

MIL-T-87062B(NU)
22 September 1987
SUPERSEDING
MIL-T-87062A
11 June 1984

MILITARY SPECIFICATION

TROUSERS, UTILITY, MEN'S, DENIM

This specification is approved for use by the Navy Clothing and Textile Research Facility, Department of the Navy, and is available for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers the requirements for utility trousers made from a denim material.

1.2 Classification. The trousers shall be in the following types, sizes, and lengths (see 6.2).

1.2.1 Types.

Type I - Cotton/Polyester
Type II - Cotton, Flame Resistant

1.2.2 Sizes. 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 40, 42, 44, 46, 48, and 50.

1.2.3 Lengths. Regular and X-Long.

2. APPLICABLE DOCUMENTS

2.1 Government documents.

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

Beneficial comments (recommendations, additions, 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 01760-2490 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC N/A

FSC 8405

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SPECIFICATIONS

FEDERAL

- V-B-871 - Button, Sewing Hole, and Button, Staple, (Plastic)
- V-F-106 - Fasteners, Slide, Interlocking
- V-T-280 - Thread, Cotton Gimp, Buttonhole
- NN-P-71 - Pallets, Material Handling, Wood, Stringer Construction, 2 Way and 4 Way (Partial)
- DDD-L-20 - Label; For Clothing, Equipage and Tentage, (General Use)

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- MIL-P-15011 - Pallet, Material Handling, Wood Post Construction, 4-Way Entry
- MIL-B-17757 - Box, Shipping, Fiberboard (Modular Sizes)
- MIL-C-24915 - Cloth, Denim, Cotton (Flame Retardant Treated)
- MIL-T-43548 - Thread, Polyester Core: Cotton, Rayon or Polyester Covered
- MIL-C-87064 - Cloth, Denim, Cotton and Polyester

STANDARDS

FEDERAL

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

MILITARY

- MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attributes
- MIL-STD-129 - Marking for Shipment and Storage
- MIL-STD-147 - Palletized Unit Loads
- MIL-STD-1488 - Provisions for Evaluating Quality of Trousers

(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).

* 2.1.2 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this specification to the extent specified herein. Unless otherwise specified, the issues shall be those in effect on the date of the solicitation.

LAWS AND REGULATIONS

US POSTAL SERVICE MANUAL

(Copies of the manual may be obtained from the Superintendent of Documents, US Government Printing Office, Washington, DC 20402).

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* 2.2 Other publications. The following document(s) form a part of this specification to the extent specified herein. Unless otherwise specified, the issues of the documents which are DOD adopted shall be those listed in the issue of the DODISS specified in the solicitation. Unless otherwise specified, the issues of documents not listed in the DODISS shall be the issue of the nongovernment documents which is current on the date of the solicitation.

NATIONAL MOTOR FREIGHT TRAFFIC ASSOCIATION, INC., AGENT

National Motor Freight Classification

(Applications for copies should be addressed to the American Trucking Association, ATTN: Traffic Department, 1616 P Street, N.W., Washington, DC 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, Illinois 60606).

THE COLOR ASSOCIATION OF THE UNITED STATES

Standard Shades for Buttons - 1966

Standard Shades for Threads - 1968

(Applications for copies shall be addressed to the Color Association of the United States, 343 Lexington Ave., New York, N.Y. 10016).

* 2.3 Order of precedence. In the event of a conflict between the text of this specification and the references cited herein, the text of this specification shall take precedence. Nothing in this specification, however, shall supersede applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

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

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

3.3 Material.

3.3.1 Basic material.

3.3.1.1 Type I. The basic material for the Type I trousers shall be a cotton/polyester blended denim, conforming to MIL-C-87064. The material shall be dyed shade Blue 3371.

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3.3.1.2 Type II. The basic material for the Type II trousers shall be a flame resistant treated cotton denim, conforming to MIL-C-24915. The material shall be dyed shade Blue 3371.

3.3.2 Thread.

* 3.3.2.1 Thread, polyester, core. The thread for all trousers shall be a polyester core thread, two or three ply, ticket No. 50 or 70 of MIL-T-43548, except that the polyester covering shall not be used. The thread shall be dyed shade Blue AT, Cable No. 66060, in accordance with the Standard Shades For Threads.

3.3.2.2 Colorfastness. The dyed thread of 3.3.2.1 shall show fastness to light and laundering 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 in 3.3.2.1 shall show a minimum of "good" fastness to light and laundering when tested as specified in MIL-T-43548.

3.3.3 Gimp. The gimp for reinforcing the buttonholes shall be cotton, conforming to Type I or II, Size No. 8 of V-T-280. The gimp shall be dyed Blue AT, Cable No. 66060, in accordance with the Standard Shades For Threads.

3.3.3.1 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 gimp shall show a minimum of "good" fastness to laundering when tested as specified in V-T-280.

* 3.3.4 Slide fastener. The slide fastener for closing the fly shall conform to Type I, Style I, cam lock or semi automatic pin lock, size LMS, short tab pull of V-F-106. All metal components of the slide fastener shall be fabricated of brass except for the semi automatic pin lock cover and spring, which shall be stainless steel. All components shall be from the same supplier. The slide fastener shall be furnished with a staple bottom stop (see 4.4.1).

3.3.4.1 Tape for slide fastener.

3.3.4.1.1 Type I trousers. The tape for the Type I trouser slide fastener shall be cotton or synthetic or a combination. The tape shall approximate the shade of the basic material and shall show good fastness to laundering as specified in V-F-106.

3.3.4.1.2 Type II trousers. The tape for the Type II trouser slide fastener shall be high temperature resistant aramid. The color of the tape shall be black, and shall meet commercially acceptable colorfastness requirements for aramid tapes.

3.3.5 Buttons, plastic. The buttons for the waistband and left hip pocket closure shall conform to Type II, Class D, Style 4, 22-line of V-B-871. The color shall be Black BT, Cable No. 62001, in accordance with the Standard Shades For Buttons.

3.3.6 Labels.

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* 3.3.6.1 Combination label. Each pair of trousers shall have a combination identification, personal and instruction label conforming to Type VI, Classes 10 and 15 of DDD-L-20. The printing shall show fastness to laundering and shall bear the following inscription and format:

Type I trouser label.

NAME:
SERVICE NO:
TROUSERS, UTILITY, MEN'S DENIM - TYPE I
FIBER CONTENT: 65% Cotton/35% Polyester
CONTRACT NO: DLA 100-00-0-0000 (Example)
NAME OF CONTRACTOR:

LAUNDERING INSTRUCTIONS

FILL WASHER AND DRYER TO 2/3 CAPACITY
GARMENTS MUST ALWAYS BE TURNED INSIDE OUT
Machine Wash, Hot Water,
NO STARCH, NO BLEACH
Tumble Dry, Medium Heat
Remove Promptly

or

Follow NAVEDTRA 414-01-45-81, Formula II
FILL WASHER AND DRYER TO 2/3 CAPACITY
GARMENTS MUST ALWAYS BE TURNED INSIDE OUT

The printed label should use uppercase letters, bold print and underlining as indicated above.

Type II trouser label.

NAME:
SERVICE NO:
TROUSERS, UTILITY, MEN'S, DENIM - TYPE II
FIBER CONTENT: 100% Cotton (Flame retardant treated)
CONTRACT NO. DLA-100-00-0-0000 (Example)
NAME OF CONTRACTOR:

LAUNDERING INSTRUCTIONS

FILL WASHER AND DRYER TO 2/3 CAPACITY
GARMENTS MUST ALWAYS BE TURNED INSIDE OUT
Machine Wash, Hot Water,
NO STARCH, NO BLEACH
Tumble Dry, Medium Heat
Remove Promptly

or

Follow NAVEDTRA 414-01-45-81, Formula II
FILL WASHER AND DRYER TO 2/3 CAPACITY
GARMENTS MUST ALWAYS BE TURNED INSIDE OUT

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The printed label should use uppercase letters, bold print and underlining as indicated above.

NOTE: The lengths (Regular and X-Long) may be abbreviated as R or XL

* 3.3.6.2 Size label. The size label for the trousers shall conform to Type IV or VI, Class 2 of DDD-L-20 and shall bear the following inscription:

Size 38R (Example)
STOCK NO: 8405-00-000-0000 (Example)

* 3.3.6.3 Removable size ticket. Each pair of trousers shall have a commercial type size ticket attached to the outside of the waistband above the left back pocket. The ticket shall be approximately 3 inches long and 1 inch high, made of a suitable plain white cardboard. The corners of the ticket may be double perforated for ease in tacking. The size (38R - Example) shall be printed or stamped on the upper left hand corner in black or blue ink. The lettering for the size shall be 1/4 inch in height. Abbreviations for lengths shall be allowed in accordance with 3.3.6.1.

* 3.4 Design. The trousers shall be of double needle construction, fabricated from denim fabric. The Type I trousers shall be made of a cotton/polyester denim fabric and the Type II trousers shall be made of a cotton flame retardant treated denim fabric. The trousers shall feature two front patch pockets, two back patch pockets, two back waist darts, button/buttonhole waistband, slide fastener fly closure, and separate one-piece waistband with belt loops. The leg style shall be bell bottom and unhemmed (see Figure 1).

3.4.1 Figure. The figure is furnished for information purposes only. When inconsistencies exist between the written specification and the figure, the written specification shall govern.

3.5 Patterns. Standard patterns for both types of trousers will be furnished by the Government to the contractor for use in cutting the working patterns (see 6.3). The working patterns shall be identical to the Government patterns. Neither the Government patterns nor the working patterns shall be altered in any way. The patterns allow 1/2 inch seam allowance for all seams, except as otherwise indicated in Table I.

3.5.1 Pattern parts. The component parts of both types of trousers shall be cut from material as specified and in accordance with the pattern parts required for the manufacturing process as follows:

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Material	Nomenclature of pattern parts	Cut parts
Basic material	Backs	2
	Fronts	2
	Waistband	1 1/
	Fly	2 2/
	Fly lining (right)	1
	Front patch pockets	2
	Back patch pockets	2
	Template	Pockets
	Fronts	-
	Back	-

NOTE: Pattern is not furnished for belt loops (see operation 6).

1/ Waistband may be banded (see operation 12).

2/ Slide fastener location is for left fly only.

3.6 Construction.

* 3.6.1 Stitches, seams, and stitching. Stitch, seam, and stitching types specified in Table I shall conform to FED-STD-751. Whenever two or more methods for seam or stitch types are given for the same operation any one may be used. Seam allowances shall be maintained with seams sewn so that no raw edges, runoffs, twists, pleats, puckers or open seams result. All seams shall start and finish evenly. Thread tension shall be maintained so that there is no tight or loose stitching. Where stitch type 401 is used, the looper (underthread) shall be on the inside of the trousers. Ends of all seams produced by stitch type 401 shall be caught in other seams or stitchings. The width of the safety stitch shall be 3/8 inch and the guides and knives on the safety stitch machine shall be set to trim only the ravelled ends of the fabric. Unless otherwise specified, topstitching and edgestitching shall be 1/16 to 1/8 inch from the edge and all double needle stitching shall be 1/4 inch gauge with the row of stitching next to the folded edge not more than 1/16 inch from the edge. The use of a trimming knife in the overedging of the right fly in operations 8f and 8g is prohibited.

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 stitchings shall be backtacked not less than 1/4 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 secured by stitching back of break not less than 1/2 inch. Skipped stitches or thread breaks (401 stitch type) may be repaired by using 301 stitch type. The ends of type 401 stitching not caught in other seams or stitching shall have a 1/2 to 3/4 inch chain extending from it.

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

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listed provided that the finished trouser is identical to that produced by following the sequence of operations listed in Table I.

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

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

NOTE: The use of ink pad numbering machine, rubber stamp or pencil is allowed, provided the numbering does not show on the outside of the garment and wherever possible, is covered by the seam allowance.

3.7.2 Pressing. All pressing required in Table I shall be done with heated pressing iron or machine.

3.7.3 Abbreviations in table of operations. The abbreviations used in Table I are as follows:

Stch	-	Stitch
in	-	inch
Ndl	-	Needle
Bob	-	Bobbin
Lpr	-	Looper
Mchne	-	Machine
Brtck	-	Bartack
Comrc1	-	Commercial
smlr	-	similar
Btnhl	-	Buttonhole
incl	-	including
dbl	-	double
tckr	-	tacker

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TABLE I - CONSTRUCTION OF TROUSERS

No.	Operation	Stch Type	Seam/ Stch type	Stch in	Thread Ndl Bob/ Lpr
1.	<p data-bbox="288 359 405 384"><u>Cutting.</u></p> <p data-bbox="288 386 943 527">a. Cut the trousers in strict accordance with patterns furnished, which shall show size, placement of component parts, directional lines for cutting, and notches for the proper assembly of all component parts.</p> <p data-bbox="288 564 943 731">b. All component parts shall be cut from one piece of material, except the left and right fly, right fly lining, banded waistband and belt loops, which may be cut from ends. Parts cut from ends shall approximate the shade of the trousers.</p> <p data-bbox="288 768 943 1048">c. Lay fronts and backs so that the directional line is in the warp direction. The directional line may vary from the warp direction by not more than 1-1/2 inches on both fronts and backs. Measurement shall be taken from the top and bottom of the directional line on pattern to the selvage edge of the fabric and the difference between the two measurements shall not exceed the tolerance specified.</p> <p data-bbox="288 1085 943 1248">d. Cut the stripping for belt loops and banded waistband of sufficient width to comply with operations 6 and 12. The stripping may be placed on rolls, however, there shall not be any pieced belt loops or waistband visible on the finished trousers.</p>				
2.	<p data-bbox="288 1289 794 1314"><u>Replacement of defective components.</u></p> <p data-bbox="288 1316 943 1483">During the spreading, cutting, and manufacturing process, components having material defects or damages that are classified as defects in MIL-STD-1488 shall be removed from production and replaced with nondefective and properly matched components.</p>				
3.	<p data-bbox="288 1520 778 1545"><u>Shade and size marking (see 3.7.1).</u></p> <p data-bbox="288 1547 943 1600">All parts shall be marked, ticketed or bundled, except those parts cut from ends.</p>				

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TABLE I - CONSTRUCTION OF TROUSERS

No.	Operation	Stch Type	Seam/ Stch type	Stch in	Thread	
					Ndl	Bob/ Lpr
4.	<u>Make darts and attach label.</u>					
	a. Fold darts as indicated by marks on patterns and stitch tapering lower end of dart to nothing. Thread ends at lower end of darts shall not be trimmed closer than 1/2 inch in length or when automatic dart machine is used, the thread ends at lower end of dart shall be backstitched.	301 or 401	OSf-1	8-10	50	50 70
	b. Fold darts inside towards center back seat seam and edge stitch to back parts, 1/16 inch from folded edge.	301	OSe-2	8-10	50	50
	NOTE: When drill marks are used, they should be placed 1/2 inch above bottom of dart, and be covered by the stitching.					
	c. The combination label shall be placed on inside left hip centered under pocket. Stitch 1/16 to 1/8 inch from edge on all four sides.	301	LSbj-1	8-10	50	50
5.	<u>Make patch pockets.</u>					
	a. Fold pocket hem as indicated by pattern marks with the raw edge turned under 3/16 to 1/4 inch. Stitch top and bottom edges 1/16 to 1/8 inch from folded edge.	301 or 401	Eft-2 (in- verted)	8-10	50	50 70
	or					
	b. Stitch hem with a double needle machine in one operation using a folder.	301 or 401	Eft-2 (in- verted)	8-10	50	50 70
	NOTE: As an aid to obtaining uniformity and proper shape, pockets may be precreased in accordance with the template.					
6.	<u>Make belt loops.</u>					
	a. Fold stripping with edges abutted at center and double stitch not less than 3/16 inch gauge, using a cover stitch on the underside.	406	EPh-1	6-10	50	50

or

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TABLE I - CONSTRUCTION OF TROUSERS

No.	Operation	Stch Type	Seam/ Stch type	Stch in	Thread	
					Ndl	Bob/ Lpr
	b. Fold stripping lengthwise. Turn under both raw edges and stitch each edge 1/16 to 1/8 inch from the edge.	301 or 401	EPp-2	8-10	50	50 70
	c. The finished loops shall measure 7/16 to 1/2 inch wide.					
7.	<u>Attach patch pockets.</u>					
	a. Position the patch pockets to their respective parts according to marks on pattern. Fold under raw edges 5/16 to 3/8 inch and double stitch through all plies of material the sides and bottom edges of pockets.	301 or 401	LSd-2	8-10	50	50 70
	b. The pocket shape and the space between bartacks (see operation 14) for all sizes shall not vary more than 1/4 inch from the finished pocket template.					
- 8.	<u>Make flies.</u>					
	a. Overedge back edge of left fly. Operation may be done during 12h.	503 or 504	EFd-1	6-10	70	70
	b. Double stitch fastener tape 3/16 to 1/4 inch gauge to left fly. The edge of the chain shall be 5/8 (+ 1/8) inch from front edge of finished fly from top to bottom.	301 or 401	SSau-2	8-10	50	50 70
	c. Stitch the right fly to the right fly lining, face to face, along outward curved edge, 1/4 inch from edge. Turn to finished position and top stitch 1/16 to 1/8 inch from edge.	301	SSe-2	8-10	50	50
	d. Overedge stitch front edge and bottom of right fly lining extension piece.	503 or 504 or 602	EFd-1	6-10	70	70
	e. Stitch fastener tape to back edge of right fly through all plies.	301 or 401	SSa-1	8-10	50	50 70

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TABLE I - CONSTRUCTION OF TROUSERS

No.	Operation	Stch Type	Seam/ Stch type	Stch in	Thread	
					Ndl	Bob/ Lpr
	f. Overedge stitch back edge of right fly catching fastener tape in stitching. This operation is to be performed without the use of a trimming knife.	503 or 504 or 602	EPd-1	6-10	70	70
	or					
	g. As alternate, operation 8e. and f. may be performed in one operation by simultaneously stitching and overedging. This operation is to be performed without the use of a trimming knife.	515 or 516 or 519	SSa-1	6-10	50 70	70 70
9.	<u>Attach flies to fronts.</u>					
	a. <u>Stitch left fly to left front 1/4 inch from raw edge, face to face according to notches. Turn seam allowance against left fly and top stitch 1/16 to 1/8 inch along folded edge of fly.</u>	301	LSq-2	8-10	50	50
	b. <u>Double stitch right fly to front edge of right front from fly notch to top of front.</u>	301 or 401	LSb-2	8-10	50 50	50 70
	c. <u>Attach the slider, and with the scoops evenly matched, staple the bottom of the slide fastener tape. The staple shall be perpendicular to the line of the scoops and shall overlap the scoops. The stop shall be within 3/8 inch of fly notch. The end of the tape shall extend at least 1/8 inch below notch.</u>					
10.	<u>Join crotch and seat seam.</u>					
	a. <u>Double stitch crotch seams with left front lapped over right front, with edges folded in, catching right fly extension pieces in the stitching, simulating a double lapped, double stitched seam.</u>	301 or 401	EPa-1 and Similar to LSav-2	8-10	50 50	50 70

or

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TABLE I - CONSTRUCTION OF TROUSERS

No.	Operation	Stch Type	Seam/ Stch type	Stch in	Thread Ndl Bob/ Lpr
	b. Turn crotch seam allowance of right fronts to the outside and stitch. Turn edge of left front seam allowance to inside and double stitch, catching the right front crotch seam and right fly extension piece with both rows of stitching. The simulated double lapped seam shall have the left front lapped over right front.	301 or 401	EPa-1 and simlr to LSav-3	8-10	50 50 50 70
	c. Join seat seam with a double lapped and double stitched seam with right back lapped over left back. The seat seam and crotch seam shall not be out of alignment by more than 3/8 inch.	301 or 401	LSc-2	8-10	50 50 50 70
11.	<u>Join outseams and inseams.</u> Stitch outseams and inseams with a double lapped and double stitched seam with fronts lapped over back.	301 or 401	LSc-2	8-10	50 50 50 70
12.	<u>Attach waistband and size label.</u> a. The top of the slide fastener shall be even with the top of unfinished trousers.				
	NOTE: When chain teeth are removed, they shall be within 1/8 inch from lower topstitching of waistband. When they finish greater than 1/8 inch, a top stop shall be required, located not more than 1/16 inch from top of teeth. The top stop shall be located not more than 1/4 inch from lower topstitching of waistband.				
	b. Position waistband on inside top of trousers, aligning raw edges and matching notches. Stitch 3/8 to 1/2 inch from raw edges simultaneously catching the top edge of size label, centered over the inside of left dart, in the stitching.	301 or 401	BSg-2(a)	8-10	50 50 50 70
	c. Turn waistband to finished position, turn bottom edge under 3/8 to 1/2 inch and stitch to top of trousers, matching notches.	301	BSg-2(b)	8-10	50 50

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TABLE I - CONSTRUCTION OF TROUSERS

No.	Operation	Stch Type	Seam/ Stch type	Stch in	Thread	
					Ndl	Bob/ Lpr
d.	Turn front end of right waistband inward and stitch along folded edge and along top of waistband.	301	SSc-1	8-10	50	50
		or 401	and OSf-1		50	70
or						
e.	As an alternate, fold waistband in half lengthwise. Turn bottom edges and front end of right waistband inward; insert trouser into waistband, positioning size label on inside of trousers, centered over the left dart, and stitch along bottom edge, right edge and top edge of waistband, matching notches.	301	BSc-1 and SSc-1 and OSf-1	8-10	50	50
or						
f.	As an alternate, waistband can be banded by using a folder and double needle machine.	301	BSc-2	8-10	50	50
g.	As an alternate, the size label may be legibly stamped on the left inside waistband, centered over the left dart. The printing shall be legible without smears.					
h.	Overedge stitch left end of waistband (see 8a).	502 or 503 or 504	EPd-1	6-10	70	70
i.	Fold front end of left waistband and fly to underside and stitch inner and top edge of trouser front, from top of waistband to fly notch, forming "j" stitching.	301	LSa-1	8-10	50	50
j.	As an alternate to operations 12h. and 12i., prior to adding waistband, the left fly may be folded back and stitched to left front. Stitch on waistband according to operation listed above. Turn front end of left waistband inward and stitch along folded edge. The finished edge shall be in alignment with folded edge of fly. The left end shall finish similar to the right end of waistband.	301	SSe-2 BSc-1 and SSc-1	8-10	50	50
k.	The stitching above the curve shall be 1-1/2 (+ 1/4, - 1/8) inches from front edge for all sizes.					

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TABLE I - CONSTRUCTION OF TROUSERS

No.	Operation	Stch Type	Seam/ Stch type	Stch in	Thread	
					Ndl	Bob/ Lpr
	1. The finished width of the waistband shall be 1-1/2 (+ 1/8) inches.					
13.	<u>Attach beltloops.</u>					
	a. The trousers shall have seven belt loops positioned as follows:					
	- One loop centered (+ 1/2) inch on each front part					
	- One loop on each side seam					
	- One loop centered (+ 1/2) inch on each back part					
	- One loop centered on seat seam					
	b. Place belt loops in desired position (see a. above), underside out with raw edge even with bottom of waistband and securely stitch or bartack 3/16 to 5/16 inch from raw edge.	301 or brtck or	SSa-1	8-10 21-28 per brtck	50	50
		auto loop tckr		24-28 per brtck	50	50
	c. Turn to finished position, turn under top of belt loops, even with top of waistband and securely stitch or bartack 1/16 to 1/8 inch through all plies of waistband.	301 or brtck	LSd-1	8-10 21-28 per brtck	50	50
	or	or auto loop tckr		24-28 per brtck		
	d. As an alternate, turn under top of belt loop 3/8 to 7/16 inch with the folded edge of loop even with the top edge of waistband and bartack through all plies. The bottom free end shall be turned under 3/8 to 7/16 inch and bartacked through all plies. Bartack shall not be more than 1/8 inch from the top and bottom folded ends of loops.	brtck or		21-28 per brtck	50	50
		auto loop tckr		24-28 per brtck	50	50
	NOTE: The bartack shall be centered on the belt loops.					
	e. The belt loops shall finish 1-1/2 (+ 1/8) inches between tacks.					

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No.	Operation	Stch Type	Seam/ Stch type	Stch in	Thread	
					Ndl	Bob/ Lpr
14.	<u>Bartack.</u> Stitch a 3/8 to 7/16 inch long bartack as follows:	brtck		21-28	50	50
	(1) One at each top corner of pocket across row of double stitching.			per brtck		
	(2) One at base of fly across top ends of stitching of front crotch seam, superimposed on the end of "j" stitching (operation 121.).					
	(3) One superimposed on the "j" stitching of fly. The bottom end of the bartack shall be located 1 to 1 1/8 inches from the base of the fly, measured along the curve of the "j" stitching, relieving tension on the bottom stop. Bartack through all plies.					
	(4) Two on each belt loop located as specified in operation 13.					
15.	<u>Buttonholes.</u> a. Buttonholes shall be 5/8 inch long, cut after, worked over gimp, eyelet end, taper bar type. The purling shall finish on the outside of the trousers. The buttonholes shall be made and located as follows:					
	(1) One horizontal buttonhole centered in left end of waistband with center of the eyelet 1/2 inch from front end of left finished waistband.	btnhl		46 per btnhl	50	50
	(2) One vertical buttonhole centered in hem of left back pocket with the center of eyelet 3/8 inch from top of pocket.	btnhl		46 per btnhl	50	50
16.	<u>Button.</u> a. Align, position and sew a 22-line button as follows:					
	(1) One on right end of waistband to correspond with eyelet of buttonhole in left end of waistband.	101 or 301		20-22 per btn	50	50
	(2) One on left back to correspond to buttonhole in left back pocket.	101 or 301		20-22 per btn	50	50
				14-16 per btn	50	50
				14-16 per btn	50	50

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TABLE 1 - CONSTRUCTION OF TROUSERS

No.	Operation	Stch Type	Seam/ Stch type	Stch in	Thread Ndl Bob/ Lpr
17.	<u>Cleaning.</u>				
	a. Remove all spots, stains and shade tickets.				
	b. Trim thread ends and remove all loose ends.				
	NOTE: Caution shall be taken so as not to harm the material when trimming.				
	c. Attach removable size ticket to outside of the waistband above the left back pocket.	Hand or machine		2-4 stitches per tack 6-8 stitches per tack	
18.	<u>Pressing.</u>				
	a. Press legs smooth with creases along both inseams and outseams.				
	b. Press top of trousers, including fly and ends of waistband.				

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3.8 Measurements. The finished trousers shall conform to the measurements shown in Table II.

Table II - Sizes and Measurements

Size	(A)	(B)	(C) Inseam		(D)	(E)
	Waist	Seat	Regular	X-Long	Knee	Bottom
26	26	34	35	39	19 1/4	23 1/4
27	27	35	35	39	19 1/4	23 1/4
28	28	36	35	39	19 1/2	23 1/2
29	29	37	35	39	19 1/2	23 1/2
30	30	38	35	39	19 3/4	23 3/4
31	31	39	35	39	19 3/4	23 3/4
32	32	40	35	39	20	24
33	33	41	35	39	20	24
34	34	42	35	39	20 1/4	24 1/4
35	35	43	35	39	20 1/4	24 1/4
36	36	44	35	39	20 1/2	24 1/2
37	37	45	35	39	20 1/2	24 1/2
38	38	46	35	39	21	25
40	40	48	35	39	21	25
42	42	50	35	39	21 1/4	25 1/4
44	44	52	35	39	21 1/2	25 1/2
46	46	54	35	39	21 3/4	25 3/4
48	48	56	35	39	22	26
50	50	58	35	39	22 1/4	26 1/4
Tolerance	+ 1/2	+ 1/2	+ 1	+ 1	+ 1/2	+ 1/2

NOTE: Refer to Figure 1 for A, B, C, D, and E measurements. Measurements shall be taken with the waistband buttoned and the slide fastener fully closed. Trousers shall be laid out smooth and flat.

- (A) Waist - Twice the measurement taken along the top edge of waistband from folded edge to folded edge.
- (B) Seat - Twice the measurement taken 1 inch above the lower fly bartack from folded edge to folded edge.
- (C) Inseam - Measurement shall be taken from crotch seam along the inseam to the unhemmed bottom edge.
- (D) Knee - Twice the measurement taken across the knee 22 (+ 1) inches (Regular) and 24 (+ 1) inches (X-Long) up from the unhemmed bottom edge.
- (E) Bottom - Twice the measurement taken across the unhemmed bottom edge from folded edge to folded edge.

3.9 Workmanship. The finished trousers shall conform to the quality established by this specification. The occurrence of defects shall not exceed

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the applicable acceptable point values or defect limits.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract, 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 performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

* 4.1.1 Responsibility for 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 in quality conformance does not authorize submission of known defective material, either indicated or actual, nor does it commit the Government to acceptance of defective material.

4.1.2 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. When required, the first article submitted in accordance with 3.2 shall be inspected as specified in 4.4.2 for compliance with design, construction, workmanship, appearance and dimensional requirements.

4.4 Quality conformance inspection. Sampling for inspection shall be performed in accordance with MIL-STD-1488.

4.4.1 Component and material inspection. In accordance with 4.1 above, components and materials shall be inspected and tested in accordance with the requirements for referenced specifications, drawings, and standards unless otherwise excluded, amended, modified or qualified in this specification or applicable purchase document. All test reports shall contain the individual values utilized in expressing the final result. The requirement that all components of the slide fastener have been furnished by one supplier shall be accepted on a certificate of compliance (see 3.3.4)

* 4.4.2 End item examination. Sampling and examination of the end item shall be performed in accordance with the provisions for utility trousers in MIL-STD-1488. In addition, the following defect also applies:

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Label

Removable size ticket missing, incorrect or illegible - Point Value - 3

4.4.3 Packaging inspection. Packaging inspection shall be in accordance with MIL-STD-1488.

4.5 Palletization examination. An examination shall be made to determine that the palletization complies with the section 5 requirements. Defects shall be scored in accordance with the list below. The sample unit shall be one palletized unit load fully packaged. The lot size shall be the number of palletized unit loads in the end item inspection lot. The inspection level shall be S-1 and the AQL, expressed in terms of defects per hundred units, shall be 6.5 as specified in MIL-STD-105.

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

5. PACKAGING

5.1 Preservation-packaging. Packaging shall be level A or C as specified (see 6.2).

* 5.1.1 Level A. Each pair of pressed trousers (see Table I, operation 18) shall be folded with fly inwards, laying one leg atop the other, matching side seams. Fold trousers in half by bringing up bottom edge even with top of waistband, and in half again by bringing the folded knee edge up even with top edge of waistband, making sure that label on waistband is readily visible. The folded trouser shall measure approximately 12 by 14 inches.

5.1.2 Level C. Trousers shall be packaged to afford adequate protection against physical damage during shipment from the supply source 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 as specified (see 6.2).

* 5.2.1 Level A. Fourteen (14) pairs of trousers of one type, size, and length only, packaged as specified in 5.1, shall be stacked in two piles side by side, with waistband alternated side for side, and packed in a fiberboard shipping container, assembled, closed and reinforced conforming to Type CF, Class Weather-Resistant, Variety DW, Grade V15c Size 2A of MIL-B-17757. The fiberboard for the box liner shall conform to Type CF, Class Domestic of

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*MIL-B-17757. Each container shall have the contents completely covered on the top and bottom with a sheet of commercial grade kraft paper. Toward the end of the contract or order, or when there is less than the required amount per container of the same size, mixed sizes may be packed within the same shipping container.

* 5.2.2 Level B. Fourteen (14) pairs of trousers of one type, size, and length only, packaged as specified in 5.1, shall be stacked in two piles side by side with waistband alternated side for side, and packed in a fiberboard shipping container assembled and closed conforming to Type CF, Class Domestic, Variety DW, Grade 200, Size 2A of MIL-B-17757. The fiberboard for the box liner shall conform to Type CF, Class Domestic of MIL-B-17757. Each container shall have the contents completely covered on the top and bottom with a sheet of commercial grade kraft paper. Toward the end of the contract or order, or when there is less than the required amount per container of the same size, mixed sizes may be packed within the same shipping container.

5.2.3 Level C. Trousers, 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 US Postal Service Manual, Uniform Freight Classification Rules or National Motor Freight Classification Rules, as applicable.

* 5.2.4 Palletization. When specified (see 6.2) item, packed as specified shall be palletized on a 4-way entry pallet in accordance with load type Ia of MIL-STD-147. Each prepared load shall be bonded with primary and secondary straps in accordance with the bonding means C, K, and L or O or P. Pallet patterns shall be in accordance with the appendix of MIL-STD-147.

The pallet shall be 4-way, Type IV; Type V, Class 1, Size 2; or Type VIII, fabricated from wood groups I, II, III, or IV, Grade A of NN-P-71, or 4-way, Style 1, Size A, Type I, Class 1 fabricated from wood groups specified, of MIL-P-15011. Interlocking of loads shall be effected by reversing the pattern of each course. If the container is of a size which does not conform to any of the patterns specified in MIL-STD-147, the pallet pattern used shall first be approved by the contracting officer.

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

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 4 by 5 inches with the words "Mixed NSN'S" plainly stamped or printed thereon and under these words shall be legibly stamped or printed the correct quantity and national stock numbers contained therein.

6. NOTES

6.1 Intended use. The trousers are intended to be worn in conjunction with

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the utility shirt as part of the enlisted man's working uniform.

* 6.2 Ordering data. Procurement documents should specify the following:

- a. Title, number, and date of this specification.
- b. Type, sizes and lengths required (see 1.2).
- c. When first article sample is required (see 3.2). The item will be tested and shall be a first article sample. The contracting officer should include specific instructions in acquisition documents regarding arrangement for examination, quantity, and testing and approval.
- d. Selection of applicable levels of packaging and packing (see 5.1 and 5.2).
- e. When palletization is required (see 5.2.4).

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 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.

* 6.5 Subject term (key word) listing.

Denim
Flame retardant
Polyester/Cotton
Trousers
Utility

Custodian:
Navy - NU

Preparing activity:
Navy - NU

Review activity:
DLA - CT

Project No. 8405-N037

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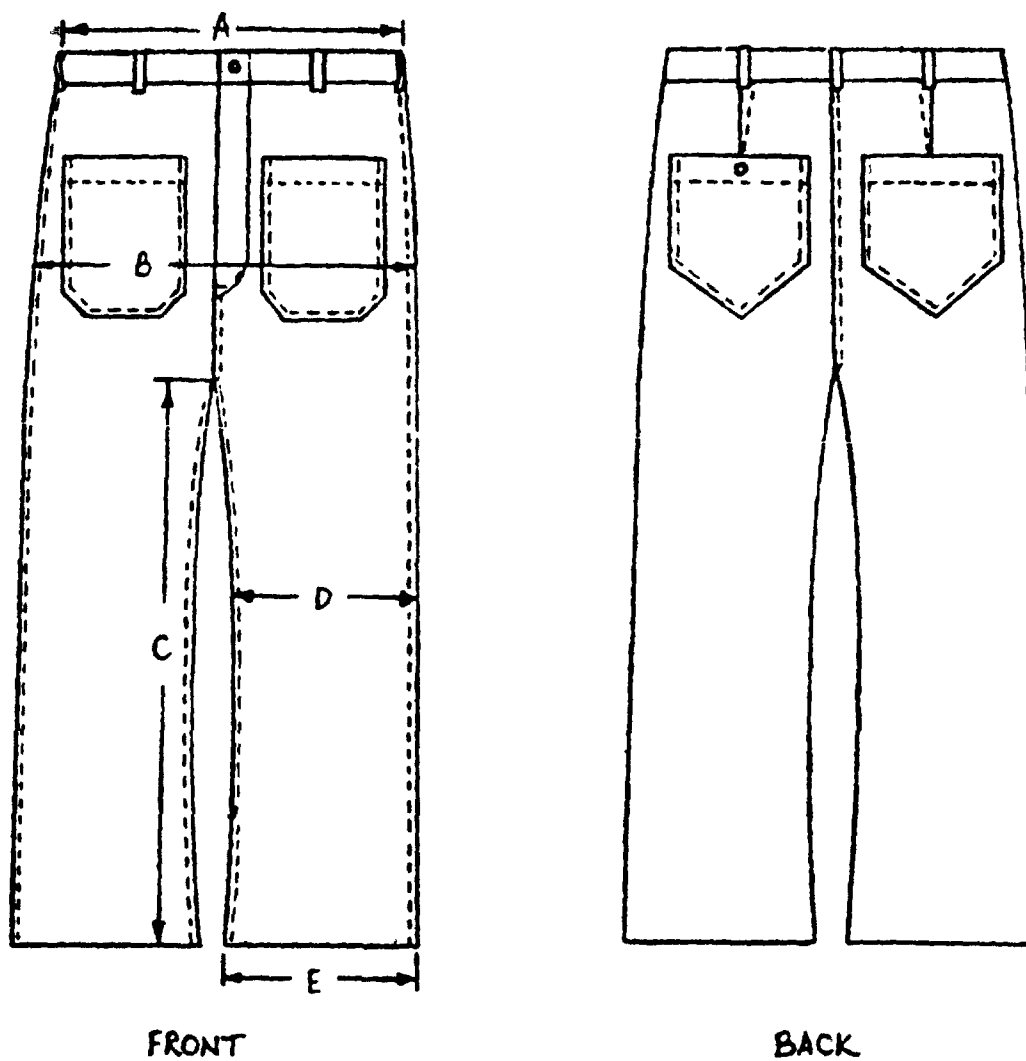


Figure 1 - Trousers, Utility, Men's Denim

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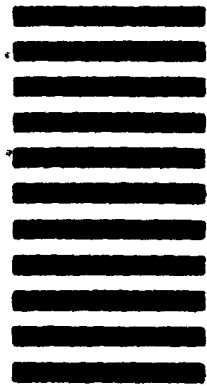
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b. Recommended Wording			
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