NCTRF PD 04-09C
20 January 2012

SUPERSEDING
NCTRF PD 04-09B
17 September 2010

PURCHASE DESCRIPTION

PARKA, WORKING, US NAVY, DESERT AND WOODLAND

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 document covers the requirements for the US Navy working uniform parka in desert and woodland camouflage.

1.2 Classification. The parka is available in the following types, and sizes.

Type I – See 6.7
Type II– Desert camouflage NWU II
Type III – Woodland camouflage NWU III

Schedule of sizes

X-Small	Small	Medium	Large	X-Large	XX-Large
--	XX-Short	XX-Short	--	--	--
X-Short	X-Short	X-Short	X-Short	--	--
Short	Short	Short	Short	Short	--
Regular	Regular	Regular	Regular	Regular	Regular
Long	Long	Long	Long	Long	Long
--	X-Long	X-Long	X-Long	X-Long	X-Long
--	XX-Long	XX-Long	XX-Long	XX-Long	XX-Long
--	XXX-Long	XXX-Long	XXX-Long	XXX-Long	XXX-Long

NCTRF CAGE CODE: 32263

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 must meet all specified requirements of documents cited in sections 3 or 4 of this purchase description, whether or not they are listed.

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.

FEDERAL STANDARDS

FED-STD-4	Glossary of Fabric Imperfections
FED-STD-595/20150	Brown, Semi gloss
FED-STD-595/20180	Brown, Semi gloss
FED-STD-595/23430	Yellow, Semi gloss
FED-STD-595/34094	Green, Pigment

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

(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 05-09 Liner, Working, US Navy, Coyote
NCTRF PD 06-11 Cloth, Waterproof and Moisture Vapor Permeable

(Copies of these documents are available from the procuring activity.)

SPECIAL OPERATIONS FORCES SURVIVAL, SUPPORT AND EQUIPMENT SYSTEMS

PM-SOF SSES SPEC 07-11 Camouflage Print Performance Specification For AOR 1, AOR 2, NWU II and NWU III

(Copies of this document is available from U. S Army, Research, Development and Engineering Command, PM-Special Operations Forces Survival, Support and Equipment Systems, Kansas Street, BLDG 4, Natick, MA 01760). (See 6.3)

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)

Evaluation Procedures
AATCC Evaluation Procedure 1, Gray Scale for Color Change
AATCC Evaluation Procedure 2, Gray Scale for Staining
AATCC Evaluation Procedure 8, Nine Step Chromatic Transference Scale Rating
AATCC Evaluation Procedure 9, Visual Assessment of Color Differences of Textiles

Test Methods
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 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)

ANSI/ASQ Z1.4 - Sampling Procedures and Tables for Inspection of Attributes

(Copies of this document are available online at http://www.asq.org or American Society for Quality, P.O. Box 3005,Milwaukee, WI 53201-3005 or 600 North Plankinton Avenue, Milwaukee, WI 53203.)

ASTM INTERNATIONAL

ASTM	D 751	Standard Test Methods for Coated Fabrics
ASTM	D1005	Standard Test Method for Measurement of Dry-Film Thickness of Organic Coatings Using Micrometers
ASTM	D1776	Standard Practice for Conditioning Textiles for Testing
ASTM	D2582	Standard Test Method of Puncture Propagation Tear Resistance of Plastic Film and Thin Sheeting
ASTM	D3776	Standard Test Method Mass Per Unit Area (Weight) of Woven Fabric
ASTM	D3884	Standard Guide for Abrasion Resistance of Textile Fabrics
ASTM	D5034	Standard Test Method for Breaking Strength of Textile Fabrics
ASTM	D6193	Standard Practices for Stitches and Seams

(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.)

OTHER PUBLICATIONS

Principles and Methods of Toxicology, (fourth edition),A Wallace Hayes (editor), pp 1057 - 1060, 2001.

(Copies of this publication are available online at http://www.taylorandfrancis.co.uk/ or from Taylor and Francis, 325 Chestnut Street, Philadelphia PA 19106.)

TECHNICAL ASSOCIATION OF THE PULP AND PAPER INDUSTRY (TAPPI)

TAPPI Method 451 Stiffness of Paperboard (Clark Stiffness Method)

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

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO 15496 Measurement of Water Vapour Permeability of Textiles for the Purpose of Quality Control

(Copies of this document is available on-line at http://www.iso.org or from International Organization for Standardization (ISO), 1, Rue de Varembre, Case Postale, 56 CH 1211 Geneva 20, Switzerland)

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.

3.3 Design. The parka shall have a collar with a drawcord for adjustment and a stowed hood with visor, 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, a rank 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. The parka shall have an interoperable inside front slide fastener which shall interface with NCTRF PD 05-09 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 2). The drawcords shall be anchored except for the waist adjustment drawcords.

3.3.1 Figures. Figures 2, 3, and 4 are applicable. Figure 1 shall be for reference only. When inconsistencies between the written purchase description and the figures, the written purchase description shall govern.

3.4 Materials. The materials shall conform to applicable specifications, standards, and drawings required herein.

3.4.1 Basic material. The basic material for the parka shall be a laminated, waterproof and moisture vapor permeable cloth composed of a Polytetrafluoroethylene membrane faced with nylon and a knit backing material, in accordance with NCTRF PD 06-11 as follows.

Parka type	Cloth type
Type II	Type II, NWU II, desert digital w/ACE logo
Type III	Type III, NWU III, woodland digital w/ ACE logo

3.4.2 Reinforcement material. The reinforcement cloth used in the elbow patches shall be camouflage printed nylon, water repellent treated, and conform to the requirements stated in Table I when tested in accordance with 4.3.1.1. The cloth for the Type II parka shall be NWU II

desert camouflage print and the cloth for the Type III parka shall be NWU III woodland camouflage print, in accordance with PM-SOF SSESS SPEC 07-11 except the authorized testing facility shall be the DLA Product Testing Center – Analytical (see 6.8).

TABLE I. Reinforcement material requirements.

Characteristic	Requirement
Weight, oz/sq. yd	4.0 to 6.0
Breaking strength (minimum lbs) Warp Fill	 200 155
Colorfastness to: Crocking, dry and wet All colors except black 519 Black 519 Laundering, All colors except black 519 Black 519 Light, all colors Perspiration, all colors (Alkaline/Acid)	 3.5 (minimum) 1.5 (minimum) 3-4 2-3 3-4 Grade 3 (minimum)
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 (avg) Warp Filling	 7 .0 6.0
Resistance to organic liquid	No wetting by N-Tetradecane
Resistance to frosting (minimum)	3.0
Dimensional stability (maximum) Warp Fill	 4.0% 4.0%
Abrasion resistance	800 cycles (min) – no visible abrasión

3.4.3 Standard sample. The basic material (3.4.1) and the reinforcement material (3.4.2) shall match the perspective standard sample for shade and appearance, and shall, unless otherwise indicated, be equal to or better than the standard sample with respect to all characteristics for which the standard sample is referenced. Visual shade matching and spectral reflectance requirement shall be in accordance with PM-SOF SSES SPEC 07-11 except the authorized testing facility shall be the DLA Product Testing Center -Analytical (see 6.8) and the materials shall match the standard sample.

3.4.4 Chest pocket material. The cloth for the chest pockets shall conform to A-A-52110 except that the color shall be as specified in Table III.

3.4.5 Three-layer knit laminate. The cloth for the inside collar, hood tunnel, throat tab, inside slide fastener facings and lower pocket back shall be a three-layer knit laminate conforming to the requirements in Table II when tested in accordance with paragraph 4.3.1.1.

TABLE II. Three-layer knit laminate requirements.

Characteristic	Requirement
Weight, oz./sq. yd.	4.0 (±0.4)
Stiffness, cm (max)	8.0
Hydrostatic Resistance, psi (min) Initial taffeta restraint After deet (diethylotoluamide)	 220 120
Puncture Propagation Tear, kgf (min) (avg) 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)	6000
Physical surface appearance after laundering	No change after 5 launderings when compared to unlaundered

3.4.6 Cloth, buckram. 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.

3.5 Components. The parka components shall conform to applicable specifications and standards required herein. (See 4.3)

3.5.1 Component colors. The color of the components for the parka shall be a good match to the color chip numbers specified in Table III and accordance with FED-STD-595.

TABLE III. Component color.

Component/Materials	Color Chip Number	Reference Paragraph
Chest pocket material	20180	3.4.4
Three-layer knit laminate	23430	3.4.5
Reinforcement tape	23430	3.5.3
Nylon tape	20180	3.5.5
Braided drawcord	20180	3.5.6
Fastener tape, hook and loop Type II-Desert Type III-Woodland	 20180 34094	3.5.7
Slide Fasteners	20150	3.5.8
Slide fastener thong, alternate	20180	3.5.9
Barrel lock	20180	3.5.10
Thread Type II-Desert Type III – Woodland	 20180 34094	3.5.11

3.5.2 Sealing tape. The seam sealing tape shall be in accordance with W.L. Gore Part #6GTAJ013KHKN, #6GTAJ025KHKN, #6GTAJ050KHKN, or equal. The sealing tape shall be used to cover and seal all designated seams and stitching in accordance with paragraphs 3.7.2 and 3.8. The sealing tape shall be 1/2 (±1/32) inch wide for the inside slide fastener facing. The sealing tape shall be 1 (±1/16) inch wide for all other required seams. An alternate, for pocket flaps, hook and loop fastener tapes and the top and bottom of the sleeve pockets, 2 (±1/16) inch wide tapes may be used. (see 6.4.1)

3.5.3 Reinforcement tape. The nylon reinforcement tape shall be in accordance with W.L. Gore part # 6GSAJ025TAN or equal. The reinforcement tape shall not to be used in place of sealing tape (3.5.2) to seal stitched seams. (see 6.4.1).

3.5.4 Non-wicking buffer. The non-wicking buffer shall be in accordance with W.L. Gore Part #5RPAD051NAT or equal. The tape is a polyurethane adhesive, 2 (±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. (see 6.4.1)

3.5.5 Nylon tape. The nylon tape for the hood drawcord and the snap attachment assembly tabs shall be flat, l/2 inch wide, conforming to Type III of MIL-PRF-5038. The nylon tape for the hanger loop and barrel lock anchors inside lower front pocket shall be flat, 3/8-inch wide, conforming to Type III of MIL-PRF-5038. The nylon tape lengths shall be in accordance with Table IV. (see 6.4.2)

TABLE IV. Nylon tape lengths (inches).

Size	Hood drawcords (cut length)	Hanger tape (finished length)	Barrel lock anchors (inside lower pockets) cut length	Liner attachment assembly tabs (cut length)
All	36	2	4-1/2	5-1/4
Tolerance	±1/4	±1/4	±1/4	±1/4

3.5.6 Drawcords. The collar, waist, and hem drawcords shall be 3/16 inch in diameter multi-strand rubber elastic with braided nylon or polyester covering, conforming to Type II of MIL-C-43701. As an alternate, the drawcords shall be a 3/16 (±1/32) inches in diameter, non-elastic polyester cord with a minimum tensile strength of 200 pounds when tested as specified in 4.3.1.1. The cut lengths for the drawcords shall be as specified in Table V. (see 6.4.2)

TABLE V. Cut lengths of drawcords (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

3.5.7 Fastener tapes, hook and loop. The hook fastener tape shall conform to Type II of A-A-55126. The hook and loop fastener tapes shall conform to class 1 or 4 of A-A-55126. All corners of the hook and loop fastener tapes shall be trimmed to provide rounded corners. The widths and lengths shall be as specified in Table VI. (see 6.4.3)

TABLE VI. Hook and loop lengths (inches).

Location	Quantity per Parka	Length x 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 5-1/4
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	--	±1/4	±1/4

3.5.8 Fastener, slide, interlocking. All slide fasteners components shall conform to A-A-55634 as specified in 3.5.8.1, 3.5.8.2, and 3.5.8.3 (see 6.4.4).

3.5.8.1 Front closure slide fastener. The front closure slide fastener shall conform to A-A-55634, 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 tape side of the fastener tape shall be coated with a polyurethane coating not less than 2.5 mils thick when tested per 4.3.1.1. The finished front closure slide fastener lengths shall be as specified in Table VII.

TABLE VII. Front closure slide fastener lengths (inches).

	X-Small	Small	Medium	Large	X-Large	XX-Large
XX-Short	--	25-1/2	26	--	--	--
X-Short	26	26-1/2	27	27-1/2	--	--
Short	27	27-1/2	28	28-1/2	29	--
Regular	28-1/2	29	29-1/2	30	30-1/2	31
Long	30	30-1/2	31	31-1/2	32	32-1/2
X-Long	--	32	32-1/2	33	33-1/2	34
XX-Long	--	33-1/2	34	34-1/2	35	35-1/2
XXX-Long	--	35	35-1/2	36	36-1/2	37

3.5.8.2 Underarm and upper pocket slide fasteners. 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 when tested per 4.3.1.1. The underarm slide fastener length shall be 15 (±1/8) inches and be equipped with a non-locking, short tab pull slider. The slider shall have a hole large enough to accommodate a 3/8 inch wide thong. The upper pocket slide fastener length shall be 9 (±1/8) inches and be equipped with a short tab pull, automatic locking slider.

3.5.8.3 Inside slide fastener. The inside slide fastener for the liner attachment shall be in accordance with YKK style #0069665. The slide fastener shall be interoperable with the fleece liner when tested as specified in 4.3.5.3 The lengths for the inside slide fastener shall be as specified in Table VIII.

TABLE VIII. Lengths for inside slide fastener (inches).

	X-Small	Small	Medium	Large	X-Large	XX-Large
XX-Short	--	24	24-1/2	--	--	--
X-Short	24-1/2	25	25-1/2	26	--	--
Short	25-1/2	26	26-1/2	27	27-1/2	--
Regular	27	27-1/2	28	28-1/2	29	29-1/2
Long	28-1/2	29	29-1/2	30	30-1/2	31

TABLE VIII. Lengths for inside slide fastener (inches) – Continued.

	X-Small	Small	Medium	Large	X-Large	XX-Large
X-Long	--	30-1/2	31	31-1/2	32	32-1/2
XX-Long	--	32	32-1/2	33	33-1/2	34
XXX-Long	--	33-1/2	34	34-1/2	35	35-1/2

3.5.9 Slide fastener thongs. The slide fastener thongs for the front closure, underarms, and chest pockets shall be a flat nylon tape, 3/8 inch wide, conforming to Type III of MIL-PRF-5038. As an alternate, the slide fastener thongs shall be made from the basic material.

3.5.10 Barrel lock. The barrel lock for the collar, hood, and waist and hem drawcords shall be a1/2-inch x 3/8-inch toaster elliptical shape with a push-button, and have a 3-pound minimum holding strength on the nylon tape (3.5.5) or drawcord (3.5.6) at –40°F, 70°F and 140°F when tested in accordance with 4.3.5.4 and meet the infrared reflectance requirements in Table IX when tested as specified in 4.3.5.5. Barrel locks known to meet these requirements are ITW NEXUS part #350-6000-5674(w/self purging drain hole), ITW NEXUS part #350-2000-5674, or YKK's Cord Lock #69150 LC05SHDM GOV CORD STOPPER. (See 6.4.5)

TABLE IX. Barrel lock infrared spectral reflectance requirements.

Wavelengths (nanometers)	Minimum	Maximum
600	16	26
620	18	26
640	20	30
660	22	34
680	26	38
700	30	40
720	32	46
740	36	50
760	36	54
780	38	58
800	40	59
820	42	60
840	44	60
860	48	60

3.5.11 Thread. The thread for all seaming and stitching shall be polyester conforming to Type I, class 1, subclass B of MIL-DTL-32072, Tex size 36-45, 2 or 3 ply. As an alternate, polyester core thread conforming to Type I of A-A-50199, Tex size 36-45, 2 or 3 ply may be used. All thread shall be water-repellent treated in accordance with Type II, class 3 of MIL-T-3530 except for the thread used in the assembly of the chest pockets. All visible thread shall be the same shade.

3.5.12 Fasteners, snap. The snap fastener shall be style 2A, finish 2 (black), male and female complete, consisting of stud and eyelet (size 1 or 2), button and socket, conforming to MIL-DTL-10884 with the exception that the socket shall be YKK "Easy Action" or equal. All components of the snap fastener shall be from the same supplier. (see 6.4.6)

3.5.13 Labels. Each parka shall have a combination personal identification and information label, and a size label.

3.5.13.1 Combination personal identification and information label. Each parka shall have a combination label conforming to Type VI, classes 10 and 15 of MIL-DTL-32075 except omit the words "Service Number" and replace with a drawn line with no information. The label shall be attached to 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 edges. 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:

_____

PARKA, WORKING, US NAVY Type II/III (as applicable)
100% NYLON SHELL, PTFE LAMINATE
CONTRACT NO: SPM1C100-00-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^{o}F. Do not drip dry.
DO NOT REMOVE THIS LABEL

3.5.13.2 Size label. Each parka shall have a size label, with the height and chest measurements and NSN, conforming to Type VI, class 2 of MIL-DTL-32075. The label shall be attached on the wearer's right inside chest pocket. The inscription shall be as stated below. There shall be no abbreviations for size and length except for "X" , "XX," and "XXX" in lieu of extra , extra-extra and extra-extra,-extra. The size label may 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

Size label list.

X-Small X-Short Height: From 59 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 XX-Short Height: From 55 to 59 in. Chest: From 33 to 37 in. NSN: 8415- XX-XXX-XXXX	Small X-Short Height: From 59 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 71to 75 in. Chest: From 33 to 37 in. NSN: 8415-XX-XXX-XXXX
Small X-long Height: From 75 to 79 in. Chest: From 33 to 37 in. NSN: 8415- XX-XXX-XXXX	Small XX-Long Height: Over 79 to 83 in. Chest: From 33 to 37 in. NSN: 8415- XX-XXX-XXXX	Small XXX-Long Height: Over 83 in. Chest: From 33 to 37 in. NSN: 8415-XX-XXX-XXXX
Medium XX-Short Height: From 55 to 59 in. Chest: From 37 to 41 in. NSN: 8415- XX-XXX-XXXX	Medium X-Short Height: From 59 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 to 75 in. Chest: From 37 to 41 in. NSN: 8415-XX-XXX-XXXX	Medium X-Long Height: From 75 to 79 in. Chest: From 37 to 41 in. NSN: 8415-XX-XXX-XXXX
Medium XX-Long Height: 79 to 83 in. Chest: From 37 to 41 in. NSN: 8415- XX-XXX-XXXX	Medium XXX-Long Height: Over 83 in. Chest: From 37 to 41 in. NSN: 8415- XX-XXX-XXXX	Large X-Short Height: From 59 to 63 in. Chest: From 41 to 45 in. NSN: 8415-XX-XXX-XXXX

Size label list – Continued.

Large Short Height: From 63 to 67 in. Chest: From 41 in. to 45 in. NSN: 8415- XX-XXX-XXXX	Large Regular Height: From 67 in. to 71 in. Chest: From 41 in. to 45 in. NSN: 8415- XX-XXX-XXXX	Large Long Height: From 71 to 75 in. Chest: Over 41 to 45 in. NSN: 8415-XX-XXX-XXXX
Large X-Long Height: From 75 to 79 in. Chest: From 41 to 45 in. NSN: 8415- XX-XXX-XXXX	Large XX-Long Height: 79 to 83 in. Chest: From 41 to 45 in. NSN: 8415- XX-XXX-XXXX	Large XXX-Long Height: Over 83 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 67to 71 in. Chest: From 45 to 49 in. NSN: 8415- XX-XXX-XXXX	X-Large Long Height: From 71 to 75 in. Chest; From 45 – 49 in. NSN: 8415-XX-XXX-XXXX
X-Large X-Long Height: From 75 to 79 in. Chest; From 45 – 49 in. NSN: 8415- XX-XXX-XXXX	X-large XX-Long Height: 79 to 83 in. Chest: From 45 to 49 in. NSN: 8415- X-XXX-XXXX	X-large XXX-Long Height: over 83 in. Chest: From 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 to 75 in. Chest: Over 49 in. NSN: 8415- XX-XXX-XXXX	XX-Large XLong Height: From 75 to 79 in. Chest: Over 49 in. NSN: 8415-XX-XXX-XXXX
XX-Large XX-Long Height: From 79 to 83 in. Chest: Over 49 in. NSN: 8415- XX-XXX-XXXX	XX-Large XXX-Long Height: over 83 in. Chest: Over 49 in. NSN: 8415- XX-XXX-XXXX	----------

3.5.13.3 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 on the center front slider thong 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.

3.6 Patterns. Standard patterns, which provide an allowance of 1/4 inch for all sealed seams, waistband cord casing, and rank tab, 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 for cutting the contractor's working patterns. The working patterns shall be identical to the Government patterns except 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.

3.6.1 Pattern parts. The component parts shall be cut from the material specified below and in accordance with the pattern part list. The inside slide fastener facing and eyelet reinforcement pieces do not have pattern parts.

Pattern part list.

Material	**Piece Name**	**Nomenclature**	**Cut Parts**
Basic material (3.4.1)	PD0409-CENTR_FRONT	Center front	2
	PD0409-CT_FT_PK_EX	Center front pocket extension	2
	PD0409-UND_PKT_EXT	Upper pocket extension	2
	PD0409-UPPER_BACK	Upper back	1
	PD0409-LOWER_BACK	Lower back	1
	PD0409-UPPER_FRONT	Upper front	2
	PD0409-LOWER_FRONT	Lower front	2
	PD0409-POCKET_FLAP	Lower pocket flap	2
	PD0409-LOWER_POCKT	Lower pocket	1
	PD0409-RANK_TB	Rank tab	1
	PD0409-HOOD	Hood	2
	PD0409-UPPR_SLEEVE	Upper sleeve	2
	PD0409-LOWR_SLEEVE	Lower sleeve	2
	PD0409-SLEEV_POCKT	Sleeve pocket	2
	PD0409-SLV_PKT_FLP	Sleeve pocket flap	2
	PD0409-LFT_PEN_PKT	Left pencil pocket	1
	PD0409-SLEEVE_TAB	Sleeve tab	2
	PD0409-VISOR	Visor	1
	PD0409-OUTSID_CLLR	Outside collar	1
	PD0409-WST_CRD_C	Waist cord casing	1
Reinforcement material (3.4.2)	PD0409-ELBOW_PATCH	Elbow patch	2
Chest pocket material (3.4.4)	PD0409-CHEST_POCKT	Chest pocket	4
Cloth, buckram (3.4.6)	PD0409-VISOR_INT	Visor interlining	1
	PD0409-CHS_PKT_WLT	Chest pocket welt	2
Three-layer knit laminate (3.4.5)	PD0409-FLEECE_FLAP	Fleece slide fastener facing	2
	PD0409-INSIDE_CLLR	Inside collar 1/	1
	PD0409-HOOD_TUNNEL	Hood tunnel	1
	PD0409-THROAT_TAB	Throat tab	2
	PD0409-LWR_PKT_BCK	Lower pocket back	2
Templates	PD0409-PKT_FLAP_TMP	Lower pocket flap template	0
	PD0409-SLV_PKT_TMP	Sleeve pocket template	0
	PD0409-PK_FLP_TMP	Sleeve pocket flap template	0

1/ As an alternate, basic material (3.4.1) may be used.

3.7 Construction. The construction shall conform to all the constructional requirements specified in Table X and herein.

3.7.1 Stitches, seams, and stitching. All stitches, seams and stitching shall conform to ASTM D6193. The seam types, stitching types, and stitches per inch shall be as specified in Table X. Seam construction shall be maintained with seams sewn so that no raw edges, run-offs, pleats, puckers or open seams occur. When two or more methods of seams or stitches are given for the same operation, any one may be used.

3.7.1.1 Type 301or 401 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 backtack thread ends shall be trimmed to a length of not more than 1/4 inch.

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

a. When thread breaks, skipped stitches, run-offs, or bobbin 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. When making the above repairs, the ends of stitching are not required to be backstitched.

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

3.7.1.1.2 Repairs of type 401 stitching. Repairs of 401 stitching shall be in accordance with 3.7.1.1.1.a and 3.7.1.1.1.b except utilizing a 301 stitch type.

3.7.1.2 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 3.7.1.1.1. 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.

3.7.1.3 Bartacks and backtacks. Unless otherwise specified in Table X, all bartacks shall be 3/8 (±1/32) inch in length, 1/8 (±1/32) inch wide, and shall contain 21 to 28 stitches. The 5/8 inch bartacks shall be 5/8 (±1/32) inch in length, 1/8 (±1/32) inch wide, and shall contain 35 to 46 stitches. When counting the stitches in the bartack construction, the lay stitch shall be included. All backtacks shall be 5/8 (±1/32) inch in length and shall be formed with 10-13 stitches per inch. Bartacks and backtacks 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.

3.7.1.4 Sewn eyelets. All eyelets shall be 3/16 inch (+1/16, -0) in inside diameter with a minimum of 19 stitches per eyelet. Eyelet stitching shall have at least four overlapping stitches, with purling on the outside.

3.7.2 Seam sealing. Seams and stitching as indicated in Table X shall be sealed with 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 sealing tapes shall be applied and repaired in accordance with the sealing tape manufacturer temperature, time and pressure recommendations for application with heat sealing machine. The sealing tapes shall be applied with a minimum of 1/8 inch overlap on both sides of the sewn seam and the back of the basic material, adjacent to the seam tape, shall not be melted. All sealing tapes shall overlap a minimum of 3/4 inch at joining points and all ends of sealing tape or taped cross-over areas shall be spot sealed without additional repair tape. As an alternate, spot sealing for taped ends can be eliminated if hot air machine can automatically cut and seal ends of sealing tape without any loose ends. However, spot sealing for taped cross-over areas shall remain. Sealed seams shall show no leakage, tape ends shall show no signs of lifting. When measured from the side edge of the tape toward the center, the top knit layer of the tape shall show no sign of curling, bubbling, or separating (membrane layer of tape is exposed) greater than 1/8 inch. These conditions should not be exhibited when tested initially and after five laundering cycles as specified in 4.3.5.2.2.

3.7.2.1 Seam sealing repairs. Repair of the parka by mending, patching, or darning shall not be permitted. Removal of the sealing tape shall not permitted. A maximum of 5 repairs (no one repair to exceed five inches) totaling no more than 25 inches in length shall be allowed. Only one additional layer of sealing tape is allowed to repair any given area, with the exception of the backside area of the sleeve pocket. 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 tape.

3.8 Manufacturing operations requirements. The parka shall be manufactured in accordance with operation requirements specified in Table X. 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 X.

3.8.1 Shade and size marking. The component parts of the parkas shall be marked or ticketed to ensure a uniform shade and size throughout the item. Any method may be used except those listed below. The use of ink pad numbering machine, rubber stamp, or pencil is allowed, provided the numbering does not show on the outside of the item and is covered by the seam allowance wherever possible.

1. Corrosive metal fastening devices
2. Sew-on shade tickets
3. Adhesive-type tickets which discolor or adhere to the material upon removal of tickets.

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

TABLE X. Manufacturing Operation Requirements.

NO.	OPERATION	STITCH TYPE	SEAM/ STITCH TYPE	STITCH PER INCH
1.	Cutting and marking. 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. All shell parts shall be cut out of one piece of material except the inside slide fastener facing, pencil pocket, hood tunnel, visor and inside collar. Unless alternate tape is used, slide fastener thongs shall be cut from the basic material. b. Cut drawcords, nylon tape, and hook and loop fastener tapes lengths in accordance with the tables specified in paragraphs 3.5.5, 3.5.6 and 3.5.7. The drawcord ends shall be hot wire cut to eliminate fraying or as an alternate, drawcord ends may be dipped or impregnated with cellulose acetate or cellulose butyrate . c. Three eyelet reinforcement pieces shall be cut 1/2 inch wide by 1 or 2 inches long from scraps of the basic material.			

TABLE X. Manufacturing Operation Requirements. – Continued.

NO.	OPERATION	STITCH TYPE	SEAM/ STITCH TYPE	STITCH PER INCH
2.	Replace damaged parts. a. Care shall be exercised during the spreading, cutting, and manufacturing operations to assure that cloth defects and damages, as classified in Table XIII are excluded and replaced with non-defective and properly matched material.			
3.	Marking. a. 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.			
4.	Assemble collar and attach hanger loop. a. Place eyelet reinforcement piece on inside of outer collar, 1/4 inch below top cut edge at center of outer collar.			
	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.	Eyelet		19 (min)
	c. Hem bottom of outer collar by turning up the bottom edge 1/4 inch and stitching 1/8 to 3/16 inch from folded edge.	301	EFa-1	10-13
	d. On the tricot side of the outer collar, position three strips of loop fastener tape in accordance with marks on pattern and stitch all four sides 1/8 to 3/16 inch from edges.	301	LSbj-1	10-13
	e. Stitch inside collar and outside collar together along top edge**.** Turn and top stitch 1/16-1/8 inch from top edge.	301	SSe-2	10-13

TABLE X. Manufacturing Operation Requirements. – Continued.

NO.	OPERATION	STITCH TYPE	SEAM/ STITCH TYPE	STITCH PER INCH
4 (cont.)	f. Attach barrel lock to collar drawcord and insert drawcord through the eyelet with barrel lock on the outside of the collar. Stitch ends of drawcord to front ends of inside collar 1/8 inch from edge.	301	SSa-1	10 –13
	g. Topstitch collar together with a second row of stitching 1/2 inch from first row of stitching. Do not catch drawcord in stitching.	301	SSe-2(b)	10 –13
	h. A hanger loop (3/8 inch wide nylon tape) shall be attached to the top edge of the inside collar at center back. The tape shall be folded with mitered corners and shall lay flat, parallel to the inside top collar edge Each end of the hanger loop tape shall be turned under 3/8 to 1/2 inches, and stitched to the collar with a bartack parallel to the collar edge. The finished opening length shall be 2 (±1/4) inches. The drawcord shall not be caught in the stitching.	3/8 inch Bartack Or 301		21-28 per bartack
5.	Assemble throat tab.			
	a. With face sides together and edges aligned, stitch 1/4 inch from edges of throat tab.	301 or 401	SSe-2(a)	10-13
	b. Turn, work out edges of flap. Stitch 1/8 to 3/16 inch from turned edge.	301	SSe-2(b)	10-13
6.	Assemble rank tab.			
	a. Center hook fastener tape at point of rank tab per marks on pattern and stitch 1/8 to 3/16 inch from edge.	301	LSbj-1	10-13
	b. Fold rank tab in half lengthwise, face side out and crease sides and point of the one piece tab. Stitch sides and point of the rank tab 1/16 to 1/8 inch from folded edge.	301 or 401	SSa-1	10-13

TABLE X. Manufacturing Operation Requirements. – Continued.

NO.	OPERATION	STITCH TYPE	SEAM/ STITCH TYPE	STITCH PER INCH
7.	Assemble sleeve tabs.			
	a. Position hook fastener tape on face of the sleeve tab in accordance with marks on pattern. Stitch all four sides 1/8 to 3/16 inch from edges.	301	LSbj-1	10 –13
	b. Fold sleeve tab in half, face side out, and crease side cut edges. Stitch 1/16 to 1/8 inch from folded edges.	301	EFn-2	10-13
	- or -			
	c. Fold sleeve tab in half. With face sides together and edges aligned, stitch 1/4 inch from edges of sleeve tab.	301 or 401	SSe-2(a)	10-13
	d. Turn face side out, work out corners and edges. Top stitch 1/8 inch from edges.	301	SSe-2(b)	10-13
	Note; When assembling the sleeve tabs using automated equipment, it is permissible not to stitch across the square end of the sleeve tab.			
8.	Assemble sleeve pocket flaps.			
	a. Position two loop fastener tapes on face of sleeve pocket flap in accordance with marks on pattern. Stitch around all four sides 1/8 to 3/16 inch from edges.	301	LSbj-1	10-13
	b. Fold sleeve pocket flap in half lengthwise, (face sides together) and with edges aligned, stitch ends of sleeve pocket flap.	301	SSe-2(a)	10-13
	c. Turn sleeve pocket flap, work out corners and edges. Stitch 1/4 inch from edge along sides and bottom of sleeve pocket flap.	301	SSe-2(b)	10-13

TABLE X. Manufacturing Operation Requirements. – Continued.

NO.	OPERATION	STITCH TYPE	SEAM/ STITCH TYPE	STITCH PER INCH
9.	Assemble sleeve pockets and left sleeve pencil pocket.			
	a. Fold under top cut edge of left sleeve pencil pocket 3/8 inch. Stitch 1/16 to 1/8 inch from folded edge.	301 or 401	EFa-1	10-13
	b. Fold under top cut edge of sleeve pocket 1/2 inch. Stitch 1/8 to 3/16 inch from folded edge.	301 or 401	EFa-1	10-13
	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.	301	LSbj-1	10-13
	d. Form bellows by folding sides of pocket in accordance with marks on pattern and stitch l/16 to 1/8 inch from folded edge.	301 or 401	EFa-1	10-13
10.	Assemble lower pocket flaps.			
	a. Position two loop fastener tapes on face of lower pocket flap in accordance with marks on pattern. Stitch on all four sides 1/8 to 3/16 inch from edges.	301	LSbj-1	10-13
	b. Fold lower pocket flap in half lengthwise, with face sides together and edges aligned, stitch ends 1/4 inch from edge.	301 or 401	SSe-2(a)	10-13
	c. Turn lower pocket flap, work out corners and edges. Top stitch 1/4 inch from edge around sides and bottom.	301	SSe-2(b)	10-13
11.	Assemble lower pockets.			
	a. Turn under top edge of lower pockets 1/2 inch and stitch 1/4 to 3/8 inch from folded edge.	301	EFa-1	10 –13

TABLE X. Manufacturing Operation Requirements. – Continued.

NO.	OPERATION	STITCH TYPE	SEAM/ STITCH TYPE	STITCH PER INCH
11 (cont.)	b. Position two hook fastener tapes on face of pocket in accordance with marks on pattern. Stitch all four sides 1/8 to 3/16 inch from edges.	301	LSbj-1	10-13
	c. Position lower pocket back on lower pocket, with face sides together and notches aligned, stitch to the pocket 1/4 inch from notched edge. Turn outside pocket face side out and stitch 1/8 inch from turned edge.	301	SSe-2	10-13
12.	Assemble hood.			
	a. Stitch hood pieces together 1/4 inch from edge.	301	SSa-1	10-13
	b. Seam seal hood joining seam.			
	c. Position three hook fastener tapes 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 fastener tape shall be centered over the hood joining seam).	301	LSbj-1	10-13
	d. On inside of hood, seam seal hook fastener tape stitching.			
	e. Position visor interlining on inside of visor piece. Stay stitch to along edge of visor 1/8 (±1/16) inch from edges.	301	SSa-1	10-13
	f. Turn under ends of hood tunnel 3/8 inch and stitch 1/4 inch from folded edge.	301 or 401	EFa-1	10-13
	g. Fold hood tunnel over drawcord and stitch edges together 3/16 to 1/8 inch from cut edge. Drawcord shall not be caught in stitching.	301 or 401	EFa-1	10-13

TABLE X. Manufacturing Operation Requirements. – Continued.

NO.	OPERATION	STITCH TYPE	SEAM/ STITCH TYPE	STITCH PER INCH
12 (cont.)	h. At center of tunnel, vertically bartack or backtack tunnel and drawcord.	3/8 inch Bartack or 301		21-28 per bartack or 10 to 13 per backtack
	i. 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
	j. 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
	k. 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-1 (b)	10 –13
	l. Thread barrel locks onto ends of drawcord tape. Extend drawcord tape beyond barrel locks and form an overhand knot on the cord 1 (±1/4) inch from edge and stitch ends of drawcord tape to knit side of finished front edges of hood.	301	SSa-1	10-13
	m. Seam seal hood tunnel stitching to the bottom edge of hood neckline seam.			

TABLE X. Manufacturing Operation Requirements. – Continued.

NO.	OPERATION	STITCH TYPE	SEAM/ STITCH TYPE	STITCH PER INCH
13.	Assemble upper front of parka, chest pockets, and attach combination label.			
	a. Position size label and combination label on right (as worn) chest pocket, 3-1/4 (±1/8) inch from pocket top for all sizes and for sizes X-Small and Small 1 **(**±1/8) inch, for sizes Medium – XX-Large 2-1/2 (±1/8) inches from straight raw edge side finishing nearest the slide fastener). Stitch labels to chest pocket, 1/8 inch from all edges.	301	LSbj-1	10 - 13
	b. Overedge front edge of chest pocket to the center front pocket extension. Overedge the exposed edges of the chest pocket welt interlining.	502, 503, 505, or 516	Efd-1	7-9
	c. Stitch chest pocket welt interlining, chest front and chest 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.	301	SSa-1	10-13
	d. Stitch pocket bags to upper pocket extensions.	301or 401 with 502, 503, 505, or 516	SSa-1 or Efd-1	10-13 or 7– 9
	e. Stitch 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. Chest pocket opening shall measure 8-3/4 (+1/4,-3/8) inches.	301	SSa-1	10- 13

TABLE X. Manufacturing Operation Requirements. – Continued.

NO.	OPERATION	STITCH TYPE	SEAM/ STITCH TYPE	STITCH PER INCH
13 (cont.)	f. With face sides together and edges aligned, stitch around curved pocket edges 3/16 to 1/4 inch from edge.	515 or 516	SSa-2	10 -13
	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 reinforcement tape shall be positioned at the top curved edge of the pocket and the other 6 to 7-1/2 inches lower on the curved edge of the pocket. -or-	301	SSa-1	10-13
	h. as an alternate construction: Attach four one-inch reinforcement tape tabs to the edge of pocket. The tape is positioned to the back side of the pocket as follows: One at the top of the pocket, adjacent to the facing, one at the top curved edge of the pocket, one 6 to 7-1/2 inches lower on the curved back edge of the pocket and one at the bottom of the pocket, adjacent to the facing.	301	SSa-1	10-13
	i. Center a 3/8 inch bartack or backtack through the reinforcement tape and pocket (on the safety stitching)	3/8 inch bartack or 301		21-28 per bartack or 10-13 per backtack
14.	Attach rank tab. a. Position rank tab on left (as worn) upper parka front, in accordance with mark on pattern and stitch 1/8 inch from folded edge of tab.	301	SSa-1	10-13

TABLE X. Manufacturing Operation Requirements. – Continued.

NO.	OPERATION	STITCH TYPE	SEAM/ STITCH TYPE	STITCH PER INCH
14 (cont.)	b. Position loop fastener tape on left front according to marks on pattern and align with hook fastener portion of fastener tape on rank tab. Stitch loop fastener tape around all four sides to left front of parka.	301	SSa-1	10-13
15.	Assemble sleeves.			
	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.	301	LSd-1	10 -13
	b. Stitch lower sleeve to upper sleeve, catching bottom edge of elbow patch in seam.	301	LSq-2(a)	10 -13
	c. With seam allowance towards top of sleeve, topstitch 1/16 to 1/8 inch from seam line.	301	LSq-2(b)	10 -13
	d. Position a 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
	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
	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 1/4 inch and stitch 1/8 to 3/16 from edge to bottom notch.	301	LSd-1	10 -13

TABLE X. Manufacturing Operation Requirements. – Continued.

NO.	OPERATION	STITCH TYPE	SEAM/ STITCH TYPE	STITCH PER INCH
15 (cont.)	g. Place left sleeve pocket on left sleeve according to marks on patterns, face size up , and align right cut edges of pocket and pencil pocket. Turn under pocket edges 1/4 inch, including pencil pocket on right side and bottom. Stitch to sleeve 1/16 to 1/8 inch from edges. Finished pockets shall be centered above elbow patches,	301	LSd-1	10 -13
	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 shall be centered above elbow patches.	301	LSb-1	10 -13
	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	LSbl-2	10 -13
	j. Seam seal inside of sleeve, covering all stitching.			
16.	Assemble fronts and attach lower pockets and flaps.			
	a. Insert a barrel lock onto each end of hem draw cord. Tie and overhand knot one inch from ends of drawcord to secure barrel locks. Thread barrel locks onto barrel lock anchor tape pieces. Fold nylon tape in half, matching cut ends and stay stitch together.	301	SSa-1	10 - 13
	b. Position lower pocket assembly, face up, on lower front. Align pocket with bottom, front, and waist cut edges. Stay stitch pocket 1/8 inch from cut edges, catching barrel lock anchor tape assemblies for hem drawcord in stitching according to pattern marks at front edge.	301	SSa-1	10-13

TABLE X. Manufacturing Operation Requirements. – Continued.

NO.	OPERATION	STITCH TYPE	SEAM/ STITCH TYPE	STITCH PER INCH
16 (cont.)	c. Close back of pocket and form hand opening by stitching back edge of pocket to front starting at the waist seam and continuing to 1/2 to 3/4 inch below top edge of pocket and backtack, creating a 7-1/2 (±1/4) inch opening. Backtack at bottom of 7-1/2 inch opening and continue stitching to bottom of front.	301	SSa-1	10 -13
	d. Horizontally bartack or backtack top and bottom of hand opening.	3/8 inch Bartack or 301		21-28 per bartack or 10-13 per backtack
	e. 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 (± 1/8 inch) 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.	301	SSa-1	10 -13
	f. Seam seal the lower pocket stitching on lower front.			
17.	Assemble parka.			
	a. With face sides together stitch lower fronts to lower back at side seams.	301	SSa-1	10-13

TABLE X. Manufacturing Operation Requirements. – Continued.

NO.	OPERATION	STITCH TYPE	SEAM/ STITCH TYPE	STITCH PER INCH
17 (cont.)	b. Place eyelet reinforcement pieces on back side of waist drawcord casing and 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 the eyelets and attach barrel locks. Tie ends with overhand knot one inch from each end to secure barrel lock.	Eyelet		19 (min)
	c. Position waist drawcord casing on lower front in accordance with marks on pattern. Turn under ends and lower edge of casing. Stitch 1/8 inch from folded edges. Drawcord shall not be caught in stitching.	301	SSb-1	10-13
	d. Set sleeves into armholes.	301	SSa-1	10 -13
	e. Stitch upper parka side seams together. Backtack at underarm slide fastener opening notches on upper sleeve and continue seaming to bottom of sleeve, catching sleeve tab in stitching.	301	SSa-1	10 -13
	f. Stitch upper parka to lower parka, aligning front edges, matching side seams and catching upper edge of waist drawcord casing in stitching. Do not catch waist drawcord in stitching.	301	SSa-1	10 -13
	g. Seam seal the inside of parka over side seams, center front/inside upper pocket seams, waist seam, sleeve attachment seams, top and bottom of upper pocket extensions. As an alternate, the reinforcement tape specified in 3.5.3 may be used for the top and bottom pocket extension only.			
	h. Stitch collar assembly to parka, inserting the hood assembly between notches.	301	SSa-1	10 -13

TABLE X. Manufacturing Operation Requirements. – Continued.

NO.	OPERATION	STITCH TYPE	SEAM/ STITCH TYPE	STITCH PER INCH
18.	Set underarm slide fastener.	301	SSa-1	10-13
	a. 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 (±1/16) inch from back edge of tape.			
	b. Turn under slide fastener to finished position and topstitch underarm seam thru all plies 3/8 (±1/16) inch from folded edge. With the slide fastener in the closed position, the pull shall be at the bottom of sleeve.	301	SSe-2	10-13
	c. Seam seal top, sides and bottom of slide fastener stitching to sleeves.			
19.	Attach front slide fastener.			
	a. The slide fastener shall be positioned right sides together with the left (as worn)front edge of the parka, aligning the tape with the edge of the collar, and upper and lower parka fronts, turning down ends of slide fastener tape. Position the throat tab in accordance with marks on pattern, face down with straight edge aligned with the slide fastener tape. Stitch 1/4 inch from edge through all layers, catching the throat tab and lower pocket in stitching. Turn slide fastener under to finished position, folding the center front edge of the parka opening to form a double welt to cover the slide fastener.	301	SSa-1	10-13
	b. Topstitch 3/8 inch from the fold through all layers. The curved edge of the throat tab shall extend away from the slide fastener on the left front.	301	SSe-2	10-13
	c. Attach right front (as worn) slide fastener same as for the left side except without the throat tab.	301	SSa-1	10-13

TABLE X. Manufacturing Operation Requirements. – Continued.

NO.	OPERATION	STITCH TYPE	SEAM/ STITCH TYPE	STITCH PER INCH
19 (cont.)	d. The edges of the finished welts shall finish flush with each other when the slide fastener is closed. Welts shall not overlap more than 1/8 inch or gap more than 1/16 inch over the more than 1/2 of the total length of the slide fastener. e.. Seam seal the stitching of slide fastener and collar.			
20.	Apply non-wicking buffer. a. Heat seal a 2 inch (+0, -1/4) inch wide non-wicking buffer 1-1/4 (±1/4) inches from the bottom cut edge of parka. b. Heat seal a 2 inch (+0, -1/4) inch wide non-wicking buffer 3/4 (±1/4) inches from the bottom cut edge of sleeves. c. Non-wicking buffer shall cross over side and sleeve inseam seams. 1-1/4 to 1-3/4 inches of the non-wicking buffer shall be visible on the finished parka.			
21.	Assemble liner attachment tabs (make two). a. Fold 1-1/4 inch at one end of nylon liner attachment tape. Attach female snap 3/4 (±1/16) inch from folded end through both plies of tape. b. Attach male snap to nylon liner attachment tape. The distance between the male and female snap shall be 1-7/8 (±1/8) inch when measured from center to center. c. The male and female snaps shall be positioned on the nylon liner attachment tape so that the snaps will fasten when the tape is folded onto itself.			

TABLE X. Manufacturing Operation Requirements. – Continued.

NO.	OPERATION	STITCH TYPE	SEAM/ STITCH TYPE	STITCH PER INCH
21 (cont.)	d. Using a box stitch, attach liner attachment tab assembly to a 2 inch long piece of reinforcement tape. e. The length of the snap attachment assembly tabs shall be 4 inches when measured from the box stitching to the folded end of the tab. f. See figures 2, 3, and 4 for detailed illustrations.	301	SSa-1	10-13
22.	Hem sleeves and attach liner attachment tabs. a. 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. b. Heat set liner attachment tab assembly to bottom of sleeve as indicated on pattern.	301	EFb-1	10 –13
23.	Inside slide fastener (for liner attachment) facing assembly These operations shall be performed on left and right side of parka front. a. Place slide fastener facing 1/8 inch from top of finished collar and stay-stitch 1/8 to 1/4 inch on 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. (This stitching shall be caught with 1/2 or 1 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.	301	LSa-1	10 - 13

TABLE X. Manufacturing Operation Requirements. – Continued.

NO.	OPERATION	STITCH TYPE	SEAM/ STITCH TYPE	STITCH PER INCH
23 (cont.)	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.			
	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.			
	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.	301	Efa-1	10-13
	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 facing to 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
	- or –			
	f. As an alternate, the liner's slide fastener may be attached by positioning the back edge of the slide fastener 1/16 inch to 1/8 inch from the back edge of the facing and joined ¼ inch from edge of slide fastener.	301	SSa-1	10-13
	g. Fold the facing back and stitch 1/8 inch from folded edge.	301	LsSb-1	10-13

TABLE X. Manufacturing Operation Requirements. – Continued.

NO.	OPERATION	STITCH TYPE	SEAM/ STITCH TYPE	STITCH PER INCH
23 (cont.)	h. Position the liner's slide fastener away from the parka slide fastener and bartack facing assembly to parka at top of the collar perpendicular to collar drawcord channel.	5/8 inch Bartack		35-46 per bartack
24.	Hem bottom of parka. a. 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 to allow drawcord to extend into lower pocket. The hem shall finish 5/8 to 7/8 inch wide. The hem drawcord shall not be caught in the hem stitching and the barrel locks shall be accessible inside the lower front pockets.	301	EFb-1	10 -13
25.	Pocket reinforcement tape. a. Heat set all reinforcement tapes positioned on the inside of upper and lower pocket lining to the parka.			
26.	Attach thong to slide fastener. a. Fold nylon tape in half lengthwise, insert loop into end of pull, pass the free ends through loop and pull tight.			

TABLE X. Manufacturing Operation Requirements. – Continued.

NO.	OPERATION	STITCH TYPE	SEAM/ STITCH TYPE	STITCH PER INCH
26 (cont.)	-or- b. As an alternate make stripping for the thong using base material, 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 26.a). c. Knot or 3/8 inch bartack free ends of stripping. The thong shall finish 2 to 2-1/2 inches in length.	406 3/8 inch Bartack	EFh-1	10-13 21-28 per bartack
27.	Clean parka. a. Trim all ends of stitching to 1/4 inch maximum on outside and remove loose threads from the parka. Remove all spots and stains, and all shade and size markings.			

3.9 Finished measurements. The parka shall conform to the measurements specified in Table XI.

TABLE XI. Table of finished measurements (inches).

		Point of Measure		
		1/2 Chest (A)	Back length (B)	Sleeve length (C)
Size	Length	Tol: ± 3/4	Tol: ± 3/4	Tol: ± 1/2
X-Small	X-Short	22-1/4	27-1/2	23-1/2
	Short	22-1/4	28-1/2	24
	Regular	22-1/4	30	25
	Long	22-1/4	31-1/2	26
Small	XX-Short	24-1/4	27	23-1/4
	X-Short	24-1/4	28	23-3/4
	Short	24-1/4	29	24-1/4
	Regular	24-1/4	30-1/2	25-1/4
	Long	24-1/4	32	26-1/4
	X-Long	24-1/4	33-1/2	27-1/4

TABLE XI. Table of finished measurements (inches) – Continued.

		Point of Measure		
		1/2 Chest (A)	Back length (B)	Sleeve length (C)
Size	Length	Tol: ± 3/4	Tol: ± 3/4	Tol: ± 1/2
Small (cont.)	XX-Long	24-1/4	35	28-1/4
	XXX-Long	24-1/4	36-1/2	29-1/4
Medium	XX-Short	26-1/4	27-1/8	23-1/2
	X-Short	26-1/4	28-1/2	24
	Short	26-1/4	29-1/2	24-1/2
	Regular	26-1/4	31	25-1/2
	Long	26-1/4	32-1/2	26-1/2
	X-Long	26-1/4	34	27-1/2
	XX-Long	26-1/4	35-1/2	28-1/2
	XXX-Long	26-1/4	37	29-1/2
Large	X-Short	28-1/4	29	24-1/4
	Short	28-1/4	30	24-3/4
	Regular	28-1/4	31-1/2	25-3/4
	Long	28-1/4	33	26-3/4
	X-Long	28-1/4	34-1/2	27-3/4
	XX-Long	28-1/4	36	28-3/4
	XXX-Long	28-1/4	37-1/2	29-3/4
X-Large	Short	30-1/4	30-1/2	25
	Regular	30-1/4	32	26
	Long	30-1/4	33-1/2	27
	X-Long	30-1/4	35	28
	XX-Long	30-1/4	36-1/2	29
	XXX-Long	30-1/4	38	30
XX-Large	Regular	32-1/4	32-1/2	26-1/4
	Long	32-1/4	34	27-1/4
	X-Long	32-1/4	35-1/2	28-1/4
	XX-Long	32-1/4	37	29-1/4
	XXX-Long	32-1/4	38-1/2	30-1/4

TABLE XI. Table of finished measurements (inches) – Continued.

Rank Tab	Point of Measure (D)	
	Width	Length
	Tol: ±1/8	Tol: ±1/8
All Sizes	1-5/8	4

3.9.1 Point of Measure.

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.
D. Rank tab. Measure the finished tab from side to side (width) and from the top edge to the point (length).

3.10 Disposal of rejected garments. All scraps, seconds, irregulars, extra material, and garments containing the aforementioned intellectual property / trademarks, which are not utilized for government contracts or a purpose authorized in writing by the Government, shall be destroyed and not sold or transferred in any manner. This restriction applies to the prime contractor, as well as all subcontractors, and shall be incorporated into all agreements with subcontractors

3.11 Toxicity. The parka shall not present a health hazard and shall show compatibility with prolonged, direct skin contact when tested as specified in 4.3.6. Chemicals recognized by the Environmental Protection Agency (EPA) as human carcinogens shall not be used (see 6.2).

3.12 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 inspections. The inspection requirements specified herein are classified as follows:

a. First article inspection (see 4.2)
b. Quality conformance inspection (see 4.3)

4.2 First article inspection. The first article, submitted in accordance with 3.1, shall be inspected as specified in 4.3.3, 4.3.4, and 4.3.5 for compliance with design, construction, workmanship, and dimensional requirements, and tested in accordance with 4.3.1.1.

4.3 Conformance inspection. Conformance inspection shall include the inspection and testing specified in 4.3.1 through 4.3.6. Sampling for inspection shall be performed in accordance with ANSI/ASQ Z1.4 except where otherwise indicated. Requests for use of equivalent items shall be accompanied with test results and submitted to the procuring agency.

4.3.1 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.

4.3.1.1 Component testing. The components specified in Table XII shall be tested for the characteristics listed in Table XII in accordance with the test method cited.

TABLE XII. Component testing.

Material	Characteristic	Requirement	Test Method
Reinforcement material	Weight	3.4.2	ASTM D3776, Opt. C
	Breaking Strength		ASTM D5034
	Colorfastness to:		
	Crocking		AAATC 8 1/
	Laundering		AATCC 135, Test 1A 2/, 3/
	Light (after 75 kj)		AATCC 16, Opt 3 2/
	Perspiration		AATCC 15 4/
	Spray Rating:		
	Initial		AAATCC 22
	After one laundering		AATCC 22 and 135
	Stiffness		TAPPI Method 451 5/
	Tear resistance(PPT)		ASTM D2582 6/
	Resistance to organic liquid		AATCC 118 7/
	Resistance to frosting		AATCC 119 13/
	Dimensional stability		AATCC 135 VAii
	Abrasion resistance		ASTM D3884
Three-layer knit laminate	Weight	3.4.5	ASTM D3776, Opt. C
	Stiffness		TAPPI Method 451 5/
	Hydrostatic Resistance:		
	Initial (taffeta restraint)		ASTM D751 8/
	After deet (taffeta restraint)		ASTM D751 8/
	Tear resistance (PPT)		ASTM D2582 6/
	Water permeability:		
	Initial		9/
	After synthetic perspiration		9/ ,10/
	Moisture vapor transmission		ISO 15496 11/
	Physical surface appearance		12/, 3/
Drawcord, alternate	Breaking Strength	3.5.6	ASTM 5034
Slide fastener, polyurethane coating	Thickness	3.5.8.1, 3.5.8.2	ASTM D1005
Barrel locks	Pull test	3.5.10	Paragraph 4.3.5.4
	Spectral reflectance		Paragraph 4.3.5.5

1/ Colorfastness to crocking. Rated using the AATCC Nine Step Chromatic Transference Scale Evaluation Procedure 8.

2/ Colorfastness. Rated using the AATCC Gray Scale for Color Change Evaluation Procedure 1 and AATCC Gray Scale for Staining Evaluation Procedure 2.

a. After Laundering. AATCC 135 (5 home laundering cycles).
b. After Light. AATCC No. 16, Option A (after 40 fading units) or E (after 150 kilojoules).

3/ Laundering procedure. Place 2.0 ± 0.2 pounds of the cloth and if needed, ballast in an automatic washing machine set on permanent press cycle, high water level and warm (100 + 10^{o}F - 0^{o}F) wash temperature. Place 0.5 ounce (14 grams) of 1993 AATCC Standard Reference Detergent (non-phosphate) without optical brighteners into the washer. The duration of each laundering cycle shall be 30 ± 5 minutes. After laundering, place sample and ballast in an automatic tumble dryer set on permanent press cycle, 150-160^{o}F and dry for approximately thirty (30) minutes or until dry. The laundering equipment, washer and dryer, shall be in accordance with AATCC No.135.

4/ Spray rating.
a. Initial. Testing shall be conducted in accordance with AATCC 22.
b. After 5 launderings. Laundering in accordance with footnote 3/, and testing shall be conducted in accordance with AATCC 22.

5/ Stiffness at 70^{o}F. TAPPI Method T-451, Preferred Procedure (1) except that five test specimens with the long dimension parallel to the warp direction of the cloth shall be tested and that the standard textile test conditions as specified in ASTM D-1776 shall be used. For reinforcement material, both warp and filling directions shall be tested.

6/ Tear resistance. ASTM D-2582 with exceptions as follows: 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 tear. If the tear is not straight on face side of the laminate, the result shall be considered invalid and another specimen shall be tested. The thickness of the specimen shall not be measured.

7/ Resistance to organic liquids.
a. Initial. Test in accordance with AATCC 118. Samples shall pass a minimum of a 4 rating (N-tetradecane).
b. After 5 launderings. Laundering in accordance with footnote 3/, and testing shall be conducted in accordance with AATCC 118.

8/ Hydrostatic resistance.
a. To Burst. ASTM D-751, Hydrostatic Resistance, Procedure A (Pressure Application by Mullen Type Hydrostatic Tester), Procedure 1 with water pressure applied to the face side of the test specimens.
b. After diethytoluamide. Five specimens shall be laid flat, face side up, on a glass plate 4 by 4 inches by 1/4 inch thick. Three drops of diethyltoluamide containing 75% diethyltoluamide and 25% ethanol shall be applied to the center of each specimen. A glass plate of the same dimensions shall be placed on the specimen (or specimen area) and a pressure of 0.25 pounds per square inch of glass plate contact area be applied to

the assembly. After 16 hours, the specimens shall be removed from between the glass plates and tested immediately for hydrostatic resistance.

9/ Water permeability. ASTM D-751, Hydrostatic Resistance, Procedure B, Procedure 2 with a fixed hydrostatic head of 1 psi applied to the face side of the test specimen for 10 minutes. Five specimens shall be tested. 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 case of the weeping or wicking type failure, use blotting paper to confirm wetness or leakage. The test may be performed on any device, which tests the equivalent specimen area at the equivalent pressure.

a. Water permeability after Flex at 70^{o}F and -40^{o}F. One warp and one fill specimen, 8 inch by 12 inch area, shall be cut from the sample unit with the 8-inch dimension in the indicated direction (warp or filling, as applicable). The specimen shall be conditioned and flexed as specified in ASTM F-392, except that the specimen shall not be aged, the short edges shall not be heat sealed or otherwise joined, and the specimen shall be flexed for 1500 full flex cycles. Two six (6) inch by eight (8) inch specimens shall be cut from the 8-inch by 12-inch flexed specimen and tested for water permeability as described above.

10/ Synthetic perspiration test. 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^{o}C until all ingredients are dissolved. Then, cool the solution to 35^{o}C, remove cover and dispense it immediately with a pipette or other suitable measuring device. Dispense 2 ml of perspiration solution at 35^{o}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 back side contacting the glass. Dispense an additional 2 ml of the synthetic perspiration solution onto the center of the specimen. Place a 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.

11/ Moisture vapor transmission rate. ISO #15496, except results are reported in MVTR by using the following formula

MVTR Kace = (2168*24) / (1/WVP + 1/WVPapp)
Note: with MVTR in g/(m2*24h); WVP in g(Pa*m2*h)

12/ Physical surface appearance. Conduct 5 home laundering and drying cycles in accordance with footnote 3/. 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.

13/ Resistance to frosting. Test in accordance with AATCC 119. Visual rating for frosting is 3.0 minimum at 1200 cycles. Visual rating compares the unbraded area with abraded area using the AATCC Gray Scale for Color Change Evaluation Procedure 1.

4.3.2 In-process examination. Visual and dimensional examinations shall be made at any point or during any phase of the manufacturing process to determine whether construction details which cannot be examined in the finished product are in accordance with requirements specified in Section 3. Materials and components, which can be classified as having a defect in accordance with Table XIII, shall be removed from production.

4.3.3 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 sample units shall be one parka.

4.3.4 End item visual examination. Finished end item parka shall be examined for critical, major, and minor defects specified in Table XIII. The lot size shall be expressed in units of parkas. The sample unit shall be one parka.

TABLE XIII. End item visual defects.

Examination	Defect	Classification		
		Critical	Major	Minor
Print defects	Incorrect color in any part of the pattern		101	
	Pattern design not equal to the standard sample		102	
	Pattern repeat not equal to the standard sample		103	
	Skitteriness (mottled, uneven color) of pattern exceeds that shown by the standard sample		104	
	Excessive grinning (off register, gap where ground shade shows through) of pattern as compared to the standard sample		105	
	Excessive feathering or spew (fuzziness at color boundaries) of pattern as compared to the standard sample		106	
	Excessive haloing or trapping (overlapping of colors) of pattern as compared to the standard sample		107	

TABLE XIII. End item visual defects. – Continued.

Examination	Defect	Classification		
		Critical	Major	Minor
Material defects 1/	Any smash, multiple float or loose slub. Cut, tear, mend, burn, needle chew, or hole Misweave, area of poor dye penetration, dyestreak, broken or missing yarn, visible mend, thin place, or shade bar		108 109 110	
Cleanness	Any spot, streak, or stain of a permanent nature on any portion of a garment Removable spot, streak, or stain on portion of a garment Thread ends not trimmed throughout parka. Any holding or basting threads visible on outside of the finished parka		111	 201 202 203
Components	Any defective component Any component part omitted		112 113	
Assembly	Any required operation omitted or improperly performed		114	
Drawcord	Any drawcord caught in hem, casing or tunnel stitching restricting use of drawcord Any end not heat seared Any drawcord omitted Any end not knotted Any length not as specified Any barrel lock omitted Not caught in center bartack when specified Not anchored (except collar & hood adjustment)		115 116 117 118 119	 204 205 206
Slide fastener, general	Any part of slide fastener bent, broken, otherwise defective Any slide fastener not closing as specified Any length not as specified Any color not as specified Any thong not as specified Component catching in any slide fastener during opening or closing		120 121 122 123	 207 208
Slide fastener, center front	Front slide fastener welt overlapping more than 1/8 inch or gapping more than 1/8 inch Front slide fastener welt gapping more than 1/8 inch.		124 125	

TABLE XIII. End item visual defects. – Continued.

Examination	Defect	Classification		
		Critical	Major	Minor
Slide fastener, liner attachment	Not as specified or not interchangeable or interoperable with the zip-in liner slide fastener (NCTRF PD 05-09)	1		
	Slide fastener has melted individual elements or position is reversed (pin side or retainer box/slider of slide fastener installation reversed)	2		
Snap fastener	Any part of assembly missing, misdated, broken, cracked, bent, not securely clinched affecting function		126	
	Improperly placed			209
	Too tight, cutting surrounding fabric		127	
	Loose, i.e., socket or stud spins freely or wobbles in connection portions			210
	One or more having rough or sharp edge		128	
Sleeve tabs	Omitted		129	
	Improperly located		130	
Labels	Omitted, illegible, or incorrect		131	
	Incorrectly placed or attached			211
Seaming and seam tape	Seam twisted, pleated, or puckered		132	
	Part of parka caught in any unrelated operation or stitching		133	
	Thread break secured by stitching back of the break less than 1/2 inch			212
	Ends of all seams and stitches, when not caught in other seams or stitching, uneven or backtacked less than 1/2 inch			213
	Thread color not as specified			214
	Gauge of stitching uneven or not as specified			215
	Edge of seam tape less than 1/8 inch from seam allowance		134	
	Seam tape lifting off fabric		135	
	Seam tape not as specified		136	
	Seam seal tape not parallel to slide fastener teeth and interferes with operation of slide fastener		137	
Open seams 2/	More than 1/8 inch up to 1/4 inch			216
	More than 1/4 inch		138	
Seams and stitches	Not specified seam or stitch type			217
	Omitted, broken or skipped stitches		139	
	Loose tension in any area: more than 1 inch but not more than 2 inches			218

TABLE XIII. End item visual defects. – Continued.

Examination	Defect	Classification		
		Critical	Major	Minor
Seams and stitches (cont.)	Loose tension in any area: more than 2 inches		140	
	Tight tension (stitches break when normal strain is applied to the seam or stitching)		141	
	Less than the minimum stitches per inch specified: one stitch			219
	Less than the minimum stitches per inch specified: two or more stitches		142	
	More than the maximum stitches per inch specified			220
	Visible thread not the same shade throughout garment			221
Pockets, flaps, and rank tab	Flap attached crooked (i.e., distance between sides of pocket and underside of opened flap varies more than 1/4 inch			222
	Pocket or flap poorly shaped			223
	Pocket flaps not in accordance with template			224
	Flap position not as specified		143	
	Rank tab set crookedly			225
	Rank tab dimensions not as specified		144	
	Pencil pocket not properly placed			226
	Pocket flaps and lower front pockets out of alignment by more than 1/4 inch		145	
	Edge of under pocket exposed beyond lower front pocket edge		146	
	Flap not completely covering pocket/pocket opening		147	
	Flap not centered over pocket		148	
	Bellows exposed beyond edge of sleeve pocket by more than 1/8 inch		149	
	Sleeve flap not centered over pockets by more than 1/4 inch			227
Heat-sealed seams and non-wicking buffer	Any heat-seal tape not located as specified		150	
	Non-wicking buffer missing		151	
	Non-wicking buffer not properly placed		152	
	Any heat-seal tape not overlapped 1/8 inch on each side of sewn seam		153	
	Any heat-seal tape not overlapped 3/4 inch (min)		154	
	Any required stitching not covered by heat-seal tape		155	
	Any needle punctures that have not been repaired using heat-seal tape		156	

TABLE XIII. End item visual defects. – Continued.

Examination	Defect	Classification		
		Critical	Major	Minor
Heat-sealed seams and non-wicking buffer (cont.)	Any area of the laminate knit fabric bordering the heat-seal tape that is melted, exposing laminate film		157	
	Any heat-seal tape that is melted away, abraded, or cut		158	
	Any heat-seal tape that is scorched		159	
Reinforcement tape	Not as specified, missing or abraded or cut		160	
	Any tape not located as specified			228
	Used for seam sealing		161	
	Not properly adhered		162	
	Any area of the laminate knit fabric bordering the reinforcement tape that is melted, exposing the laminate film		163	
	Melted away, abraded or cut		164	
	Scorched		165	
Repairs	Any heat sealing repairs extending beyond 25 inches in length		166	
	More than five repairs on any one item		167	
Heat-seal tape adhesion	Heat-seal tape lifting off fabric within 3/4 inch of seam		168	
	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		169	
Shaded parts 3/	Variation in shade within an outside part		170	
	Any part required to be cut from one piece of material shaded		171	
Evenness	Hem uneven by 1/4 inch or more at bottom of fronts when slide fastener is closed			229
	Front uneven by 1/4 inch or more at top of collar neck when slide fastener is closed			230
	Sleeve lengths vary from each other by more than 1/2 inch			231
Bartacks/backtacks	Bartack or backtack omitted		172	
	Bartacks or backtacks not in specified location, not secure, or not serving intended purpose		173	
	Any loose stitching, incomplete or broken			232
	Length or width not as specified			233

TABLE XIII. End item visual defects. – Continued.

Examination	Defect	Classification		
		Critical	Major	Minor
Barcode label/tag	Barcode omitted or not readable by scanner			234
	Human-readable-interpretation (HRI) omitted or illegible			235
	Not attached to location specified			236
	Causes damage to the parka		174	
Fastener tape, hook and loop	Not properly placed		175	
	Not specified length or width		176	
	Corners not rounded			237
Hanger loop	Dimensions not as specified		177	
	Not properly placed			238
	Omitted		178	
	Color or material not as specified			239
Inside slide fastener (for liner attachment) facing assembly	Facing dimension not as specified		179	
	Facing not properly placed as indicated on patterns		180	
	Assembly omitted		181	
	Slide fastener type not as specified		182	
	Slide fastener length not as specified		183	
	Slide fastener top stops not in alignment with each other (evenness)		184	
	Slide fastener does not lay flat along facing			240
	Slide fastener seam seal tape not uniformly parallel, bunched, or crooked			241
	Adhesive on slide fastener affecting operation		185	
Snap attachment assembly tab	Not as specified in Figures 2-4			242
	Not properly placed			243
	Omitted		186	
	Placement not as indicated on pattern (±1/8 inch of pattern mark)			244
	Lengths not as specified			245
Construction	Excessive roping of front slide fastener welts		187	
	Excessive roping of underarm slide fastener welts			246
	Roping or twisting of bottom hem			247
	Stitching overrunning component part by more than one inch			248

TABLE XIII. End item visual defects. – Continued.

Examination	Defect	Classification		
		Critical	Major	Minor
Construction (cont.)	Interlining visible, not flat			249
	Slide fastener welts not flush, overlapping more than 1/8 inch or less than 1/16 inch over the majority of the seam length		188	
Reinforcement material	Color not as specified		189	
	Omitted		190	
	Orientation not as specified		191	

1/ As defined in FED STD 4B Glossary of Fabric Imperfections.

2/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

3/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.

4.3.5 End item testing . The parka shall be tested as specified in 4.3.5.1 through 4.3.5.5. for the requirements specified in 3.4, and 3.5. The lot size shall be expressed in units of parkas. The sample unit shall be one parka.

4.3.5.1 Parka laundering.

4.3.5.1.1 Parka laundering procedure . Select parkas in accordance with the criteria specified in paragraph 4.3. Prior to laundering, one parka shall be retained for use as the unlaundered sample in evaluating the parkas after laundering. Parkas with minor defects (Table XIII) 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 laundry testing and comparison 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. Seam sealed 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 fasteners, hook and loop fastener tapes, and liner attachment tabs 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 five laundering and drying cycles. The laundering equipment (washer and dryer) shall be in accordance with AATCC 135.

4.3.5.2 Appearance after laundry. After the fifth laundering and drying cycle, test and evaluate the parkas for conformance to the required characteristics in 4.3.5.2.1, 4.3.5.2.2, 4.3.5.2.3 and 4.3.5.2.4.

4.3.5.2.1 Hydrostatic resistance test. The hydrostatic resistance of sealed seam areas of the parka, before and after five laundering cycles (see 4.3.5.1.1), 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. 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 the waist 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.

4.3.5.2.2 Seam seal and reinforcement tape ends integrity test. After five laundering cycles (see 4.3.5.1.1) 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 4.3.5.2.1 and are acceptable if no leakage occurs.

4.3.5.2.3 Color change. Color loss in the Type II, NWU II Print, Desert Tan 511 (ground), Urban Tan 512, Lt. Brown 513 and Dk. Brown 514, and Type III, NWU III Print Tan 516 (ground), Olive 517, Green 518 and Black 519 will be evaluated after five laundering cycles (see 4.3.5.1.1). The color change shall be determined by comparing the test parka and the unlaundered sample. Any color change on any area of the parka less than the required rating (see 3.4.1 and 3.4.2) on the AATCC Gray Scale For Evaluating Change in Color Procedure 1 and the AATCC Gray Scale for Staining Evaluation Procedure 2 shall be considered a test failure.

4.3.5.2.4 Physical surface appearance changes of all laminated fabric. After five laundering cycles (see 4.3.5.1.1), the parkas shall be examined for physical surface appearance. Any physical surface appearance change shall be considered a test failure (see 3.7.2). Any physical surface appearance characteristic change noted in a taped area on the unlaundered parka (see 4.3.5.1.1), 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.

4.3.5.3 Slide fastener interoperability. The parka is constructed with a slide fastener for attachment of a zip-in liner (NCTRF PD 05-09). The operation of the liner slide fastener shall be validated with the use of interoperability guide samples provided as Government Loaned Property (see. 6.5) to insure the interoperability of specified slide fasteners. To evaluate the slide fastener interoperability, a guide sample in the appropriate size shall be engaged to the respective slide fasteners on the inside facings of the parka. The interoperability evaluation shall also 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. Any non-conformance to any of the interoperability requirements of the slide fastener shall be considered a failure.

4.3.5.4 Barrel lock test. Thread the barrel lock with nylon tape (see 3.5.5) and load into tensile tester as specified in ASTM D5034. Pull cord up at 2 inches/minute. The average of three pull strength values less than 3 lbs is considered a failure. Repeat the test using a barrel lock threaded with drawcord (see 3.5.6).

4.3.5.5 Infrared Reflectance. The spectral reflectance for the barrel locks shall be evaluated. Calibration of the instruments shall be traceable to the National Institute of Standards and Technology Perfect Reflecting Diffuser Calibration as stated in a Certificate of Traceability supplied by the instrument calibration standards. Reflectance measurements may be made by either the monochromatic or polychromatic mode of operation. When the polychromatic mode is used, the spectrophometer shall operate with the specimen diffusely illuminated with the full emission of a source that simulates either CIE Source A or CIE Source D65. The specimen shall be viewed at an angle no greater than 10 degree from normal, with the specula component included. Photometric accuracy of the spectrophotometer shall be within 1 percent, and wavelength accuracy within 2 nm. The standard aperture size used in the color measurement device shall be 1.0 to 1.25 inches in diameter unless the size of the item dictates a smaller aperture is required. When the measured reflectance values at four or more wavelengths do not meet the limits specified in Table IX it shall constitute a test failure.

4.3.6 Toxicity test. When required, (see 6.2), an acute dermal irritation study and a skin sensitization study shall be conducted on laboratory animals. When the results of these studies indicate the (end item) is not a sensitizer or irritant, a Repeat Insult Patch Test shall be performed in accordance with the Modified Draize Procedure. (See 2.3). If the toxicity requirement (see 3.11) can be demonstrated with historical use data, toxicity testing may not be required (see 6.2).

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

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 specification, including any amendments.
b. Types, sizes and lengths required.
c. National stock numbers.
d. Applicable Government patterns.
e. Specific issue of individual documents referenced.
f. When first article inspection is required.
g. Number of first article inspection samples.
h. Name and address of the first inspection facility; and the name and address of the Government activity responsible for conducting the first article inspection program.
i. When toxicity testing is required.
j. Inspection conditions.
k. Conformance inspection and acceptance quality limits.
l. Packaging required.

6.3 Contact information. The contact information to obtain PM-SOF SSES SPEC 07-11 Camouflage Print Performance Specification For AOR 1, AOR 2, NWU II and NWU III is as follows.

U. S Army, Research, Development and Engineering Command
Charlotte Jennings, Project Officer
PM-Special Operations Forces Survival, Support and Equipment Systems
Kansas Street, BLDG 4
Natick, MA 01760
Tel:(508) 233-6298
Fax: (508) 233-4660
Email: charlotte.a.jennings2@us.army.mil

6.4 Suggested source of supplies.

6.4.1 Tapes. Tapes for parka sealing processes known to the meet the requirements of paragraphs 3.5.2, 3.5.3, and 3.5.4 are available from:

W.L. Gore & Associates,105 Vieve's Way ,Elkton, MD 21921

The tape part numbers are as follows:

Where used	Gore part number	Width
Sealing tape (3.5.2)	6GTAJ013KHKN	1/2 inch
	6GTAJ025KHKN	1 inch
	6GTAJ050KHKN	2 inch
Reinforcement tape (3.5.3)	6GSAJ025TAN	
Non-wicking buffer (3.5.4	5RPAD051NAT	

6.4.2 Tape and Drawcord. Tape and drawcord known to meet the requirements of paragraphs 3.5.5 and 3.5.6 are available from:

Rhode Island Textile Company, P.O. Box 999, Pawtucket, RI 02862-0999, (401) 722-3700.
Style #13239- drawcord

6.4.3 Hook and loop fastener tape. The hook and loop fastener tape known to meet the requirements of paragraph 3.5.7 is available from:

Velcro USA, Inc, 406 Brown Ave, Manchester, NH 03103 (800) 225-0180
Acceptable Velcro Colors for Hook and Loop Fastener Tape:
Type II Parka - Tan 248
Type III Parka - Dark Green 627

OR

YKK Corporation of America, 1300 Cobb Industrial Ave, Marietta, GA 30066 Main office: (770) 427-5521.
Acceptable YKK Colors for Hook and Loop fastener tape:
Type II Parka - C479
Type III Parka - C040

6.4.4 Slide fasteners. Slide fasteners known to meet the requirements of paragraph 3.5.8 are available from:

YKK Corporation of America, 1300 Cobb Industrial Ave, Marietta, GA 30066
Color: D334

6.4.4.1 Inside slide fastener. The inside slide fastener for the liner attachment (see 3.5.8.3) shall be YKK style #0069665, an individual element molded, separating fastener with single reversible automatic locking slider (roll over pull tab), Size 5, with 9/16 inch or 5/8 inch wide tape. The inside slide fastener shall be an interchangeable type per paragraph 2.2.12 of A-A-55634, and the strength and performance shall conform to A-A-55634; Table V; paragraph A - J (Plastic, Class 1).

6.4.5 Barrel locks. Barrel locks known to meet the requirements of paragraph 3.5.10 are available from:

ITW Nexus USA, 194 E. Algonquin Road, Des Plaines, IL 60016
ITW NEXUS part # 350-6000-5674(w/self purging drain hole) or 350-2000-5674

Or

YKK Corporation of America, 1300 Cobb Industrial Ave, Marietta, GA 30066 - Main office 770-427-5521
YKK's Cord Lock #69150 LC05SHDM GOV CORD STOPPER
Color: P097

6.4.6 Snaps. Snaps known to meet the requirements of paragraph 3.5.12 is available from:
YKK Snap Fastener:

YKK Corporation of America, 1300 Cobb Industrial Ave, Marietta, GA 30066 - Main office 770-427-5521

6.5 Government-loaned property. The contracting officer should arrange to loan the interoperability guide samples listed in 4.3.5.3.

6.6 Colors. Color names known to correspond with the FED-STD-595 color chip numbers are as follows:

Color Chip Number	Color Name
20150	Coyote Brown 476/498
20180	Tan 499
23430	Khaki P-1
34094	Camo Green 483

6.7 Type I. This document does not cover the requirements for Type I because Type I is the Navy Working Uniform (NWU) blue digital. The requirements for the blue digital parka is covered in NCTRF PD15-06 Parka, Working US Navy.

6.8 DLA Product Testing Center – Analytical. The address for the DLA Product Testing Center is as follows.

DLA Product Testing Center – Analytical
700 Robbins Ave.
Building 5-D
Philadelphia, PA 19111

6.9 Subject term (key word) listing.

Laminate
Garment
Outerwear
Wet/dry
NWU II
NWU III
Digital
Camouflage

Custodian:
Navy-NU
DLA-CT

Preparing Activity:
Navy-NU

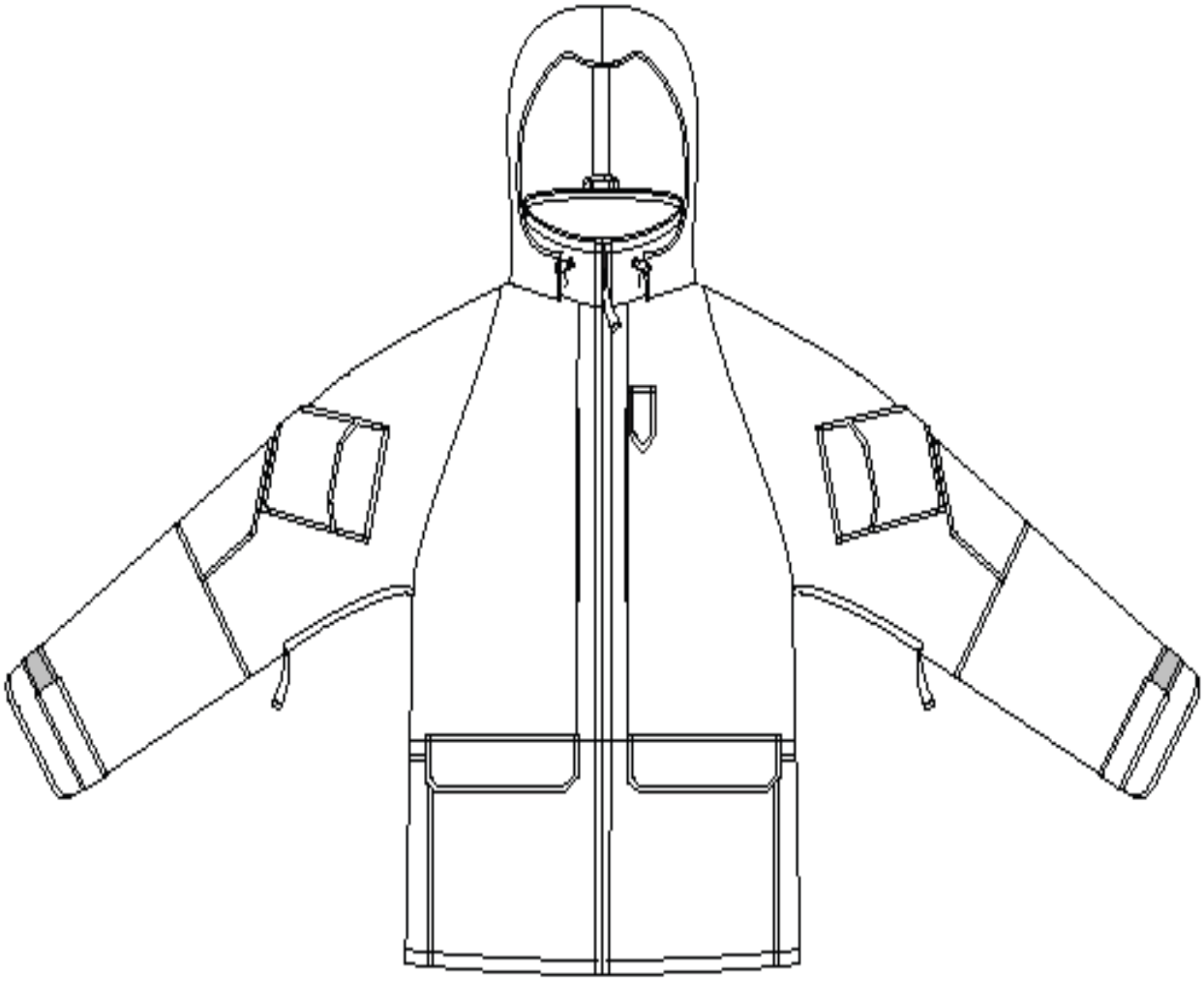

Figure 1 –Parka Front

f

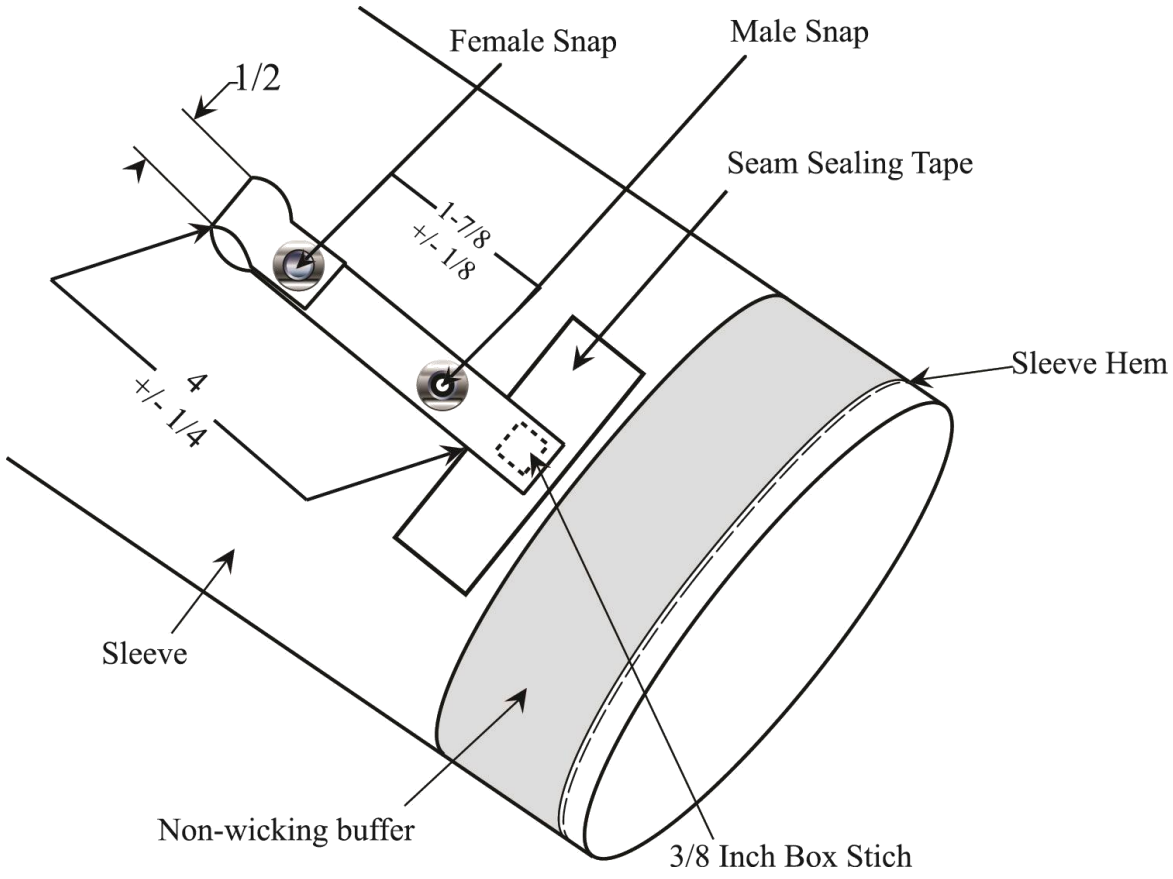

Figure 2. Liner attachment tab assembly – View A.

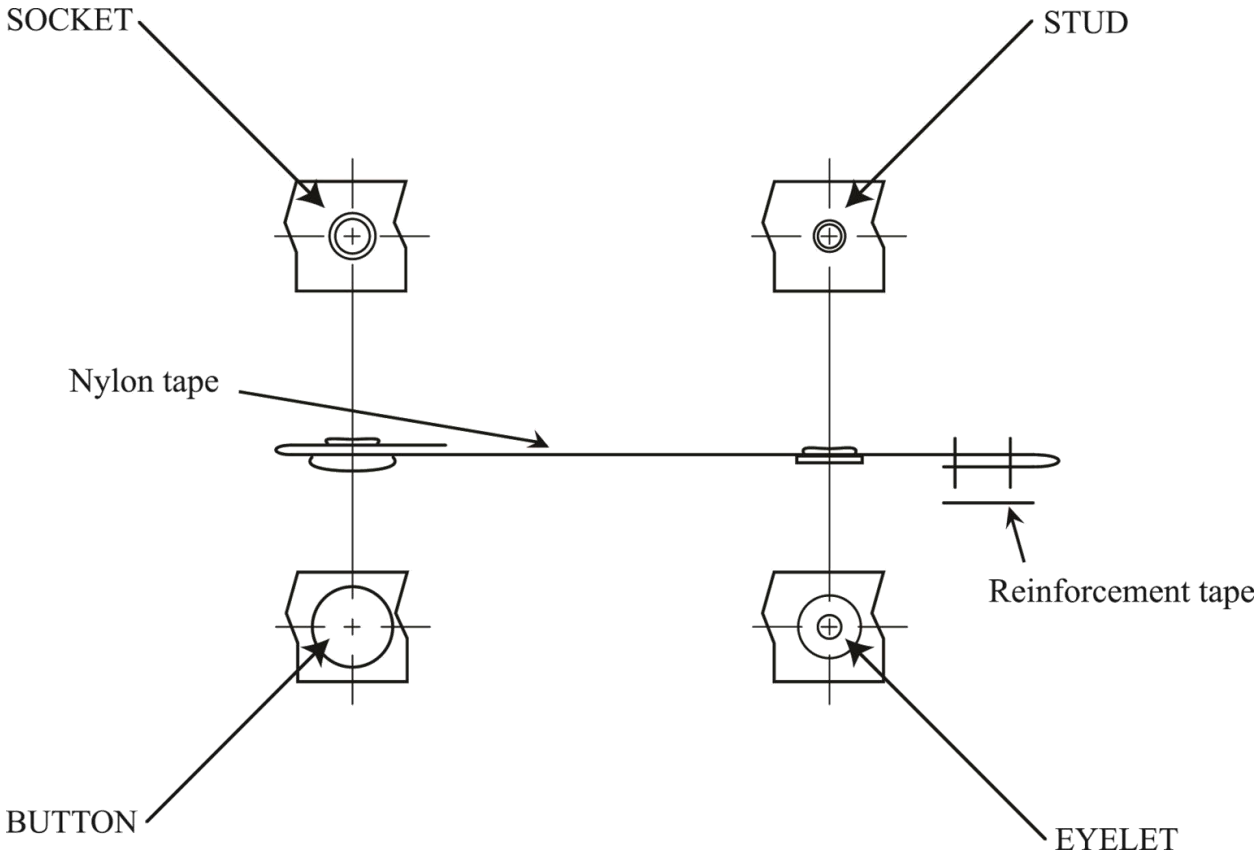

Figure 3. Liner attachment tab assembly – View B.
Side view with snap detail.

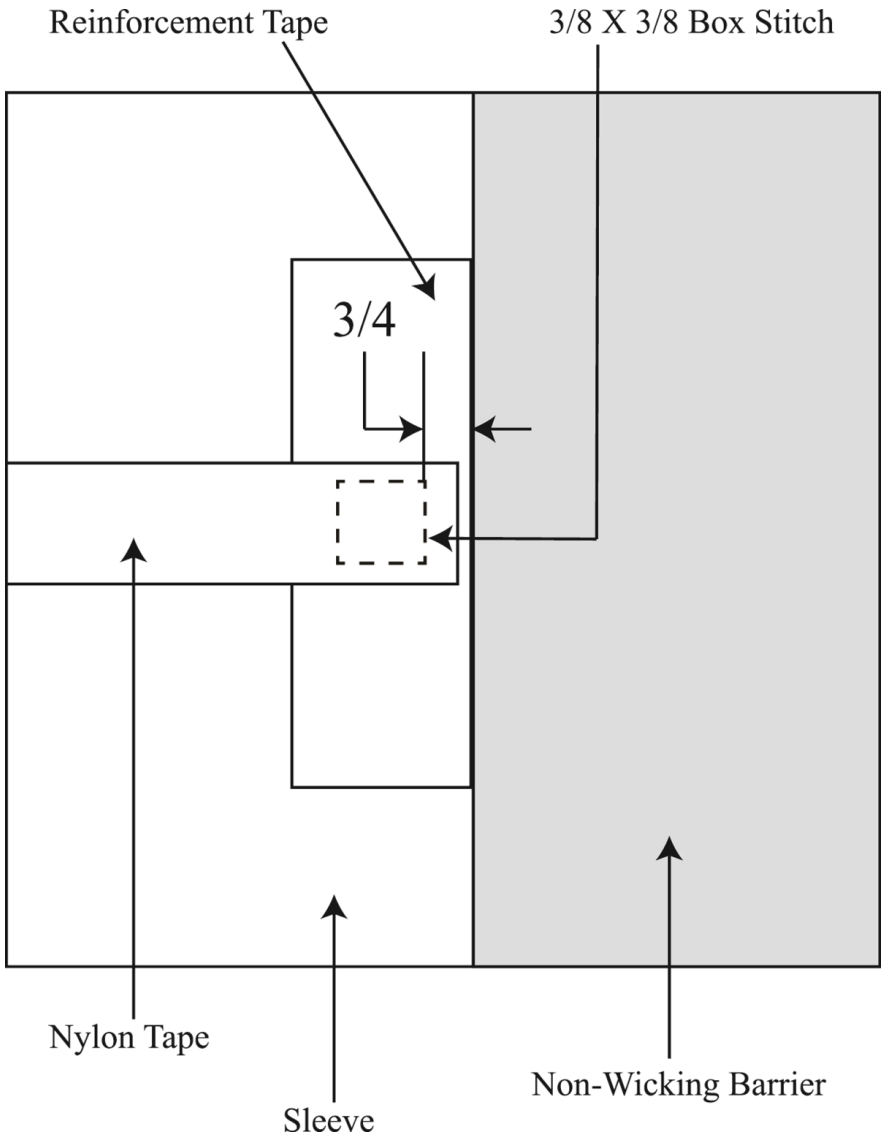

Figure 4. Liner attachment tab assembly – View C.
Reinforcement tape and stitching detail.