, 109 Forrest Avenue, Narberth, PA 19072.

6.9 Government Furnished Materials. The interoperability guide samples shall be returned to the contracting officer upon completion of the contract.

6.10 Material Identification Label. Each parka may contain a sewn on label identifying the waterproof membrane used (Part No. xxxx) on the parka's inside bottom right pocket flap.

6.11 End item and component reliability. The parka shall be of the proven design, construction and materials (GORE-TEX® parka or equivalent). Field proven is defined as proven by use in wear and shipboard trials greater than 6 months in duration or in field applications of greater than 1 year or more in duration.

Custodian:
Navy-NU

Preparing Activity:
Navy-NU

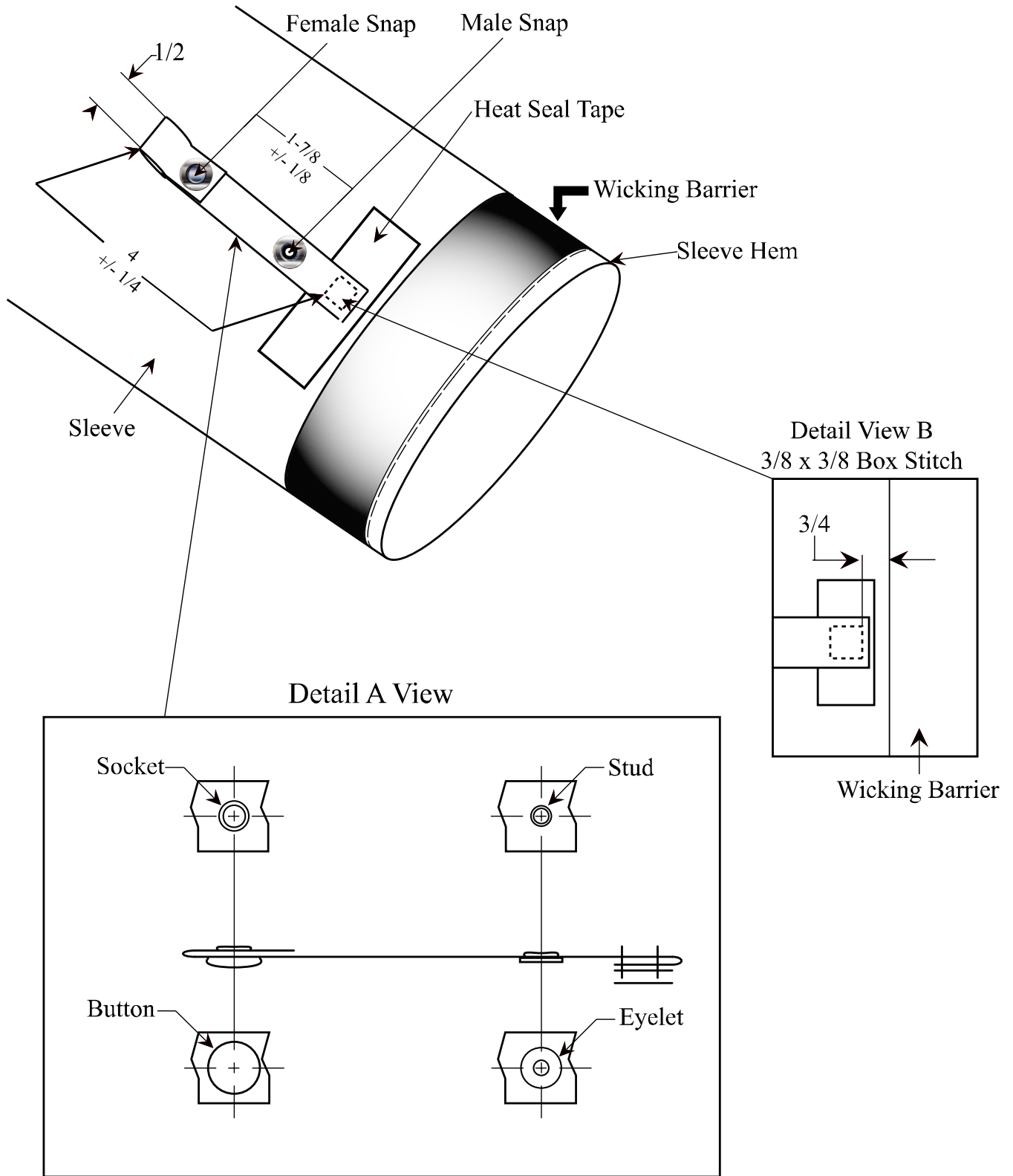


Figure 1 – Snap attachment assembly (inside view) for liner