

INCH POUND
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MIL-DTL- 85040C  
January 21, 2004

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SUPERSEDING  
MIL-D-85040B  
20 May 1989

## DETAIL SPECIFICATION

### DRAWERS AND UNDERSHIRTS, FLYERS, ANTI-EXPOSURE, ARAMID, HIGH TEMPERATURE RESISTANT, CWU-43/P AND CWU-44/P

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 one type and five sizes of a high temperature resistant, aramid, anti-exposure, flyer's drawers and undershirts designated CWU-43/P for the drawers and CWU-44/P for the undershirts.

1.2 Classification. The CWU-43/P drawers and the CWU-44/P undershirts, as applicable, will be furnished in the following sizes, as specified (see 6.2 (c)):

#### SIZE

<b>X-SMALL</b>	<b>SMALL</b>	<b>MEDIUM</b>	<b>LARGE</b>	<b>X-LARGE</b>
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<p>Comments, suggestions, or questions on this document should be addressed to: Defense Supply Center Philadelphia, Clothing and Textiles Directorate, Attn: DSCP-COCT (Bldg 6), 700 Robbins Ave., Philadelphia, PA 19111-5092 or e-mailed to <a href="mailto:henry.jansen@dla.mil">henry.jansen@dla.mil</a>. Since contract information can change, you may want to verify the currency of this address information using the ASSIST Online database at <a href="http://www.dodssp.daps.mil">www.dodssp.daps.mil</a>.</p>
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AMSC N/A

FSC 8415

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## 2. APPLICABLE DOCUMENTS

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

2.2 Government documents.

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

## SPECIFICATIONS

FEDERAL

A-A-203	Paper, Kraft, Untreated
A-A-55217	Thread, Aramid Spun, Staple

MILITARY

MIL-DTL-32075	Label, For Clothing, Equipage, and Tentage, (General Use)
MIL-C-85038	Cloth, Knitted, Aramid, High Temperature Resistant
MIL-W-5664	Webbing, Textile, Elastic

## STANDARDS

FEDERAL

NONE

MILITARY

MIL-STD-1916	DOD Preferred Method for Acceptance of Product
MIL-STD-129	Marking for Shipment and Storage
MIL-HDBK-774	Palletized Unit Loads

(Copies of these documents are available online at <http://assistdaps.dla.mil/quicksearch/> or [www.dodssp.daps.mil](http://www.dodssp.daps.mil) or from the Standardization Documents Order Desk, Bldg. 4D, 700 Robbins Avenue, 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 cited in the solicitation or contract.

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2.3 Non-Government publications. The following document(s) form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract.

## AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 1974	Fiberboard Boxes, Methods of Closing, Sealing, and Reinforcing
ASTM D 6193	Stitches and Seams

(Copies of these documents are available from [www.astm.org](http://www.astm.org) or American Society For Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428.)

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

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

## 3. REQUIREMENTS

3.1 First article. When specified in the contract or purchase order, a sample shall be subjected to first article inspection (see 6.4), in accordance with 4.3

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

3.2.1 Materials and components. The materials and components shall conform to the applicable specifications, purchase description, and standards as listed or required herein.

3.2.1.1 Cloth.

3.2.1.1.1 Body. The body of the drawers and the undershirts shall be fabricated from the aramid, high temperature resistant cloth conforming to MIL-C-85038, Type I. The color shall match the standard sample (see 6.3).

3.2.1.1.2 Cuffs. The cuffs, for the drawers and the undershirts, shall be fabricated from the aramid, high temperature resistant cloth conforming to MIL-C-85038, Type II. The color shall match the standard sample (see 6.3).

3.2.1.1.3 Collarete. The collarete (mock turtleneck), for the undershirts, shall be fabricated from the aramid, high temperature resistant cloth conforming to MIL-C-85038, Type II. The color shall match the standard sample (see 6.3).

3.2.1.1.4 Binding and reinforcement. The binding and reinforcement, for the fly area of the drawers and for the collarete and shoulder seam of the undershirt, shall be fabricated from flat high temperature resistant aramid jersey. The cut width of the binding and reinforcement shall be sufficient to provide for a finished width of  $\frac{1}{2} \pm \frac{1}{8}$  inch.

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3.2.2 Elastic webbing.

3.2.2.1 Waistband. The elastic webbing, for the waistband, shall conform to MIL-W-5664, woven, mildew resistant, color unbleached. The cut lengths, for the various sizes, shall be compatible with 3.5 and Table III.

3.2.2.2 Stirrups. The elastic webbing, for the stirrups, shall conform to MIL-W-5664, woven, mildew resistant,  $\frac{3}{4}$  inch wide, color optional. The cut lengths, for the various sizes, shall be nominal 13 inches (see Figure 9).

3.2.3 Sewing thread. The sewing thread for the various seams and stitch types shall conform to A-A-55217. The color shall match the standard sample (see 6.3.1).

3.3 Design The CWU-43/P drawers and the CWU-44/P undershirts shall conform in appearance to figures 1 through 5, as applicable.

3.4 Construction The construction of the drawers and undershirts, as applicable, shall conform to Figures 1 through 12.

3.4.1 Patterns and cutting. The Government will furnish a complete set of patterns for drawers or undershirt, as applicable. The Government pattern shall be used to create the contractor's working patterns. Minor modifications are permitted to accommodate automatic equipment and a manufacture's production process. When the pattern is modified these modifications shall not alter the final dimensional, serviceability or appearance requirements cited in this document. The wales of the body and the cuffs shall be in length (vertical) direction. The wales of the mock turtle collarette shall be , in the direction, perpendicular to the seam. The undershirt and drawers patterns were developed to accommodate the physical properties and behavior of the MIL-C-85038 knit cloth and the garment construction methods described in this document. The finished drawers and undershirt garments made from these patterns will meet the finished dimensions cited under Table II of this document. ***Note: Due to the inherent stretch of the cloth, it is recommended that cutting lays be limited to a maximum of 48 plies for the purpose of ensuring proper component dimensions.***

3.4.1.1 List of pattern parts. The pattern parts required for the manufacture of the drawers and undershirts, as applicable, are as follows:

CWU-44/P Undershirt:

Piece Nomenclature	Computer Nomenclature	Cut #	Size
Sleeve	SLEEVE	2	Each
Collarette	COLLARETTE	1	All
Cuff	CUFF	2	All
Body Section	BODY	1	Each

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## CWU-43/P Drawers:

Piece Nomenclature	Computer Nomenclature	Cut #	Size
Front Fly Panel	FRTFLYPNL	2	Each
Back Crotch Panel	BKCRTCHPNL	1	Each
Leg Gusset	LEG-GUSSET	1	All
Cuff	CUFF	2	All
Leg Section	LEGSECTION	2	Each

3.4.2 Size marking. The component parts of the drawers or undershirts, as applicable, shall be marked or ticketed, by any commercial method, for the proper assembly of the drawers or undershirts, as applicable. No metal fastening device or sewn-on ticket shall be used. The size markings shall be accomplished by the use of an ink pad numbering machine, rubber stamp, or pencil, provided the markings do not show through to the deleterious to the cloth. The markings, which are placed on the seam allowance, shall not be visible on the outside. The adhesive type conform to 3.4.2.1. The assembled drawers or undershirts, as applicable, shall not contain any size marking tickets.

3.4.2.1 Adhesive size marking tickets. The adhesive size marking tickets shall be fabricated from paper with a thermo-activated adhesive applied on one side. The adhesive shall not discolor or damage the cloth and the adhesive mass shall not adhere to the cloth, upon removal of the tickets shall not stiffen, harden, scorch, or damage the cloth in any manner.

3.4.3 Seams and stitching. All the seams and stitching used in the fabrication of the drawers and the undershirts shall conform to Figures 1 through 12, as applicable. The seam and stitch types, specified in Figures 6 through 12, shall conform to ASTM D 6193. The width of the stitches and stitches per inch, for the various types of the stitching, shall conform to Table I. Unless otherwise specified, width of seam stitching shall be  $\pm 1/16$  inch.

3.4.3.1 Sewing. Each row of stitching shall be straight and parallel to the seam edge. The straightness of the stitching, in any row, shall be maintained within a tolerance of plus or minus  $1/32$  inch. The ends of the Stitch Type 301 stitching shall be backstitched, by overlapping on themselves, a minimum of  $1/4$  inch. Thread breaks, skips, and run-off shall be overstitched with Stitch Type 301 stitching not less than one inch. The thread tension shall be maintained so that there shall not be any loose or tight stitching and the lock shall be embedded in the materials sewn together. No seam or component shall be twisted, puckered, or pleated and no part of the drawers or the undershirts, as applicable, shall be caught in an unrelated operation or seam. All the thread ends, or threads beginning or terminating a row of stitching, shall be trimmed to a maximum length of  $3/8$  inch. No raw or cut cloth edge shall be visible. All the seam edges shall be properly forced out and shall not contain any folds.

3.4.3.2 Bartacking.

3.4.3.2.1 Cuff seams. A  $1/4$  inch bartack shall be positioned and centered across each cuff seam see (Figures 1 and 4). Each bartack shall contain a minimum of 14 stitches.

3.4.3.2.2 Stirrup attachments. Three  $1/2$  inch bartacks may be used on the stirrup attachments in lieu of a crossboxstitch (see Figure 9). Each bartack shall contain a minimum of 26 stitches.

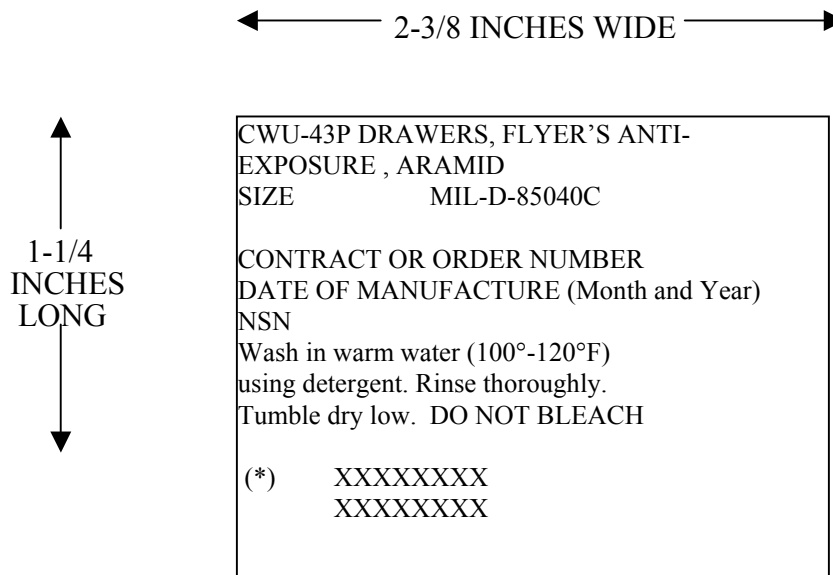
3.5 Dimensions. The dimensions, for the various sizes of the drawers and the undershirts, as applicable, shall conform to Table II, when determined as specified in 4.5.2 through 4.5.2.2 and

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Figures 13 and 14, as applicable. The variation in length between the left and right legs, or left and right sleeves shall not exceed  $\frac{1}{2}$  inch in any drawers or undershirts, as applicable.

3.6 Label. The identification label, for the drawers and the undershirts, as applicable, shall conform to MIL-DTL-32075, Type VI, Class 1, Launderable Label, except that the item description shall be 8 point and all the other information shall be 6 point.

3.6.1 Drawers. The identification label, for the drawers, shall be centered, within  $\frac{1}{2}$  inch, and sewn to the inner back portion, of the waistband, as specified in Figure 8, in a manner that shall permit the label to expand with the waistband of the drawers. The top edge of the label shall be aligned with the top edge of the waistband. The label shall be attached on the sides only (vertical stitching) when the 2-sided stitch is employed or around the label perimeter when the 4-sided stitch method is used. The label size and the information, for the drawers, shall be as follows:



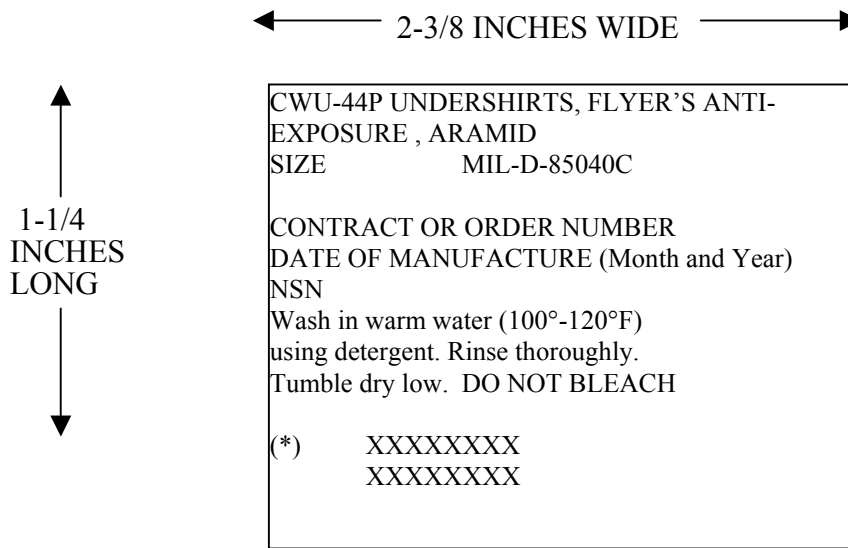
(\*) Allow label to have blank space for wearer to write his/her name.

3.6.1.1 Alternate label. As an alternate, the following label shall be attached to the drawers in the back seam during waistband setting and shall be centered,  $\pm \frac{1}{2}$  inch at the back of the waistband. The label shall be  $1\text{-}1/4 \pm \frac{1}{2}$  inches wide and  $1\text{-}1/2 \pm$  inches long. The label shall have all required printing occurring on the front and back of the label, and the following statement shall be printed on the label "DO NOT REMOVE THIS LABEL".

3.6.1.2 Alternate label location. The identification label, may also be sewn to the outside of shirt to avoid chafing, stitch 301, 8-10 SPI. 1/8" gauge.

3.6.2 Undershirt. The identification label, for the undershirt, shall be centered, within  $\frac{1}{2}$  inch, and sewn to the back, on the inner side of the undershirt,  $\frac{1}{4}$  inch below the collarete seam reinforcement, as specified in Figures 5 and 11. The label shall be attached on the sides only (vertical stitching) when the 2-sided stitch method is employed and around the label perimeter when the 4 side stitch method is used. Labels shall be attached in such a manner that shall permit the label to expand with the fabric of the undershirt. The label size and the information, for the undershirts shall be as follows:

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(\*) Allow label to have blank space for wearer to write his/her name.

3.6.2.1 Alternate label. As an alternate, the following label shall be attached to the undershirt in the collarette seam during collar setting and shall be centered,  $\pm 1/2$  inch at the back of the neck. The label shall be  $1-1/4 \pm 1/2$  inches wide and  $1-1/2 \pm$  inches long. The label shall have all required printing occurring on the front and back of the label, and the following statement shall be printed on the label "DO NOT REMOVE THIS LABEL".

3.7 Workmanship. After completion of the final assembly, the drawers or undershirts, as applicable, shall be thoroughly cleaned and all thread scraps, applicable, shall not contain any tear, cut, mend, needle chew, abraded area, burn, spot, stain, or hole. The drawers or undershirts, as applicable, shall be uniform in quality and shall be free from irregularities or defects which could adversely affect performance, reliability, or durability. The drawers or undershirts, as applicable shall conform to the quality and grade of product established by this specification. The occurrence of defects shall not exceed the acceptance criteria established herein.

#### 4. VERIFICATION

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

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

4.1.1 Classification of compliance. All items must meet all requirements of sections 3 and 5. The inspection set forth in this specification shall become a part of the contractor's overall inspection system or quality program. The absence of any inspection requirements in the specification shall not relieve the contractor of the responsibility of assuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the contract. Sampling inspection, as part of manufacturing operations, is an acceptable practice to ascertain conformance to requirements, however, this does not authorize submission of known defective

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material, either indicated or actual, nor does it commit the Government to accept of defective material.

4.2 Conformance inspection. The examination and testing of the high temperature resistant, aramid, anti-exposure, flyer's, CWU-43/P drawers or CWU-44/P undershirts, as applicable, shall be classified as follows:

- a. First article inspection First Article inspection consists of examinations and tests performed on samples which are representative of the production item after award of a contract to determine that the production item conforms to the requirements of this specification (see 3.1 and 4.3 through 4.3.2).
- b. Quality Conformance inspection Quality conformance inspection consists of examinations and tests performed on individual products or lots to determine conformance of the products or lots with the requirements set forth in this specification (see 4.4 through 4.4.1.2).

4.3 First article inspection. The first article inspection of the high temperature resistant, aramid, anti-exposure, flyer's, CWU-43/P drawers or CWU-44/P undershirts, as applicable, shall consist of examinations and tests for all of the requirements of this specification.

4.4 Qualification inspection. The sampling and inspection levels shall conform ANSI/ASQC Z1.4. The quality conformance inspection shall consist of the following:

Visual examination of the drawers or undershirts, as applicable  
 Dimensional check of the drawers or undershirts, as applicable  
 Packaging

4.4.1.1.1 Drawers. An inspection lot size shall be expressed in units of one pair of drawers typical of production garment quality. The sample unit shall be one pair of drawers.

4.4.1.1.2 Undershirts An inspection lot size shall be expressed in units of one undershirt typical of production garment quality. The sample unit shall be one undershirt.

#### 4.5 Inspection conditions.

##### 4.5.1 Visual examination.

4.5.1.1 Drawers and undershirts. Each pair of drawers or each undershirt, as applicable, selected as a sample unit from the lot, shall be thoroughly checked dimensionally and examined visually to determine conformance to this specification. The classification and list of defects, Tables III and IV, as applicable, shall be used to classify and enumerate the defects found.

4.5.2 Procedure of measurement. The drawers of the undershirt, as applicable, to be measured shall be laid flat, face up, without tension, on a smooth, flat surface so that any creases or wrinkles shall not affect the measurement.

4.5.2.1 Drawers. The drawers shall be measured in accordance with Figure 13, as follows:

- a. Waist. Measure the width of the waist along the top edge of the relaxed elastic waistband.



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- b. Back rise. Measure the back rise, along the seat, from the top of the waistband, at the back, to the bottom of the edge at the crotch.
- c. Length. Measure the length of each leg in a straight line, from the top edge of the waist to the bottom edge of the cuff along the outer side of the leg.
- d. Calf. Measure the width of each calf, at a point 10 inches up from the cuff attaching seam, from side fold to side fold.
- e. Fly opening. Measure the length of the fly opening
- f. Cuff length. Measure the length of each cuff, from the attaching seam to the end of the cuff.
- g. Cuff width. Measure the width of the cuff, at the unattached end, from side fold to side fold.

4.5.2.2 Undershirts. The undershirts shall be measured in accordance with Figure 14 as follows:

- a. Body length. Measure the body length on the front, from the outer side edge of the collarete, at the shoulder, to the bottom edge of the undershirt.
- b. Body width. Measure the body width, one inch below the armhole seam, from side fold to side fold, or from side seam to side seam, whichever is applicable.
- c. Armhole. Measure the width of the armhole, from the sleeve inseam to the fold at the shoulder.
- d. Neck opening. Measure the width of the neck opening at the collarete attaching seam from the side fold to the side fold of the collarete.
- e. Sleeve inseam. Measure the length of each sleeve inseam, from the armhole seam to the bottom of the cuff.
- f. Shoulder width. Measure the distance, on each shoulder, from the collarete attaching seam to the armhole seam.
- g. Cuff length. Measure the length of each cuff, from the attaching seam to the end of the cuff.
- h. Cuff width. Measure the width of the cuff, at the unattached end, from side fold to side fold.
- i. Mock turtleneck length. Measure the length of the mock turtleneck (collarete), from the top fold to the attaching seam.

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TABLE I. Stitching characteristics.

Stitch type	Width (Inches)	Stitches per inch
101	-	12-16
301	-	8-10
402	7/32	12-16
407	8/32	14-18
503	5/32	12-16
504	5/32	14-18
605	9/32	14-18
606	8/32	12-16
606 modified	8/32	12-16

TABLE II. Drawers and undershirts dimensions in inches.

Location	X-Small	Small	Medium	Large	Extra Large	Tolerances
<u>Drawers</u>						
a. Waist	10	12	14	16	18	±1/2
b. Back Rise	14-1/2	15	15-1/2	16	16-1/2	±1
c. Length	37-1/8	38-1/2	39-7/8	41-1/4	42-5/8	±1
d. Width of Calf	5-3/4	6-1/4	6-3/4	7-1/4	7-3/4	±1/2
e. Length of Fly Opening	4	4-1/2	4-1/2	5	5	±1/2
f. Length of the Cuff	4-3/4	4-3/4	4-3/4	4-3/4	4-3/4	±1/4

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TABLE II. Drawers and undershirts dimensions in inches.						
Location	X-Small	Small	Medium	Large	Extra Large	Tolerances
g. Width of the Cuff	4	4	4	4	4	±1/4
<u>Undershirts</u>						
h. Body Length	24-1/2	26	27-1/2	29-1/2	31	±1
i. Body Width	13-1/2	15	16-1/2	18	19	±1
j. Armhole Opening	7-7/8	8-1/2	9-1/8	9-3/4	10-1/2	±1/2
k. Neck Opening	7-1/2	7-1/2	7-1/2	7-3/4	7-3/4	±1/2
l. Sleeve Inseam	21	21-1/2	22	22-1/2	23	±1
m. Shoulder Width	3-1/4	4	5	5-1/2	5-3/4	±1/2
n. Length of the Cuff	2-3/4	2-3/4	2-3/4	2-3/4	2-3/4	±1/4
o. Width of the Cuff	2-3/4	2-3/4	2-3/4	3	3	±1/4
p. Length of the mock turtleneck	2-1/2	2-1/2	2-1/2	2-1/2	2-1/2	±1/4

TABLE III. Classification of defects for the visual examination of the drawers and undershirts.		
Defect	Major	Minor
<u>GENERAL</u>		
a. Any hole, scissors or knife cut, tear, mend, burn or weakening defect such as smash, multiple float, loose slub, needle chew, or abraded area.	101	
b. Any portion of any drawers or undershirt, as applicable, stiffened, hardened, or scorched by any process of manufacturing	102	
c. Any unsightly slub, spot, or stain; any discoloration of		201

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TABLE III. Classification of defects for the visual examination of the drawers and undershirts.

Defect	Major	Minor
the cloth caused by the removal of any size marking ticket; any size marking ticket, excluding the metal fastening or sewn-on kind, not removed; any size marking identification stamping visible on the outside of any drawers or undershirt, as applicable; or any size marking adhesive mass adhering to the cloth		
d. Any metal fastening device or sewn-on size marking ticket	103	
e. Three or more thread ends or sewn stitching end not trimmed to a maximum length of 3/8 inch or three or more thread scraps not removed.		202
f. Any run or dropped stitch	104	
g. Any snag, pull, slubby yarn, or knit too tight or loose (lacking of elasticity)		203
h. Wales in the body, collarete, or in any cuff, not in the vertical direction.	105	
i. Collarete cut with more than one closing seam or at any location than body shoulder seam.	106	
<u>COMPONENTS AND ASSEMBLY</u>		
a. Any component not as specified or any defect of a component or defect of assembly, not herein classified	1/	
b. Any component, component part, or required operation omitted, or any operation improperly performed, not herein classified	1/	
c. Any component part not cut in accordance with the patterns, not herein classified	1/	
<u>SEAMS AND STITCHING</u>		
a. <u>Accuracy of seaming:</u>		
1. Any seam, hem, or attachment of any component twisted, puckered, or pleated; any part of the drawers or undershirts, as applicable, any waste cloth or component caught in an unrelated operation or stitching		204
2. Ends of Stitch Type 301 stitching:		
d. Any not securely backstitched	107	

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TABLE III. Classification of defects for the visual examination of the drawers and undershirts.

Defect	Major	Minor
e. Any secure but backstitched for a distance less than $\frac{1}{4}$ inch or the backstitching is not overlapped on itself		205
3. Thread breaks:		
(a) Any not securely backstitched	108	
(b) Any secure but overstitched for a distance less than 1 inch		206
4. Width of any stitch, not as specified (see Table I)	<u>1/</u>	
5. Seam edge:		
(a) Any overlapped seam whose untrimmed edge is more than $\frac{1}{4}$ but no more than $\frac{1}{2}$ inch		207
(b) Any overlapped seam whose untrimmed edge is more than $\frac{1}{2}$ inch	109	
b. <u>Gage of stitching</u> 2/:		
1. Any stitching irregular, uneven, or not gaged as specified, or not uniform		208
c. <u>Open seams</u> 3/:		
1. Any $\frac{1}{4}$ inch or less		209
1. Any more than $\frac{1}{4}$ inch	110	
<u>SEAMS AND STITCHING</u> (Continued)		
d. <u>Raw edges</u> 4/:		210
1. Any more than $\frac{1}{4}$ inch but not more than $\frac{1}{2}$ inch	111	
2. Any more than $\frac{1}{2}$ inch		
e. <u>Seam and stitch type</u>		

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TABLE III. Classification of defects for the visual examination of the drawers and undershirts.

Defect	Major	Minor
1. Not specified seam or stitch type	<u>1</u> /	
f. <u>Stitch tension</u> :		
1. Any loose stitching <u>5</u> /	<u>1</u> /	
2. Any tight stitching, resulting in the breakage of the stitches, when normal pull is applied <u>6</u> /	112	
g. <u>Stitches per inch 7</u> /:		
1. <u>Stitches more or less specified</u> :		
(a) One or 2		211
(b) More than 2	113	
h. <u>Bartacks</u> :		
1. Any missing, loose, misplaced, or not serving the intended purpose		212
2. Length of bartack not as specified		213
<u>LABEL</u>		
a. Size information missing, incorrect, incomplete, or illegible	114	
b. Other than the size information, incomplete, incorrect, illegible		214
c. Manner of attaching does not permit the label to expand with the waistband of the drawers or with the cloth of the undershirt, as applicable <u>8</u> /	115	
d. Misplaced, off center of the back by more than ½ inch		215
e. Any row of stitching not adequately securing the label to the underwear	116	
f. Bar code or not readable by scanner		216
g. Human readable interpretation (HRI) omitted or illegible		217
h. Not visible on folded packaged item		218
	117	

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TABLE III. <u>Classification of defects for the visual examination of the drawers and undershirts.</u>		
Defect	Major	Minor
i. Causes damage to the item		

1/ The defect shall be classified as major, when it seriously affects the serviceability or appearance, otherwise it shall be classified as a minor defect.

2/ The gage of stitching shall be scored only, when the condition exists for more than 2 inches on any row of stitching.

3/ A seam shall be classified as open, when one or more stitches, joining a seam, are broken or when two or more continuous skipped stitches or run-offs occur. On double stitched seams, a seam shall be classified as open, when either one or both sides of the seam contain any of the aforementioned for a single stitched seam.

4/ Any edge that should be turned under, covered, or trimmed and is not, but is secure caught in the stitching, shall be classified as a raw edge. Any raw edge, that is not securely caught in the stitching, shall be classified as an open seam.

5/ A seam shall be classified as loose, when the top and bobbin threads are on the same surface.

6/ Puckering is evidence of tight tension or gathering of the material. When puckering is evident, and not caused by the gathering of the material, stitching shall be inspected for tight tension and breaking of stitches by exerting normal pull in the lengthwise direction of the stitching, by pulling the material taut to straighten out the seam. Puckering due to the gathering of the material shall be classified as an accuracy of seaming defect.

7/ The stitches per inch defect shall be classified only, when the condition exists for more than 3 inches on any row of stitching.

8/ Grasp the waistband or the undershirt, as applicable, on both sides of the label and pull sharply, stretching the waistband or the cloth, as applicable, to determine if the stitches attaching the label break (see 3.6.1 and 3.6.2).

TABLE IV. <u>List of defects for the dimensions of the assembled drawers and undershirts.</u>	
Finished measurements	Defects
<u>DRAWERS</u> a through g inclusive  <u>UNDERSHIRT</u> h through p inclusive	Any measurement deviating from the measurements specified in 3.5 and table II, and applicable tolerance, shall be enumerated as a dimensional defect.

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<u>EQUAL LENGTH</u>  Sleeves and legs, as applicable	The variation in the length between the left and right sleeve or leg, as applicable, shall be enumerated as a dimensional defect, when it exceeds ½ inch.
--	---

TABLE V. List of defects for packaging.

Item	Defect
Exterior and Interior markings	Missing, incorrect, incomplete, illegible; of improper size, location, sequence, or method of application; size shown on the drawers or undershirts, as applicable, fiberboard container, or on the paper label not the same; information on the paper label in the polyethylene bag not readable through the film or no label in the film bag.
Packaging and packing materials	Any non-conforming component; ant component or component part missing , damaged, or otherwise defective.
Workmanship	Inadequate application of the components such as incomplete closure of any exterior container, container flap, or loose strapping; bulging or distortion of any container; any shipping container contains any metal fastening or stitches; any polyethylene bag damaged, any vent hole missing, or any open or non-continuous heat seal seam.
Exterior and interior weight or content	Gross or net weight exceeds the requirement; number per container more or less than specified; more than one size drawers or undershirts, as applicable, in the same container; any portion of any drawers or undershirt, as applicable, caught in any heat sealed seam; not individually packaged within the polyethylene bag; any drawers or undershirt, as applicable, distorted bent or deformed.

## 5. PACKAGING

5.1 Packaging. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When packaging of materiel is to be performed by DoD or in-house contractor personnel, these personnel need to contact the responsible packaging activity to ascertain packaging requirements. Packaging requirements are maintained by the Inventory



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Control Point's packaging activities within the Military Service or Defense Agency, or within the military service's system commands. Packaging data retrieval is available from the managing Military Department's or Defense Agency's automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.

## 6. NOTES

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

6.1 Intended use. The CWU-43/P drawers and the CWU-44/P undershirts covered by this specification are intended to be worn as the undergarments for cold weather and an anti-exposure protective assembly intended for continuous wear and protection of the wearer from exposure to cold water, wind, and spray as a result of emergency water immersion at sea.

6.2 Acquisition requirements. Acquisition documents should specify the following:

- a. Title, number and date of this specification.
- b. Issue of DODISS to be cited in the solicitation and, if required, the specific issue of individual documents referenced (see 2.2.1 and 2.3).
- c. Types, classes and sizes required (see 1.2.1).
- d. When first article inspection is required, (see 3.1) the item will be tested and should be a first article sample. The contracting officer should include specific instructions in acquisition documents regarding arrangement for examinations, quantity, and testing and approval.
- e. Packaging requirements (see 5.1).

6.3 Patterns. The patterns, for the drawers or undershirts, as applicable, will be furnished by the contracting officer, to the contractor, for use in cutting working patterns (see 3.4.1).

6.3.1 Standard and guide samples. For access to standard guide samples, address the acquiring office issuing invitation for bids.

6.4 First article. When a first article inspection is required, the item should be first production item. The first article should consist of two units. The contracting officer should include specific instructions in acquisition documents regarding arrangements for examinations, approval of first article test results and disposition of first articles. Invitations for bids should provide that the Government reserves the right to waive the requirement for samples for first article inspection to those bidders offering a product which has been previously acquired or tested by the Government, and that bidders offering such products, who wish to rely on such production or test, must furnish evidence with the bid that prior Government approval is presently appropriate for the pending contract.

6.5 Subject term (key word) listing.

Drawers  
Undershirts  
Anti-Exposure

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Flyers

6.6 Acceptance criteria. Acceptance criteria will be as specified in the contract or purchase order.

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

MILITARY INTERESTS:

CIVIL AGENCY COORDINATING ACTIVITY:

Custodians:

GSA - FSS

Navy-AS

Air Force - 11

PREPARING ACTIVITY:

DLA - CT:

(Project No. 8415-0265)

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at [www.dodssp.daps.mil](http://www.dodssp.daps.mil)

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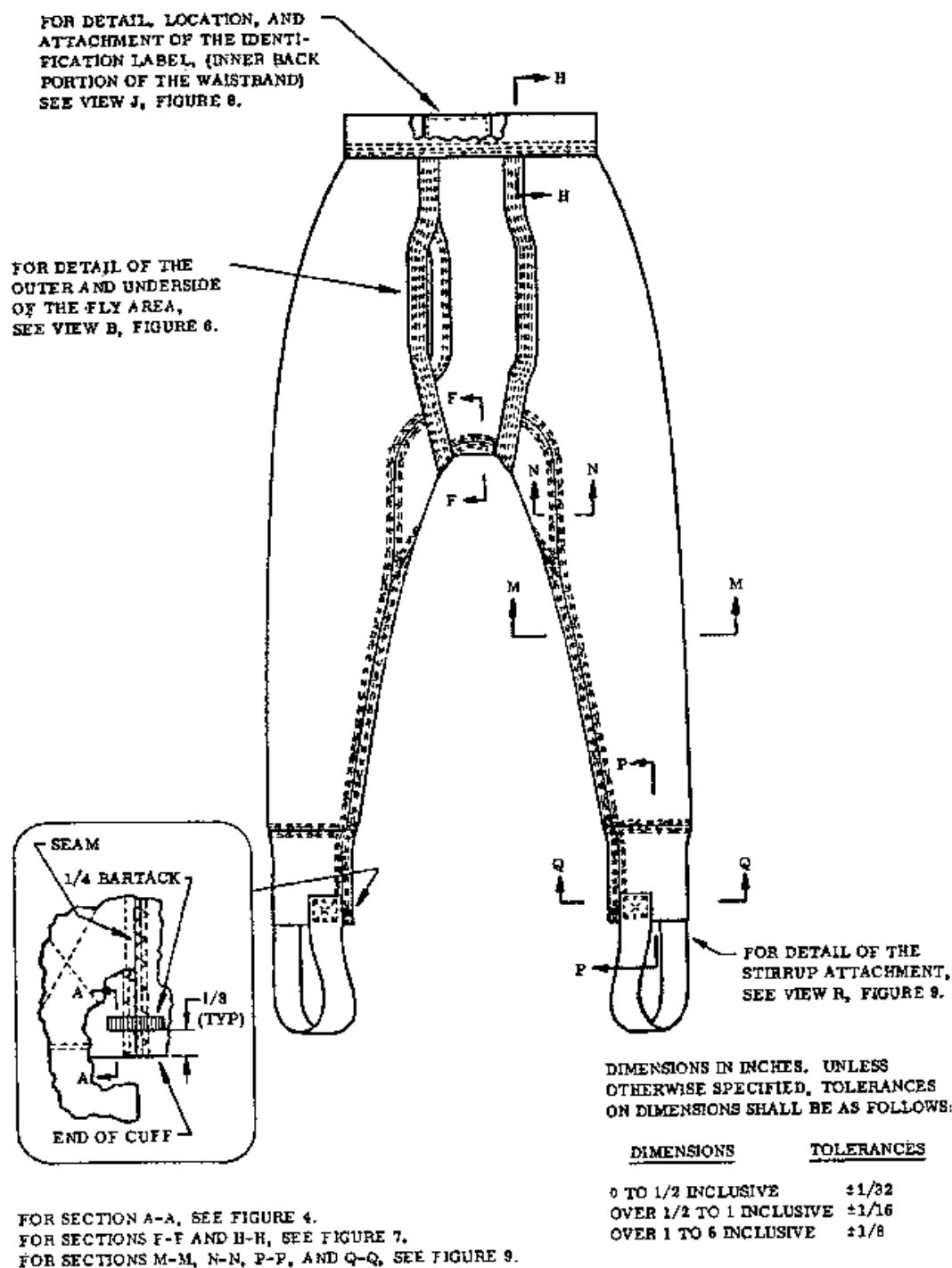
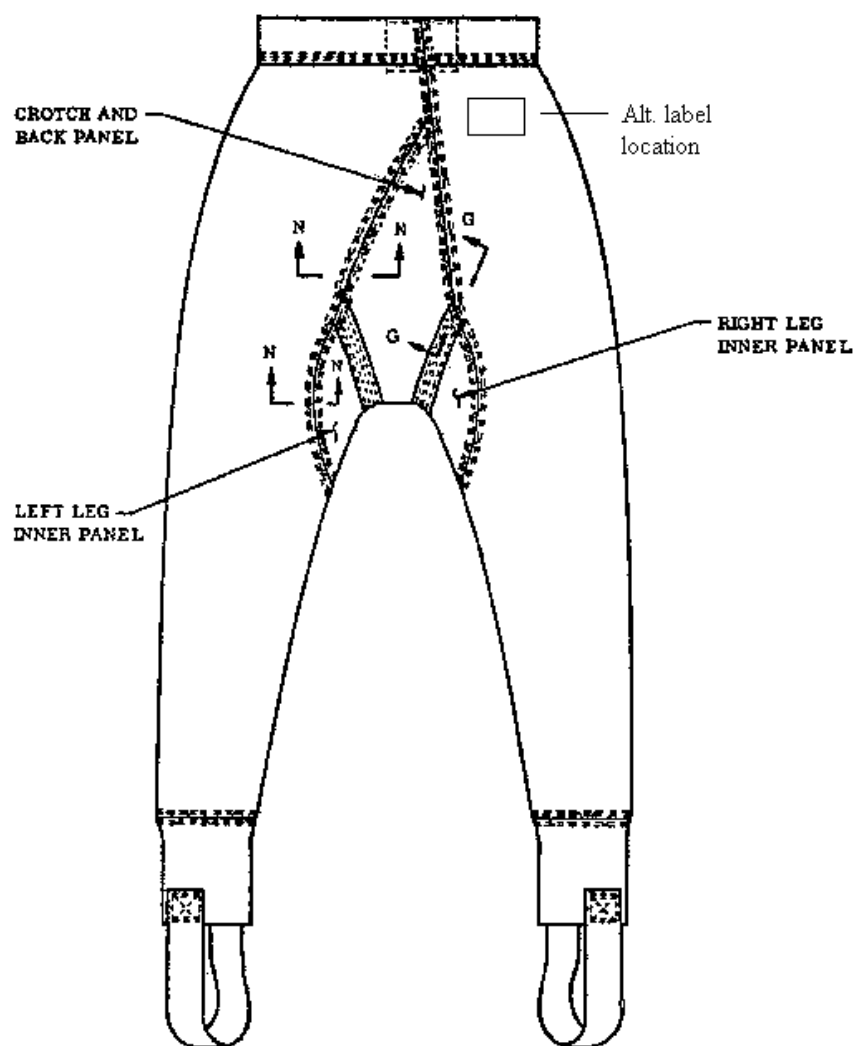


FIGURE 1. Drawers - front

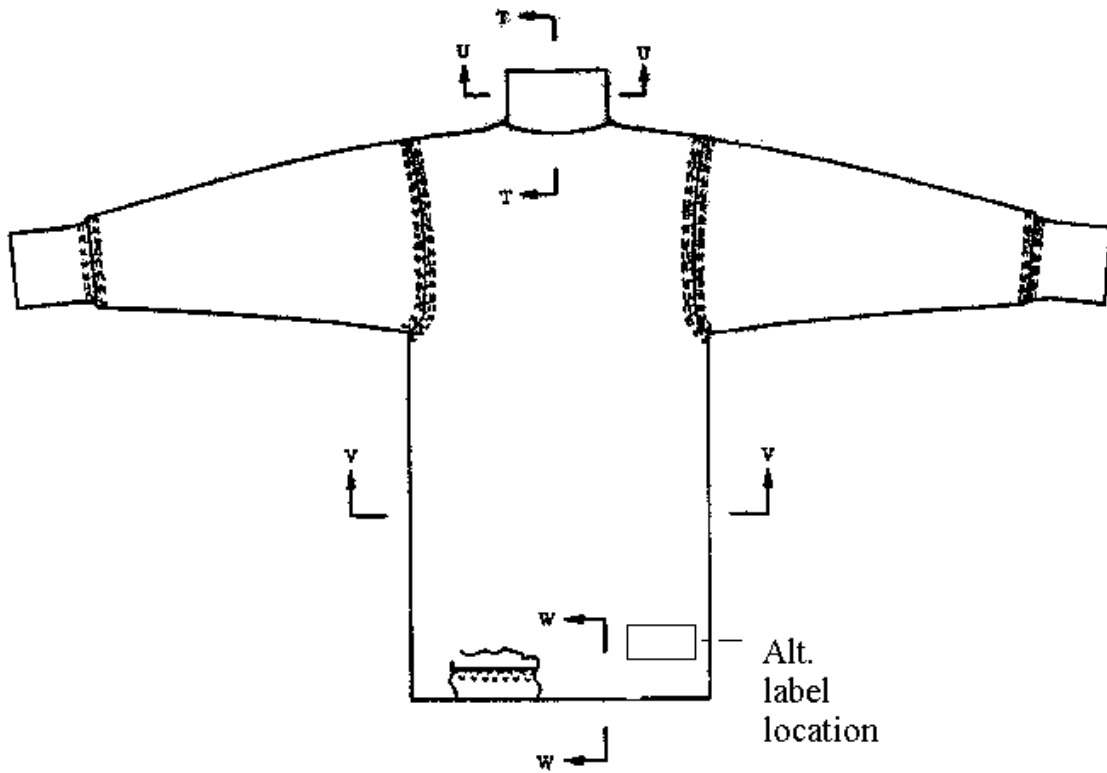
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FOR SECTION G-G, SEE FIGURE 7.  
FOR SECTION N-N, SEE FIGURE 9.

FIGURE 2. Drawers - back

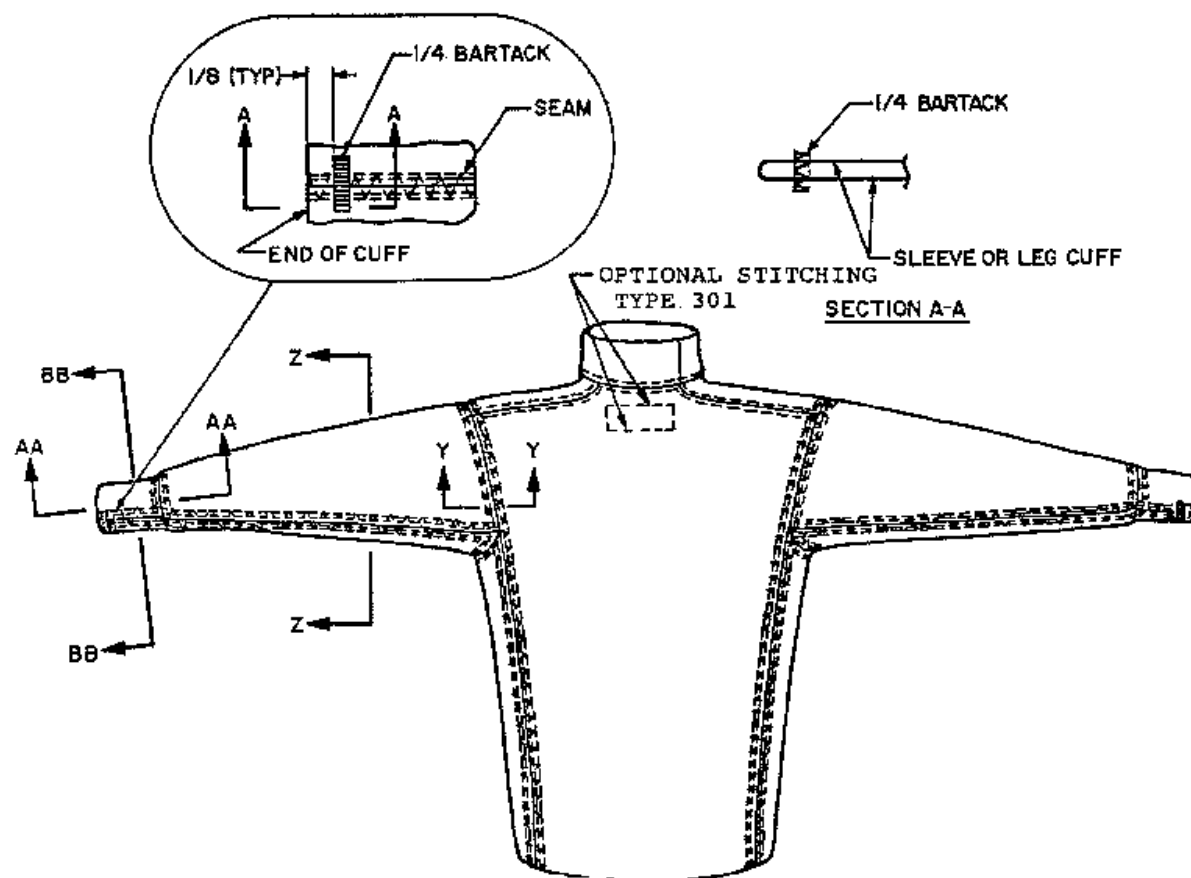
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FOR SECTIONS T-T, U-U, V-V, AND W-W, SEE FIGURE 10.

FIGURE 3. Undershirt - front

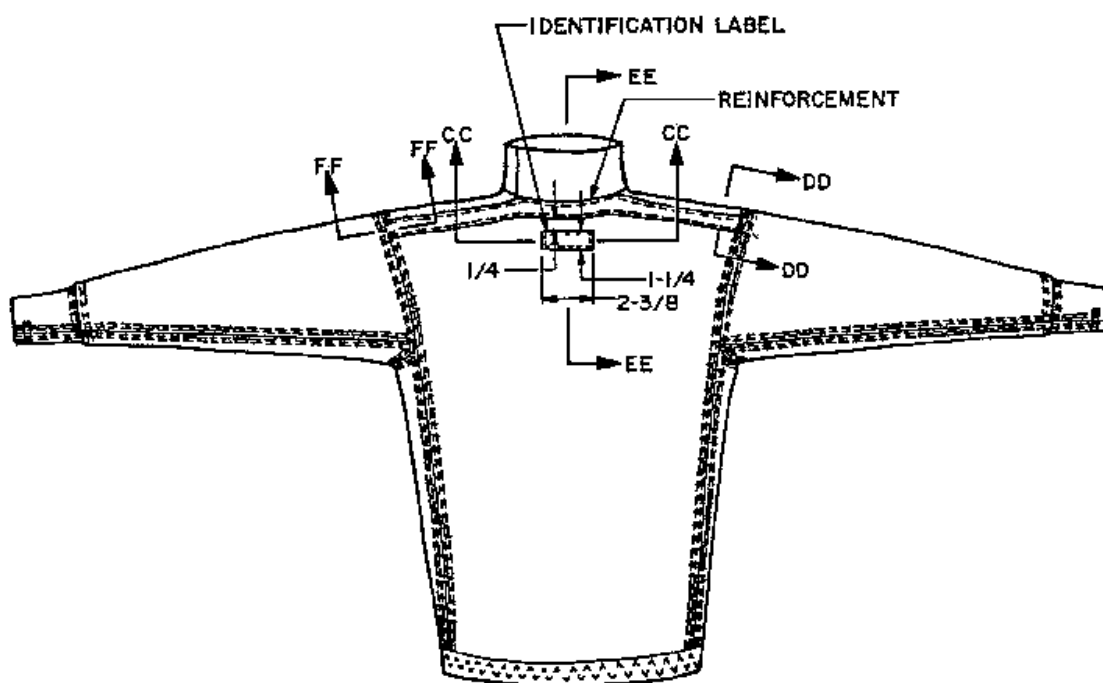
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Dimensions in inches. Unless otherwise specified, tolerances shall be as specified in Figure 1.  
 Optional: Undershirt torso may be fabricated from tubular knit fabric.  
 For Sections Y-Y, Z-Z, AA-AA, and BB-BB, see Figure 11

FIGURE 4. Undershirt - back

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Dimensions in inches. Unless otherwise specified, tolerances shall be as specified in Figure 1.

For Section CC-CC, see Figure 11.

For Sections DD-DD, EE-EE, and FF-FF, see Figure 12.

FIGURE 5. Undershirt - back (innerside)

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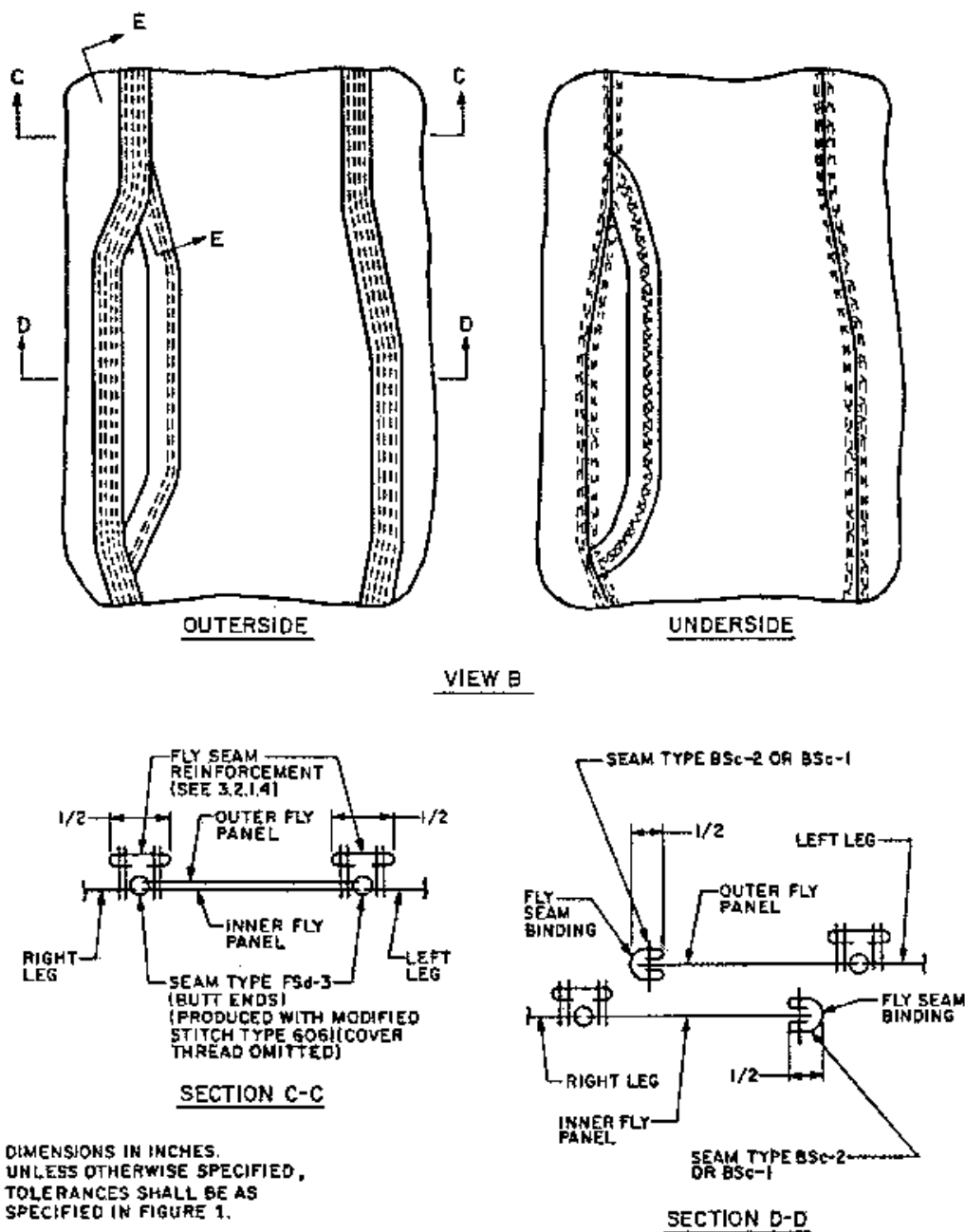


FIGURE 6. Fly area sections



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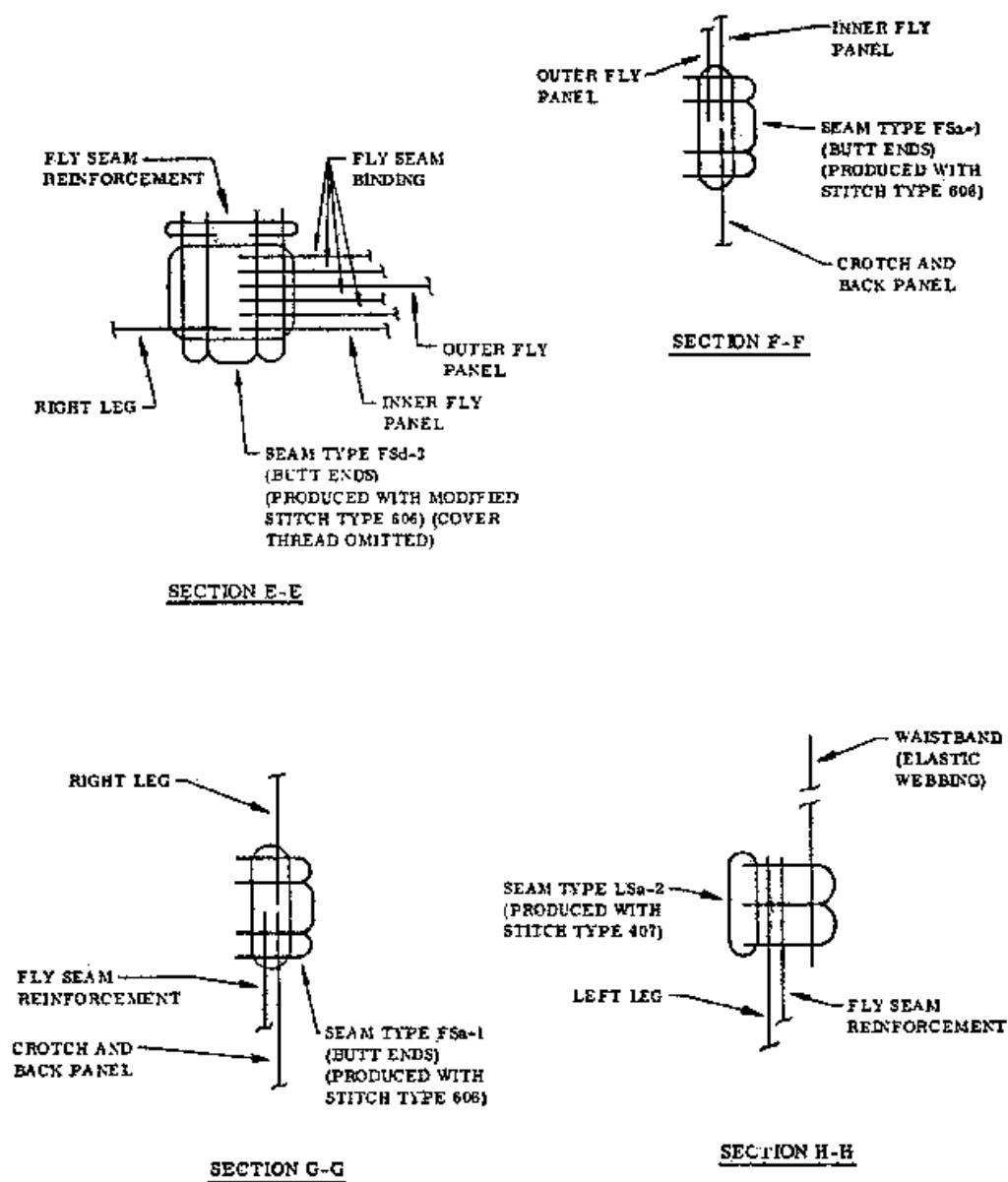
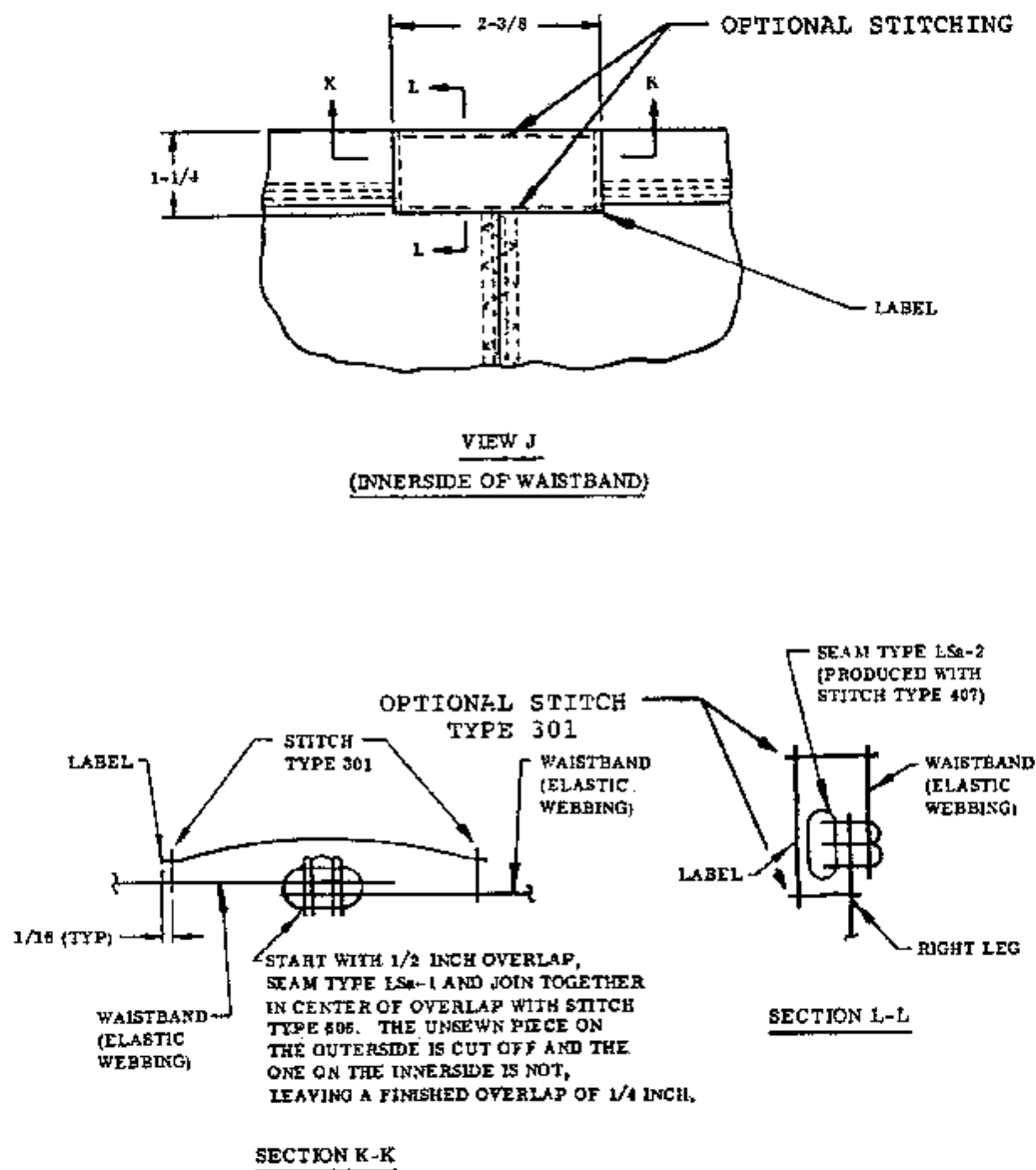


FIGURE 7. Fly area sections

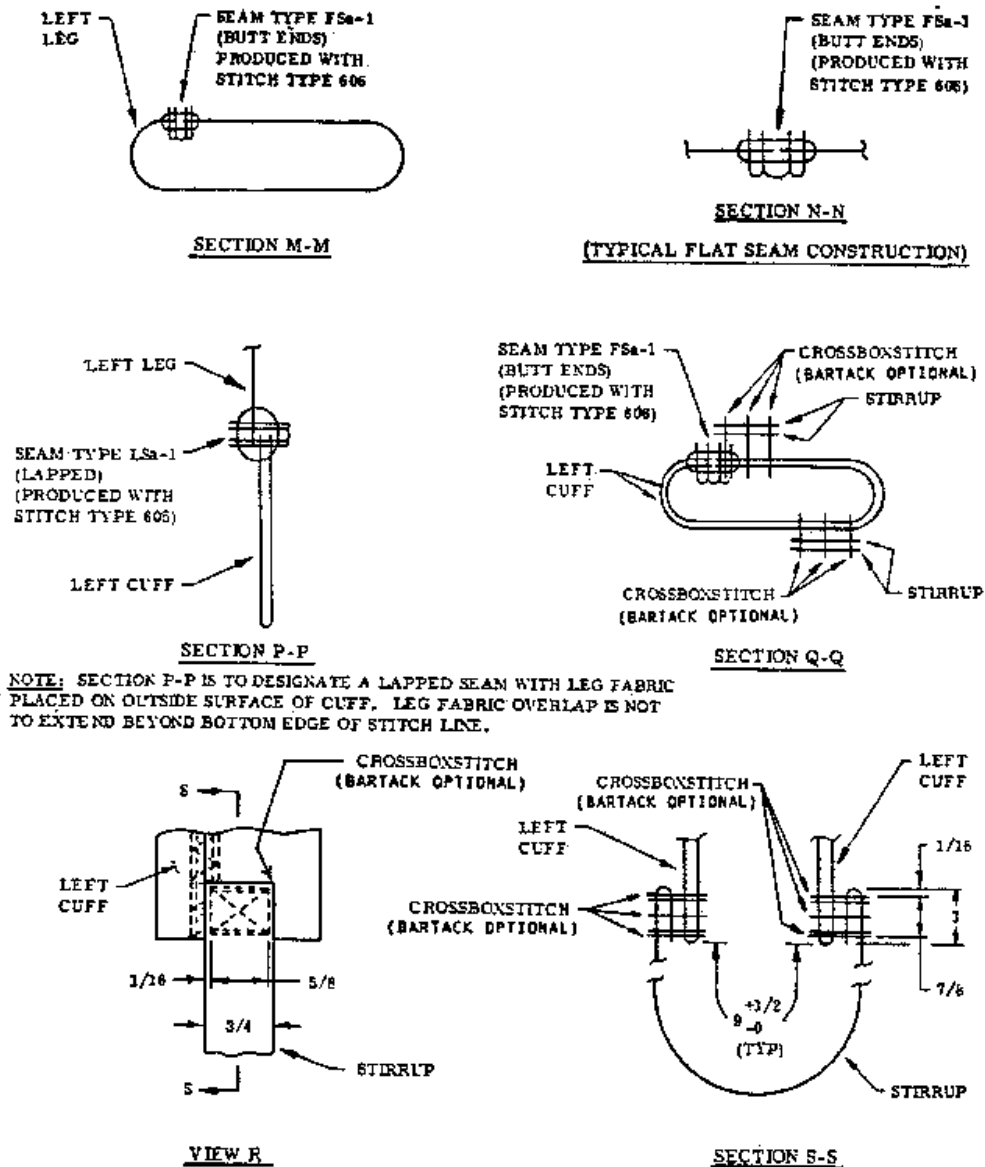
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DIMENSIONS IN INCHES.  
UNLESS OTHERWISE SPECIFIED,  
TOLERANCES SHALL BE AS  
SPECIFIED IN FIGURE 1.

FIGURE 8. Waistband and label sections

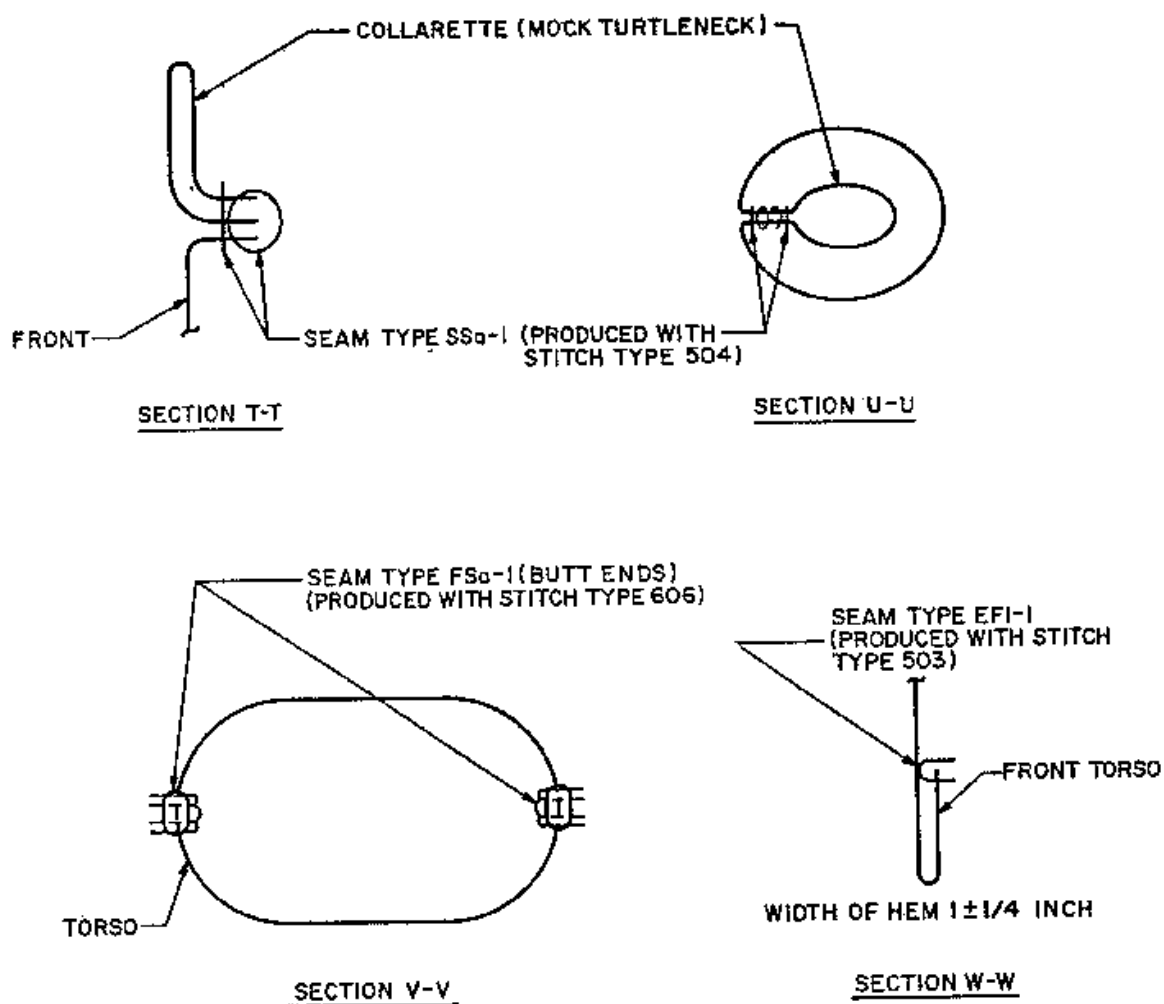
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DIMENSIONS IN INCHES,  
UNLESS OTHERWISE SPECIFIED,  
TOLERANCES SHALL BE AS  
SPECIFIED IN FIGURE 1.

FIGURE 9. Drawers sections

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**NOTE:** SECTION V-V INDICATES SIDE SEAMING IN THE UNDERSHIRT. THIS SEAMING IS OPTIONAL AND MAY BE ELIMINATED BY USING TUBULAR KNIT FABRIC.

FIGURE 10. Undershirt sections

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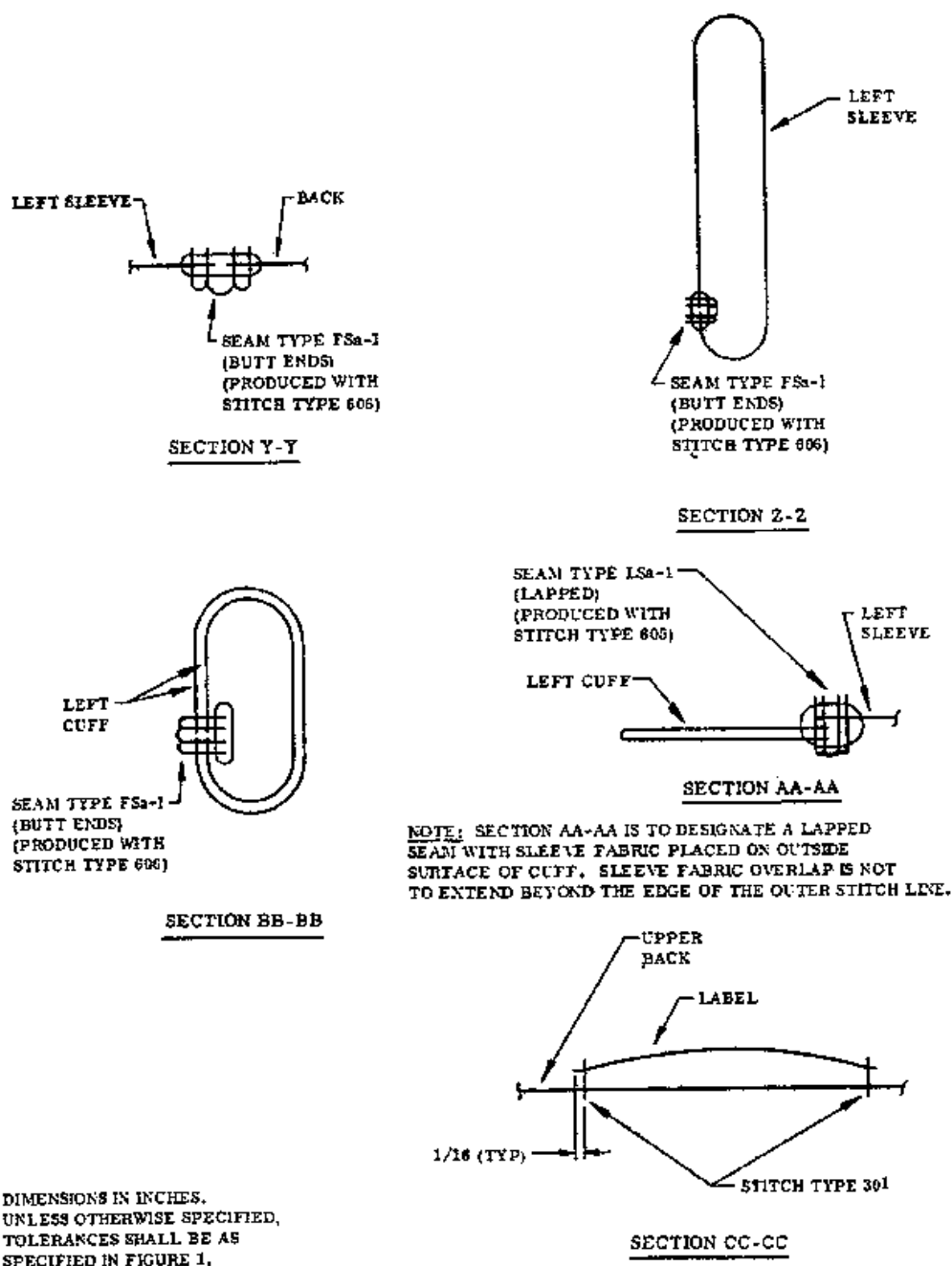
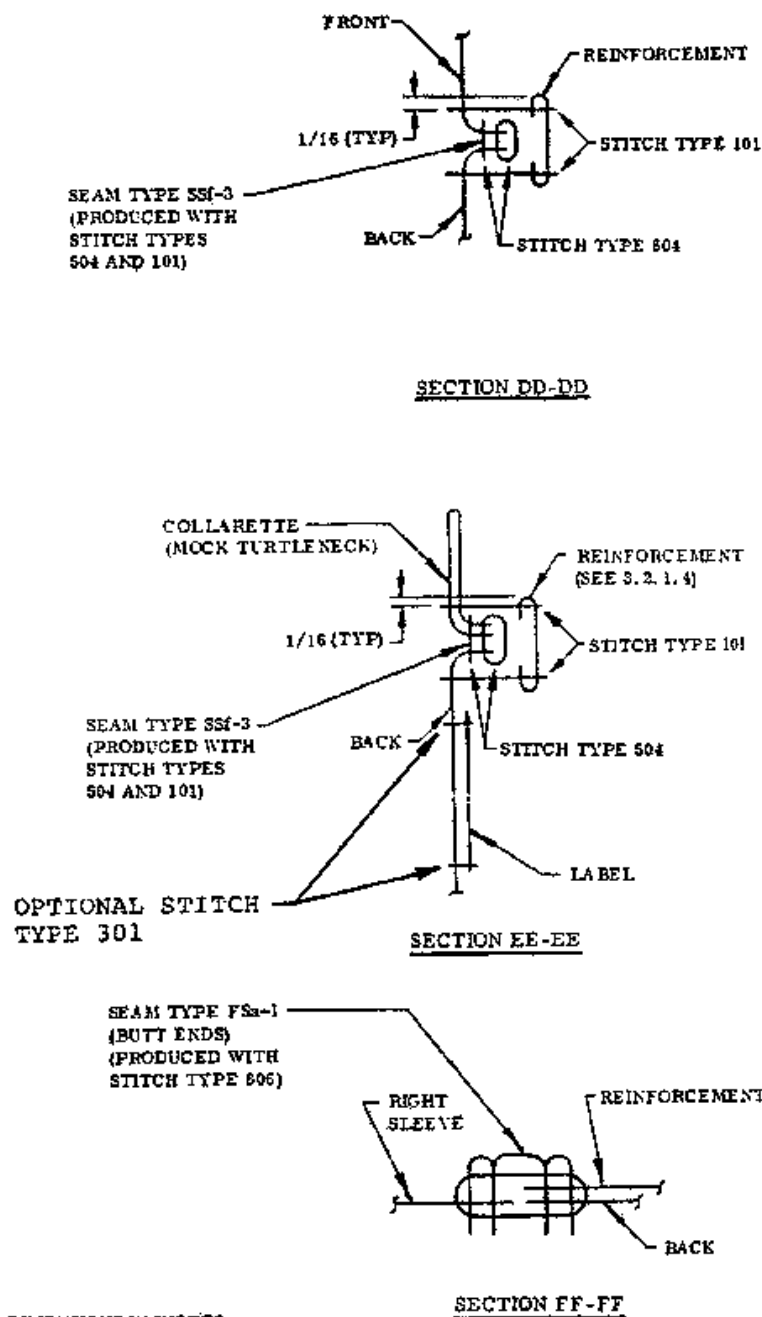


FIGURE 11. Undershirt sections

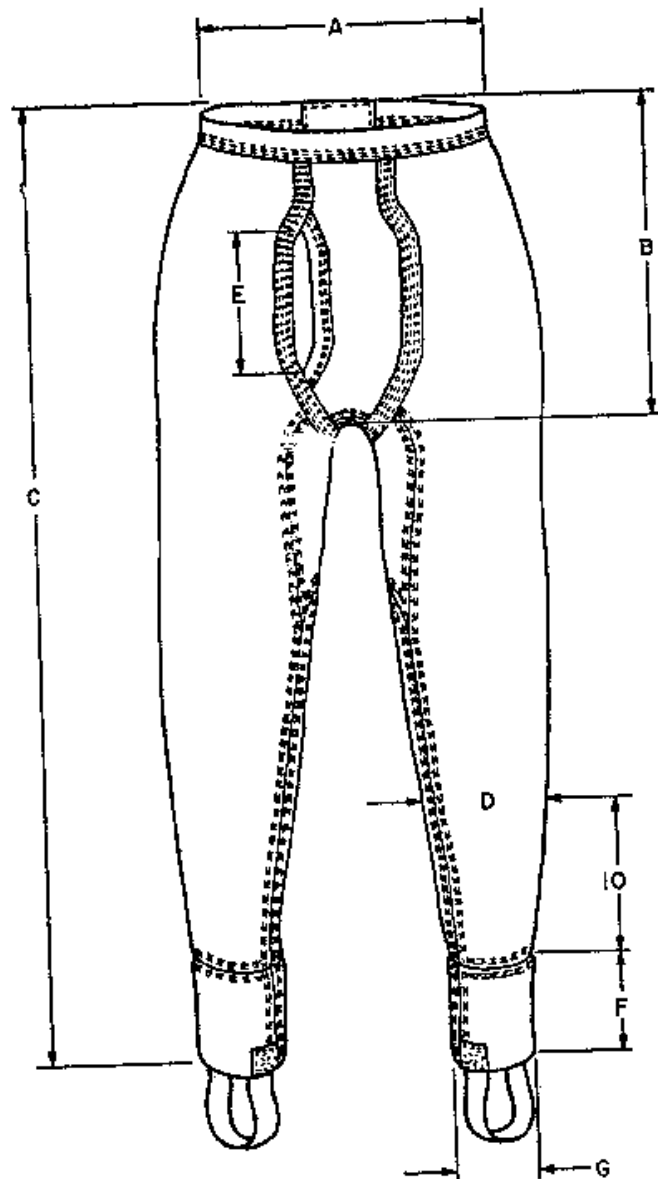
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DIMENSIONS IN INCHES.  
UNLESS OTHERWISE SPECIFIED,  
TOLERANCES SHALL BE AS  
SPECIFIED IN FIGURE 1.

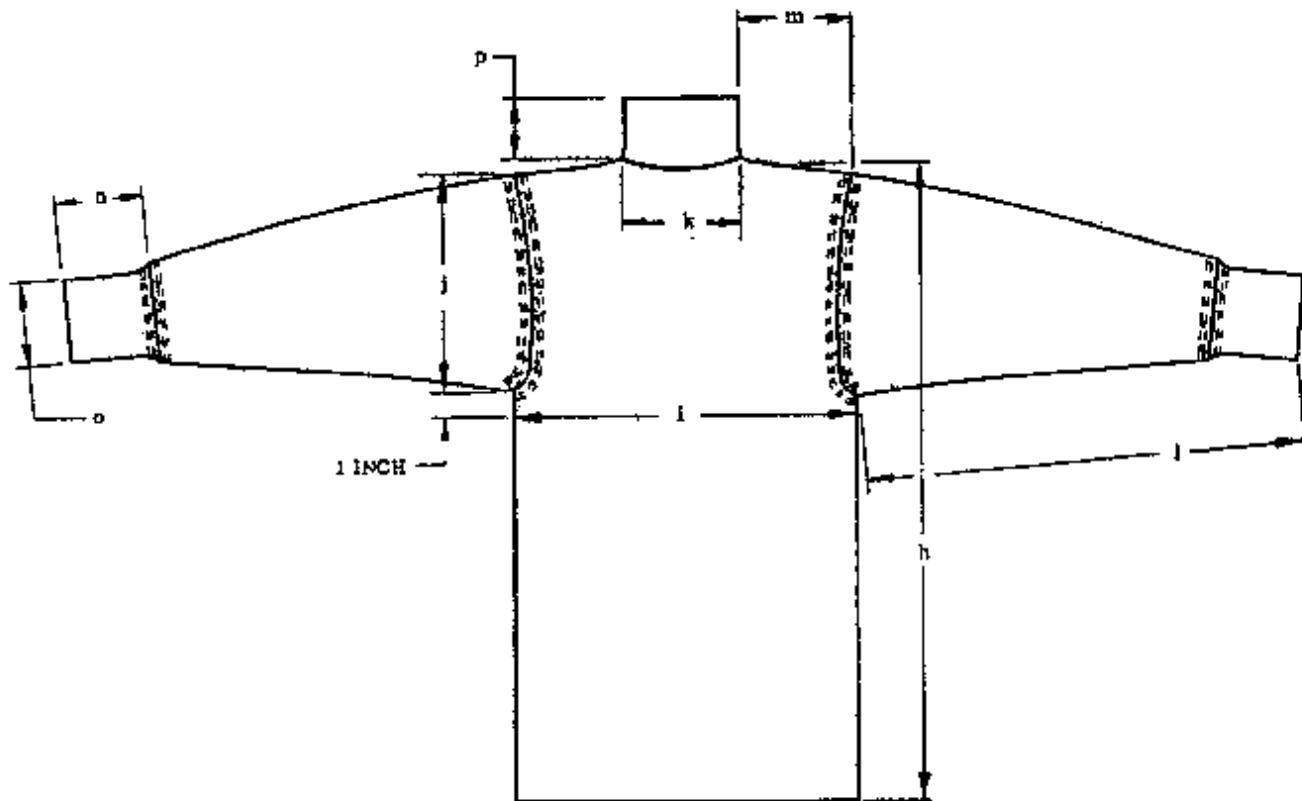
FIGURE 12. Undershirt sections

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Dimensions in inches.  
For information see 4.5.2.1.

FIGURE 13. Location of drawers dimensions



DIMENSIONS IN INCHES.  
FOR INFORMATION SEE 4, 6, 2, 2.

FIGURE 14. Location of undershirt dimensions