

INCH-POUND

MIL-C-3095G (USAF)

25 November 1988

SUPERSEDING

MIL-C-3095F (USAF)

25 January 1985

MILITARY SPECIFICATION

CAP, SERVICE, MAN'S, AIR FORCE

This specification is approved for use by the Department of the Air Force, 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 a man's Air Force service cap.
- * 1.2 Classification. The cap shall be of one type in the following classes, as specified (see 6.2):

Class 1 - Polyester/wool tropical cloth, USAF Blue 1578, 10.00 oz.

Class 2 - Polyester/wool tropical cloth, USAF Blue 1608, 10.25 oz.

- 1.2.1 Size. The cap shall be furnished in the following sizes, as specified (see 6.2):

6-3/8	6-3/4	7-1/8	7-1/2	7-7/8
6-1/2	6-7/8	7-1/4	7-5/8	
6-5/8	7	7-3/8	7-3/4	

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: ASD/ENES, Wright-Patterson AFB OH 45433-6503 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

- * DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

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2. APPLICABLE DOCUMENTS

2.1 Government documents

- * 2.1.1 Specifications and standards. The following specifications and standards form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those listed in the issue of the Department of Defense Index of Specifications and Standards (DoDISS) and supplement thereto, cited in the solicitation (see 6.2).

SPECIFICATIONS

FEDERAL

C-F-206	Felt Sheet: Cloth, Felt, Wool, Pressed
H-S-951	Synthetic Filaments for Brushes; General Specification For
L-P-375	Plastic Film, Flexible, Vinyl Chloride
L-P-390	Plastic Molding and Extrusion Material, Polyethylene and Copolymers (Low, Medium, and High Density)
V-T-276	Thread, Cotton
V-T-295	Thread, Nylon
NN-P-71	Pallets, Material Handling, Wood, Stringer Construction, 2-Way and 4-Way (Partial)
UU-P-258	Paper, Index
UU-P-553	Paper, Wrapping, Tissue
CCC-C-432	Cloth, Sheeting, Cotton, (Unbleached, Bleached, and Dyed)
DDD-L-20	Label: For Clothing, Equipage, and Tentage, (General Use)
PPP-B-601	Boxes, Wood, Coated-Plywood
PPP-B-636	Boxes, Shipping, Fiberboard
PPP-T-45	Tape, Gummed, Paper, Reinforced and Plain, for Sealing and Securing

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MIL-C-368	Cloth, Satin, Rayon and Cloth, Twill, Rayon
MIL-B-593	Braid, Textile (Flat)
MIL-B-3461	Button, Insignia, Metal, Uniform and Cap
MIL-S-3577	Sweatband, Headwear, Leather
MIL-P-15011	Pallets, Material Handling, Wood Post Construction, 4-Way Entry
MIL-C-21115	Cloth, Tropical: Wool, Polyester/Wool
MIL-C-41831	Cloth, Knitted, Nylon, Raschel
MIL-L-43541	Leather, Cattlehide, for Visors and Chinstraps
MIL-T-43548	Thread, Polyester Core: Cotton-, Rayon-, or Polyester-Covered

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STANDARDS

FEDERAL

FED-STD-191	Textile Test Methods
FED-STD-311	Leather, Methods of Sampling and Testing
FED-STD-751	Stitches, Seams, and Stitching

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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-657	Provisions for Evaluating Quality of Service Caps
MIL-STD-2073	DoD Materiel Procedures for Development and Application of Packaging Requirements

(Unless otherwise indicated, copies of federal and military specifications and standards are available from the Naval Publications and Forms Center, (ATTN: NPODS), 5801 Tabor Ave., Philadelphia PA 19120-5099.)

- * 2.1.2 Other Government documents. The following other Government document forms a part of this document to the extent specified herein. Unless otherwise specified, the issues are those cited in the solicitation.

LAWS AND REGULATIONS

Rules and Regulations under the Textile Fiber Products Identification Act

(Application for copies should be addressed to the Federal Trade Commission, Washington DC 20508-0001).

- * 2.2 Non-Government publications. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents which are DoD adopted are those listed in the issue of the DoDISS cited in the solicitation. Unless otherwise specified, the issues of documents not listed in the DoDISS are the issues of the documents cited in the solicitation (see 6.2).

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM B 117	Method of Salt Spray (Fog) Testing (DoD adopted)
ASTM D 751	Coated Fabrics, Methods of Testing (DoD adopted)
ASTM D 1424	Test Method For Tear Resistance of Woven Fabrics by Falling-Pendulum (Elmendorf) Apparatus (DoD adopted)
ASTM D 3884	Standard Test Method for Abrasion Resistance of Textile Fabrics (Rotary Platform, Double-Head Method)
ASTM D 3951	Standard Practice for Commercial Packaging (DoD adopted)

(Application for copies should be addressed to the American Society for Testing and Materials, 1916 Race St., Philadelphia PA 19103-1187.)

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THE COLOR ASSOCIATION OF THE UNITED STATES

Department of Defense (DoD) Standard Color Card of Official Standardized Shades for Sewing Threads

(Application for copies should be addressed to The Color Association of the United States, 343 Lexington Ave., New York NY 10016-0927.)

(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.)

- * 2.3 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 shall take 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 (see 6.2), a sample shall be subjected to first article inspection (see 6.3) in accordance with 4.3.

3.2 Guide samples. Samples, when furnished (see 6.4), are solely for guidance and information to the contractor. Variations from the document may appear in the samples, in which case the document shall govern.

3.3 Materials (see 6.5)

- * 3.3.1 Basic material. The basic material for the class 1 cap shall be USAF Color Blue, Shade No. 1578 (see 6.4) conforming to type III, class 3 of MIL-C-21115 and the material for the class 2 cap shall be USAF Color Blue, Shade No. 1608 (see 6.4) conforming to type III, class 4 of MIL-C-21115.

- * 3.3.2 Lining. The material for covering the front stiffener and for lining the body of the cap shall be gray, approximating USAF Color Gray, Shade No. 1154 (see 6.4) and shall conform to class 1 of MIL-C-368.

3.3.3 Crown seam tape. The crown seam tape shall be made from the lining material specified in 3.3.2 or from cotton sheeting. The cotton sheeting shall conform to type VII or VIII, class 3 of CCC-C-432 except that the cotton sheeting shall not contain more than 6 percent nonfibrous materials; the requirements for colorfastness to light and to laundering and for seam efficiency shall not apply; and the shrinkage shall not exceed 6 percent in the warp or the filling. The cotton sheeting shall be dyed to approximate the shade of the lining material specified in 3.3.2. The lining material or the cotton sheeting for the crown seam tape shall be bias cut 1-5/8 inches wide, with the raw edges overlapping 1/16 \pm 1/32 inch on the underside, to form binding.

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3.3.4 Interlining for crown seam tape. The interlining for the crown seam tape shall be bias cut, $3/4 \pm 1/16$ inch wide, from natural or dyed nylon mesh. The nylon mesh shall be knitted on a single needle bar raschel and shall weigh 6 ± 0.5 ounces per square yard. The stiffness, the length parallel to the wales of the finished cloth, shall be 0.08 (minimum) and 0.1 (maximum) load pound. The stiffness, the length across or perpendicular to the wales of finished cloth, shall be 0.04 (minimum) and 0.06 (maximum) load pound (see 4.4.1).

3.3.5 Crown protector, personal label pocket, and binding. The material for the crown protector, the personal label pocket, and the binding for the front interlining shall conform to type II, class 1 of L-P-375 and shall be 0.004 ± 0.0004 inch thick.

3.3.6 Visor cushion. The material for the visor cushion shall conform to type I, classification 9R4 of C-F-206 except that the material shall be $1/4$ inch thick and shall have fair colorfastness to wet dry cleaning. The visor cushion shall be cut $3/4 \pm 1/8$ inch wide and shall be the length of the visor. In lieu of the felt pad, a $3/8$ inch wide and $1/4$ inch thick expanded foam polyvinyl chloride pad may be used. It shall be attached with self adhesive (see 4.4.1).

3.3.7 Sweatband welt. The material for the sweatband shall be pressed fiber. The pressed fiber shall weigh $1/5$ to 2 ounces per square foot; shall be 0.015 to 0.2 inch thick; and shall be natural, red, or black (see 4.4.1).

3.3.8 Interlining for front. The interlining for the front shall be constructed of cloth, knitted, nylon raschel conforming to MIL-C-41831.

3.3.9 Inner body band. The material for the inner body band shall be composed of a high alpha cellulose wood pulp sheet impregnated with an oil-resistant and perspiration-resistant synthetic rubber binder and shall conform to the requirements specified in table I or the inner body band shall be of high density (linear) polyethylene plastic material conforming to type III, class H, grades 1 or 2 of L-P-390, except that the low temperature brittleness, dielectric constant, dissipation factor and thermal-stress cracking resistance properties shall not apply. The band shall be cut, extruded, stripped or slit $2 \pm 1/16$ inches in width and 0.030 ± 0.002 inch in thickness. As an additional alternate the band may be made from imitation (molded) linear polyethylene patterned on one or both sides, interlaced in a chair seat design; shall be black; and shall finish $2 \pm 1/16$ inches in width. The thickness of the material shall be 0.050 to 0.075 inch (see 4.4.1).

3.3.10 Wadding. The wadding shall be a good commercial cotton wadding that conforms to the requirements specified herein. The wadding shall be gray or white, shall weigh not less than 2 ounces nor more than 2.5 ounces per square yard, and shall have good colorfastness to wet dry cleaning (see 4.4.1).

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TABLE I. Physical requirements of inner body band.

Characteristics	Requirements
Thickness	0.05 +0.003, -0.002 inch
Weight	1.4 \pm 0.15 pounds per square inch
Tearing strength: Machine direction Cross direction	800 grams (minimum) 1,000 grams (minimum)
Tensile strength: Machine direction Cross direction	110 pounds per inch of width (minimum) 60 pounds inch of width (minimum)
Resistance to accelerated aging	No evidence of embrittlement or stiffening and no development of stickiness or delamination.
Resistance to water	No evidence of shrinkage or warping (tolerance of \pm 1 percent)

- * 3.3.11 Thread. The cotton thread for seaming and stitching the caps shall conform to V-T-276 as indicated in table II or as an alternate, cotton-covered polyester threads, in equivalent sizes, conforming to MIL-T-43548 may be used. The thread for felling the sweatband to the band shall be black and shall conform to type IV, letter size C of V-T-295. The thread for bartacking the front stiffener shall be either cotton-covered or rayon-covered polyester conforming to MIL-T-43548.

3.3.11.1 Colorfastness. The vat dyed threads shall show fastness to light and laundering equal to or better than the standard sample. When no standard sample is available, the dyed thread shall show good fastness to light, wet dry cleaning, and perspiration.

- * 3.3.12 Sweatband. The sweatband shall be 1-5/8 \pm 1/8 inches wide, conforming to MIL-S-3577, and shall be dyed brown. The finished sweatband shall have evenly spaced perforations.

3.3.13 Braid. The braid shall be 1-3/4 inches wide, USAF Color Blue, Shade No. 1095 (see 6.4), conforming to type I, class 3 of MIL-B-593 except that the braid shall have fair colorfastness to light, wet dry cleaning, crocking, and perspiration when tested (see 4.4.1).

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TABLE II. Cotton thread.

Color	Type	Ply	Ticket No.
Black	IC2	3	A
Pearl gray	IC2	3	A
Blue <u>1/</u>	IC2	3	A
Russet	IC2	3	A
Black	IB3	4	16 or 24
Black	IA3 (bobbin only)	4	16

1/ The color shall conform to Navy Blue AT, C.A. 66060 (see DoD Standard Color Card).

- * 3.3.14 Visor and chin strap The material for the top piece of the visor and for the chin strap shall be leather conforming to type I of MIL-L-43541 and shall be 3 to 4 ounces thick. The visor bottom piece shall be constructed of 2 or 3 layers of reconstituted leather 5.5 to 6.0 ounces thick meeting the requirements of type III of MIL-L-43541. Plumper paper, if used between the top and the bottom pieces of the visor, shall be 0.02 \pm 0.005 inch thick. Nitro cellulose finish shall be used for water repellency and spot resistance in lieu of the vinyl resin finish specified in MIL-L-43541.

3.3.14.1 Poromeric material. As an alternate, the visor top piece and the chin strap may be constructed of a poromeric material composed of a homogeneous 100 percent polyurethane structure containing no free plasticizers. The material shall be black and have a lazy calf grain finish equal to the standard sample (see 6.4). The physical characteristics shall be as follows:

<u>Characteristics</u>	<u>Requirements</u>
Thickness	.080 \pm .005
Weight	23.5 \pm 1.5 ounces per yard
Abrasion resistance (Taber)	Very slight wear at 100 cycles
Tensile strength (cut strip method):	
Length	70 pounds
Width	60 pounds

- * 3.3.15 Visor binding. The binding strip shall be made from black vinyl chloride flexible plastic film, 0.012 inch thick, having a smooth finish, approximate to the finish of the top piece conforming to type I, class 2 of L-P-375.

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3.3.16 Buttons. The buttons shall conform to type II, style 1, 25-line size of MIL-B-3461.

3.3.17 Eyelets. The eyelets shall be brass and shall conform to the dimensions shown on figure 1. The front eyelet shall have a barrel length of 0.250 to 0.285 inch. The brims or flanges of the eyelets shall be enameled or lacquered black. Prior to coating, the eyelets shall be thoroughly cleaned and degreased.

3.3.18 Washers. The washers for backing the eyelets shall be brass. Each washer shall fit over the barrel of the eyelet to ensure a secure clinch of the eyelet.

3.3.19 Sweatband reinforcement strip. The material for the sweatband reinforcement shall be a strip of coated print cotton cloth or sheeting that is 5/8 to 3/4 inch wide.

3.3.19.1 Sweatband welt. When the sweatband is joined by machine (see Operation 19) a sweatband welt conforming to type I, class 2, 0.010 inch thick of L-P-375, a brown shade, shall be used. It shall be cut 3/4 \pm 1/16 inch in width. If this welt is used, the sweatband welt cited in 3.3.7 shall not apply or be used.

3.3.20 Front stiffener. The materials for the front stiffener shall be a commercial twin or wire tape; one ply or undyed, stiff, commercial crinoline; and one ply of either haircloth or cotton warp-fused rayon filling cloth. A commercial front stay may be used for the front stiffener provided that the commercial front stay conforms to the requirements specified herein.

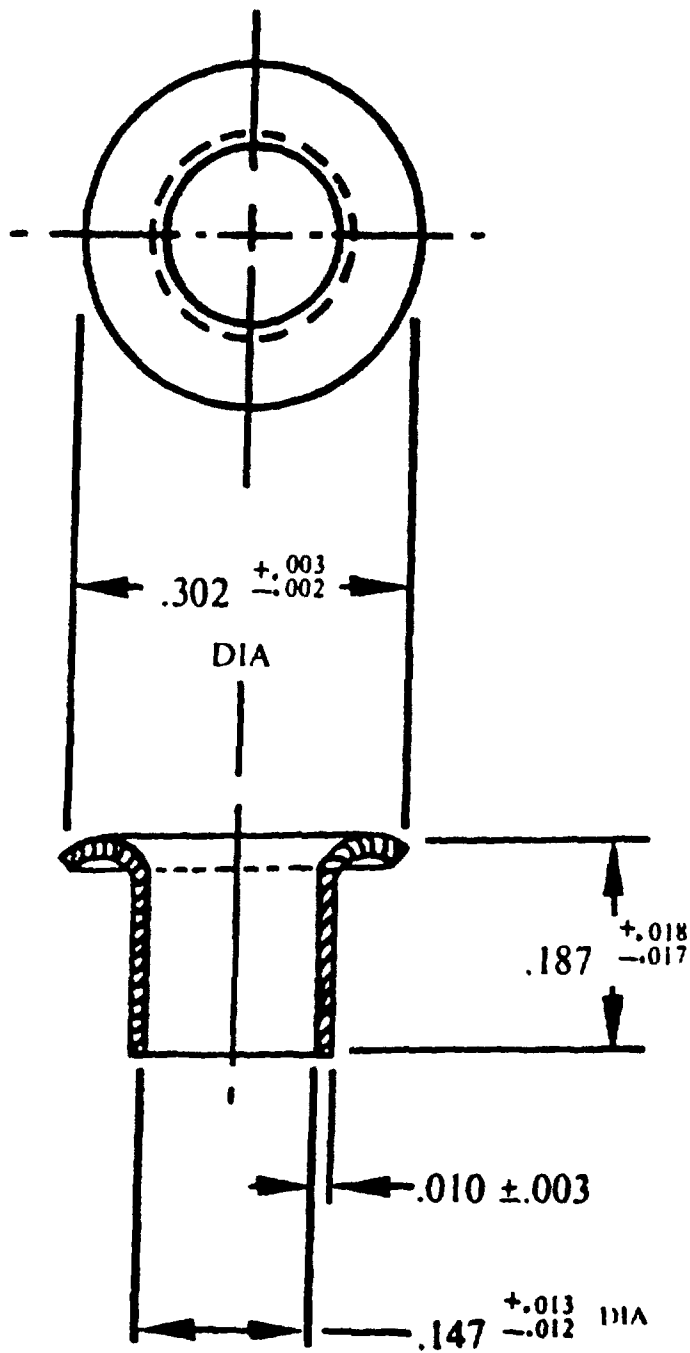
3.3.20.1 Twin wire tape. The twin wire tape for the front stiffener shall be 3 7/16 \pm 1/8 inches long by 1 inch wide. The wire used in the tape shall be hard-rolled, cold-finished carbon steel, galvanized, flat wire, and shall be 0.016 \pm 0.001 inch thick by 0.090 \pm 0.004 inch wide.

3.3.20.2 Crinoline. The crinoline for the front stiffener shall weigh 1.5 to 2.5 ounces per square yard, shall have not less than 25 threads per inch in the warp or the filling, and shall conform to the specified patterns.

3.3.21 Staples. The staples shall be stamped from steel, monel metal, brass, or stainless-steel wire. The wire shall be 0.025 \pm 0.0005 inch thick. Ordinary carbon-steel wire used for the staples shall have a noncorrosive finish that will withstand exposure to salt spray for not less than 25 hours when tested (see 4.4.1). The staples for fastening the front stiffener to the inner body band shall be 1/8 \pm 1/64 inch in overall width and shall have divergent prongs 1/4 to 3/8 inch long.

3.3.21.1 Staples for closing the loops of the chin strap. The staples for closing the loops of the chin strap shall be approximately 1/4 \pm 1/16 inch in overall width and shall have divergent prongs that are 3/8 \pm 1/64 inch long.

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NOTE: Dimensions in inches.

FIGURE 1. Eyelet.

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3.3.21.2 Staples for button posts. The staples for fastening the bottom of the posts to the inner body band shall be a heavy duty, flat, standard clinch type and shall be 0.05 inch wide by 0.025 inch thick, 1/4 \pm 1/64 inch long leg with a 1/2 inch wide crown.

3.3.21.3 Staples for securing front welt and ends of stitching thereon. The staples for securing the front welt and the ends of the stitching thereon shall be a flat type measuring 1/4 \pm 1/64 inch leg, 0.0018 \pm 0.0003 inch wide by 0.0054 \pm 0.0009 inch thick.

3.3.22 Crown support. The crown support shall consist of a steel wire inclosed in a braided grommet.

3.3.22.1 Steel wire. The steel wire for the crown support shall be spring steel 5/16 \pm 1/16 inch wide, 0.020 \pm 0.005 inch thick, and completely covered with a white pyroxylin coating. The cut length of the spring steel wire shall be as specified in table III. The coupling for joining the ends of the spring steel wire shall be 1 \pm 1/8 inch long and zinc or cadmium coated to withstand 25 hours of the salt spray test (see 4.4.1).

3.3.22.2 Braided grommet. Clear nylon monofilament filling yarn and carded cotton warp yarns shall be braided to form a grommet approximately 3.4 inch in diameter. The filling yarns shall be 0.012 \pm 0.0005 inch in diameter and shall conform to class N, type II of H-S-951 except that the cut length designation shall not apply. The warp yarns shall be 12 \pm 1/2 count singles. The grommet shall be made on a 48-carrier braider or 44-carrier braider with carriers braiding in pairs with a 1/1 weave with one 0.012-inch diameter nylon monofilament end per carrier or 24-carrier braider with carriers braiding in pairs on a 1/1 weave with two 0.012-inch diameter nylon monofilament ends per carrier. Not less than eight warps of two ends each of cotton yarn shall be intermittently spaced around the circumference interlacings. There shall be no less than 8 picks per inch in the relaxed state. The ends of the grommet shall be joined by wood or cork plugs, laminated paper rings, or other suitable material to ensure proper closure of the grommet. The length of the grommet shall be governed by the size of the cap (see 4.4.1).

3.3.23 Labels. Each cap shall have a combination instruction, identification and size label and a personal identification label conforming to DDD-L-20. The colorfastness to dry cleaning requirements of DDD-L-20 shall apply.

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* TABLE III. Cut length of steel wire for crown support.

Size	Head measurement (in inches)	Cut length of steel wire (in inches)
6-3/8	20-1/8	30-5/8
6-1/2	20-1/2	31
6-5/8	20-7/8	31-3/8
6-3/4	21-1/4	31-3/4
6-7/8	21-5/8	32-1/8
7	22	32-1/2
7-1/8	22-3/8	32-7/8
7-1/4	22-3/4	33-1/4
7-3/8	23-1/8	33-5/8
7-1/2	23-1/2	34
7-5/8	23-7/8	34-3/8
7-3/4	24-1/4	34-3/4
7-7/8	24-5/8	35-1/8
Tolerance	+1/4, -1/8	+1/8, -1/2

- * 3.3.23.1 Combination label. The combination instruction, identification and size label shall be 2-1/2 inches by 1-1/2 inches and shall conform to type VI, classes 3 and 4 and shall include the following information:

Cap, Service, Man's, Air Force
 Contract No.: DLA-100-00-0-0000 (Example) 1/
 Stock No.: 8405-00-000-0000 (Example) 1/
 Wool Products Act information as applicable 1/
 Contractor: 1/
 DRY CLEAN ONLY

SIZE 1/

1/ The contractor shall include the applicable information.

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3.3.23.2 Personal identification label. The personal identification label shall conform to type VI, class 10 or as an alternate, the label shall be made of white index paper conforming to grade B, basis weight of 280 pounds, 0.0105 inch thick of UU-P-258 and shall be approximately 2-1/2 inches by 1-1/2 inches. The personal identification label shall contain the following information:

Name
Service No.

3.4 Design. The cap (see figure 2) shall have a top crown piece with a plastic protector, a front piece with a permanently attached stiffener, two side pieces, a mohair-braid band, a leather sweatband, a leather visor, an adjustable chin strap, and a removable crown support. The cap shall be fully lined. The front of the cap shall be vertical and shall have a pinched effect.

3.5 Patterns and marker. Standard patterns and a marker will be furnished by the Government (see 6.6) and unless otherwise indicated, the standard patterns will provide a seam allowance of 1/4 inch for all seams. The marker provides a seam allowance of 3/8 inch for the back seam of the braid and the 1-inch wide band. The standard patterns and marker shall not be altered in any way and are to be used as a guide for cutting the contractor's working patterns and marker. The standard patterns show size, seam allowance, directional lines for cutting, and are marked or notched for proper placement and assembly of the component parts. The working patterns and marker shall be identical to the standard patterns and marker.

3.5.1 Pattern parts. The components of the cap shall be cut from the materials specified in accordance with the number of pattern parts or marker indicated in table IV.

3.6 Construction. The cap shall be constructed in accordance with table V and herein. Figure 2 is furnished for guidance and information only. If there are any inconsistencies between the specification and the figure, the specification shall govern.

3.6.1 Stitches, seams, and stitchings. All stitch, seam, and stitching types specified in table V shall conform to FED-STD-751. Whenever two or more methods of seam or stitch types are specified for the same operation, any one of them may be used. The underside of stitch type 101 shall be on the inside of the cap.

3.6.1.1 Stitches per inch. The number of stitches per inch specified in table V shall be interpreted to be the minimum and the maximum number of stitches per inch permitted.

3.6.1.2 Thread breaks and ends of seams and stitchings. The ends of all seams and stitchings produced with stitch type 301, when not caught in other seams or stitchings, shall be backstitched not less than 1/4 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 in stitch type 101 may be repaired using stitch type 301.

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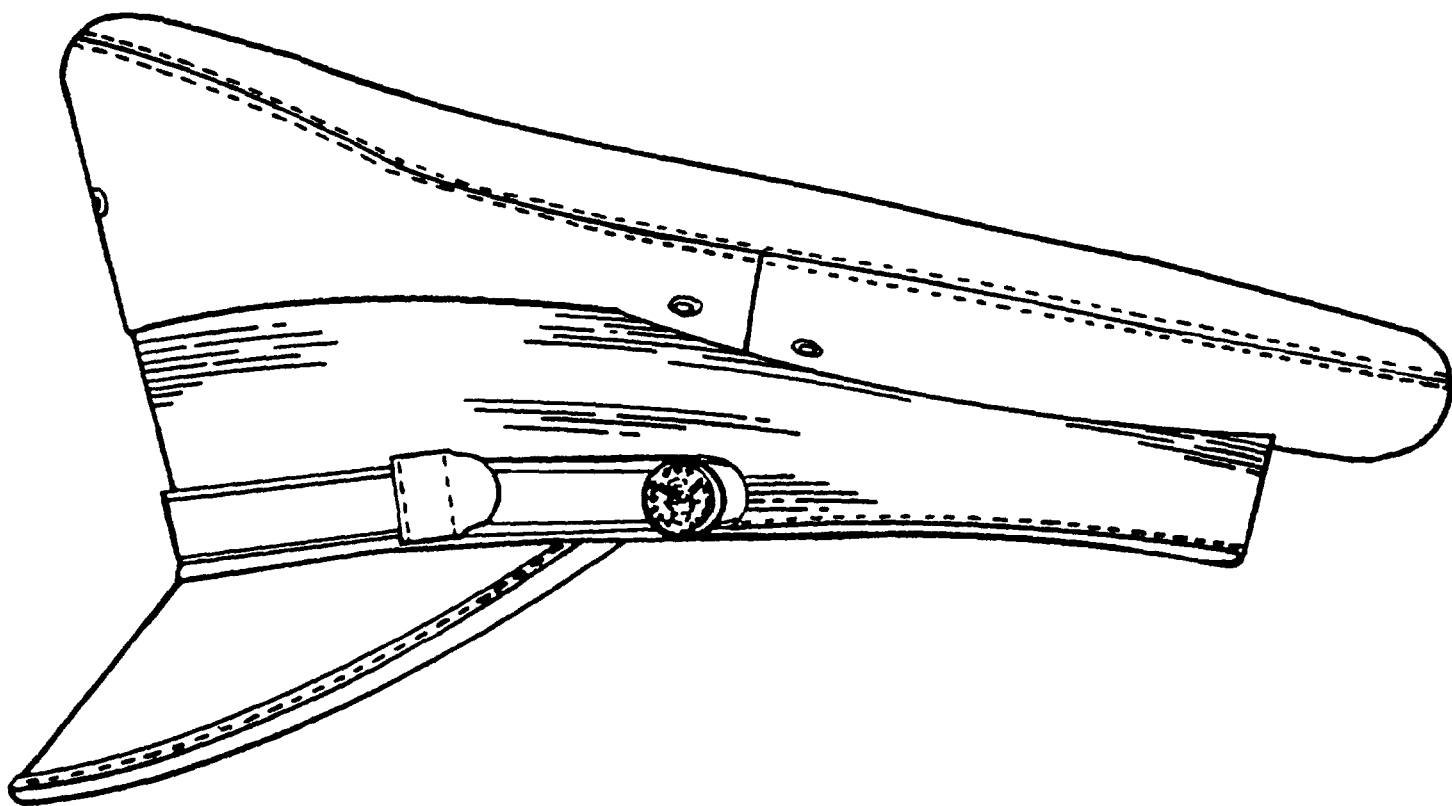


FIGURE 2. Man's service cap.

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* TABLE IV. List of pattern parts.

Material	Pattern nomenclature or marker	Cut parts
Basic material (see 3.3.1)	Crown	1
	Front (front quarters)	1
	Side (back quarter)	2
	Welt for visor <u>1/</u>	1
	Band <u>2/ 3/</u>	1
Lining (see 3.3.2)	Crown	1
	Front (front quarters)	1
	Side (back quarter)	2
	Front stiffener	1
Plastic film (see 3.3.5)	Crown protector	1
Interlining (see 3.3.8)	Front (front quarters) interlining	1
	Front stiffener	1
Wood pulp sheet (see 3.3.9)	Inner body band	1
Wadding (see 3.3.10)	Back quarter	1
Leather (see 3.3.12)	Sweatband	1
Braid (see 3.3.13)	Band <u>2/</u>	1
Leather (see 3.3.14)	Visor (to show size and shape)	2
Crinoline (see 3.3.20.2)	Front stiffener	1

1/ Applies only when sweatband is hand felled to cap.

2/ The 1-inch wide band of basic material and the braid shall be marked in accordance with the marker.

3/ May be strip cut on a roll.

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

a. When thread breaks, skipped stitches, run-offs, or bobbin runouts occur during sewing, the stitching shall be repaired by superimposing and restarting the stitching a minimum of 1/4 inch back of the end of the stitching (see NOTE).

b. Except for prestitching, thread breaks, two or more consecutive skipped stitches or run-off stitches noted during inspection of the item (in process or end item) shall be repaired by overstitching. The stitching shall start a minimum of 1/4 inch in back of the defective area, continue over the defective area, and continue a minimum of 1/4 inch beyond the defective area onto the existing stitching. Loose or excessively tight stitching shall be repaired by removing the defective stitching, without damaging the materials, and restitching in the required manner (see NOTE).

NOTE: When making the above repairs, the ends of the repairing stitch must be backstitched and thread ends trimmed close to the cap.

3.6.1.4 Types 101, 304, and 504 stitchings. Thread tension shall be maintained so that there will be no loose or excessively tight stitching resulting in puckering of the material. All repairs shall be in accordance with 3.6.1.3.

3.6.1.5 Automatic stitching Automatic stitching machines may be used to perform any of the required stitch patterns provided the requirements of the stitch pattern, stitches per inch, and size and type of thread are met; and at least three tying, overlapping, or backstitches are used to secure the ends of the stitching.

3.6.2 Visor. The top and bottom pieces of the visor shall be cut in strict accordance with the patterns and shall be laminated with latex or flexible glue Plumper paper may be used between the top and bottom pieces of the visor (see 3.3.14). The strength of the bond between the top and bottom pieces of the visor shall be not less than 1.2 pounds per inch. The outside edge of the visor shall be trimmed, sanded, and bound and stitched 1/32 +1/32, -0 inch from the folded edge of the binding strip on top of the visor with cotton thread, Black AA, C.A. 66043 (see DoD Color Card), IB3, 36/4 (bottom thread) with 8 to 10 stitches per inch, stitch type 301, BSB-1 of FED-STD-751. The finish of the top piece of the finished visor shall be flexible and shall not peel, crack, nor show evidence of delamination. The inside edge of the visor shall be skived and turned up to eliminate pressure on the head of the wearer of the cap. The visor shall be stitched 3/32 +1/16, -0 inch from the edge, using stitch type 301 and 8 to 10 stitches per inch. The top thread used to stitch the visor shall be black conforming to type IC2, Ticket No. A, 3 ply of V-T-276. The lower thread used to stitch the visor shall be pearl gray conforming to type IC2, Ticket No. A, 3 ply of V-T-276. The visor shall be molded with heat into a curved shape. The stiffness of the visor shall require a force of not less than 1 pound to bend the visor through a 20° angle.

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3.6.2.1 Visor binding. The visor binding (see 3.3.15) shall finish 3/16 to 1/4 inch in width on top and bottom of visor.

3.6.3 Chin strap. The edges of the chin strap (see 3.3.14) shall be indelibly stained black and the face shall be finished with a neatly embossed line 1/16 to 1/8 inch from the edge. The edge of the loops shall be stitched, 8 to 12 stitches per inch, using stitch type 301 and seam type SSa-2 on the loop for the top section and using stitch type 301 and seam type OSa-2 of FED-STD-751 on the loop for the bottom. The top and lower threads used to stitch the chin strap shall be black conforming to type IC2, Ticket No. A, 3 ply of V-T-276. The dimensions of the chin strap shall be as specified on figure 3. One end of each section shall have an aperture with the center of each aperture equidistant from the sides. The opposite end of each section shall have a 7/8 +1/16 inch loop that is cut in one piece. The loop for the top section shall be stitched 3/32 +1/16, -0 inch from each straight edge continuing in a straight line across the curved edge with two rows of parallel stitching and catching the top section in both rows of stitching. The ends of the loop shall be folded over the sides of the top section and closed with two staples forming a loop for the bottom section. The loop for the bottom section shall be made the same as the loop for the top section except that the bottom section shall be caught by two staples instead of stitching. Each section shall be made the same length so that the front edges of the loops in the assembled chin strap will be the same distance from the center of the buttons on each side of the cap.

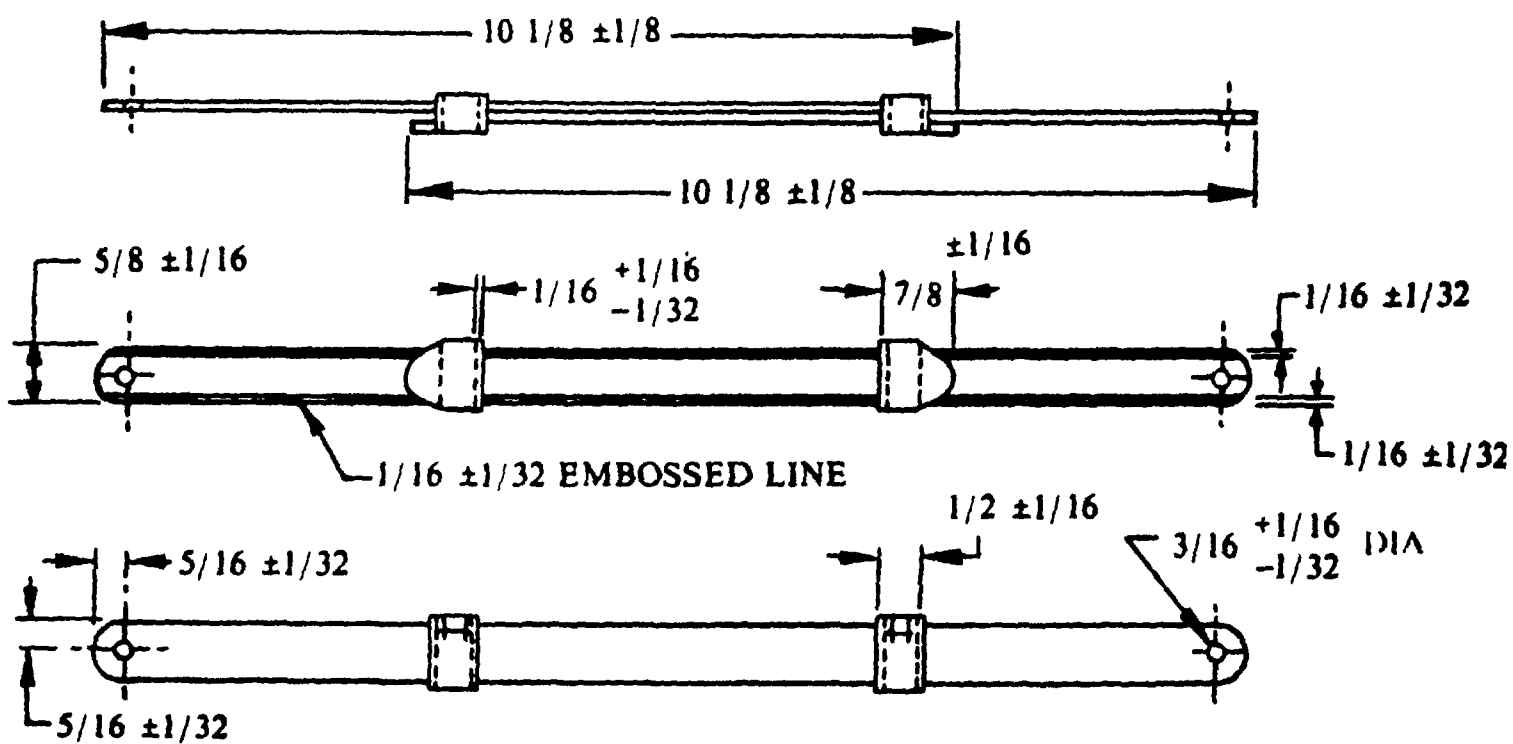
3.7 Manufacturing operations requirements. The cap shall be made in accordance with operation requirements specified in table V. The contractor is not required to follow the exact sequence of operations listed unless otherwise specified, except that Operations 19 through 24 shall be the last operations performed on the cap. Any additional basting or holding stitching used to facilitate manufacture is permissible provided that the threads are removed or do not show on the finished cap.

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

- a. Corrosive metal fastening devices. (Metal devices shall not be used on the lining material.)
- b. Sew-on type tickets.
- c. Adhesive type tickets whose adhesive causes discoloration or adheres to the material upon removal of the tickets.

3.7.2 Pressing. Unless otherwise specified, all pressing specified in table V shall be performed with a heated pressing iron or steam pressing machine.

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Dimensions are in inches.

FIGURE 3. Chin strap.

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TABLE V. Manufacturing operations.

No.	Description of Operation	Stitch Type	Seam and Stitching Type	Stitches Per Inch	Thread	
					Top	Lower
1.	<p><u>Cutting.</u></p> <p>a. Cut cap parts in strict accordance with the patterns furnished and as specified herein.</p> <p>* b. Except for the welt for the visor and the band when strip cut on a roll, the parts of the cap cut from the basic fabric shall be cut from one piece. The band shall be cut with or against the warp and, when cut on a roll, the shade of the band shall be a good approximation of the other basic fabric parts of the cap. The crown shall be cut with the length of the crown running in the direction of the warp of the basic fabric. The two sides and the front shall be cut across the warp of the basic fabric.</p> <p>* c. The lining for the crown shall be cut with the length of the crown running in the direction of the warp. The lining for the front and for the two sides shall be cut in three sections across the warp of the lining material. The lining for the inner body band shall be cut $2 \frac{1}{2} \pm \frac{1}{8}$ inches wide on the bias, from the lining material so that one end of the lining of the inner body band will have a selvage edge.</p>					

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TABLE V. Manufacturing operations. - Contd

No.	Description of Operation	Stitch Type	Seam and Stitching Type	Stitches Per Inch	Thread	
					Top	Lower
1.	<p><u>Cutting.</u> - Contd</p> <p>d. The front interlining shall be cut so that the filling direction of the cloth will be vertical. The front stiffener shall be cut so that the filling of the cotton warp-rayon filling cloth or the cotton warp-hair-cloth filling cloth will be horizontal and will run parallel to the edge of the band in the finished cap.</p>					
2.	<p><u>Replacement of damaged parts</u></p> <p>a. Replace at the time of cutting any parts containing holes or seriously weakening defects such as smashes, multiple floats, slubs, snags, pulls, shade bar, or dye streak.</p> <p>b. Replace any part damaged during the manufacturing process by needle chews, tears, holes, mends, burns, or scissor or knife cuts.</p>					
3.	<p><u>Marking.</u></p> <p>Mark, ticket, or bundle all cut parts to insure a uniform shade and size throughout the cap and the proper assembling of all parts.</p>					

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TABLE V. Manufacturing operations. - Contd

No.	Description of Operation	Stitch Type	Seam and Stitching Type	Stitches Per Inch	Thread	
					Top	Lower
4.	<p><u>Staple inner body band.</u></p> <p>The inner body band, 2 \pm1/16 inches wide and cut to the proper length, shall be overlapped 1 \pm1/4 inch for the overlap only and stapled with not less than two staples. The overlap shall be to the left or the right of the center back seam in the finished cap.</p>					
5.	<p><u>Make crown.</u></p> <p>a. A 2 by 3 inch piece of polyethylene, placed on the right side of the crown protector so that the front edge of the rectangular piece is approximately 1-1/2 inches from the front edge of the crown protector, shall be heat sealed 1/8 inch from the edge around two sides and one end to the crown protector, forming the pocket for the personal identification label. The closed end of the finished pocket shall be approximately 1-1/2 inches from the side. The personal identification label shall be placed in the pocket of the finished cap.</p> <p>b. The crown protector shall be centered on the top of the crown lining and stitched 1/8 \pm1/16 inch from the edge. The ends of the stitching shall be overlapped not less than three stitches.</p>	301	SSa-1	6-8	Gray	

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TABLE V. Manufacturing operations. - Contd

No.	Description of Operation	Stitch Type	Seam and Stitching Type	Stitches Per Inch	Thread	
					Top	Lower
5.	<u>Make crown.</u> - Contd c. The crown lining shall be evenly basted and worked, without twisting, into the top of the crown. The basting shall be close to the edge of the crown so that the basting will not be exposed on the outside of the crown. The ends of the stitching shall be overlapped not less than three stitches.	101	SSa-1	6-8	Black, Blue, or Gray	
6.	<u>Join front and sides.</u> The front and the two sides (basic fabric) shall be joined, and the seams shall be pressed open with a heated iron or pressing machine.	301	SSa-1	12-14	Black or Blue	
7.	<u>Join braid to band.</u> a. The braid shall be attached by stitching the bottom edge of the braid 1/16 +1/16, -0 inch from the edge of the braid to 1/4 inch from the edge of the 1 inch wide band. The braid and the 1 inch wide band shall be marked and cut in accordance with the marker. b. The free edge of the 1 inch wide band may be overedged stitched.	101 or 301	LSa-1	12-14	Black	
		504	EFd-1	6-8	Black or Blue	

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TABLE V. Manufacturing operations. - Contd

No.	Description of Operation	Stitch Type	Seam and Stitching Type	Stitches Per Inch	Thread	
					Top	Lower
7.	<u>Join braid to band.</u> - Contd c. The back seams of the braid and the 1 inch wide band shall be joined with not less than a 3/8 inch seam. The back seams of the 1 inch wide band and the braid shall be pressed open with a heated iron or pressing machine.	301	SSa-1	12-14	Black or Blue	
8.	<u>Join band to front and sides.</u> The completed band shall be joined to the front and the two sides (basic fabric) with not more than a 1/4 inch seam. The back seam of the sides and the back seam of the braid shall meet. The notch in the center at the bottom of the front shall be matched to the center front of the band located directly opposite the center back seam.	301 or 101	SSa-1	12-14	Black or Blue	
9.	<u>Bind front interlining.</u> A 3/4 inch wide strip of plastic film shall be folded in half over the top of the front interlining and stitched 1/8 to 1/4 inch from the bottom edge of the plastic film.	101 or 301 or 401	BSa-1	6-8	Black or Blue	
10.	<u>Join lining.</u>					
*	a. The front and the two sides (lining material) shall be joined.	301	SSa-1	10-12	Gray	
*	b. The 1-5/8 inches wide wadding shall be stitched 3/8 inch from the top edge of the two sides (lining material).	301 or 401	SSa-1	8-10	Gray	

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TABLE V. Manufacturing operations. - Contd

No.	Description of Operation	Stitch Type	Seam and Stitching Type	Stitches Per Inch	Thread	
					Top	Lower
10.	<u>Join lining.</u> - Contd The front interlining, cut so that the filling is vertical, shall be stitched 3/8 inch from the top edge of the front lining. The ends of the wadding shall be next to the lining between the ends of the front interlining and the front lining.					
*	c. The front and two sides (lining material) shall be basted to the edge of the front and the two sides (basic material), top and bottom. The basting shall be close to the edge so that the stitches will not be exposed on the outside.	101 or 301 or 401	SSa-1	6-8	Black or Blue	
11.	<u>Attach front stiffener.</u> a. The crinoline and either the haircloth or the cotton warp-fused rayon filling cloth, superimposed with the bottom edges even, shall be covered with the lining material, with the top of the lining material and the crinoline even and the sides turned under, and shall be stitched with one row of stitching on each side, with the rows of stitching 1-3/8 \pm 1/4 inches apart. The upper end of the haircloth or the cotton warp-fused rayon filling cloth shall be stitched to the crinoline, along the top edge of the haircloth, 1/16 inch from the edge of the haircloth or the cotton warp-fused rayon filling cloth.	101 or 301	OSf-1	10-12	Gray	
		101 or 301	SSa-1	10-12	Gray	

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TABLE V. Manufacturing operations. - Contd

No.	Description of Operation	Stitch Type	Seam and Stitching Type	Stitches Per Inch	Thread	
					Top	Lower
11.	<u>Attach front stiffener.</u> - Contd					
	b. The twin wire tape shall be inserted between the rows of stitching.					
	c. The front stiffener shall be centered on the front and sewn to the top of the front seam outlet. The front stiffener shall be attached to the inner body band by two staples (see 3.3.21). The heads of the staples shall be on the inside 1/8 to 1/4 inch from the bottom edge of the front stiffener and spanning the twin wires of the 1 inch wide tape. The prongs shall be clinched flat on the outside and shall not be visible when the chin strap is in place.	101 or 301 Hand	SSa-1	8-12 6	Black, Blue, or Gray 24 Blk	
OR						
	As an alternate, a 1/2 inch bartack may be used in lieu of the two staples. The bartack shall be centered on and 1/8 to 1/4 inch from the bottom edge of the front stiffener.	Bar-tack		18-30	30 Blk or Blue	50 Blk, Blue, or Gray
12.	<u>Join crown to front and sides.</u>					
	a. The crown shall be joined to the front and the two sides with not more than a 1/4 inch seam. The seams shall be pressed open with a heated iron or pressing machine.	101 or 301	SSf-3(a)	12-14	Black or Blue	

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TABLE V. Manufacturing operations. - Contd

No.	Description of Operation	Stitch Type	Seam and Stitching Type	Stitches Per Inch	Thread	
					Top	Lower
12.	<u>Join crown to front and sides.</u> - Contd					
*	b. The seam shall be stitched on each side 1/16 inch around the crown, catching on the bottom the folded tape or shall be stitched with a double needle, catching the folded tape on the underside. The ends of the double stitching shall extend 1 inch beyond the end of the tape. In lieu of extending the double stitching 1 inch beyond the end of the tape, the tape may be overlapped approximately 1 inch and cut not more than 1/8 inch from the termination of the stitching. NOTE: When the alternate molded inner body band (chair seat design) is used, the lining shall be eliminated and the label shall be caught at the bottom when joining inner body band to cap.	301	SSf-3(b)	12-14	Blue	
13.	<u>Assembly eyelets and washers.</u> a. An eyelet shall be inserted in the front (through the basic fabric, the lining, and the front stiffener) on a line extending from the back seam perpendicular to a line passing through the two side seams of the cap and extending to the front of the cap $\pm 1/8$ inch tolerance and $1 + 1/8, -0$ inch above top edge of braid, measured from center of eyelet. The eyelet shall be backed with a brass washer.					

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TABLE V. Manufacturing operations. - Contd

No.	Description of Operation	Stitch Type	Seam and Stitching Type	Stitches Per Inch	Thread	
					Top	Lower
13.	<u>Assembly eyelets and washers.</u> - Contd					
*	b. Two eyelets shall be inserted through the basic fabric, the wadding, and the lining on each side of the cap, midway between the crown seam and the band seam, with an eyelet 1 \pm 1/8 inches on each side of each side seam. The side eyelets shall be inserted prior to attachment of inner body band (see Operation 14). The difference in distance between the side seam and the centers of the two eyelets on that side shall be no greater than 1/8 inch.					
14.	<u>Attach inner body band.</u> The inner body band shall be sewn to the braid and to the front and the two sides with a 1/4 inch seam.	301 or 401	SSa-1	6-8	Black or Blue	
15.	<u>Attach lining to inner body band.</u>					
*	a. A 2-1/2 inch wide, bias-cut strip of lining material shall be sewn with a 3/16-inch to 1/4 inch seam to the inner body band through the braid, the basic fabric, and the lining. The lining shall be turned over and pulled tight. The lining shall be stitched 1/4 \pm 1/8 inch from the bottom of the band but not catching the braid. The selvage ends shall overlap the raw edge end 1-1/2 \pm 1/2 inches.	101	SSa-1	6-8	A Gray	

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TABLE V. Manufacturing operations. - Contd

No.	Description of Operation	Stitch Type	Seam and Stitching Type	Stitches Per Inch	Thread	
					Top	Lower
15.	<u>Attach lining to inner body band.</u> - Contd					
*	<p>b. The cap shall be turned over, and the 1 inch wide band and the braid shall be pulled tight over the inner body band and stitched along the edge of the braid $1/16 \pm 1/32$ inch from the edge of the braid. The ends of the stitching shall be overlapped not less than three stitches. The stitching shall be through the braid, the inner body band, and the band. The side edges of the combination identification and size label shall be caught in the stitching $1 \pm 1/2$ inch to the right or left of the center back seam. The combination identification and size label shall be positioned so that the size marking will be visible beyond the edge of the sweatband in the finished cap. The braid shall be $3/16 \pm 1/16$ inch above the bottom of the finished cap.</p> <p>NOTE: When the alternate molded inner body band (chair seat design) is used, the inner body lining shall be eliminated and the label shall be caught at the bottom when joining inner body band to cap.</p>	101 or 301	OSf-1	10-12	Black	
16.	<u>Attach visor.</u>					
	<p>a. The visor constructed as specified in 3.6.2 shall be positioned so that the angle between the visor and the vertical front of the cap will be $135^\circ \pm 5^\circ$.</p>					

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TABLE V. Manufacturing operations. - Contd

No.	Description of Operation	Stitch Type	Seam and Stitching Type	Stitches Per Inch	Thread	
					Top	Lower
16.	<u>Attach visor.</u> - Contd					
	b. If the sweatband is to be hand felled to the cap, the welt for the visor shall be folded half over a 3/8 \pm 1/16 inch strip of pressed fiber and stitched together through the center for the entire length of the welt.	101 or 301	BSa-1 BSa-1	6-8 10-12	Black or Blue Black or Blue	
	c. The visor, with the reinforced welt made as described in Operation 16.b and cut longer than the length of the visor 3/8 \pm 1/8 inch on each side, shall be centered \pm 1/8 inch on the inside of the inner body band and stitched, in one operation, forming an inside welt for attaching the sweatband with the stitching evenly gaged from the bottom edge of the band. The notch in the center of the inner edge of the visor shall be in line with the center of the front eyelet. The distances from both ends of the visor from the side seams shall be equal.	301	LSe-1	6-8	24 or 16 Black	
	NOTE: If the sweatband is to be attached by machine, delete all reference to visor welt.					
17.	<u>Attach visor cushion.</u>					
	The visor cushion shall be hand stitched, with five or six stitches through the inner body band, to the inner body band directly above the visor. The stitches shall not be visible clearly on the outside of the braid from a distance of 3 feet.	Hand			24 Blk	

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TABLE V. Manufacturing operations. - Contd

No.	Description of Operation	Stitch Type	Seam and Stitching Type	Stitches Per Inch	Thread	
					Top	Lower
17.	<p><u>Attach visor cushion.</u> - Contd</p> <p>The ends of the stitching of the visor cushion shall be securely backstitched or, when an expanded foam polyvinyl chloride pad is used, it shall be positioned as specified above and attached with self adhesive.</p>					
18.	<p><u>Attach posts of buttons.</u></p> <p>a. The holes shall be punched through the band at the sides so that the center of each post in the finished cap will be 5-3/4 +1/8 inches from a line at right angles to the bottom of the band passing through the center of the front eyelet and so that the center of each socket will be 7/16 +1/16, -0 inch from the bottom of the finished cap.</p> <p>b. The posts of the buttons shall be inserted and securely stapled with either two staples or one large staple so that, when the sockets are secured in the posts, the eagles on the buttons in the finished cap will be in an upright position.</p> <p>c. If sweatband is to be hand felled to the cap, after the posts of the buttons have been inserted, each end of the welt shall be turned into the cap 1/8 inch and either stapled with a staple or hand tacked, spanning and securing the stitching in the welt with either the stitching or the prongs of the staples through the welt and</p>	Hand		3 tacks	24 Blk	

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TABLE V. Manufacturing operations. - Contd

No.	Description of Operation	Stitch Type	Seam and Stitching Type	Stitches Per Inch	Thread	
					Top	Lower
18.	<u>Attach posts of buttons.</u> - Contd all plies of the band, with the prongs of the staple, if used, clinched over the braid band.					
19.	<u>Attach sweatband.</u> a. The ends of the sweatband shall be abutted together and joined with a row of zigzag stitching reinforced on the back with a strip of coated print cotton fabric or sheeting.	304	FSa-1	8-12		Russet
*	b. The sweatband shall be neatly felled in the cap in a manner that will result in a cushioned effect. The seam, which may be staggered 1/2 inch, shall be at the center back of the frame. No portion of the felled edge of the sweatband shall be less than 1/16 inch nor more than 1/8 inch from the bottom edge of the band. The ends of the felling stitches not on the sweatband shall be a minimum distance of 1/16 inch from the bottom edge of the band. The center back seams of the cap shall finish smooth and without excessive thickness to provide a comfortable fit. OR /	Hand or Machine		6-8		C (Nylon) Black

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TABLE V. Manufacturing operations. - Contd

No.	Description of Operation	Stitch Type	Seam and Stitching Type	Stitches Per Inch	Thread	
					Top	Lower
19.	<u>Attach sweatband.</u> - Contd					
	c. Fold welt in half lengthwise. Position edge of sweatband 1/16 to 3/32 inch from turned edge of welt and join with a row of zigzag stitching.	304		6-8	16/4 Russet	
	d. Butt ends of sweatband and welt join with a row of zigzag stitching, reinforced on the underside with a strip of coated cotton print cloth or sheeting.	304		6-8	16/4 Russet	
	e. Position finished sweatband to cap and stitch to cap with stitching through welt and adjacent to edge of sweatband.	301		6-8	16/4 Russet, Blk	
	Neither the edge of the welt nor the edge of the sweatband shall be exposed beyond the lower edge of the cap.					
20.	<u>Block cap.</u>					
	The cap shall be hand blocked to proper shape by thoroughly steaming on a five-piece block for the specific size cap. The cap, while still on the block, shall then be thoroughly dried in a heated oven.					
21.	<u>Insert crown support.</u>					
	a. The braided grommet and the steel wire, of the proper length, shall be assembled for the crown support.					

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TABLE V. Manufacturing operations. - Contd

No.	Description of Operation	Stitch Type	Seam and Stitching Type	Stitches Per Inch	Thread	
					Top	Lower
21.	<u>Insert crown support.</u> - Contd b. The crown support of the proper length shall be inserted into the crown of the cap, extending the crown to full size, without stretching the material.					
22.	<u>Attach chin strap.</u> The chin strap (see 3.6.3) shall be snugly fitted. The sockets of the buttons shall be screwed into the posts of the buttons.					
23.	<u>Check head size.</u> The finished cap shall be checked for correct head size and size marking.					
24.	<u>Clean cap.</u> Thread ends shall be trimmed. Loose thread ends, spots, stains, and pin tickets shall be removed from the cap.					

3.8 Finished measurements. The finished cap shall conform to the measurements specified in tables VI and VII.

3.9 Workmanship. The finished cap shall conform to the quality of product established by this document. The cap shall be clean, well finished, and well blocked. As a final step in the contractor's production control plan, before formation of a lot, each cap shall be examined for the selected defects listed in MIL-STD-657. A cap containing a selected defect shall not be included in the end item lot. Selected defects are identified by an asterisk (*) in the point value column in MIL-STD-657. The occurrence of defects shall not exceed the applicable acceptable quality levels.

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TABLE VI. Finished measurements of cap (inches).

Height of cap at front (measured at point where band joins visor to center of crown seam).	4 \pm 3/16
Width of front at center front (measured from center of seam to center of seam).	2-1/4 \pm 3/16
Width of sides at side seams (measured from center of seam to center of seam).	2-1/8 \pm 1/8
Width of sides at back seam (measured from center of seam to center of seam).	2 \pm 1/8
Width of visor (measured on upper side at center front).	2-1/8 \pm 1/8
Width of band (measured from front and side seams to bottom edge of band).	1-3/4 +0, -1/8
Angle of visor (measured between vertical front of cap and visor).	<u>1/</u>

1/ The angle of the visor shall be $135^{\circ} \pm 5^{\circ}$.

TABLE VII. Finished head and crown measurements (inches).

Size	Head measurement	Crown	
		Length	Width
6-3/8	20-1/8	10-3/8	9-7/8
6-1/2	20-1/2	10-1/2	10
6-5/8	20-7/8	10-5/8	10-1/8
6-3/4	21-1/4	10-3/4	10-1/4
6-7/8	21-5/8	10-7/8	10-3/8
7	22	11	10-1/2
7-1/8	22-3/8	11-1/8	10-5/8
7-1/4	22-3/4	11-1/4	10-3/4
7-3/8	23-1/8	11-3/8	10-7/8
7-1/2	23-1/2	11-1/2	11
7-5/8	23-7/8	11-5/8	11-1/8
7-3/4	24-1/4	11-3/4	11-1/4
7-7/8	24-5/8	11-7/8	11-3/8
Tolerance	+1/4, -1/8	+3/8, -1/8	+3/8, -1/8

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4. QUALITY ASSURANCE PROVISIONS

- * 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 (examinations and tests) as specified herein. Except as otherwise specified in the contract or purchase 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 ensure supplies and services conform to prescribed requirements.
- * 4.1.1 Responsibility for compliance. All items shall 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 ensuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the contract. Sampling inspection, as part of manufacturing operations, is an acceptable practice to ascertain conformance to requirements, however, this does not authorize submission of known defective material, either indicated or actual, nor does it commit the Government to accept defective material.
- 4.1.2 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:
- a. First article inspection (see 4.3).
 - b. Quality conformance inspection (see 4.4).
- 4.3 First article inspection. When a first article is required (see 6.2), it shall be examined for the defects specified in 4.4.3.1 and 4.4.3.2. The presence of any defect shall be cause for rejection of the first article.
- 4.4 Quality conformance inspection. Unless otherwise specified, sampling for inspection shall be in accordance with MIL-STD-105.
- 4.4.1 Component and material inspection. In accordance with 4.1, components and materials shall be inspected in accordance with all the requirements of referenced documents unless otherwise excluded, amended, modified, or qualified in this document or applicable purchase document.

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4.4.1.1 Component testing. In addition to any testing required by 4.4.1, components listed in table VIII shall be tested for the characteristics noted. The methods of testing specified in FED-STD-191, wherever applicable, and as listed in table VIII shall be followed. The lot and sample sizes shall be as follows:

<u>Lot size</u>	<u>Sample size</u>
800 or less	2
801 up to and including 22,000	3
22,001 and over	5

The lot shall be unacceptable if one or more sample units fail to meet any test requirement specified. The lot size units and the sample units shall be as follows:

<u>Component or material</u>	<u>Lot size unit</u>	<u>Sample unit</u>
Knitted nylon mesh cloth	Yards	1 yard full width
Felt sheet	Yards	1/4 yard full width
Pressed fiber	Feet	1 yard strip
Cotton warp-fused rayon filling cloth	Yards	3-1/2 yards full width
Cotton warp-horsehair filling cloth	Yards	1 yard full width
Wood pulp sheet	Yards	1 yard full width
Wadding	Yards	1 square foot
Eyelets	Gross	15 each
Washers	Gross	10 each
Sweatband reinforcement	Yards	1/4 yard strip
Front stay	Each	1 each
Twin wire tape	Feet	2 feet
Crinoline	Yards	1/4 yard full width
Staples (each type)	Gross	15 each
Spring steel wires	Spring steel wires	2 spring steel wires
Coupling	Gross	10 couplings
Graded grommet	Grommets	7 grommets
Visors	Each	3 complete

4.4.2 In-process inspection. Inspection shall be made at any point or during any phase of the manufacturing process to determine whether construction details which cannot be examined in the finished product are in accordance with specified requirements. This inspection shall include verification that the working patterns conform to the Government patterns in all respects. Whenever nonconformance is noted, corrections shall be made to the items affected and the lot in process. Items which cannot be corrected shall be removed from production.

4.4.3 Point count inspection. Sampling and inspection provisions for end item examination of caps, dimensional examination, and packaging inspection shall be performed in accordance with MIL-STD-657.

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TABLE VIII. Component and material tests.

Component	Characteristic	Requirement paragraph	Test method <u>1/</u>
Nylon knitted mesh cloth	Material identification	3.3.4	1530
	Weight	3.3.4	5041
	Stiffness	3.3.4	5202
Felt sheet	Colorfastness to wet dry cleaning	3.3.6	5622
	Thickness	3.3.6	5030
Pressed fiber	Material identification	3.3.7	<u>2/</u>
	Weight	3.3.7	5041
	Thickness	3.3.7	5030
	Color	3.3.7	Visual
Wood pulp sheet	Material identification	3.3.9	<u>2/</u>
	Thickness	3.3.9	5030
	Weight	3.3.9	5040
	Tearing strength	3.3.9	ASTM D 1424
	Tensile strength	3.3.9	5100
	Resistance to accelerated aging	3.3.9	<u>3/</u>
	Resistance to water	3.3.9	<u>4/</u>
Wadding	Material identification	3.3.10	1200 <u>2/</u>
	Weight	3.3.10	5041
	Color	3.3.10	Visual
	Colorfastness to wet dry cleaning	3.3.10	5622
Braid	Colorfastness to perspiration	3.3.13	5680
Poromeric material	Material identification	3.3.14.1	<u>2/</u>
	Color	3.3.14.1	Visual
	Finish	3.3.14.1	Visual
	Thickness	3.3.14.1	ASTM D 751
	Weight	3.3.14.1	ASTM D 751
	Abrasion resistance (Taber)	3.3.14.1	ASTM D 3884 H-22, 1000 gr Taber
	Tensile strength (cut strip method)	3.3.14.1	ASTM D 751

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TABLE VIII. Component and material testg. - Contd

Component	Characteristic	Requirement paragraph	Test method <u>1/</u>
Eyelets	Material identification	3.3.17	<u>2/</u>
	Dimensions	3.3.17	Scale
	Finish	3.3.17	Visual
Washers	Material identification	3.3.18	<u>2/</u>
Sweatband reinforcement	Material identification	3.3.19	1200 <u>2/</u>
	Width	3.3.19	Scale
Twin wire tape	Material identification	3.3.20.1	<u>2/</u>
	Width	3.3.20.1	Scale
Crinoline	Material identification	3.3.20.2	1200 <u>2/</u>
	Weight	3.3.20.2	5041
	Yarns per inch	3.3.20.2	5050
Staples	Material identification	3.3.21	<u>2/</u>
	Thickness	3.3.21	Scale
	Width	3.3.21	Scale
	Length of legs	3.3.21	Scale
	Salt spray (fog) resistance	3.3.21	ASTM B 117 (25 hours)
Spring steel wire	Material identification	3.3.22.1	<u>2/</u>
	Coating identification	3.3.22.1	<u>2/</u>
	Identification of coupling plating	3.3.22.1	<u>2/</u>
	Salt spray resistance	3.3.22.1	ASTM B 117 (25 hours)
Braided grommet	Nylon identification	3.3.22.2	1530 <u>2/</u>
	Cotton identification	3.3.22.2	1200 <u>2/</u>
	Diameter	3.3.22.2	Visual
	Number of carriers	3.3.22.2	Count
	Ends per carrier	3.3.22.2	Count
	Warp yarns	3.3.22.2	Count
	Picks per inch	3.3.22.2	Count
Visor	Cracking	3.6.2	see 4.5.1
	Stiffness	3.6.2	see 4.5.2
	Bond strength	3.6.2	see 4.5.3

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TABLE VIII. Component and material tests. - Contd

- 1/ Unless otherwise specified in the test method, one determination per sample unit shall be made.
- 2/ A certificate of compliance will be acceptable for this requirement.
- 3/ Place a sample of the inner body band in a circulating air oven at 212°F for 15 days.
- 4/ Place a sample of the inner body band in water at room temperature for 24 hours.

4.4.3.1 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 inspection lot. The inspection level shall be S-1 and the acceptable quality level (AQL), expressed in terms of defects per hundred units, shall be 6.5.

<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 or film as specified.
Weight	Exceeds maximum load limits.
Marking	Omitted; incorrect; illegible; of improper size, location, sequence, or method of application.

4.5 Methods of inspection

4.5.1 Cracking. The finished visor shall be brought into equilibrium at room temperature (65° to 75°F) for not less than 1 hour. The visor shall then be placed in a chamber that is maintained at 0°F and shall be held at this temperature for 1 hour. The visor shall be gripped 1 inch from the ends, by the thumb and the forefinger of each hand, and bent slowly. Sufficient pressure shall then be applied to bring the ends of the visor together at a steady slow rate (approximately 5 seconds). The surface of the visor shall be examined during the bending for evidence of cracking. While the visor is in the compressed state, the undersurface shall be examined for evidence of cracking. Upon release of the pressure, the top piece of the visor shall be examined for delamination. Evidence of cracking or peeling of the finish of the top piece of the visor or delamination of the top piece of the visor shall be cause for rejection.

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4.5.2 Stiffness. The specimen for testing the stiffness of the visor shall be 1 by 5 inches and shall be cut from the middle section of the visor, not including the skived edge. The apparatus used for testing the stiffness of the visor shall be as specified in method 4211 of FED-STD-311. The 5 inch pound bob of the apparatus shall be placed on the pendulum, and the pin shall be adjusted to give a 2 inch span. One end of the specimen, with the top side of the specimen in position to rest against the pin, shall be clamped in the jaws of the apparatus. The free end of the specimen shall extend 1-1/2 inches beyond the pin. The apparatus shall be operated until the free end of the specimen just makes contact with the pin. Both pointers shall be adjusted to zero. The apparatus shall be operated until the angle pointer indicates the specimen has been bent through a 20° angle. At the instant the angle pointer indicates the specimen has been bent through a 20° angle, the percent of maximum bending moment as indicated by the other pointer shall be recorded. The force required to bend the specimen shall be calculated by dividing the bending moment by the span. The force in pounds that was required to bend the specimen through the 20° angle shall be not less than 1 pound.

4.5.3 Bond strength. The 1 by 5 inch specimen used for the stiffness test specified in 4.5.2 shall be used for testing the bond strength of the visor. The apparatus used for testing the bond strength of the visor shall be of such capacity that the reading will fall into the part of the scale that is accurate within 1/4 pound and shall be adjusted to record instantaneous load by removing any automatic limiting device. The speed of the moving jaws of the apparatus shall be 10 ±2 inches per minute. The top and bottom layers (leather) of one end of the specimen shall be separated for 2 inches. The separated ends of the specimen shall be clamped in the jaws of the apparatus with the jaws approximately 1 inch apart. The apparatus shall be started, and the two layers of leather shall be pulled apart 1 inch. At the instant the two layers are pulled apart 1 inch, the load on the apparatus shall be read and recorded. The bond strength of the two layers (leather) shall be not less than 1.2 pounds per inch.

5. PACKAGING

* 5.1 Preservation. In accordance with the requirements of MIL-STD-2073-1, preservation shall be level A, C, or Commercial, as specified (see 6.2).

5.1.1 Level A

5.1.1.1 Unit packaging. Each cap shall be inserted into a clear polyethylene bag of 0.00125 inch thickness so that the cap visor will face the bag opening. The bag shall be formed with heat sealed seams that are straight, continuous and parallel to each other and the formed edges of the bag. The bag shall measure 19 by 14-1/2 inches with the opening on the 14-1/2 inch dimension. A mechanical tie (paper or plastic covered soft steel wire, aluminum band, etc.) shall be applied to close the bag opening.

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5.1.1.2 Intermediate packaging. Two caps of one size only, bagged as specified in 5.1.1.1, shall be placed in a box conforming to type CF, class domestic, style CSSC of PPP-B-636. The minimum bursting strength of the fiberboard of the box shall be 125 pounds per square inch. The inside dimensions of the box shall be 11-3/4 inches long, 11-3/4 inches wide, and 8-1/2 inches deep. The box shall have a one-piece, die-cut, corrugated fiberboard bridge conforming to the shape, dimensions, and material requirements of style CSSC of PPP-B-636. The first cap shall be placed crown up in the box with the visor in a corner. Two sheets of tissue wrapping paper that are 30 inches long by 20 inches wide and that conform to type I, class 1 of UU-P-553 shall be loosely rolled together along the 30-inch dimension. The rolls of tissue paper shall be used to fill the void behind the cap and shall halfway circumvent the cap band so that the tissue paper is between the bridge uprights and the cap. The set-up fiberboard bridge shall then be positioned in the box at right angles to the cap with the bridge platform incline parallel to the slope of the cap crown. The second cap shall be placed crown down in the box with the visor in the opposite corner of the box from the visor of the first cap. A two-sheet roll of the tissue paper as specified for the first cap shall be applied to the second cap in the same manner as required for the first cap. The box shall be sealed with gummed paper tape that is a minimum width of 2 inches conforming to type III, grade A of PPP-T-45.

- * 5.1.2 Level C. Each cap shall be preserved in accordance with MIL-STD-2073-1 requirements for this level.

5.1.3 Commercial. The caps shall be preserved in accordance with the applicable requirements of ADTM D 3951.

- * 5.2 Packing. In accordance with the requirements of MIL-STD-2073-1, packing shall be level A, B, C, or Commercial, as specified (see 6.2).
- * 5.2.1 Level A. Twenty-four caps of one size only, preserved as specified in 5.1, shall be packed in a snug-fitting exterior type shipping container conforming to PPP-B-601, overseas type. The inside dimensions of the shipping container shall be approximately 24-3/4 inches long, 24-3/4 inches wide, and 27-3/4 inches deep (approximate dimensions are furnished as a guide only). Closure and strapping shall be in accordance with the appendix of the container specification.
- * 5.2.2 Level B. Twenty-four caps of one size only, preserved as specified in 5.1, shall be packed in a shipping container conforming to type CF or SG, class domestic, style CSSC of PPP-B-636. The minimum bursting strength of the fiberboard shipping container shall be grade 200. Level B packages shall be packed flat, two in length, two in width, and three in depth within the shipping container. The inside dimensions of the shipping container shall be approximately 24-3/4 inches long, 24-3/4 inches wide, and 27-3/4 inches deep (approximate dimensions are furnished as a guide only). Closure and strapping shall be in accordance with the appendix of the container specification.

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- 5.2.2.1 Weather-resistant fiberboard containers. When specified (see 6.2), the shipping container shall be grade V3c, V3g, or V4g fiberboard box fabricated in accordance with PPP-B-636 and closed in accordance with method III as specified in the appendix of the container specification, except that the inspection shall be in accordance with 4.4.3.
- * 5.2.3 Level C. Caps of one size only, preserved as specified in 5.1, shall be packed in accordance with MIL-STD-2073-1 requirements for this level.
- 5.2.4 Commercial. Caps of one size only, preserved as specified in 5.1, shall be packed in accordance with the applicable requirements of ASTM D 3951.
- * 5.3 Palletization. When specified (see 6.2), caps packed as specified in 5.2 shall be palletized on a 4-way, type I, style 1, 1A, or 1B, size A, class 1 pallet fabricated in accordance with MIL-P-15011 or on a 4-way, type IV, V, or VIII, class 1, size 2, grade A pallet fabricated in accordance with NN-P-71. Each prepared load shall be in accordance with load type I or Ia and bonded with the applicable strap bonding or film bonding means specified in MIL-STD-147. The pallet pattern shall be in accordance with the appendix of MIL-STD-147. 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 be approved by the contracting officer.
- * 5.4 Marking. In addition to any special marking required by the contract or purchase order, unit packages, shipping containers, and palletized unit loads shall be marked in accordance with MIL-STD-129 or ASTM D 3951, as applicable.
- * 5.4.1 Bar code markings. Bar code markings, when specified (see 6.2), shall be in accordance with MIL-STD-129.
- 5.4.2 Polyethylene bagged unit packs. Polyethylene bagged unit packs shall have the required identification information legibly printed or stamped in black directly on the bag across the center face or on a white paper label inserted within the bag so as to permit ready identification. When the cap labels are visible through the polyethylene bags, the interior paper labels or the markings on the polyethylene bags are not required.
- * 5.4.3 Labels, mixed sizes. At the end of the contract, shipping containers packed with mixed sizes shall have securely attached to the end and side, directly under the printing or stenciling, a white paper label 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 NSN's contained therein.

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5.4.4 Handling marking. The words "THIS SIDE UP" in letters not less than 1-1/2 inches high shall be stenciled or printed on the top panel of each shipping container. In addition, the word "UP" in 1-1/2 inch high letters, with arrow marks as shown, shall be plainly marked on the front panel of each shipping container.



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 service cap covered by this specification is intended to be worn by male military personnel of the Department of the Air Force.

* 6.2 Acquisition requirements. Acquisition documents should specify the following:

- a. Title, number, and date of the specification.
- b. Class and size required (see 1.2).
- c. Issue of DoDISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced (see 2.1 and 2.2).
- d. When a first article is required (see 3.1).
- e. Selection of applicable levels of preservation and packing (see 5.1 and 5.2).
- f. When weather-resistant grade fiberboard shipping containers are required for level B packing (see 5.2.2.1).
- g. When palletization is required (see 5.3).
- h. When bar code markings are required (see 5.4)

* 6.3 First article. When a first article inspection is required, the item should be a first article sample. The contracting officer should also include specific instructions in acquisition documents regarding arrangements for examinations, approval of first article test results and disposition of first article. Invitations for bids should provide that the

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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. Bidders should not submit alternate bids unless specifically requested to do so in the solicitation.

6.4 Samples. For access to samples of the end item and shade samples, address the contracting activity issuing the invitation for bids.

6.5 Recycled material It is encouraged that recycled material be used when practical as long as it meets the requirements of this document (see 3.3).

* 6.6 Government-furnished patterns. The contracting officer should arrange to furnish the patterns listed in 3.5

* 6.6 Subject term (key word) listing.

Cap, men's
Cap, service
Cap, with visor
Poromeric material

6.7 Changes from previous issue The margins of this specification are marked with asterisks (*) 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.

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(Project No. 8405-F066)

User:
Air Force - 45

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

(See Instructions - Reverse Side)

1. DOCUMENT NUMBER

MTI-C-3095C(IISAF)

2. DOCUMENT TITLE

Cap. Service, Man's, Air Force

3a. NAME OF SUBMITTING ORGANIZATION

b. ADDRESS (Street, City, State, ZIP Code)

4. TYPE OF ORGANIZATION (Mark one)

VENDOR

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MANUFACTURER

OTHER (Specify) _____

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)

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