

MIL-C-2202G
2 December 1981
SUPERSEDING
MIL-C-2202F
3 December 1975

MILITARY SPECIFICATION

COVERALLS, MEN'S, COTTON, SATEEN

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

1. SCOPE

1.1 Scope. This specification covers the requirements for the manufacture of two types of cotton coveralls.

* 1.2 Classification. The coveralls shall be of the following types and sizes, as specified (see 6.2):

Type I - Olive Green 107

Sizes: Small, Medium, Large,
X Large, XX-Large

Type II - White

Sizes: XXX-Small, XX-Small, X-Small,
Small, Medium, Large, X-Large, XX-Large

2. APPLICABLE DOCUMENTS

*2.1 Government documents

*2.1.1 Specifications, standards, and handbooks Unless otherwise specified, the following specifications, standards, and handbooks of the issue listed in the Department of Defense Index of Specifications and Standards (DoDISS) specified in the solicitation form a part of this specification to the extent specified herein.

Beneficial comments (recommendations, additions, and deletions) and any pertinent data which may be of use in improving this document should be addressed to: Officer in Charge, Navy Clothing and Textile Research Facility, 21 Strathmore Road, Natick, MA 01760 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

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SPECIFICATIONS

FEDERAL

- V-B-871 - Button, Sewing Hole and Button, Staple (Plastic)
- V-T-276 - Thread, Cotton
- V-T-280 - Thread, Cotton Gimp, Buttonhole
- DDD-L-20 - Label; For Clothing, Equipage and Tentage (General Use)

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- MIL-C-3735 - Cuffs, Knit, Wrist and Ankle, and Cloth, Knitted
- MIL-C-10296 - Cloth, Sateen, Cotton
- MIL-B-17757 - Boxes, Shipping, Fiberboard (Modular Sizes)
- MIL-F-21840 - Fastener Tapes, Hook and Pile, Synthetic
- MIL-T-43548 - Thread, Polyester Cotton-Covered
- MIL-T-43566 - Tape, Textile, Cotton, General Purpose, Natural or in Colors

STANDARDS

FEDERAL

- FED-STD-751 - Stitches, Seams, and Stitchings

MILITARY

- MIL-STD-129 - Marking for Shipment and Storage
- MIL-STD-1668 - Provisions for Evaluating Quality of Cloth Coveralls

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

LAWS AND REGULATIONS

U.S. POSTAL SERVICE MANUAL

(Copies of the manual may be obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.)

*2.2 Other publications. The following documents form a part of this specification to the extent specified herein. The issues of documents which are indicated as DoD adopted shall be the issue listed in the current DoDISS, and supplement thereto, if applicable.

NATIONAL MOTOR FREIGHT TRAFFIC ASSOCIATION, INC., AGENT
National Motor Freight Classification

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(Application for copies should be addressed to the American Trucking Association, Attn: Traffic Department, 1616 P Street, N.W., Washington, D.C. 20036.)

UNIFORM CLASSIFICATION COMMITTEE, AGENT
Uniform Freight Classification

(Applications for copies should be addressed to the Uniform Classification Committee, Room 1106, 222 South Riverside Plaza, Chicago, IL 60606.)

3. REQUIREMENTS

3.1 Guide sample. Guide samples, when furnished, are solely for guidance and information to the contractor (see 6.3). Variation from this specification may appear in the sample, in which case this specification shall govern.

* 3.2 First article approval. When specified (see 6.2), the contractor shall furnish sample units for first article inspection and approval (see 4.3).

3.3 Materials. (See 6.4)

3.3.1 Basic material

3.3.1.1 Type I coverall. The basic material shall be a cotton sateen, dyed Olive Green 107, conforming to class 1 of MIL-C-10296.

3.3.1.2 Type II coverall. The basic material shall be a cotton sateen, bleached white, conforming to class 2 of MIL-C-10296.

3.3.2 Cuffs, wrist and ankle (Type II coverall). The cuffs shall be polyester, natural shade or white, conforming to type III, class 2, size 2 of MIL-C-3735.

3.3.3 Thread

* 3.3.3.1 Thread, polyester, cotton-covered. The thread for seaming and stitching shall be a polyester, cotton-covered thread conforming to ticket No. 30 and 50, 2 or 3 ply of MIL-T-43548. The color of the thread shall be shade S-1, C.A. 66022 for the Type I coverall and shade white, C.A. AH66050 for the Type II coverall.

* 3.3.3.1.1 Colorfastness. The dyed thread shall show fastness to laundering and light equal to or better than the standard sample when tested as specified in MIL-T-43548. When no standard sample is available, the dyed thread shall show "good" fastness to laundering and light when tested as specified in MIL-T-43548.

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3.3.3.2 Thread, cotton. As an alternate, a cotton thread, conforming to V-T-276, may be used for stitching and seaming. The color of the thread shall be shade S-1, C.A. 66022 for type I coverall and shade White AH, C.A. 66050 for type II coverall. The types and sizes of the thread shall be as follows:

<u>Coverall</u>	<u>Use</u>	<u>Type</u>	<u>Ticket No.</u>	<u>Ply</u>
Type I	Seaming	IA3	30, 50	3
Type II	Seaming	IA2	30, 50	3
Type I	Buttons	IB3	20	4

* 3.3.3.2.1 Colorfastness. The dyed thread shall show fastness to laundering and light, equal to or better than the standard sample when tested as specified in V-T-276. When no standard sample is available, the dyed thread shall show good fastness to laundering and light when tested as specified in V-T-276.

3.3.4 Gimp, cotton. The cotton gimp for reinforcing buttonholes shall be size No. 8 conforming to type I or II of V-T-280. The color of the gimp shall be S-1, C.A. 66022 for type I coverall.

3.3.4.1 Colorfastness. The dyed gimp shall show fastness to laundering, equal to or better than the standard sample when tested as specified in V-T-280. When no standard sample is available, the dyed thread shall show good fastness to laundering when tested as specified in V-T-280.

* 3.3.5 Label. Each coverall shall have a combination identification/size/instruction label conforming to type VI, class 14 of DDD-L-20. Label inscription shall show fastness to laundering. Inscription on label shall be as specified in 3.3.5.1 and 3.3.5.2.

* 3.3.5.1 Type I coverall

Name of Item:	Coveralls, Men's Cotton, Sateen, Type I (Example)
Fiber Content:	100% Cotton
Contract No:	DLA 100-00-0-0000 (Example)
Stock No:	8405-00-000-0000 (Example)
Size:	Medium (Example)
Name of Contractor:	

Laundrying Instructions

Hand or Machine Wash, Hot
Tumble Dry, Medium

or

Use NAVSUP INSTR 4400.81, Formula II:
Hot Formula without Bleach (140°F)

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* 3.3.5.2 Type II coverall. The label of the Type II coverall shall be similar in format and inscription to the Type I coverall label with the following addition placed directly below the laundering instruction:

FASTEN ALL FASTENER TAPES BEFORE LAUNDERING

3.3.6 Buttons. The buttons shall conform to Type II, class D, style 20 or 21, 30-ligne of V-B-871. The buttons shall have a glossy finish and the color shall be Olive Green BP, Cable No. 62016 for the type I coverall.

3.3.7 Tape, cotton. The cotton tape used as an alternate for the waist and leg tabs on the Type I coverall shall be 1 inch in width, dyed Olive Green 107, conforming to type I, class 3 of MIL-T-43566, except that color-fastness to crocking and weathering are not required.

* 3.3.8 Tape, fastener. The fastener tape for the Type II coverall shall conform to Type II, Class 1 of MIL-F-21840. The width of both the hook and pile portions of the tape shall be 1-inch wide. The color shall approximate the shade of the basic material (see 3.3.1.2).

* 3.4 Design. The type I coverall shall be one piece, with a protective button/buttonhole fly type front closure, shirt style collar, one breast patch pocket, two front patch pockets, one hip patch pocket, one rule pocket, and adjustment tabs on waist and legs (see Figure 1). The type II coverall shall be one piece with a hook and pile fastener type front fly closure and knitted wristlets and cuffs. The Type II coverall shall be pocketless (see figure 2).

3.4.1 Figures. The figures are furnished for information purposes only. When any inconsistencies between the written specification and the figures exist, the written specification shall govern.

3.5 Patterns. Standard patterns will be furnished by the Government to the contractor for use in cutting the working patterns (see 6.3). Unless otherwise specified in Table I seam allowances shall be as follows:

All double needle joining seams - 1/2 inch
Joining flies and facings to fronts - 1/4 to 3/8 inch
All other seams - 3/8 inch

The working patterns shall be identical to the Government patterns. Neither the Government nor the working patterns shall be altered in any way, unless otherwise specified (see operation 1e.).

3.5.1 List of pattern parts. The component parts of the coveralls shall be cut from the basic material in accordance with the pattern parts indicated below:

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Nomenclature of pattern partsCut parts

SHIRT (TYPE I)

Back (one piece)	1
or	
Back (two pieces)	2
Front	2
Collar (top and under)	2 <u>1/</u>
Topsleeve	2
Undersleeve	2
or	
Sleeve (one piece)	2
Protective fly	1
Lapel facing	2
Sleeve facing (banding)	2
Sleeve buttonhole stay	4
Breast patch pocket	1

TROUSER (TYPE I)

Back	2
Front	2
Front pocket	2
Hip pocket	1
Rule pocket	1
Leg tabs	2 <u>2/</u>
Waist tabs	2 <u>2/</u>

* SHIRT (TYPE II)

Back (one piece)	1
or	
Back (two pieces)	2
Front	2
Collar (top and under)	2 <u>1/</u>
Topsleeve	2
Undersleeve	2
or	
Sleeve (one piece)	2
Front facings	2

TROUSER (TYPE II)

Back	2
Front	2

1/ Pattern may be cut in one piece, see operation 5.e.

2/ A cotton tape may be used as an alternate, see operation 11.f.

3.6 Cosntruction.

3.6.1 Stitch, seam and stitching types. Stitch, seam and stitching types specified in Table I shall conform to FED-STD-751. Wherever two or more methods for seam or stitch types are given for the same part of the operation, any one of them may be used. Where stitch type 401 is used, the looper (underthread) shall be on the inside of the coveralls. Unless otherwise specified, all double-needle stitching shall be 1/4 inch gage with row of stitching next to folded edge and not more than 1/16 inch from edge. Where stitch types 515, 516, or 519 are specified, the cover thread shall be the same type as the looper thread, the lock or chain stitch portion shall be 3/8 inch from the raw edge and the bight of the overedge stitch portion shall be 3/16 to 1/4 inch.

3.6.2 Stitches per inch. The minimum and maximum number of stitches per inch shall be as specified in Table I.

3.6.3 Thread breaks and ends of seams. Ends of all seams and stitchings when not caught in other seams or stitching shall be backtacked not less than 3/8 inch. The ends of a continuous line of stitching shall be overlapped not less than 1/2 inch. Thread breaks (all stitch types) shall be repaired by stitching not less than 1/2 inch beyond each end of the break. Skipped stitches or 401 stitch type thread breaks may be repaired by using 301 stitch type.

3.7 Manufacturing operations requirements. The coveralls shall be manufactured in accordance with the operation requirements specified in Table I. The contractor is not required to follow the exact sequence of operations.

3.7.1 Shade and size marking. The component parts shall be marked, ticketed, or bundled to insure a uniform shade and size throughout the coverall. Any method of shade and size marking may be used except:

1. Corrosive metal devices.
2. Sew-on shade tickets.
3. Adhesive type tickets whose adhesive causes discoloration or whose adhesive mass adheres to the material upon removal of the tickets.

Table I - Construction of coveralls

No.	Description of Operation	Stitch Type	Seam and Stitching Type	Stitches Per Inch	Thread	
					Needle	Bobbin or Looper
1.	<p><u>Cut coveralls</u></p> <p>a. Cut material face to face, that is, the face of one ply of material shall be over and against the face of the next ply below. The filling side shall be considered the face of the material and finish on the outside of the coverall.</p> <p>b. Cut the coveralls in strict accordance with patterns furnished which show size, directional lines, shape and placement of pockets, also notches for the proper assembling of all parts. Directional lines shall be placed in the warp direction of the material. The directional lines on the fronts and backs of trouser parts may vary from the warp direction by not more than 1-1/2 inches. Measurements shall be taken from the top and bottom of the directional line on pattern to selvage edge of the fabric and the difference between the two measurements shall not exceed 1-1/2 inches.</p> <p>c. Cut the topcollar across the width of the material. The undercollar may be cut on the straight or across the width of the material.</p> <p>d. Cut all component parts of the garment from one piece of material except the hanger, waist tabs, leg tabs, undercollar, sleeve buttonhole stay pieces, and fly piece which may be cut from ends. Parts cut from ends shall approximate the shade of the garment.</p>					

Table I - Construction of coveralls (cont'd)

No.	Description of Operation	Stitch Type	Seam and Stitching Type	Stitches Per Inch	Thread	
					Needle	Bobbin or Looper
1.	<u>Cut coveralls (cont'd)</u> e. Sleeve patterns furnished for type I coveralls have sufficient length for alternate hem construction. When band type of construction is used, pattern shall be altered as indicated by marks on patterns. When band type of hem is used, the band may be cut from ends.					
2.	<u>Replacement of defective components</u> During the spreading, cutting, and manufacturing process, components having material defects or damages that are classified as defects in MIL-STD-1668 shall be removed from production and replaced with non-defective and properly matched components.					
3.	<u>Shade and size marking (see 3.7.1)</u> a. All parts shall be marked, ticketed or bundled to insure a uniform shade, size and proper assembly throughout the garment, except those parts cut from ends which shall approximate the shade of the material. b. The use of ink pad numbering machine, rubber stamp or pencil is acceptable provided the numbers do not show through the outside of the coveralls. Wherever possible, numbers shall be covered by the seam allowance.					
4.	<u>Attach label (Type I and II)</u> Center combination identification/size/instruction label on the inside of the back with the top edge of label parallel to and 1/4 to 1/2 inch below top raw edge of back. Stitch all four sides of label.	301	LSbj-1	10-14	30	30

OR

Table I - Construction of coveralls (cont'd)

No.	Description of Operation	Stitch Type	Seam and Stitching Type	Stitches Per Inch	Thread	
					Needle	Bobbin or Looper
4.	<u>Attach label (Type I and II) (cont'd)</u> Label may be positioned by stitching both sides and bottom edge so that the top of label will be caught in the collar joining seam (see operation 21).					
5.	<u>Make collar (Type I and II)</u> a. Seam topcollar to undercollar along outer edge and around ends.	301 or 401	SSa-1	10-14	30 30	30 50
10	b. Turn collar, work out points, and double stitch 1/4 inch gage.	301	SSe-3(b)	10-14	30	30
	OR c. Turn collar, work out points, and single stitch 3/16 to 1/4 inch from edge.	301	SSe-2(b)	10-14	30	30
	OR d. Fold collar edges on a creasing machine and double stitch 1/4 inch gage or single stitch 1/16 to 1/8 inch from edge.	301	SSc-2 or SSc-1	10-14	30	30
	e. When collar is cut in one piece, fold collar in half lengthwise and stitch ends. Trim corners, turn collar, work out points, and double stitch outer edge and ends 1/4 inch gage or single stitch 3/16 to 1/4 inch from edge.	301	SSe-2(b) and OSf-1 or 2	10-14	30	30
6.	<u>Make pockets (Type I only)</u> a. Hem the top edge of the front trouser pockets, hip pocket, and rule pocket with the raw edge turned in and single stitch 1/16 to 1/8 inch from folded inner edge. Hem shall finish 3/8 to 1/2 inch wide.	301 or 401	EFb-1	10-14	30 30	30 50

Table I - Construction of coveralls (cont'd)

No.	Description of Operation	Stitch Type	Seam and Stitching Type	Stitches Per Inch	Thread	
					Needle	Bobbin or Looper
6.	<u>Make pockets (Type I only) (cont'd)</u> b. Hem the top of the left breast pocket with the raw edge turned in and single stitch 1/16 to 1/8 inch from folded inner edge. Hem shall finish 1 to 1-1/4 inches wide.	301 or 401	EFb-1	10-14	30 30	30 50
7.	<u>Sew on front trouser pockets (Type I only)</u> a. Turn in raw edge of front trouser pockets along front and bottom edges and double stitch to fronts, 1/4 inch gage, as indicated by marks on patterns. OR b. Turn in the raw edges of pockets and single stitch 1/16 to 1/8 inch from edge c. The back edge of pockets may be stitched to side seam allowance prior to outseam joining.	301 301 301	LSd-2 LSd-1 SSa-1	10-14 10-14 10-14	30 30 30	30 30 30
8.	<u>Sew on left breast pocket (Type I only)</u> a. Turn in the raw edges and double stitch pocket on fronts as indicated on patterns, 1/4 inch gage OR b. Turn in the raw edges of pockets and single stitch 1/16 to 1/8 inch from edge. c. Form a 7/8 to 1-1/8 inch wide pencil pocket at back of pocket with a single row of vertical stitching through pocket and front.	301 301 301	LSd-2 LSd-1 SSv-1	10-14 10-14 10-14	30 30 30	30 30 30

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Table I. - Construction of coveralls (cont'd)

No.	Description of Operation	Stitch Type	Seam and Stitching Type	Stitches Per Inch	Thread	
					Needle	Bobbin or Looper
9.	<u>Rule pocket (Type I only)</u> a. Turn in the raw edges of pocket and double stitch the back and bottom edges to the right back. The front edge shall be seamed in with the right outseam of trousers and the top back and inserted under hip pocket. OR b. Turn in the raw edges of the pocket and single stitch 1/16 to 1/8 inch from edge. c. The front edge (toward outseam) of the rule pocket may be stitched to side seam allowance prior to outseam joining.	301	LSd-2	10-14	30	30
		301	LSd-1	10-14	30	30
		301	SSa-1	10-14	30	30
10.	<u>Sew on hip pocket (Type I only)</u> a. Turn in the raw edges and double stitch hip pocket on right side, as indicated on patterns, 1/4 inch gage. OR b. Turn in the raw edges of the pocket and single stitch 1/16 to 1/8 inch from edge.	301	LSd-2	10-14	30	30
		301	LSd-1	10-14	30	30
11.	<u>Make leg and waist tabs (Type I only)</u> a. Tabs made from basic material shall finish 1-1/8 to 1-3/8 inches wide. b. Fold tabs in half across width. c. Turn raw edges of tab to the inside and double stitch, 1/4 inch gage around two sides and one end and leaving the raw end to be caught or covered in the attachment operation. OR	301	SSc-2 and OSf-2	10-14	30	30

Table I - Construction of coveralls (cont'd)

No.	Description of Operation	Stitch Type	Seam and Stitching Type	Stitches Per Inch	Thread	
					Needle	Bobbin or Looper
11.	<u>Make leg and waist tabs (Type I only) (cont'd)</u> d. Turn in raw edges and single stitch 1/16 to 1/8 inch from edge around two sides and one end leaving the raw end to be caught or covered in the attachment operation	301	SSc-1 and OSf-1	10-14	30	30
	OR e. In lieu of the pattern part, the tabs may be made with a 2 inch wide strip of basic material cut in the lengthwise direction. Turn in raw edges of each side and stitch 1/16 to 1/8 inch from folded edges. Cut strip to required length, fold in half, and stitch 1/16 to 1/8 inch from folded edges of the two sides and one end, leaving the raw end to be caught or covered in the attachment operation. A folder may be employed in this operation.	301 or 401 and 301	EFa-1 EFa-1 SSc-1 and OSf-1	10-14 10-14 10-14	30 30 30	30 50 30
	OR f. The tabs may be made from a 1 inch wide cotton tape cut in strips long enough to meet finished length requirements. Stitch a 1/4 to 5/16 inch hem at one end of the tape, leaving the raw end to be caught in the attachment operation.	301	EFb-1	10-14	30	30
12.	<u>Make sleeves (Type I and II)</u> Join top and undersleeve with a double lapped and double stitched seam, 1/4 inch gage, with the top over the undersleeve. (Applicable only when the sleeve is made from two pieces of material.)	301 or 401	LSc-2	10-14	30 30	30 50

Table I - Construction of coveralls (cont'd)

No.	Description of Operation	Stitch Type	Seam and Stitching Type	Stitches Per Inch	Thread	
					Needle	Bobbin or Looper
13.	<u>Make hanger (Type I and II)</u> a. Make hanger from the basic material. The hanger shall measure 1/4 to 1/2 inch wide and 3-3/8 to 3-5/8 inches long when finished. The hanger shall be double stitched 1/8 to 1/4 inch using a covering stitch on the underside.	406	EFh-1	10-14	30	30
	OR b. Fold hanger stripping in half with the raw edges turned in and stitch 1/16 to 1/8 inch from each edge.	301	EFp-2	10-14	30	30
14.	<u>Make fly (Type I only)</u> a. Fold the protective fly in half lengthwise, face to face, and single stitch top and bottom edges; turn, force out edges, and single stitch 1/16 to 1/8 inch from folded edges.	301 or 401 and 301	SSe-2(a) SSe-2(a) SSe-2(b)	10-14 10-14 10-14	30 30 30	30 50 30
	OR b. Turn in raw edges at the top and bottom of fly and single stitch 1/16 to 1/8 inch from folded edge.	301	SSc-1	10-14	30	30
	<u>Make lapels</u> (Type I) a. Seam on facings, turn and single stitch 1/16 to 1/8 inch from edge.	301 or 401 and 301	SSe-2(a) SSe-2(a) SSe-2(b)	10-14 10-14 10-14	30 30 30	30 50 30
	b. Turn in back edges of facings and single stitch 1/16 to 1/8 inch from edge.	301	LSd-1	10-14	30	30
15.	(Type II) c. Place right and left facing on respective fronts face to face, and single stitch front edge and lapel step 3/16 to 1/4 inch from raw edge. Turn facing back and force out front.	301 or 401	SSe-2(a)	10-14	30 30	30 50

Table I - Construction of coveralls (cont'd)

No.	Description of Operation	Stitch Type	Seam and Stitching Type	Stitches Per Inch	Thread	
					Needle	Bobbin or Looper
15.	<u>Make lapels (Type II) Cont'd</u>					
*	d. Stitch front edges and lapel steps 3/16 to 1/4 inch from folded edge.	301	SSe-2(b)	10-14	30	30
16.	<u>Make backs (Type I)</u>					
	a. On outside of coverall fold 4 pleats at bottom of back, as indicated on patterns, and topstitch 1/16 to 1/8 inch from folded edge with vertical row of stitching extending 1-3/4 to 2-1/4 inches from bottom raw edge. Pleats shall be folded towards the side seams.	301	OSe-1	10-14	30	30
	OR					
	b. Form pleats at bottom of back, as indicated on patterns, with pleats folded toward respective side seams. Staystitch across bottom of pleat 1/4 inch from bottom raw edge.	301	SSa-1	10-14	30	30
	(Type II)					
	c. On inside of coverall fold 2 darts at bottom of back, as indicated on patterns, and stitch a vertical row of stitching extending approximately 6-1/2 to 7 inches from bottom raw edge. Darts shall be folded towards the side seams.	301	OSf-1	10-14	30	30
	(Type I and Type II)					
	d. Two (2) piece back construction is permitted. When used, join right and left backs with a double lapped and double stitched seam, 1/4 inch. The right shall be lapped over the left back.	301 or 401	LSc-2	10-14	30 30	30 50
17.	<u>Join seat seam (Type I and II)</u>					
	Join seat seam with a double lapped and double stitched seam, 1/4 inch gage, with the right over left back.	301 or 401	LSc-2	10-14	30 30	30 50

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Table I - Construction of coveralls (cont'd)

No.	Description of Operation	Stitch Type	Seam and Stitching Type	Stitches Per Inch	Thread	
					Needle	Bobbin or Looper
18.	<u>Join shirt part to trousers (Type I and II)</u> Join shirt to trousers with a double lapped and double stitched seam, 1/4 inch gage, with waist seam lapping in either direction.	301 or 401	LSc-2	10-14	30 30	30 50
*19.	<u>Finish fronts of shirt</u> (Type I) a. Turn right and left facings as indicated on patterns, with the raw edge turned in and single stitch 1/16 to 1/8 inch from edge, catching the protective fly piece under the stitching on the left facing. Position protective fly piece as indicated by notch on left facing. b. Turn in bottom edges of lapels and single stitch 1/16 to 1/8 inch from edge of fronts through the front facings and continue stitching edges of right and left fronts to bottom of opening. c. Protective fly to finish about 8 inches wide at top and shall taper to approximately 2-1/2 inches wide at the bottom of fly piece. (Type II) * d. Overedge stitch the back and bottom edges of facings. * e. Stitch back edge of facings to fronts, 1/4 to 5/16 inch from the overedge stitched edge.	301 301 502 or 503 or 504 301	EFa-1 SSa-1 SSa-1	10-14 10-14 10-14	30 50 30	30 50 30
20.	<u>Join shoulder seams (Type I and II)</u> Join shoulder seams with a double lapped and double stitched seam, 1/4 inch gage, with the backs on top of front, catching the end of the lapel facing in the stitching.	301 or 401	LSc-2	10-14	30 30	30 50

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Table I - Construction of coveralls (cont'd)

No.	Description of Operation	Stitch Type	Seam and Stitching Type	Stitches Per Inch	Thread	
					Needle	Bobbin or Looper
21.	<u>Sew on collar and attach hanger (Type I and II)</u>					
	a. Seam undercollar to shirt.	301	SSa-1	10-14	30	30
	b. Turn in the lower edge of top collar and double stitch collar to shirt 1/4 inch gage, simultaneously catching ends of hanger and top edge of label in the seaming at center of collar if label is not stitched on all four sides.	301	LSb-2	10-14	30	30
	OR					
	c. Turn in edge of topcollar and single stitch collar to shirt 1/16 to 1/8 inch from edge, simultaneously catching ends of hanger and top edge of label in the seaming at center of collar if label is not stitched on all four sides.	301	LSb-1	10-14	30	30
22.	<u>Set sleeves (Type I and II)</u>					
	Sew in sleeves with a double lapped and double stitched seam, 1/4 inch gage, with front and back over sleeve.	301 or 401	LSc-2	10-14	30 30	30 50
23.	<u>Join outseams (Type I and II)</u>					
	Join the outseams of the sleeves, shirt, and trousers with a double lapped and double stitched seam, 1/4 inch gage, with the front over the back. For Type I, catch the sides of the front pockets in the outseams and the rule pocket in the right outseam.	301 or 401	LSc-2	10-14	30 30	30 50

Table I - Construction of coveralls (cont'd)

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No.	Description of Operation	Stitch Type	Seam and Stitching Type	Stitches Per Inch	Thread	
					Needle	Bobbin or Looper
24.	<u>Make sleeve bottoms (Type I only)</u> a. Make two 3/4 to 7/8 inch finished cut length horizontal buttonholes in end of each sleeve through a stay piece of self material as indicated on patterns. Buttonholes shall be made before banding or hemming operation, and shall not be through the band or under ply of hem to provide two blind buttonholes. The eyelet end of the buttonholes shall face towards the back of the sleeve. (Banded finish) b. Turn in edges of banding and double stitch 1-3/8 to 1-1/2 inches gage with the raw edge of sleeve bottom turned in. Alternate hem finish c. Turn up bottom of sleeve with raw edge turned in forming a 1-3/8 to 1-5/8 inch hem and single stitch 1/16 to 1/8 inch from turned edge.	Button-hole		44-46 per buttonhole	30	50
18		301 or 401	LSk-2	10-14	30 30	30 50
		301	EFb-1	10-14	30	30
25.	<u>Join knitted wristlet to sleeve (Type II only)</u> a. Wristlet shall be a double thickness of ribbed knit polyester cloth. b. Join sleeve bottom and knit wristlet together by seaming and overedging raw edges in one operation	515 or 516 or 519	SSa-2	8-10	30 (chainstitch) 50 (overedge)	50 50

Table I - Construction of coveralls (cont'd)

No.	Description of Operation	Stitch Type	Seam and Stitching Type	Stitches Per Inch	Thread	
					Needle	Bobbin or Looper
26.	<u>Join crotch seam (Type I and II)</u> a. Turn crotch seam of the right front to the outside and single stitch 1/16 to 1/8 inch from edge. b. Turn edge of left front crotch seam to the inside and double stitch, catching the right front crotch seam with both rows of stitching; continue the double row of stitching across bottom of left facing catching the right facing and the bottom of fly piece in both rows of stitching. The bottom of the right facing on Type I coverall shall not be exposed beyond finished bottom edge of protective fly.	301	EFa-1	10-14	30	30
		301	LSb-2	10-14	30	30
19 27.	<u>Join inseams and attach leg tabs</u> (Type I) a. Join inseams, fronts over the backs, with a double lapped and double stitched seam, 1/4 inch gage, simultandously catching raw end of leg tabs. The raw end of leg tab shall be turned under 3/8 to 5/8 inch with center of tab positioned 4-3/4 to 5-1/4 inches up from finished bottom of trousers. Tabs shall face towards the back and shall finish 1-1/4 to 1-1/2 inches long. (Type II) b. Join inseams, fronts over the backs, with a double lapped and double stitched seam, 1/4 inch gage.	301 or 401	LSc-2	10-14	30 30	30 50
		301 or 401	LSc-2	10-14	30 30	30 50

Table I - Construction of coveralls (cont'd)

No.	Description of Operation	Stitch Type	Seam and Stitching Type	Stitches Per Inch	Thread	
					Needle	Bobbin or Looper
28.	<u>Hem bottoms of trousers (Type I only)</u> Turn up bottom of trousers with the raw edge turned in and single stitch 1/16 to 1/8 inch from fold of turned under edge. Finished hem shall measure 1/2 to 1 inch wide.	301	EFb-1	10-14	30	30
29.	<u>Set waist tabs (Type I only)</u> Turn under raw ends of waist tabs 3/8 to 5/8 inch and with the tabs positioned on waist seams 4-3/4 to 5-1/4 inches from each side seam box stitch to coverall. The box pattern shall measure 3/8 to 1/2 inch wide with the outside rows of stitching 1/16 to 1/8 inch from edge. If an automatic machine is used the thread and stitches per inch shall be as specified and the ends of the stitching shall overlap with at least three stitches. Finished end of tab will be toward side seams. The waist tab shall finish 4-1/2 to 5 inches long.	301	LSd-1	10-14	30	30
30.	<u>Join knitted anklet to trouser (Type II only)</u> a. Anklet shall be a double thickness of ribbed knit polyester cloth. b. Join leg bottom and ribbed knit anklet together by seaming and overedging raw edges in one operation.	515 or 516 or 519	SSa-2	8-10	30 (chainstitch) 50 (overedge)	50 50
31.	<u>Make bartacks</u> a. Bartacks shall be 1/2 to 5/8 inch in length. Unless otherwise specified, vertical bartacks shall be in line with single stitching, or when double stitched in line with inner row of stitching.					

Table I - Construction of coveralls (cont'd)

No.	Description of Operation	Stitch Type	Seam and Stitching Type	Stitches Per Inch	Thread	
					Needle	Bobbin or Looper
31.	<u>Make bartacks</u> (cont'd) (Type I) b. Bartack (vertical) the top corners of front trouser pockets. c. Bartack (vertical) the top corners of left breast pocket and at pencil pocket stitching in line with single stitching. d. Bartack (horizontal) the cuffs at end of underarm seam. If cuffs are hemmed after the underarm seam operation, the bartack at end of underarm may be omitted. e. Bartack (vertical) the top corners of hip pocket. f. Bartack both corners of rule pocket opening with top bartack (horizontal) through hip pocket, and lower bartack (vertical) at outseams in line with row of stitching on outseam next to the pocket. g. Bartack (horizontal) base of front closure 1/16 to 1/8 inch in from folded front edge on upper row of horizontal stitching. (Type I and II) h. Place one horizontal bartack at base of front closure 1/16 to 1/8 inch in from folded front edge on upper row of horizontal stitching.	Bartack <				

Table I - Construction of coveralls (cont'd)

No.	Description of Operation	Stitch Type	Seam and Stitching Type	Stitches Per Inch	Thread	
					Needle	Bobbin or Looper
32.	<p><u>Make buttonholes (Type I only)</u></p> <p>a. Buttonholes shall be eyelet end, taper bar type, cut after, worked over gimp with the ends of the buttonhole stitching and gimp securely tacked. The stitching shall be securely caught in the fabric with the purling finishing towards the outside, including the top lapel buttonhole where the purling shall be against the button when the collar is fastened. Finished cut length of all buttonholes shall be 3/4 to 7/8 inch.</p> <p>b. Make five horizontal buttonholes in the left front and 3 horizontal buttonholes in the right front as indicated on pattern. Make a diagonal buttonhole in the top front corner of protective fly piece as indicated by marks on patterns with the inside edge of eyelet 3/8 to 5/8 inch from front edge.</p> <p>c. Make one horizontal buttonhole in the center of each leg and waist tab with inside edge of eyelet approximately 3/8 inch in from front edge.</p>	<p>Button-hole</p> <p>Button-hole</p>		<p>44-46 per buttonhole</p> <p>44-46 per buttonhole</p>	<p>30</p> <p>30</p>	<p>50</p> <p>50</p>
33.	<p><u>Mark and sew on buttons (Type I only)</u></p> <p>a. Sew one button on each sleeve as indicated on pattern. On a one piece sleeve, center of button shall be positioned on outersleeve towards the back 3-3/4 to 4-1/4 inches from center of double stitching on underarm seam. On a two piece sleeve button shall be positioned on undersleeve 1/8 to 3/8 inch from backarm seam.</p>	<p>101 or 301</p>		<p>14-16 per button</p> <p>14-16 per button</p>	<p>20</p> <p>20</p>	<p></p> <p>20</p>

Table I - Construction of coveralls (cont'd)

No.	Description of Operation	Stitch Type	Seam and Stitching Type	Stitches Per Inch	Thread	
					Needle	Bobbin or Looper
33.	<u>Mark and sew on buttons (Type I only) (cont'd)</u>					
	b. Sew a button at each side to correspond with buttonholes in waist tabs. Sew a second and third button on each front 2 to 2-1/2 inches and 4-1/4 to 4-3/4 inches respectively from center of button attached to side.	101 or 301		14-16 per button 14-16 per button	20 20	20
	c. Sew three buttons to the protective fly piece and four buttons to the right front of shirt to correspond with buttonholes. The top button shall be located so that the notches of collar overlap 5/8 to 7/8 inch on each side when collar is closed (see Figure 1). The upper button on the protective fly piece shall be located so that it matches the two buttonholes without bulging.	101 or 301		14-16 per button 14-16 per button	20 20	20
	d. Sew button on the inside of right front just below the collar seam to correspond to buttonhole in protective fly or left front.	101 or 301		14-16 per button 14-16 per button	20 20	20
	e. Sew a button on the outseam of each leg, 4-3/4 to 5-1/4 inches up from bottom of hem.	101 or 301		14-16 per button 14-16 per button	20 20	20
*34.	<u>Attach fastener tapes to fronts (Type II only)</u>					
	a. Attach the pile portion of the fastener tape to the left front opening. Position the top of the strip of tape on left front facing according to mark on pattern, with the outer edge of tape 3/8 inch from facing seam. The bottom edge of tape shall finish 1 inch above the end of the fly opening. Stich all four sides of the tape 1/8 inch from edge through all plies.	301	LSbj-1	10-14	30	30

Table I - Construction of coveralls (cont'd)

No.	Description of Operation	Stitch Type	Seam and Stitching Type	Stitches Per Inch	Thread	
					Needle	Bobbin or Looper
*34.	Attach fastener tapes to fronts (Type II only)(cont'd) b. Attach the hook portion of the fastener tape to the right front to correspond with pile tape on left front. Stitch all four sides of the tape 1/8 inch from edge through all plies. c. Attach a 1 inch square piece of the pile portion of the fastener tape to the left lape x according to mark on pattern. Stitch 1/8 inch from edge through all plies. d. Attach a 1 inch square piece of the hook portion of fastener tape on the right front to correspond with the pile portion applied in 34c. Stitch 1/8 inch from edge on all four sides. NOTE: The front closure shall finish smooth and flat without any twists or puckers when fastened.	301	LSbj-1	10-14	30	30
		301	LSbj-1	10-14	30	30
		301	LSbj-1	10-14	30	30
35.	<u>Clean coveralls</u> a. Trim all thread ends and remove loose threads. b. Remove all shade and size tickets.					
36.	<u>Fasten and fold coveralls</u> <u>Type I only</u> * a. Button second button from top on inside flap and top outside button. Fold coverall for packaging as specified in 5.1.1. <u>Type II only</u> * b. Fasten the front closures and fold for packaging as specified in 5.1.1.					

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3.8 Sizes and measurements. Unless otherwise specified, finished measurements of coveralls shall be as listed in Table II. All measurements and tolerances are expressed in inches.

Table II. Sizes and measurements (inches)

Size	Chest <u>1/</u>	Sleeve Length <u>2/</u>	Leg Inseam <u>3/</u>
(Type I coverall)			
Small	22	21-1/2	29-1/2
Medium	24	22	30-3/4
Large	26	22-1/2	32
X-Large	28	23	33-1/4
XX-Large	30	23-1/2	33-1/4
(Type II Coverall)			
XXX-Small	16	18-1/4	24-1/4
XX-Small	18	18-3/4	25
X-Small	20	19-1/4	25-3/4
Small	22	19-3/4	26-1/2
Medium	24	20-1/4	27-1/4
Large	26	20-3/4	28-1/2
X-Large	28	21-1/2	30
XX-Large	30	22	30
Tolerance	<u>± 1</u>	<u>± 1/2</u>	<u>± 1/2</u>

NOTE: The above measurements shall be taken with coveralls fastened and laid out smooth and flat.

1/ Chest - Measurement taken across front at base of armholes* from folded edge to folded edge.

2/ Sleeve length (Type I) - Measurement taken from base of armholes along inseam to bottom of sleeve.

(Type II) - Measurement taken from base of armhole along inseam to seamline at top of knitted cuff.

3/ Leg inseam (Type I) - Measurement taken from crotch seam along inseam to bottom of hemmed trouser leg.

(Type II) - Measurement taken from crotch seam along inseam to seamline at top of knitted cuff.

3.9 Workmanship The finished coveralls shall conform to the quality established by this specification. The occurrence of defects shall not exceed the applicable acceptable point value or defect limit.

4. QUALITY ASSURANCE PROVISIONS

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

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

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

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

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

* 4.4 Quality conformance inspection. Inspection shall be performed in accordance with MIL-STD-1668.

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

4.4.2 Examination of the end item. The end item examination provisions for finished coveralls shall be as specified in MIL-STD-1668.

4.4.3 Packaging inspection. Packaging inspection shall be in accordance with MIL-STD-1668.

5. PACKAGING

5.1 Preservation-packaging. Packaging shall be level A or commercial (see 6.2).

5.1.1 Level A. Each coverall shall be folded as follows: (1) Lay coverall flat, face down. (2) Fold coverall in half along the length. (3) The sleeves, placed together, shall be folded at the shoulder seam and placed on top and parallel to the folded edge of the garment. (4) Fold in thirds, by bringing the legs up and the top down, so that the folded garment measures approximately 14-1/2 inches in width by 23 inches in length.

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5.1.2 Commercial. Coveralls shall be packaged to afford adequate protection against physical damage during shipment from the contractor to the first receiving activity. The package and the quantity per package shall be the same as that normally used by the contractor for retail distribution.

5.2 Packing. Packing shall be level A, B or C(see 6.2).

5.2.1 Level A. Eighteen (18) coveralls, of one type and size only, packaged as specified in 5.1, shall be packed in a fiberboard box as follows: Stack the 18 coveralls flat, with every other one reversed and the length of the garments parallel with the side panels of the container. The contents of each container shall be completely covered on the top and bottom with a sheet of commercial grade kraft paper. Each fiberboard shipping container shall be assembled, closed, and reinforced conforming to Type SF, class weather-resistant, grade V2s, size 3A of MIL-B-17757. The fiberboard for the box liner shall conform to type CF, class weather-resistant, variety DW, grade V15c of MIL-B-17757. Toward the end of the contract or when there are less than the required amount per container of the same size, mixed sizes may be packed in the same shipping container.

* 5.2.2 Level B. Eighteen (18) coveralls, of one type and size only, packaged as specified in 5.1, shall be packed in a fiberboard box as follows: Stack the 18 coveralls flat, with every other one reversed and the length of the garments parallel with the side panels of the container. The contents of each container shall be completely covered on the top and bottom with a sheet of commercial grade kraft paper. Each fiberboard shipping container shall be assembled and closed conforming to Type CF, class domestic, variety SW, grade 200, size 3A of MIL-B-17757. The fiberboard for the box liner shall conform to type CF, class domestic, variety SW, grade 275 of MIL-B-17757. Toward the end of the contract or when there are less than the required amount per container of the same size, mixed sizes may be packed in the same shipping container.

5.2.2.1 Weather-resistant fiberboard containers When specified (see 6.2), the shipping container shall be a grade V3c, V3s or V4s fiberboard box fabricated in accordance with MIL-B-17757 and closed in accordance with the appendix of the box specification.

* 5.2.3 Level C. Coveralls, packaged as specified in 5.1, shall be packed in a manner to insure carrier acceptance and safe delivery at destination at the lowest transportation rate for such supplies. The quantity per shipping container shall be the same as that normally used by the contractor for retail distribution. Containers shall comply with the U.S. Postal Service Manual, Uniform Freight Classification Rules or National Motor Freight Classification Rules, as applicable.

* 5.3 Marking. In addition to any special marking required by the contract or order, shipping containers shall be marked in accordance with MIL-STD-129.

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5.3.1 Labels, mixed sizes. Each shipping container, packed with mixed sizes only, shall have securely attached to the end and side, directly under the printing or stenciling, a white paper label 5 by 4 inches with the words "MIXED SIZES" plainly stamped or printed thereon and under these words shall be legibly stamped or printed the correct quantity and sizes contained therein.

6. NOTES

6.1 Intended use. The coveralls are intended for wear by military personnel of the Department of Defense and are designed to be worn over conventional clothing.

6.2 Ordering data. Procurement documents should specify the following:

- a. Title, number and date of this specification.
- b. Type and size required (see 1.2)
- c. Selection of applicable levels of packaging and packing (see 5.1 and 5.2)
- d. When weather-resistant grade fiberboard shipping containers are required for level B packing (see 5.2.2.1).
- *e. When a first article inspection is required, the item will be tested and should be a first article sample. The contracting officer should include specific instructions in acquisition documents regarding arrangements for examinations, quantity, and testing and approval of first article.

6.3 Samples and patterns. For access to samples and patterns, address the procuring activity issuing the invitation for bids (see 3.1 and 3.5).

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

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

Custodians:

Navy - NU
Air Force - 11
Army - GL

Preparing activity:

Navy - NU

Review activities:

Navy - MC
Air Force - 99
Army - MD
DLA-CT

Project No. 8405-0844

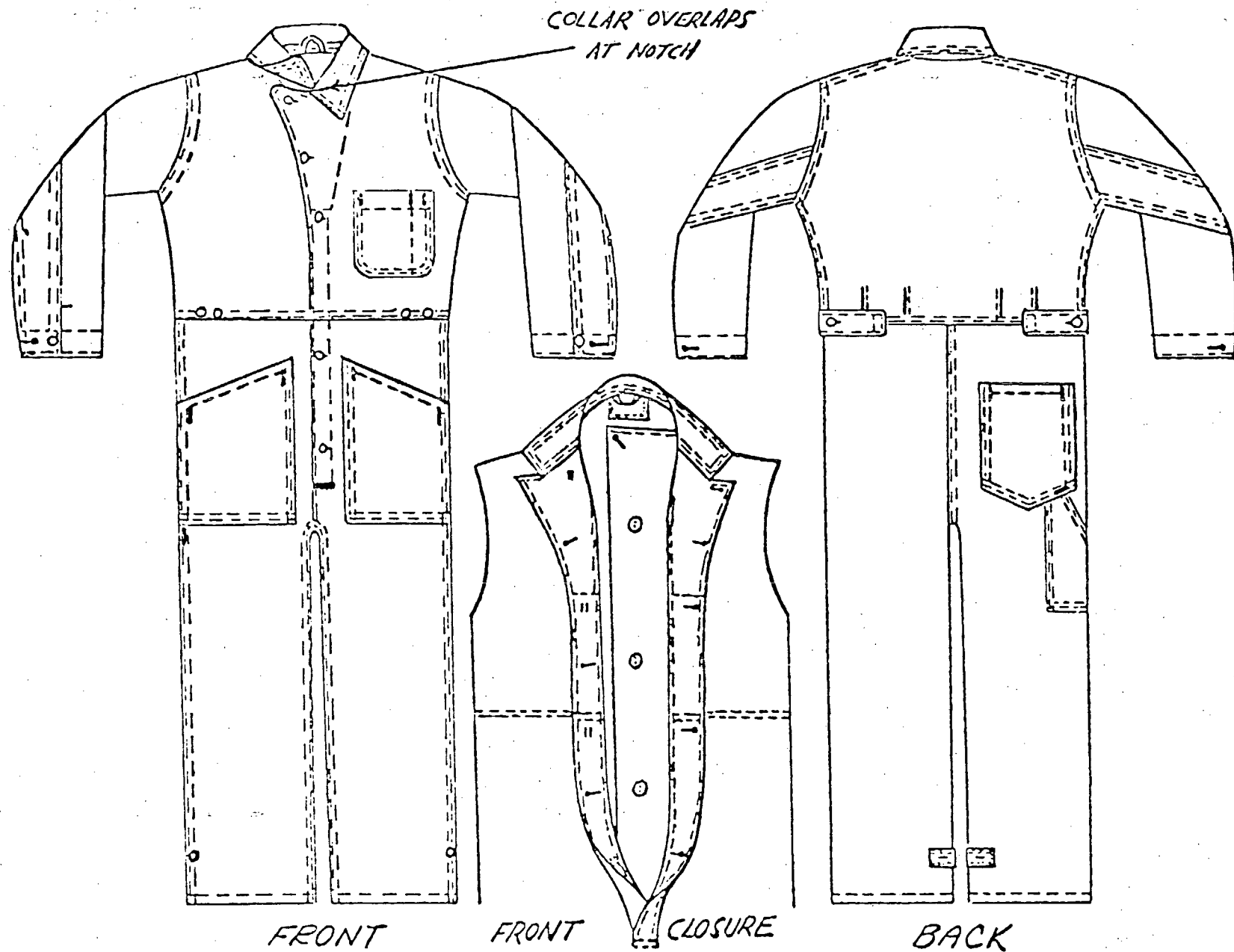
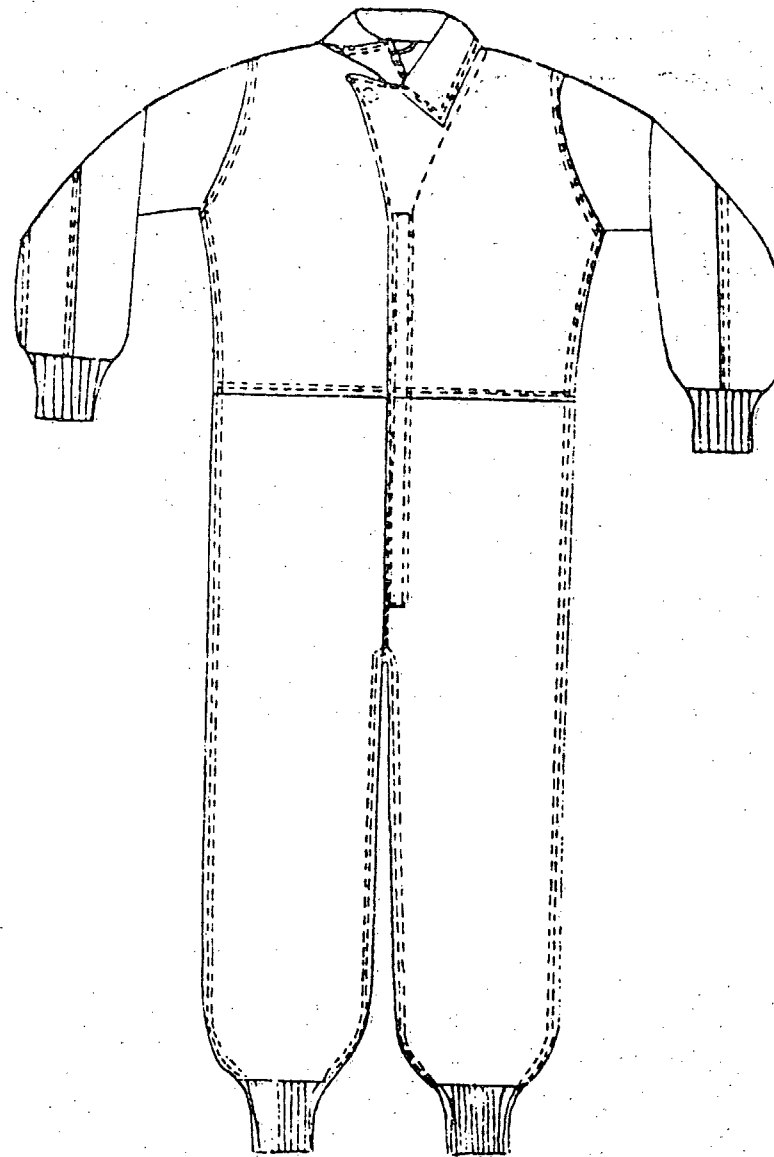
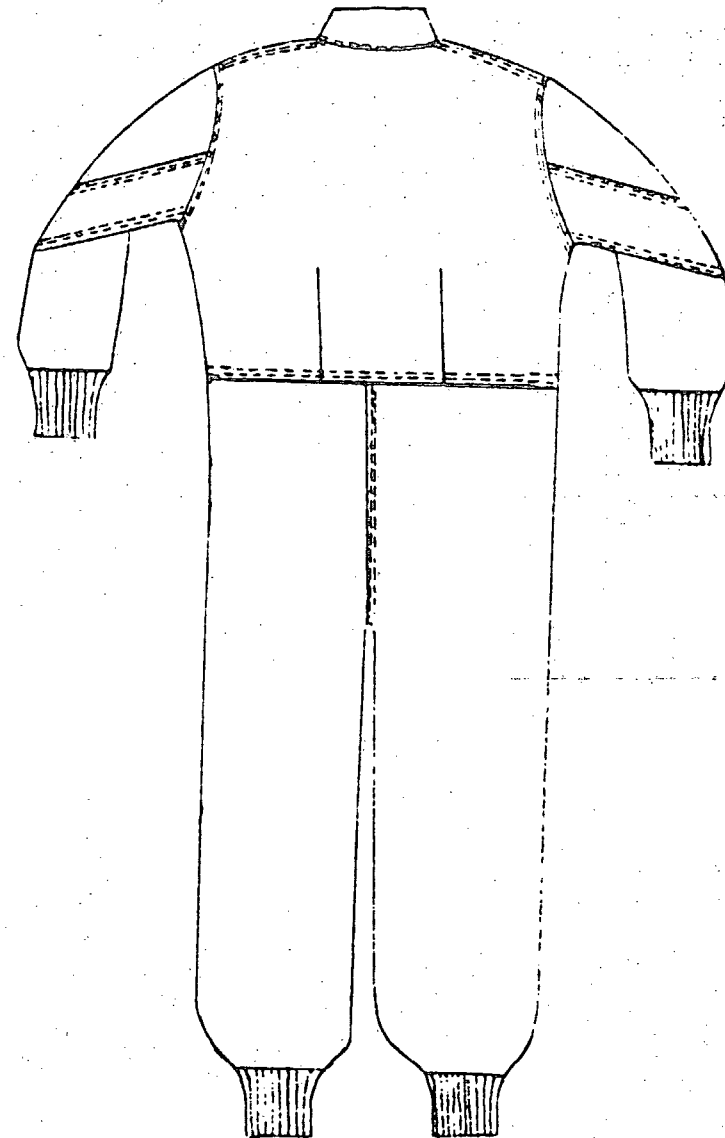


FIGURE 1 COVERALLS, MEN'S, COTTON, SATEEN, TYPE I



FRONT



BACK

FIGURE 2 - COVERALLS, MEN'S, COTTON, SATEN, WHITE, TYPE II

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL*(See Instructions – Reverse Side)***1. DOCUMENT NUMBER****2. DOCUMENT TITLE****3a. NAME OF SUBMITTING ORGANIZATION****4. TYPE OF ORGANIZATION (Mark one)**☐**VENDOR**☐**USER**☐**MANUFACTURER**☐**OTHER (Specify):** _____**b. ADDRESS (Street, City, State, ZIP Code)****5. PROBLEM AREAS****a. Paragraph Number and Wording:****b. Recommended Wording:****c. Reason/Rationale for Recommendation:****6. REMARKS****7a. NAME OF SUBMITTER (Last, First, MI) – Optional****b. WORK TELEPHONE NUMBER (Include Area Code) – Optional****c. MAILING ADDRESS (Street, City, State, ZIP Code) – Optional****8. DATE OF SUBMISSION (YYMMDD)**