

MIL-M-6269G

11 May 1982

SUPERSEDING

MIL-M-6269F(USAF)

29 August 1969

MILITARY SPECIFICATION  
MITTEN SET, FLYER'S

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

## 1. SCOPE

1.1 Scope. This specification covers one type of mitten set, designated Type N-4B.

1.2 Classification. The mittens shall be furnished in the following sizes (see 6.2).

Medium

Large

## 2. APPLICABLE DOCUMENTS

\*2.1 Government documents.

2.1.1 Specifications and standards. Unless otherwise specified (see 6.2), the following specifications and standards of the issue listed in that issue of the Department of Defense Index of Specifications and Standards (DoDISS) specified in the solicitation, form a part of this specification to the extent specified herein.

## SPECIFICATIONS

## Federal

|   |           |   |
|---|-----------|---|
| * | V-T-295   | Thread, Nylon.  |
|   | KK-L-2004 | Leather, Cattlehide, Deerskin and Horsehide, Chrome Tanned. |
|   | DDD-L-20  | Label, for Clothing, Equipage, and Tentage, (General Use).  |
|   | PPP-B-636 | Boxes, Shipping, Fiberboard.                                |

## Military

|   |             |  |
|---|-------------|--|
| * | MIL-C-363   | Cloth, Wool, Knitted.  |
|   | MIL-B-371   | Braid, Textile Tubular.  |
|   | MIL-W-530   | Webbing, Textile, Cotton, General Purpose, Natural or in Colors. |
|   | MIL-B-543   | Buckle, Tongueless and Web Strap.                                |
|   | MIL-C-4294  | Cloth, Twill Nylon.  |
|   | MIL-F-10884 | Fasteners, Snap.   |

## STANDARDS

## Federal

|             |   |
|-------------|---|
| FED-STD-311 | Leather, Methods of Sampling and Testing. |
| FED-STD-751 | Stitches, Seams and Stitchings.           |

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be used in improving this document should be addressed to: HQ AFLC CASO/LODS, Federal Center, Battle Creek, MI 49016 by using the self-addressed Standardization Document Proposal (DD Form 1426) appearing at the end of this document or by letter.

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## STANDARDS

## Military

|             |  |
|-------------|--|
| MIL-STD-105 | Sampling Procedures and Tables For<br>Inspection By Attributes |
| MIL-STD-129 | Marking For Shipment And Storage                               |

## DRAWING

## Air Force

|         |                               |
|---------|-------------------------------|
| 51B3560 | Mitten Set, Flying, Type N-4B |
|---------|-------------------------------|

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

## 3. REQUIREMENTS

3.1 Preproduction testing. Unless otherwise specified (see 6.2), this specification makes provision for preproduction testing.

3.2 Materials.

\*3.2.1 Leather. The leather for the palm, thumb and welts shall be saddle-colored, full grain, soft, flexible deerskin leather conforming to Type II, Class 2 of KK-L-2004, except that the requirements for finish stability, color fastness to crocking, cracking and elongation shall not apply. The color shall approximate saddle brown color No. 214.

3.2.1.1 Thickness. The thickness of the leather shall be not less than 2-1/2 ounces or more than 4 ounces, except that welts may not be less than 2 ounces (see 4.4.2).

3.2.2 Outer shell. The material for the outer shell shall be nylon twill conforming to Type II, Class C of MIL-C-4294, except that the warp and filling yarn of the cloth shall be manufactured from a continuous bright filament nylon 66 (polyhexamethylene adipomide) to meet the requirements of this specification. The melting point of the nylon shall be above 450 degrees Fahrenheit. The cloth shall be chemically neutral so that the PH of the water extract shall be between 5.5 and 9.5 when tested as specified in MIL-C-4294.

3.2.3. Cloth, pile, wool, polyester back (see 4.1.1 and 6.5). The cloth for the back of the mitten shell shall be a knitted pile fabric with the pile portion 100% wool not lower in grade than 56's U.S. Standard and the backing yarn 100% spun polyester. The color of the pile shall be brown and shall match the standard sample (see 6.3). The color shall be obtained by blending dyed and undyed wool. The color of the backing yarn shall be natural. The finished cloth shall weigh a minimum of 13 oz. per square yard, the backing texture shall be a minimum of 11 wales and 17 courses per inch, the shearable pile shall be a minimum of 45% based on the finished weight of the fabric and the pile height shall be  $1/2 + 1/32$  inch. An acrylic type resin applied to the back of the cloth as a bonding or anticurl agent will be permitted.

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\*3.2.4 Knit cloth. The knitted wool cloth for the insert shall conform to MIL-C-363, except that the colorfastness to weathering, breaking strength and shrinkage test shall not be applicable.

3.2.5 Webbing. The webbing used for the adjustment straps and release tab shall be 5/8 inch wide and shall conform to Type IIa, Class 3 of MIL-W-530. The webbing used for the gauntlet stays shall be 3/4 inch wide and shall conform to Type III, Class 3 of MIL-W-530.

3.2.6 Buckles. The buckles shall be 5/8 inch, double bar, tongueless, 11p type conforming to Type II, Style 3, Class 3 of MIL-B-543.

3.2.7 Snap fasteners. The snap fasteners shall conform to Style 2, Finish 2 (black finish) of MIL-F-10884.

3.2.8 Thread. The thread for all sewing shall be nylon conforming to Type I, size E of V-T-295. As an alternate, for outer shell only, Type II, size E (Twisted, bonded, multicord) of V-T-295 may be used. The color of the thread shall approximate the color of nylon fabric.

\*3.2.9 Braid. The material used for the shoulder cord shall conform to Type II, Class 2 of MIL-B-371 and shall be dyed to match the color of the nylon twill outer shell. The ends of the braid shall be tipped or impregnated with cellulose acetate or cellulose acetate butyrate to prevent raveling. The length of the tipping or impregnation shall be approximately 5/8, plus or minus 1/8 inch. The color of the tipping or impregnation shall be natural or shall match the shade of the nylon twill outer shell. The braid shall be given a durable water-repellant treatment.

\*3.3 Color. The color of the component parts shall be in accordance with the following sage green USAF color shades (see 6.3).

|                    |      |
|--------------------|------|
| Webbing            | 1509 |
| Cloth wool knitted | 1525 |

3.4 Design. Each mitten shall consist of an outer shell and a knit wool insert; the outer shell shall be a gauntlet-style, combination cloth pile wool, leather, and fabric mitten. The gauntlet and back of the hand shall be nylon fabric. The cloth pile wool shall extend across the back of the hand to the wrist. Gauntlet and wrist adjustment straps shall be provided. A shoulder cord, 65 inches, plus or minus 1 inch, long shall be attached to the mittens at the cord loops.

3.5 Construction. The mitten set shall be constructed in accordance with Table I, but the manufacturer is not required to follow the exact sequence of operations as listed therein.

\*3.5.1 Stitches, seams, and stitchings. The stitches, seams and stitchings shall conform to FED-STD-751. Wherever two or more methods of seaming or stitch types are offered for the same operation, any one of them may be used. Unless otherwise specified, all stitches shall be accomplished by using 10 stitches per inch, plus or minus 1 stitch per inch.

3.5.2 Thread breaks and ends of seams. Ends of all seams and stitchings, 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 beyond break not less than 1/2 inch.

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TABLE I - SEWING OPERATIONS

| No. | Description of Operation  | Stitch Type | Seam and Stitching Type | Stitches Per inch |
|-----|---|-------------|-------------------------|-------------------|
| 1.  | <p>Cutting. Before cutting, the leather shall be dampened and properly worked, with the stretch pulled out in the length direction. The palm, the thumb, and the thumb welts shall be cut by commercial methods of "block" or "clicker" cutting. All cut parts of the shell and the insert shall conform to the pattern drawings which show size, shape, and notches for the proper assembly of all parts.</p> <p>a. Cut all parts of the nylon twill and the cloth, pile wool from one piece of material. The length direction (cuff to finger tip direction) of the pile component shall be cut in the wales direction of the pile cloth.</p> <p>b. All cloth components shall be cut in the direction of the warp.</p> <p>C. Shade mark or ticket all parts to insure a uniform shade and proper assembly throughout the shell.</p> <p><u>Fronts.</u></p> <p>a. <u>Thumbs.</u> Join the thumb to the palm portion of the inseam closing, with a 1/8 inch seam, in accordance with notches on patterns, with the large and the small welts inserted with the grain side facing palm. The wide welt shall be inserted at the crotch and shall overlap the 1/4 inch wide seam welt by approximately 1/4 inch. The narrow end of the wide welt shall be caught in the back closing seam. The end of the thumb seam welt shall extend to within 1/2 inch of the thumb.</p> <p>b. <u>Shirring.</u> Apply shirring stitch, in accordance with notches, around the finger top of the leather palm from the thumb stay to the opposite notch on the palm, using 5 to 6 stitches per inch.</p> | 301         | SSj-1                   |                   |
| 2.  |   | 501         | SSa-1                   |                   |

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TABLE I - SEWING OPERATIONS (Cont'd)

| No. | Description of Operation  | Stitch Type | Seam and Stitching Type | Stitches Per Inch |
|-----|---|-------------|-------------------------|-------------------|
| 3.  | <p>c. <u>Gauntlet stays.</u> Sew two 10-3/4 inch long pieces of webbing to the back of the outer-shell gauntlet and two 9-1/4 inch long pieces of webbing to the front of the outer-shell gauntlet at the notches, with a single row of stitches, 1/8 inch from the edge, along both edges. The webbing shall be caught in the gauntlet top hemming seam and the seam joining the leather palm to the gauntlet or the cloth pile wool to the nylon back, as applicable.</p>   | 301         | SSa-1                   |                   |
|     | <p>d. <u>Closing.</u> Join the leather palm to the gauntlet with the palm overlapping the gauntlet 1/2 inch, as indicated on the patterns, using a double row of stitching, 1/8 inch from the edge, with a 1/4 inch gage.</p>   | 301         | LSa-2                   |                   |
| 4.  | <p><u>Backs.</u></p>  | 301         | SSa-1                   |                   |
|     | <p>a. Sew the cloth pile wool inseam across the back of the shell at the notches, with a single row of stitching, 1/8 inch from the edge.</p> <p>b. To hold in place for joining, turn and sew all around the edge in accordance with notches, with a single row of stitching, 1/16 inch from the edge.</p> <p>NOTE: The nap side shall be on the outside, with the nap running away from the gauntlet.</p> <p><u>Adjustment straps.</u></p> <p>a. The buckle straps shall be cut 2-1/4 inches, plus or minus 1/8 inch, long.</p> | 301         | SSa-1                   |                   |

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TABLE I - SEWING OPERATIONS (Cont'd)

| No. | Description of Operation  | Stitch Type | Seam and Stitching Type | Stitches Per Inch |
|-----|---|-------------|-------------------------|-------------------|
|     | <p>b. The buckle straps shall be threaded through the buckles and sewn to the thumb side of the gauntlet back at the notches, 1/8 inch from the edge. The buckle strap shall measure 3/4 inch long when finished and attached.</p> <p>c. The center and top pull straps shall be cut 13-1/2 inches, plus or minus 1/4 inch, long.</p> <p>d. The wrist pull strap shall be cut 7-5/8 inches, plus or minus 1/4 inch, long.</p> <p>e. One end of each pull strap shall be folded back 1-1/4 inches and the end folded under 1/4 inch and securely bartacked approximately 1/2 inch wide, centered across the webbing.</p> <p>f. The pull straps shall be threaded through their respective buckles and seamed to the opposite side of the gauntlet back at notches.</p> <p>g. The center and the top guide loops shall be cut 2-3/8 inches, plus or minus 1/8 inch, long.</p> <p>h. The guide loops shall be folded 1-1/16 inches from the end around the pull straps and the overlapping 1/4 inch folded around the other end. The loops shall be centered between the gauntlet stays on the back of the glove and securely bartacked to the gauntlet, approximately 1/2 inch wide, centered across the webbing.</p> | 301         | SSa-1                   | 28 per bartack    |
|     |   | bartack     | SSa-1                   | 28 per bartack    |
|     |   | 301         |                         |                   |
|     |   | bartack     |                         | 28 per bartack    |

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TABLE I - SEWING OPERATIONS (Cont'd)

| No. | Description of Operation  | Stitch Type | Seam and Stitching Type | Stitches Per Inch |
|-----|---|-------------|-------------------------|-------------------|
|     | <p>1. <u>Release tab</u>. Each buckle shall have a release tab. The finished tab shall measure 1-1/2 inches (plus or minus 1/8 inch). Thread the webbing through the bar nearest the lip end of the buckle; turn the raw edge to the inside 1/4 to 3/8 inch, and stitch down with a 1/2 inch bartack centered between the edges of the strap. The bartack shall be placed perpendicularly to the length of the strap. The finished tape shall measure 1-1/2 inches (plus or minus 1/8 inch).</p>  | bartack     | SSc-1 or SSL-1          | 28 per tack       |
| 5.  | <p><u>Web loop for shoulder cord</u>. Make two loops (Type IIa of MIL-W-530), 5/8 inch wide webbing. Attach one loop to the thumb side of the back of each shell at the pattern notches. The loops shall be caught in the closing seams and shall measure 3/4 inch long when attached and finished.</p>   | 301         | Sse-2(a)                |                   |
| 6.  | <p><u>Shell closing</u>. Join the fronts to the back inseam, matching notches, with a single row of stitching, 1/4 inch from the edge.</p> <p>a. Turn the shell, match notches, and finish seaming the gauntlet portion on the outside, with a single row of stitching, 1/8-inch gage, starting 1/2 inch above the raw edge of the leather palm. The ends of the stitch shall be securely backstitched.</p> <p>b. After the mitten is closed, the top of the gauntlet shall be turned in a minimum of 1 inch, with the raw edges turned under forming a hem and stitched with a single row of stitching, 1/2 inch (plus or minus 1/8 inch) from the edge, inserting the top ends of the gauntlet stays inside the hem and catching them in the stitching.</p> | 301         | Sse-3(b)                |                   |
|     |   | 301         | EFb-1                   |                   |

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TABLE I - SEWING OPERATIONS (Cont'd)

| No. | Description of Operation  | Stitch Type              | Seam and Stitching Type | Stitches Per Inch |
|-----|---|--------------------------|-------------------------|-------------------|
| 7.  | <p><u>Stamp on snap fasteners.</u> Stamp on four buttons and sockets through the hem and the gauntlet stays on the palm and on the back side of the outer shell, as indicated on the pattern, to hold the liner in position. The buttons shall be on the outside of the outer shell.</p>  |                          |                         |                   |
| 8.  | <p><u>Attach label.</u> A label shall be securely sewn to the inside back of the gauntlet of each outer shell located approximately 1-1/4 inches, plus or minus 1/4 inch, below the bottom edge of the top gauntlet hem, centered parallel between the two gauntlet stays. Sew the label along all four edges, with a single row of stitching, 1/16 inch from the edge.</p> <p style="text-align: center;">SHELL INSERT</p> | 301                      | SSa-1                   | 12                |
| 9.  | <p><u>Cutting.</u> The insert shall be cut by standard commercial methods and shall conform to the pattern drawings which show size, shape, and notches for the proper assembly of all parts.</p>   |                          |                         |                   |
| 10. | <p><u>Insert closing.</u></p> <p>a. Attach the back of the thumb to the palm, with a single row of stitching all around, 1/8 inch from the edge, and overedge stitch the raw edges all around.</p> <p>b. Join the backs to the fronts, with a single row of stitching all around, 1/8 inch from the edge.</p> <p>c. Overedge stitch the raw edges all around.</p>   | 301 and<br>503 or<br>504 | SSa-2                   |                   |
|     |   | 301                      | SSa-1                   |                   |
|     |   | 503 or<br>504            | SSa-1                   |                   |



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TABLE I - SEWING OPERATIONS (Cont'd)

| No. | Description of Operation   | Stitch Type       | Seam and Stitching Type | Stitches Per inch |
|-----|--|-------------------|-------------------------|-------------------|
|     | <p>d. <u>Hem gauntlet.</u> Overedge stitch the raw edge of the gauntlet top all around, 1/8 inch form the edge.</p> <p>e. Fold the overedged top of the gauntlet insert to the outside to form a hem 7/8 inch, plus or minus 1/8 inch, wide and stitch all around with a single row of stitching, 1/4 inch from the edge, through and through.</p> | 503 or 504<br>301 | EFD-1<br>SSa-1          |                   |
| 11. | <p><u>Stamp on snap fasteners.</u> Stamp on four studs and eyelets through the hem of the insert, at the center line of the stays on the palm and on the back side, as indicated on the pattern.</p>   |                   |                         |                   |
| 12. | <p><u>Attach label.</u> A label shall be securely sewn to the inside back of the gauntlet of each insert, centered 1/2 inch, plus or minus 1/8 inch, below and parallel to the top hem. Sew the label along all four edges, with a single row of stitching, 1/16 inch from the edge.</p>   | 301               | SSa-1                   |                   |
| 13. | <p><u>Trimming.</u> All thread ends shall be trimmed to not more than 3/16 inch. Remove all loose threads.</p>   |                   |                         |                   |
| 14. | <p><u>Assembling and finishing.</u> The wool pile liner shall be fitted inside the outer shell and snapped into place.</p> <p>NOTE: The snapfasteners shall be opened and closed a minimum of three times to verify that the socket and stud assemblies function properly.</p>   |                   |                         |                   |
| 15. | <p><u>Pairing.</u> The assembled outer shell and liner shall be matched and paired. Each pair shall be secured with a shoulder cord, one end of which shall be threaded through the cord loop of each mitten, double knotted and wrapped around each pair.</p>   |                   |                         |                   |

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\*3.6 Patterns. Standard patterns will be furnished by the Government. The standard patterns shall not be altered in any way and are to be used as a guide for cutting the contractor's working patterns. The working patterns shall be identical to the standard patterns.

\*3.6.1 List of pattern parts. The mitten set shall be cut from the material as specified and in accordance with the pattern parts in Table II.

TABLE II - List of pattern parts for Shell and Insert

| * Material                          | Nomenclature of Parts | Cut parts          |
|-------------------------------------|-----------------------|--------------------|
| Leather Deerskin<br>For Outer Shell | Palm                  | 1 ea. Left & Right |
|                                     | Back of Thumb         | 1 ea. Left & Right |
|                                     | Welt Large            | 1 ea. Left & Right |
|                                     | Welt Small            | 2                  |
| Nylon Twill for<br>Outer Shell      | Front Gauntlet        | 1 ea. Left & Right |
|                                     | Back Gauntlet         | 1 ea. Left & Right |
| Wool Pile for<br>Outer Shell        | Back of Shell         | 2                  |
| Knitted Wool for<br>Insert          | Palm                  | 1 ea. Left & Right |
|                                     | Back of Thumb         | 1 ea. Left & Right |
|                                     | Back                  | 1 ea. Left & Right |

\*3.7 Measurement. The finished dimensions taken at points defined on Figures 2 and 3 shall conform to the size measurements shown in Table III and IV.

\*3.8 Identification of product.

\*3.8.1 Contractor's label. Each outer shell and each insert shall contain a label conforming to Type VI, Class 4 of DDD-L-20. The labels shall contain the following information:

Shell - Mitten Set, Flyer's  
Specification MIL-M-6269G  
NSN  
Size  
Contract No.  
Contractor's Name

Insert - Mitten Set, Flyer's  
Specification MIL-M-6269G  
NSN  
Size  
Contract No.  
Contractor's Name  
Fabric - 100% wool

3.9 Measurement. The finished dimensions, taken at points defined on Figures 2 and 3 shall conform to the size measurements shown in Tables III and IV.

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TABLE III - Measurements of Shell (See Figure 2)

| Point of<br>Measurement | Dimensions (inches) |        | Tolerance<br>Plus or Minus |
|-------------------------|---------------------|--------|----------------------------|
|                         | Medium              | Large  |                            |
| A                       | 9                   | 9-5/8  | 1/2                        |
| B                       | 7-1/4               | 7-7/8  | 3/8                        |
| C                       | 2-3/4               | 3      | 1/4                        |
| D                       | 4                   | 4      | 1/4                        |
| E                       | 12                  | 12-1/2 | 1/2                        |
| F                       | 8-1/4               | 9      | 1/4                        |
| G                       | 18                  | 19     | 1/2                        |

TABLE IV - Measurements of Liner (See Figure 3)

| Point of<br>Measurement | Dimensions (inches) |        | Tolerance<br>Plus or Minus |
|-------------------------|---------------------|--------|----------------------------|
|                         | Medium              | Large  |                            |
| J                       | 13-1/2              | 14-1/4 | 1/2                        |
| K                       | 2-1/2               | 2-5/8  | 1/4                        |
| H                       | 18-3/4              | 19-3/4 | 1/2                        |

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3.10 Replacement of defective components. During the spreading, cutting and manufacturing process, components having material defects or damages that are classified as defects in 4.4.1 and 4.4.2 shall be removed from production and replaced with non-defective and properly matched components.

3.11 Workmanship. The finished mitten set including shell, liner and harness, shall conform to the quality and grade of product established by this specification. Occurrence of defects shall not exceed the applicable quality levels.

#### 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, 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 the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

\*4.1.1 Certificate of Compliance. The contractor shall submit a certificate of compliance indicating the wool pile cloth meets the requirements of 3.2.3.

4.2 Preproduction inspection. When required (see 3.1), inspection and testing of the preproduction sample shall be made of a completely fabricated pair of mitten sets for all provisions of this specification applicable to end item examination and tests.

4.3 Quality conformance inspection. Unless otherwise indicated, inspection shall be in accordance with MIL-STD-105.

4.3.1 Component testing. In addition to the quality assurance provision of the subsidiary specifications and drawings, testing shall be performed on the following components and materials for the following test characteristics:

4.3.1.1 Cloth pile wool.

4.3.1.1.1 Examination of wool. The wool shall be tested for grade in top form by comparison with the applicable U.S. Standard. In the event of dispute, the grade of the wool shall be determined by the width method. The unit of product shall be 1 yard of undyed or untreated top. The sample size (number of units of product) shall be two for lot sizes up to 800 pounds, three for lot sizes from 801 to 22,000 pounds, and five for lot sizes from 22,001 pounds, and up. The result from each unit of product shall be reported separately. The lot shall be unacceptable if a single unit of product fails to meet the required grade.

4.3.1.1.2 Examination of cloth, pile, wool. The cloth, pile, wool shall be tested for grade in the top form (undyed) prior to blending, by comparison with the applicable equivalent U.S. Standard for wool top. In the event of a dispute the grade of cloth, pile, wool shall be determined by the width method. When the width method is used, the fineness computed as the average of 1,200-fiber measurements per unit of product shall conform to the average diameter specified for the equivalent grade of wool top. The unit of product

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shall be 1 yard of undyed or untreated top. The sample size shall be as specified in 4.3.1.1.1. The results from each unit of product shall be reported separately. The lot shall be unacceptable if a single unit of product fails to meet the required grade.

#### 4.3.1.2 Knitted wool cloth.

4.3.1.2.1 Examination of wool. Fleece or pulled wool shall be examined in scoured form prior to dyeing, picking, or carding. Examination for grade shall be performed visually in accordance with the applicable U.S. Standard. In the event of a dispute resulting from the above comparison, the grade shall be determined by the width (wedge) method approved by the procuring activity. The examination for grade shall be performed on a composite sample of 1 pound of the component for each 10,000 pounds or fraction thereof in the lot. The composite sample shall be selected from not less than 10 percent of the bales or bags in the lot. The lot shall be unacceptable if the sample does not conform to specification requirements.

4.3.1.3 Material identification of buckle and braid. Components and materials for the buckle specified in 3.2.6 and for the braid specified in 3.2.9 may be accepted on the basis of contractor's certification of compliance for the material identification of the buckle and for the material identification of the tips of the braid, respectively.

4.4 Examination for acceptance. Defects found during examination of the end item shall be classified in accordance with 4.4.1 and 4.4.2. The lots shall be inspected in accordance with 4.4.3. The sample unit for these examinations shall be one completely fabricated mitten shell and insert, and the selection of the sample shall be by pairs. Examination for attachment of shoulder cord shall be performed with the pairing examination. Any defect in pairing or attachment shall be classified as a single defect. The lot size shall be expressed in terms of one mitten shell and insert.

4.4.1 Examination of mitten set. The mittens shall be examined for defects in pairing, color, finish, design, material, construction, workmanship, and marking. Defects with an asterisk(\*) in the classification column shall be scored as major when seriously affecting serviceability and minor when seriously affecting appearance or affecting serviceability but not seriously.

| Examine | Defect   | CLASSIFICATION |       |
|---------|--|----------------|-------|
|         |  | Major          | Minor |
| Pairing | Not properly mated, e.g., right and left liner and shell not same size | X              |       |
|         | Wide variation in color or appearance between the pair                 |                | X     |
|         | Not secured together with shoulder cord in the manner specified        |                | X     |
|         | Shoulder cord missing  | X              |       |

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| Examine  | Defect  | CLASSIFICATION |       |
|--|---|----------------|-------|
|  |   | Major          | Minor |
|  | Distinct difference in leather grain structure between the pair, seriously affecting appearance   |                | X     |
| Color and finish   | Any component, except thread, not specified color or finish   | X              |       |
|  | Thread not specified color  |                | X     |
|  | Color of like materials not uniform   |                | X     |
| Cleanliness  | Any spot, stain, or foreign matter clearly noticeable   |                | X     |
| Leather  | Not full grain deerskin   | X              |       |
|  | Not soft and pliable  | X              |       |
|  | Hard or bony leather  | X              |       |
|  | Flanky leather  |                | *     |
|  | Spongy leather in palm  | X              |       |
|  | Spongy leather in welt  |                | X     |
|  | Cut or scar   |                | *     |
|  | Hole, tear, or thin or weak spot  | X              |       |
|  | Grain damage penetrating deeply into leather fiber  | X              |       |
|  | Grain damage not penetrating deeply into leather fiber (not applicable to minute surface breaks provided the condition or frequency of same does not have a serious affect on appearance) |                | X     |
|  | Distinct difference in grain structure between parts, seriously affecting appearance  |                | X     |
|  | Flesh side not smooth or contains loose flesh in excess of 1 square inch in total area  |                | X     |
| Fabrics other than cloth, pile, wool, braid, and webbing | Weave not as specified or knitted wool cloth not napped on both sides   | X              |       |
|  | Hole or tear  | X              |       |

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| Examine                     | Defect  | CLASSIFICATION |       |
|-----------------------------|---|----------------|-------|
|                             |   | Major          | Minor |
|                             | Mend or splice  |                | *     |
|                             | Any weakened area due to smashes, multiple floats, or any other weave deficiencies that might develop into a hole                                   | X              |       |
|                             | Any fabric defect affecting service-ability but not seriously, e.g., mispicks or slubs  |                | X     |
| Wooland pile                | Height of pile less than 1/2 inch   | X              |       |
|                             | Hole or tear  | X              |       |
|                             | Mend or splice  |                | *     |
|                             | Pile not properly opened up   |                | *     |
|                             | Pile tufts missing  |                | *     |
| Braid<br>(shoulder<br>cord) | Weave not basket type   |                | X     |
|                             | Objectionable odor  |                | X     |
|                             | Water repellent not applied evenly or shows evidence of cracking, rubbing off, or staining  |                | X     |
|                             | Hole or tear  | X              |       |
|                             | Mend or splice  |                | *     |
|                             | Ends not tipped or length of tip less than 1/2 inch   |                | X     |
| Webbing                     | Hole or tear  | X              |       |
|                             | Mend or splice  |                | *     |
|                             | Not tightly woven, edges frayed or scalloped  |                | X     |
|                             | Multiple floats, smashes, slubs, or any other forms of misweave   |                | X     |
| Hardware                    | Broken, damaged, or malformed   | X              |       |
|                             | Sharp burr or metal sliver  |                | X     |
|                             | Any part missing, will not function as intended, reversed on assembly, or not properly set to a degree where it might become detached from assembly | X              |       |

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| Examine   | Defect   | CLASSIFICATION |       |
|---|--|----------------|-------|
|   |  | Major          | Minor |
|   | Any part not properly set or attached but will be adequately retained on assembly and will function as intended  |                | X     |
| Construction and workmanship (general) applicable to all components and assemblies unless specified otherwise | Any component misplaced, operation omitted, or not properly performed, seriously affecting serviceability  | X              |       |
|   | Any component misplaced or operation not properly performed, affecting serviceability but not seriously, or seriously affecting appearance   |                | X     |
|   | Any component missing or not specified type (unless otherwise classified herein)   | X              |       |
|   | Any component not securely affixed   |                | *     |
|   | Any workmanship damage, e.g., scissor or knife cut   | X              |       |
| Seams and stitching   | Any open seam. When one or more stitches are broken or two or more consecutive skipped stitches or run-offs occur on a single stitched seam or on both rows of stitching on a double-stitched seam, it shall be classified as a major defect. When one or more stitches are broken or two or more consecutive skipped stitches or run-offs occur on only one row of a double-stitched seam, it shall be classified as a minor defect |                |       |
|   | Needle chews likely to develop into a hole   | X              |       |
|   | Not specified seam type  | X              |       |
|   | Not specified stitch type  | X              |       |
|   | Any row of stitching omitted   | X              |       |
|   | Loose stitch tension, resulting in a loosely secured seam  | X              |       |
|   | Tight stitch tension, resulting in cutting of material or breaking of stitches when normal pull is applied   | X              |       |



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| Examine         | Defect  | CLASSIFICATION |       |
|-----------------|---|----------------|-------|
|                 |   | Major          | Minor |
|                 | Thread breaks not backstitched  |                | X     |
|                 | Ends of stitching, when not caught in another row of stitching, not backstitched as specified   |                | X     |
|                 | Gage or margin of stitching irregular or not as specified   | *              |       |
|                 | Any part caught in unrelated row of stitching   | *              |       |
|                 | One or two stitches per inch less than specified  |                | X     |
|                 | Three or more stitches per inch less than specified   | X              |       |
|                 | More than the specified maximum number of stitches per inch, resulting in damage to assembly  | X              |       |
|                 | More than the specified maximum number of stitches per inch, not damaging assembly  |                | X     |
|                 | Puckering or pleating where not required  | *              |       |
| Assembly detail | Mitten not neatly laid off, i.e., not well formed   |                | X     |
|                 | Not outseam or inseam construction where specified  | X              |       |
|                 | Welting omitted   | X              |       |
|                 | Thumb welt and seam welt do not overlap   |                | X     |
|                 | Welting not caught in thumb seam  | X              |       |
|                 | Thumb welt not caught in back closing seam or seam welt ends more than 1/2 inch from top of thumb   |                | X     |
|                 | Poorly assembled seriously affecting serviceability, e.g., thumb distorted or twisted affecting comfort of wearer or interfering with function of mitten set. | X              |       |

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| Examine | Defect  | CLASSIFICATION |       |
|---------|---|----------------|-------|
|         |   | Major          | Minor |
|         | Poorly assembled affecting serviceability but not seriously, e.g., buckle strap and adjusting strap not in proper alignment causing malformation when strap is tightened                |                | X     |
|         | Not constructed with specified number of pieces of material   | X              |       |
|         | Any socket or stud of snap fastener incorrectly positioned to an extent that the assembly cannot be joined or, if joined, results in serious condition of assembly                      | X              |       |
|         | Any socket or stud of snap fastener incorrectly positioned but not to the extent that the assembly cannot be joined and, when joined, does not result in serious distortion of assembly |                | X     |
|         | Nap or cloth, pile, wool does not lie in direction of finger tips   |                | X     |
|         | Thread ends not trimmed throughout item   |                | X     |
|         | Snap fastener base or flange that cuts fabric   | X              |       |
| Marking | Missing, incomplete, incorrect, not legible, not specified type or size, not in proper location, or not accomplished in the specified manner  |                | X     |

4.4.2 Examination of dimensions. The mitten set shall be examined for dimensional defects including thickness (weight) of leather. Any dimension that is not within the established tolerance shall be classified a defect. Each leather part of the mitten shell shall be measured for thickness, i.e., palm, thumb, and welts (where feasible). Thickness (weight) shall be determined in accordance with Method 1011 of FED-STD-311.

4.4.3 Inspection levels and acceptable quality levels. The inspection levels shall be Level II of MIL-STD-105 for 4.4.1 and S-3 of MIL-STD-105 for 4.4.2. The acceptable quality level for 4.4.1 shall be 2.5 defects per 100 units for major defects and 6.5 defects per 100 units for total defects; the acceptable quality level for 4.4.2 shall be 4.0 defects per 100 units for total defects.

4.5 Examination of preparation for delivery requirements. An examination shall be made to determine if packaging, packing, and marking requirements of Section 5 of this specification have been met. The lot size shall be the number of shipping containers in the end item inspection lot. The inspection

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level shall be S-2 of MIL-STD-105, and the acceptable quality level shall be 2.5 defects per 100 units. The sample unit shall be one shipping container fully prepared for delivery with the exception that it need not be sealed. Shipping containers full prepared for delivery shall be examined for defects and shall be scored as follows:

| <u>Examine</u>                               | <u>Defect</u>   |
|--|---|
| Marking<br>(exterior and interior)           | Omitted, incorrect, illegible, of improper size, location, sequence, or method of application.  |
| Materials                                    | Any component missing   |
| Workmanship                                  | Any component damaged, affecting serviceability<br>Inadequate application of components, such as incomplete closure of case liners, container flaps, loose strapping, inadequate stapling.<br>Bulging or distortion of containers |
| Weight or content<br>(exterior and interior) | Number of intermediate packages is more or less than required<br>Gross or net weight exceeds requirements   |
| Preservation                                 | Preservation improper, improperly applied, or missing   |

## \*5. PACKAGING

5.1 Preservation and packaging. Preservation and packaging shall be Level A or C as specified (see 6.2).

5.1.1 Level A. Each mitten set shall be uniformly dusted with naphthalene flakes (see 6.2.1) and inserted in a snug fitting heat-sealed polyethylene bag from which all excess air has been removed prior to sealing. The bag shall be made of 0.0015 inch gage polyethylene. The bag shall be placed in a fiberboard container conforming to PPP-B-636, Type CF, Style RSC or OPF, Class domestic. Closure shall be in accordance with the appendix of the container specification.

5.1.2 Level C. The mitten sets shall be packaged to afford adequate protection against deterioration and physical damage during shipment from supply source to the first receiving activity for immediate use. This level may conform to the supplier's commercial practice provided the latter meets the requirements of this level.

5.2 Packing. Packing shall be Level A, B or C as specified (see 6.2).

5.2.1 Level A. Thirty mitten sets of one size only, packaged as specified in 5.1, shall be packed in a fiberboard shipping container conforming to class-weather resistant, Grade V3c or V3s, Style RSC of PPP-B-636. Closure and reinforcement shall be in accordance with the appendix of the container specification. Toward the end of the contract or order, or when there is less than the required amount per container of one size, mixed sizes may be packed within the same shipping container.

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5.2.2 Level B. Shall be the same as specified in 5.2.1 except the shipping container shall conform to class domestic, Grade 275, and reinforcing requirements do not apply.

5.2.3 Level C. Mitten sets shall be packed to afford adequate protection at the lowest rate against damage during direct shipment from the supply source to the first receiving activity for immediate use. Containers shall conform to applicable carrier rules and regulations applicable to the mode of transportation.

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

5.3.1 Mixed sizes. Each shipping container, packed with mixed sizes only (see 5.2.1 and 5.2.2) shall have securely attached to the end and side, directly under the printing or stenciling, a white paper label 5 by 4 inches with the words "MIXED SIZES" plainly stamped or printed thereon. Under these words shall be legibly stamped or printed the correct quantities of sizes contained therein.

## 6. NOTES

6.1 Intended use. The mitten set covered by this specification is intended to be worn as a warming mitten over standard, mitten-style gloves or over standard flying gloves (with glove inserts) by aircrew personnel. The assembly is too bulky to allow use of the fingers, but can be readily removed when necessary leaving the mittens or flying gloves on the hands.

6.2 Ordering data. Procurement documents should specify the following.

- a. Title, number, and date of this specification.
- b. Size required (see 1.2).
- c. Preproduction requirements (see 3.1)
- d. Selection of applicable levels of preservation, packaging and packing (see 5.1 and 5.2).

6.2.1 The naphthalene flakes requirement is not applicable when Government furnished material of wool or part wool content has been mothproofed treated (see 5.1.1).

6.3 USAF color shades. Samples of USAF color shades may be obtained from the procuring activity or as directed by the contracting officer.

6.4 Figures. Figures 1, 2 and 3 indicate general appearance and are for information only.

6.5 Cloth, pile, wool. Fabric conforming to Style No. 7526 of the Draper Bros Co., Inc., Canton, MA is known to meet the requirement specified in 3.2.3.

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6.6 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.

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Air Force - 99  
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Review Activity:

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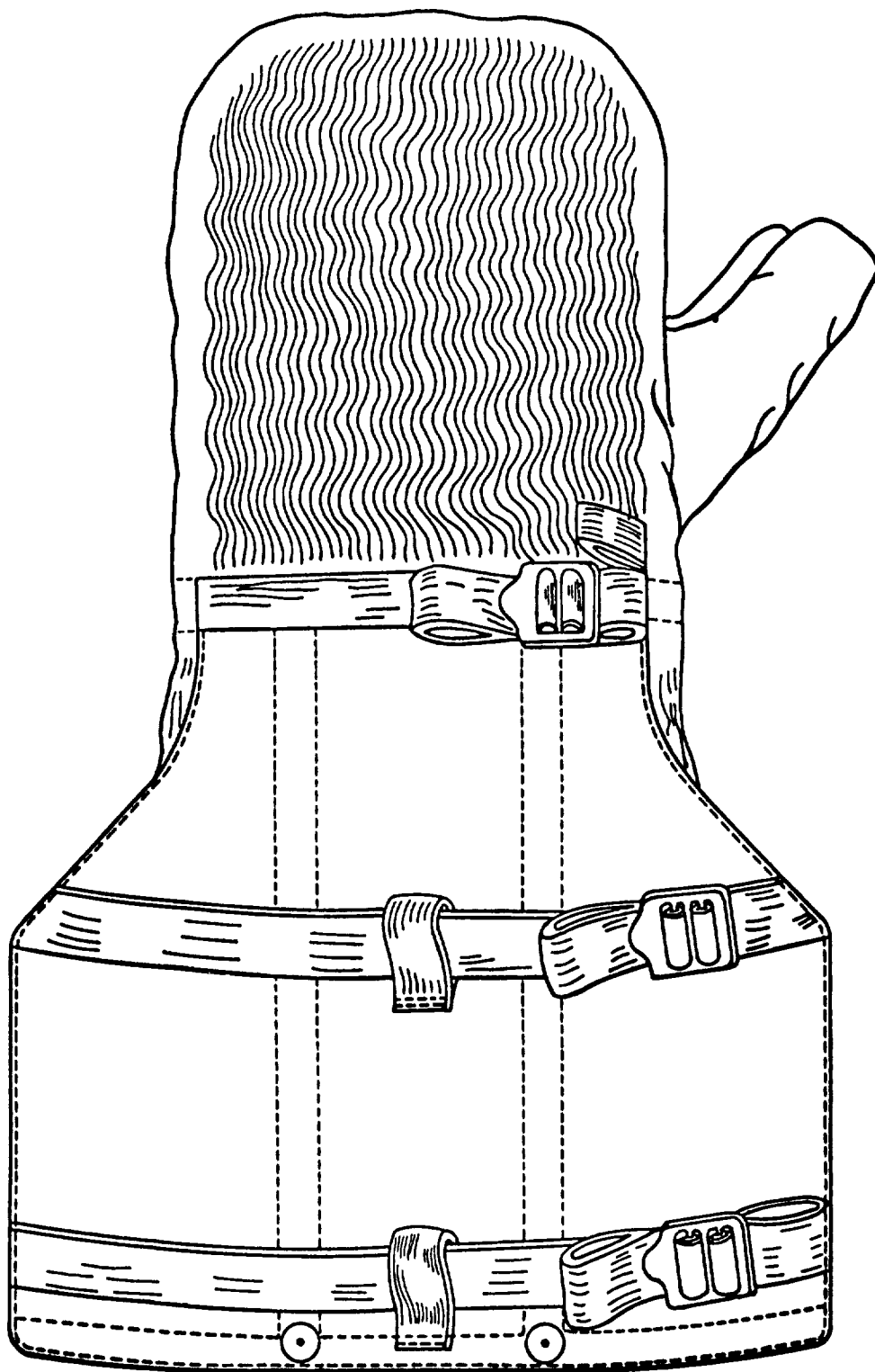


FIGURE 1. SHELL, OUTER, BACK VIEW

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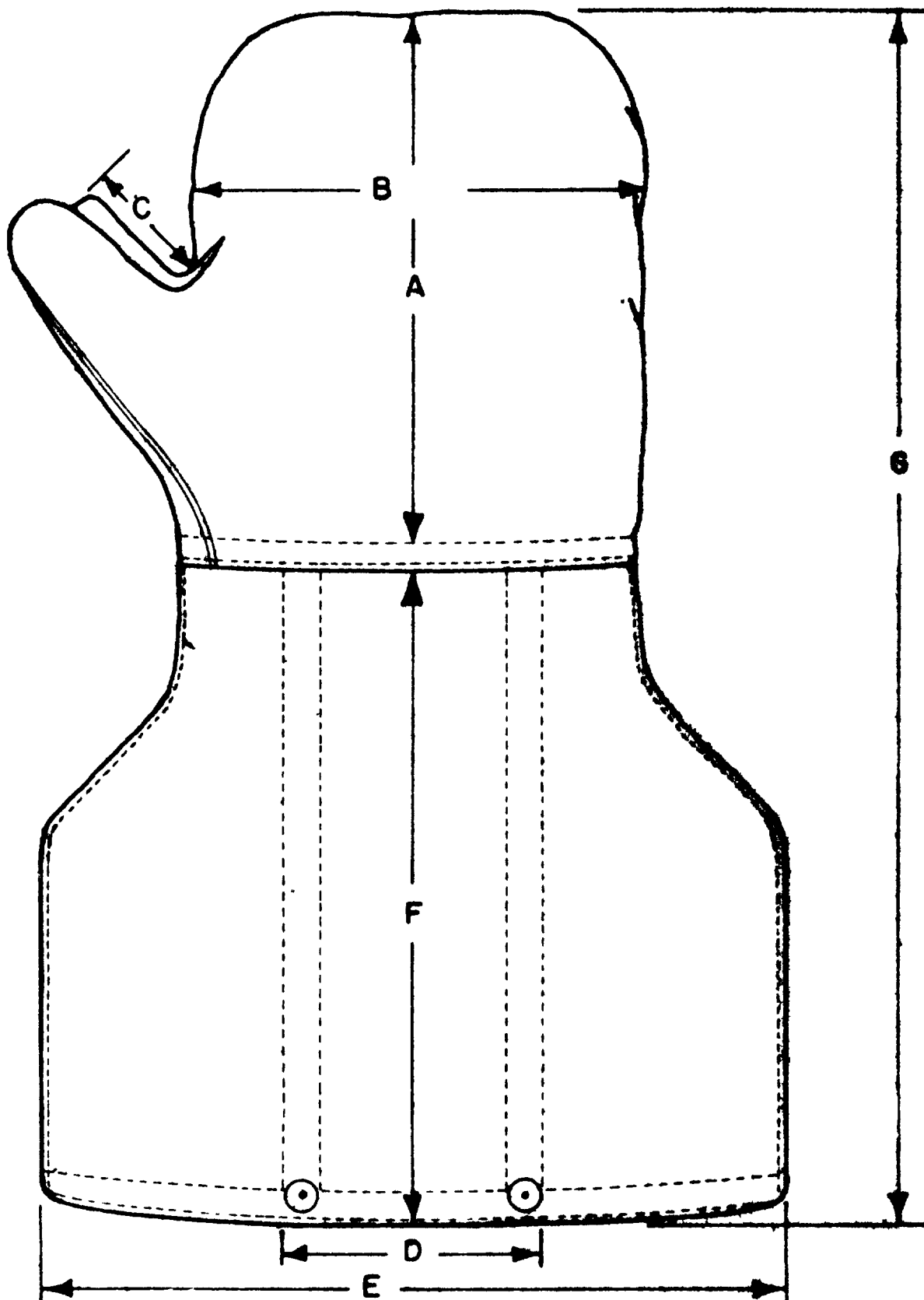


FIGURE 2 SHELL, OUTER PALM VIEW

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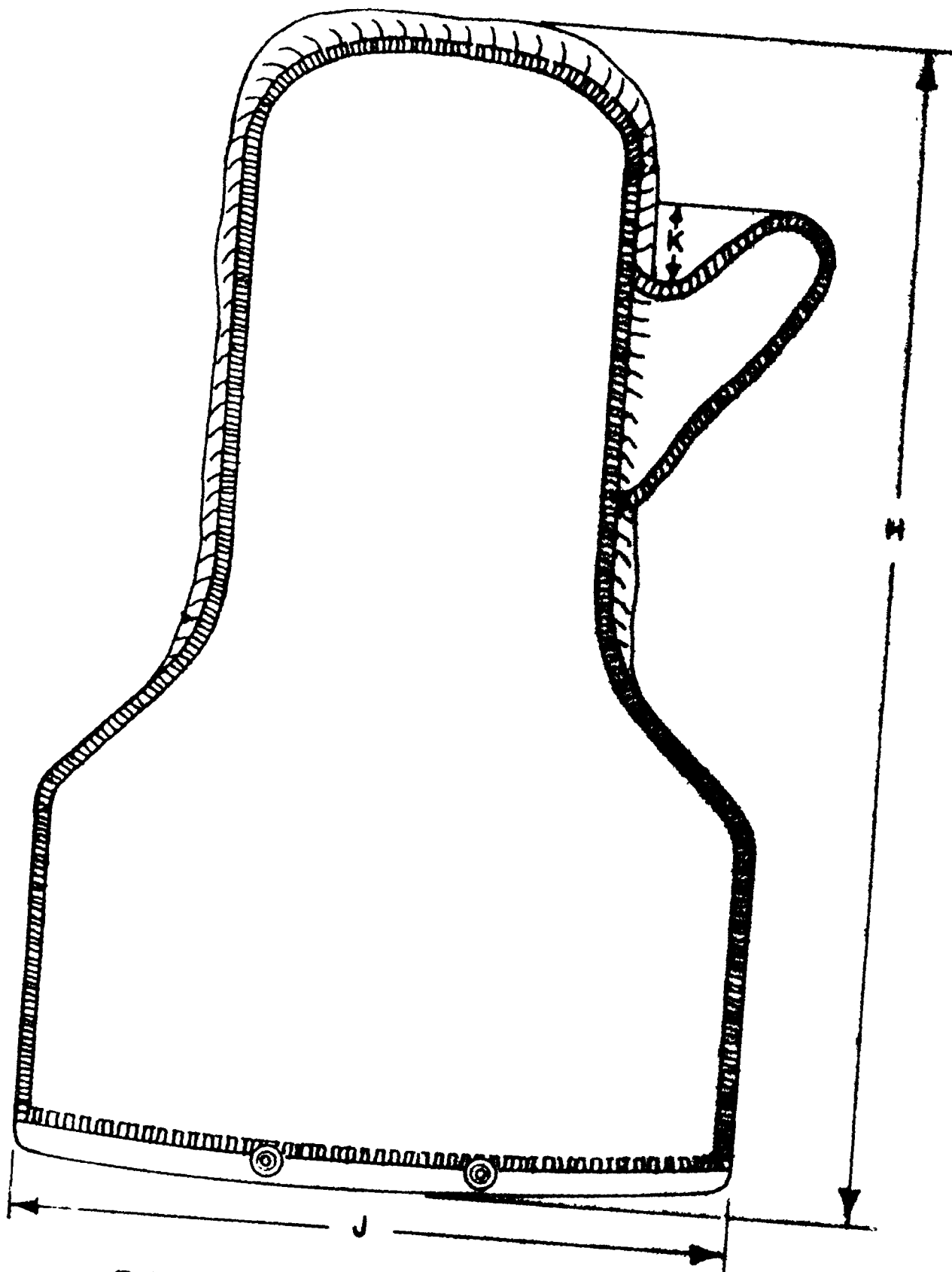


FIGURE 3. INSERT, BACK VIEW



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