

MIL-G-81188B

31 August 1973

SUPERSEDING

MIL-G-81188A(AS)

9 January 1967

(SEE 6.3)

MILITARY SPECIFICATION**GLOVES, FLYER'S, SUMMER, TYPE GS/FRP-2**

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

1. SCOPE

1.1 Scope - This specification covers requirements for one type and six sizes of a lightweight, unlined, summer, flyer's gloves, fabricated from perspiration resistant leather and simplex knitted, fire resistant, polyamide cloth, designated as Type GS/FRP-2.

1.2 Classification - The Type GS/FRP-2, summer, flyer's gloves shall be furnished in the following sizes, as specified (see 6.2(b)):

SIZE

6	8	10
7	9	11

2. APPLICABLE DOCUMENTS

2.1 The following documents of the issue in effect on date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein:

SPECIFICATIONSFederal

JJ-W-155	Webbing, Textile, (Cotton, Elastic)
KK-L-254	Leather, Sheepskin, Chrome-Tanned
DDD-L-20	Label, for Clothing, Equipage, and Tentage, (General Use)

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SPECIFICATIONS (Continued)

Federal (Continued)

NNN-P-35	Paper, Blotting (Laboratory)
PPP-B-636	Boxes, Shipping, Fiberboard

Military

MIL-T-48636	Thread, Nylon, Non-Melting
MIL-C-81393	Cloth, Knitted, Polyamide, High Temperature, Simplex, Jersey

STANDARDS

Federal

FED-STD-311	Leather, Methods of Sampling and Testing
FED-STD-595	Colors
FED-STD-751	Stitches, Seams, and Stitching

Military

MIL-STD-105	Sampling Procedures and Tables for Inspection By Attributes
MIL-STD-129	Marking for Shipment and Storage

(Copies of this specification and applicable documents required by contractors in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

2.2 Other publications - The following documents form a part of this specification to the extent specified herein. Unless a specific issue is identified, the issue in effect on date of invitation for bids or request for proposal shall apply:

National Motor Freight Traffic Association, Incorporated, Agent

National Motor Freight Classification

(Application for copies should be addressed to the American Trucking

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Associations, Incorporated, Tariff Order Section, 1616 P Street, N. W., Washington, DC 20036.)

Uniform Classification Committee, Agent

Uniform Freight Classification

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

3. REQUIREMENTS

3.1 First article - Unless otherwise specified, the Type GS/FRP-2, summer, flyer's gloves furnished under this specification shall be a product which has been inspected and has passed the first article inspection specified in 4.3 through 4.3.2.

3.2 Materials and components - The materials and components shall conform to the applicable specifications and standards as listed or required herein.

3.2.1 Leather - The leather shall conform to KK-L-254, Type A, Class 2, Subclass a, with the following modifications:

- (a) Colorfastness (resistance to rubbing) - The staining of the dry crock cloth shall be not lower numerically than the Munsell Value 9.0.
- (b) Staining - The inspection method for determining the staining of the leather shall be as specified in 4.5.1 of this specification.
- (c) Perspiration resistance - The inspection method for determining the perspiration resistance of the leather shall be as specified in 4.5.2 of this specification.
- (d) Launderability - When inspected as specified in 4.5.3, the loss in area, for at least 80 percent of the specimens inspected, shall be not greater than 20 percent. The loss in area, for the remainder of the inspected specimens, shall be not greater than 30 percent.
- (e) The thickness of the leather cut parts of the glove shall be 1-1/2 to 2-1/2 ounces.

The color of the leather shall be gray, no darker than Color Number 26293 nor lighter

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than Color Number 26373 of FED-STD-595, when inspected as specified in 4.5.4. The color shall be obtained by the drum dyeing method. The dye shall penetrate the leather and the color on the grain side shall be uniform. The finish on the grain side shall be such as to permit the leather to become thoroughly wetted, when it is inspected for resistance to perspiration.

3.2.2 Cloth - The cloth shall conform to MIL-C-81393. The color of the cloth shall be Olive Green, approximating Navy Shade 3433, when inspected as specified in 4.5.4.

3.2.3 Elastic webbing - The elastic webbing shall conform to JJ-W-155, Type II, Class 1 or 2, 5/16 or 3/8 inch wide, color optional.

3.2.4 Thread - All the sewing operations shall be performed with the non-melting, nylon, filament thread conforming to MIL-T-43636, Type I, Size B. The color of the thread shall approximately match the color of the cloth, 3.2.2, when inspected as specified in 4.5.4.

3.3 Design and construction - The back of the glove and thumb, including the base of the thumb and a portion of the gauntlet, and the four finger seamless fourchette shall be fabricated from the high temperature resistant, polyamide, simplex knitted cloth for protection from fire. The palm and the front of the gauntlet, thumb, and fingers of the glove shall be fabricated from one piece of the leather. The gauntlet of the glove shall contain an elastic webbing takeup. The gloves shall be constructed in accordance with Figures 1 through 4. No cut edges, except where specified for the leather, shall be visible on the exterior of the glove.

3.3.1 Cutting - The component parts of the glove shall be cut in strict accordance with the patterns furnished by the Government (see 6.4) by standard commercial methods for "pattern" or "table" cut gloves. The Government patterns shall not be altered in any manner and shall be used for making the working patterns or dies. The working patterns or dies shall be identical to the Government furnished patterns. When applicable, blocker patterns shall be used for blocking out the trunks. The cloth portion of the glove and the fourchette strip shall be cut in the wales direction and shall be one continuous piece of the knitted cloth. Before the integral portions of the glove are cut, the skins shall be examined, on both sides, and flank pockets and all other weak places shall be eliminated. The skins shall also be sorted for shade and thickness. The grain side of the leather and the face of the knitted cloth shall be on the outer surface of the glove. The color of the cloth sections in a glove shall be the same shade.

3.3.2 Stretching - The trunks shall be cut so that the stretch is in the width of the assembled glove. The skins shall be dampened and the stretch pulled out firmly, in the length, before cutting the leather sections. All the hard parts of the skin which do not stretch adequately shall not be cut into the gloves. The leather parts that stretch lengthwise shall not be used.

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3.3.3 Seams and stitching - All the seams used in the fabrication of the gloves shall conform to Figures 1 through 4. Unless otherwise specified, the tolerances on the seams shall be plus 1/16, minus 0, inch. No trimmer shall be used. The closing of the shape tab of the index and little fingers, closing of the side seam and the attaching of the fourchette shall be accomplished on a pique kind sewing machine with Seam Type SSa-1 and Stitch Type 301 or 401. The finger tips shall be closed on a pique kind sewing machine with Seam Type LSa-1 and Stitch Type 401. Two rows of stitching 1/16 to 1/8 inch apart shall be used to attach the thumb and gauntlet continuation of the thumb on a pique kind sewing machine with Seam Type LSa-2 and Stitch Type 401 (see Figures 1, 3, and 4). The looper thread of the Stitch Type 401 stitching shall be on the innerside of the glove. The top of the glove shall be hemmed with Stitch Type 301. The elastic webbing shall be attached with zig zag stitching, Stitch Type 304. The beginning and ending of the zig zag row of stitching shall be tacked with 2 to 4 rows of vertical stitching (see Figure 3). All the stitch and seam types shall conform to FED-STD-751 and shall contain 9 to 12 stitches per inch. Each row of stitching shall be straight and parallel to the seam edge. The thread tension shall be maintained so that there shall not be any loose or tight stitching and the lock shall be embedded in the materials sewn together. No seam or component shall be twisted, puckered, or pleated and no part of the glove shall be caught in an unrelated operation or seam. All the thread ends shall be trimmed.

3.3.4 Attaching of the elastic webbing - The elastic webbing shall be centered and attached across the seam, on the inside of the glove, as in Figures 1 and 3, Section C-C. The webbing shall be stretched to its full length so that the shirrings on the outside, where the webbing is attached, shall be evenly spaced and the full amount of the stretch in the webbing shall be utilized.

3.3.5 Forming - The thumb shall be well worked out on the thumb stick. The glove shall be pulled down so that the side seams of all the fingers shall be straight and parallel to the side seam of the glove. The finger tips shall be fully extended to remove all wrinkles, creases, or lumps which may affect the comfort. The gloves sizes shall be matched and then evenly layed off from heated forms. The forming shall not stiffen or scorch the cloth or leather.

3.3.6 Pairing - The gloves shall be matched and paired. The paired gloves shall be tacked together with thread, 1/2 to 1 inch from the top of the glove, in the cloth portion of the back of the thumb and gauntlet continuation. The tacking shall be accomplished with not less than two stitches, using a ply thread, which shall permit the gloves to be easily pulled apart, without tearing or damaging the cloth.

3.4 Dimensions - The dimensions, for the various glove sizes, shall conform to Table I, when determined as specified in 4.5.6 and Figure 5. The variation in the length or width, between the left and right glove, in any pair, shall not exceed 1/4 inch.

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TABLE I

GLOVE DIMENSIONS IN INCHES

LOCATION	SIZES						TOLERANCES
	6	7	8	9	10	11	
A	12-1/2	12-3/4	12-7/8	13-1/8	13-3/8	13-1/2	±3/16
B	2-3/4	3	3-1/16	3-1/8	3-3/16	3-1/4	±1/8
C	3-5/16	3-9/16	3-5/8	3-11/16	3-3/4	3-13/16	±1/8
D	2-13/16	3-1/16	3-1/8	3-3/16	3-1/4	3-5/16	±1/8
E	2-1/4	2-7/16	2-1/2	2-9/16	2-5/8	2-11/16	±1/8
F	2-7/8	3	3-1/8	3-1/4	3-1/4	3-3/8	±1/8
G	3-3/4	3-7/8	4	4-1/8	4-1/4	4-3/8	±3/16
Stretch	3/4	3/4	3/4	3/4	3/4	3/4	Minimum

3.5 Markings -

3.5.1 Identification - The cloth portion of each glove shall be marked in accordance with DDD-L-20, Type III, Class 4, Launderable Markings, except that the color of the identification markings shall be white or any contrasting color. The markings shall be located, on the inside of each glove, on the back of the gauntlet, approximately one inch from the hem turn under. The heat, used to transfer the markings, shall not stiffen or scorch the cloth or leather. The size of the glove may be on the side as shown herein or may be located under the specification number. The markings shall be as follows:

SIZE	GLOVES, FLYER'S, SUMMER, TYPE GS/FRP-2
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	NAME OF MANUFACTURER
	CONTRACT OR ORDER NO.
	FSN

THE CLOTH PORTION OF THE GLOVE IS FABRICATED FROM AN INHERENTLY FIRE RESISTANT MATERIAL (NOMEX) THAT DOES NOT MELT OR DRIP. CAN BE LAUNDERED WITHOUT LOSING ITS FIRE RESISTANT PROPERTIES AND NO RE-TREATMENT IS NECESSARY.

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3.5.2 Instruction - A lightweight, white, paper, instruction label with legible and durable black characters shall be inserted into each right handglove in such a manner as to prevent loss when being handled or packaged. The size of the paper label shall be approximately 2-1/2 by 5 inches. The label shall contain the following information:

WASHING INSTRUCTION - GLOVES, FLYER'S, SUMMER, GS/FRP-2

1. The gloves may be washed with a mild soap in water not over 120°F in temperature.
2. Rinse thoroughly, then stretch into shape.
3. Drip dry or wrap in a towel. Do not wring or twist dry. Do not expose to hot air or full sunlight.

3.6- Workmanship - After completion of the final assembly, the gloves shall be thoroughly cleaned and all thread scraps, lint, and foreign matter shall be removed. The gloves shall not contain any spot, stain, scissors or knife cut, abraded area, tear, mend, needle chew or ragged edge. The gloves shall be uniform in quality and shall be free from irregularities or defects which could adversely affect performance, reliability, or durability. The gloves shall conform to the quality or grade of product established by this specification. The occurrence of defects shall not exceed the acceptance criteria established herein.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection - Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract or order, the supplier 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.

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4.2 Classification of inspection - The examination and testing of the Type GS/FRP-2, summer, flyer's gloves shall be classified as follows:

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

4.3 First article inspection - The first article inspection of the Type GS/FRP-2, summer, flyer's gloves shall consist of examinations and tests for all of the requirements of this specification.

4.3.1 First article samples - Unless otherwise specified, as soon as practicable after the award of the contract or order, the manufacturer shall submit one pair of the assembled gloves of any size specified in the contract or order and an 8 by 8 inch piece of the leather for approval of the color. The samples shall be representative of the construction, workmanship, components, and materials to be used during production. When a contractor is in continuous production of these gloves, from contract to contract, submission of further first article inspection samples, on the new contract, may be waived at the discretion of the procuring activity (see 6.2(c)). Approval of the first article inspection samples or the waiving of the first article inspection does not preclude the requirements for performing the quality conformance inspection. The first article inspection samples shall be furnished to the Government as directed by the contracting officer (see 6.2(d)).

4.3.2 Upon completion of the first article inspection, all the applicable inspection reports and when applicable, recommendations and ~~comments per-~~ tinent for use in monitoring production will be forwarded to the cognizant Government activity. The approved first article inspection sample of the gloves will be returned to the manufacturer for use in monitoring production.

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4.4 Quality conformance inspection - The sampling and inspection levels shall conform to MIL-STD-105. The quality conformance inspection shall consist of the following:

Visual examination of the assembled gloves
Dimensional check of the assembled gloves
Preparation for delivery

4.4.1 Sampling -

4.4.1.1 Inspection lot -

4.4.1.1.1 Leather - An inspection lot size shall be expressed in units of one skin tanned under the same conditions and from the same materials and shall consist of all the skins received by the glove manufacturer at one time. The sample unit shall be one skin.

4.4.1.1.2 Assembled gloves - An inspection lot size shall be expressed in units of one assembled glove but the lot shall only consist of pairs of assembled gloves made essentially under the same conditions and from the same materials and components. The sample unit shall be one assembled glove.

4.4.1.1.3 Preparation for delivery - An inspection lot size shall be expressed in units of one fully prepared shipping container, containing pairs of assembled gloves of one size, fully prepared for delivery from essentially the same materials and components. The sample unit shall be one shipping container, containing pairs of assembled gloves of one size, fully prepared for delivery with the exception that it need not be sealed.

4.4.1.2 Sampling for tests and examinations of the leather, assembled gloves, and preparation for delivery - The sample size, acceptance criteria, tests, and examinations required for the leather, assembled gloves, or the preparation of delivery, as applicable, shall be as specified in Table II.

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TABLE II

SAMPLE SIZE, ACCEPTANCE CRITERIA, TESTS, AND EXAMINATIONS OF THE LEATHER, ASSEMBLED GLOVES, AND PREPARATION FOR DELIVERY

INSPECTION	PARAGRAPH		SAMPLE SIZE	ACCEPTANCE CRITERIA
	REQUIREMENT	METHOD		
Launderability 1/	3.2.1(d)	4.5.3	FED-STD-311, Sampling for Inspection	2/
Visual examination	3.3 through 3.3.6, 3.5 through 3.6, and Figures 1 through 4, as applicable	4.5.5.1 and Table III	Inspection Level II	An acceptable quality level of 2.5 defects per 100 units for major defects and 6.5 defects per 100 units for total (major plus minor) defects
Dimensional check	3.2.1(e), 3.4, Table I, and Figure 5	4.5.5.1, 4.5.6, and Table IV	Inspection Level S-3	An acceptable quality level of 4.0 defects per 100 units
Preparation for delivery	Section 5	4.5.5.2 and Table V	Inspection Level S-2	An acceptable quality level of 2.5 defects per 100 units

1/ This inspection shall be performed either at the contractor's or sub-contractor's plant.

2/ The lot of leather shall be rejected if any specimen has an area loss greater than 30 percent or more than 3 specimens have an area loss greater than 20 percent.

4.5 Inspection methods -

4.5.1 Staining - The staining of the leather shall be determined in accordance with FED-STD-311, Method 3021, with the following modifications:

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- (a) The flesh side of the leather shall be in contact with the cotton inspection pad. The total weight placed on the specimen shall be 100 ± 5 grams. The specimen shall be exposed in a circulating air oven for 6 hours at a temperature of 38 ± 2 degrees Centigrade (100.4 ± 3.6 degrees Fahrenheit). The darkest portion of the stain shall be compared with the American Association of Textile Chemists and Colorists (AATCC) Color Transference Chart. The staining shall be reported according to the following modified AATCC ratings:

<u>COMPARISON OF INSPECTION PAD STAIN WITH NUMERICAL AATCC VALUE</u>	<u>MODIFIED AATCC RATING VALUE</u>
Stain Heavier Than 1	0
Stain Equivalent to 1	1
Stain Lighter Than 1, But Heavier Than 2	+1
Stain Equivalent to 2	2
Stain Lighter Than 2, But Heavier Than 3	+2
Stain Equivalent to 3	3
Stain Lighter Than 3, But Heavier Than 4	+3
Stain Equivalent to 4	4

4.5.2 Perspiration resistance - The specimen shall be a die cut square of the leather obtained from the sample unit. The dimensions of the specimen shall be 2 by 2 inches or 50 by 50 millimetres. One specimen from each sample unit shall be inspected. Two measurements of each dimension of the specimen shall be made and averaged. The measurements shall be made 13 millimetres from each side of the specimen. The surface of the specimen shall be indelibly marked at the point of the measurement. The average measurement shall be used to determine the original area of the specimen and this area recorded as "A". (The known dimensions of the die may be used instead of actually measuring the specimen. When this option is taken, the specimen shall still be marked at the points of the measurement indicated above.) Two small holes shall be punched in adjacent corners of the specimen. The specimen shall then be placed in a 500 millilitre suction flask (Note: Not more than 8 specimens per flask) containing not less than 10 millilitres of the artificial perspiration solution (at room temperature) per specimen. The artificial perspiration solution specified in FED-STD-311, Method 3221, shall be used. An intermittent vacuum shall be applied to the flask as follows: Apply the vacuum for 15 to 60 seconds, then release the vacuum for 15 to 60 seconds. The intermittent vacuum shall be applied until all the specimens settle to the bottom of the flask. The flask shall be gently shaken each time the vacuum is released to prevent specimens that are ready to sink from being entangled with the other specimens. One hour after the last application

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of the vacuum, the specimens shall be removed from the suction flask and spread on a flat non-rusting, non-absorbent surface inclined at an angle of 30 to 35 degrees. After a 10 minute interval, immediately suspend the specimens on hooks inside a suitable container as follows: A hanger for suspending the specimens shall be fashioned from Nichrome wire having a maximum diameter of 0.3 millimetres. A loop shall be formed in the center of a piece of the Nichrome wire. The ends of the wire on each side of the loops shall be shaped into hooks. The hooks shall be inserted into the two holes punched in the specimen. A glass rod shall be passed through the loop. The glass rod with the attached specimen shall be suspended over a container or blotter. To prevent the specimens from touching each other as additional specimens are suspended from the glass rod, pieces of plastic tubing 17 millimetres or longer shall be slipped onto the glass rod between the loops. An additional piece of plastic tubing shall be added to each end of the glass rod. The glass rod with the attached specimens shall be suspended inside a suitable container to which 200 millilitres of lukewarm water have been added. The glass rod shall be suspended in such a manner that the container can be tightly covered and the specimens do not come closer than 1/2 inch from the surface of the water. (NOTE: A container 30 centimetres long, 12 centimetres wide, and 10 centimetres deep has been found to be suitable for accommodating 15 specimens (see 6.5).) The glass rod with the attached specimens shall be placed with its length dimension parallel to the length dimension of the container. The glass rod with the specimens may be supported by short glass rods attached to the inside wall at each end of the container. The glass rods may be attached to the walls by wrapping them with plastic tape in a manner that permits the tacky side of the tape to be adhered to the outside of the container. After the specimens are mounted, the lid shall be placed on the container. The lid shall be weighted down to prevent it from warping when being heated. An air tight seal shall be formed around the container by wrapping the container in polyethylene or by placing it in a polyethylene bag. The container shall be carefully transferred to a shelf in a circulating air oven preheated to 70 ± 2 degrees Centigrade (158 ± 3.6 degrees Fahrenheit). The container with specimens shall be kept in the oven for 48 hours at 70 ± 2 degrees Centigrade (158 ± 3.6 degrees Fahrenheit). After the required time, the container shall be removed from the oven and the specimens shall be transferred, flesh side up, to a plastic mat with mesh openings 1/8 inch to 3/8 inch which shall be placed on a flat surface. The specimens shall be allowed to dry under standard conditions until they attain moisture equilibrium. To determine the area loss, a total of four measurements shall be taken on each inspection specimen by placing a ruler across the specimen at the points previously marked. Two measurements shall be taken in one dimension, averaged, and the average recorded as "B". Two measurements shall be taken in the other dimension, averaged, and the average recorded as "C". The percentage area change shall be calculated to the nearest 0.1 percent as follows:

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$$\text{Percent area change} = \frac{A - (B \times C) \times 100}{A}$$

Where: A = original area of the specimen.

B = average of the two measurements in one dimension of the inspection specimen.

C = average of the two measurements in the other dimension of the inspection specimen.

In the event of an increase in the area of the inspection specimen, the calculations shall be made as follows:

$$\text{Percent area change} = \frac{(B \times C) - A \times 100}{A}$$

When the dimensions of the die used are in square inches, the measurements shall be estimated to the nearest 0.02 inches, using a ruler graduated in 0.01 inch or finer. When dimensions of the die used are in square millimetres, the measurement shall be estimated to the nearest millimetre, using a ruler graduated in 0.2 centimetre or finer. Individual results and units used for the dimensional measurements shall be reported.

4.5.3 Launderability - The launderability of the leather shall be determined in accordance with FED-STD-311, Method 3041, with the following modifications:

- (a) Change "3 specimens" to "one specimen" in paragraph 3.1 of Method 3041.
- (b) In paragraph 5.7 of Method 3041:
 - (1) Line 6: Delete "again" and substitute "two more times."
 - (2) Line 7: After "preheated water" add "for the final time."

4.5.4 Color matching - The color of the leather, simplex knitted jersey cloth, and the thread shall be compared to the approved standard shade, as applicable, under natural (north sky) daylight or artificial daylight having a color temperature of 7500 degrees Kelvin.

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4.5.5 Visual examination -

4.5.5.1 Assembled gloves - Every glove, from each pair of assembled gloves, selected as a sample unit from the lot, shall be thoroughly checked dimensionally and examined visually to determine conformance to this specification. For the pairing examination, the pair of assembled gloves shall be examined as a unit and each pairing defect shall be classified as a single defect. The classification and list of defects, Tables III and IV, as applicable, shall be used to classify and enumerate the defects found.

TABLE III

CLASSIFICATION OF DEFECTS FOR THE VISUAL
EXAMINATION OF THE ASSEMBLED GLOVES

DEFECT	MAJOR	MINOR
<u>GENERAL</u>		
a. Any hole, other than a needle hole, scissors or knife cut, tear, mend, or burn	X	
b. Any weakening defect such as a smash, multiple float, loose slub, needle chew, or abraded area	<u>1</u> /	
c. <u>Needle holes:</u>		
1. Five to 10		X
2. More than 10	X	
d. Color of any component not as specified, not uniform, any outside part shaded, or contains any shade bar	<u>1</u> /	
e. Two or more thread ends not trimmed or two or more thread scraps not removed from the glove		X
f. Any spot or stain	<u>1</u> /	
g. Any portion of the leather or cloth stiffened or scorched by any process of manufacturing	X	
h. Two or more ragged edges on the outside of the glove		X

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TABLE III (Continued)

DEFECT	MAJOR	MINOR
<u>LEATHER</u>		
a. Grain missing	1/	
b. Wrinkles, loose, spongy, or boardy leather	1/	
c. Not soft and pliable	1/	
d. Grain cracked, peeled, or abraded	1/	
e. Cut, scar, scratch, brittle area, bony area, or thin spot	1/	
f. Any other grain damage or surface imperfection	1/	
<u>KNIT CLOTH</u>		
a. Any run, dropped stitch, snag, pull, or slubby yarn <u>2/</u>	1/	
b. Lacking elasticity, too tight or loose	1/	
c. Wales not in length direction	X	
<u>COMPONENTS AND ASSEMBLY</u>		
a. Any component not as specified or any defect of assembly, not herein classified	1/	
b. Any component, component part, or required operation omitted, or any operation improperly performed, not herein classified	1/	
c. Grain surface of the leather or face of the cloth not on the outer surface of the glove	X	
<u>SEAMS AND STITCHING</u>		
a. <u>Accuracy of seaming:</u>		
1. Any seam, hem, or attachment of any component twisted, puckered, pleated, or caught in an unrelated operation or stitching	X	

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TABLE III (Continued)

DEFECT	MAJOR	MINOR
<u>SEAMS AND STITCHING</u> (Continued)		
a. <u>Accuracy of seaming:</u> (Continued)		
2. Any seam allowance not as specified	1/-	
b. <u>Gage of stitching:</u> 3/		
1. Any stitching irregular, unevenly or not gaged as specified, or not uniform	1/	
2. Distance between the two rows of stitching attaching the thumb and gauntlet continuation of the thumb less than 1/32 inch or more than 5/32 inch	X	
3. Distance between the two rows of stitching attaching the thumb and gauntlet continuation of the thumb 1/32 inch or 5/32 inch		X
c. Any open seam 4/		
d. <u>Seam and stitch type:</u>		
1. Not specified seam or stitch	1/	
2. Any looper thread on the outside of any glove seam, when Stitch Type 401 is used	X	
e. <u>Stitch tension:</u>		
1. Any loose stitching 5/	1/	
2. Any tight stitching, resulting in breaking of the stitches, when normal pull is applied 6/	X	
f. <u>Stitches per inch</u> 7/:		
1. <u>Stitches more or less than specified:</u>		
(a) Two stitches		X
(b) More than two stitches	X	

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TABLE III (Continued)

DEFECT	MAJOR	MINOR
<u>PAIRING</u>		
a. Not right and left glove of the same size or wide variation in appearance	X	
b. Not tacked or joined together as specified (see 3.3.6)		X
<u>MARKINGS</u>		
a. Any missing, or size incorrect, incomplete, or illegible	X	
b. Other than the size information, incorrect, incomplete, or illegible		X
c. Improperly located or any strike-through	<u>1/</u>	

- 1/ The defect shall be classified as major, when it seriously affects the serviceability or appearance, otherwise it shall be classified as a minor defect.
- 2/ One or two single pick runs on the innerside of a glove shall not be classified.
- 3/ The gage of stitching defect shall be classified only, when the condition exists on the major portion of the seam.
- 4/ A seam shall be classified as open, when one or more stitches joining a seam are broken or when two or more continuous skipped stitches or run-offs occur. On double stitched seams, a seam shall be classified as open, when either one or both sides of the seam contain any of the aforementioned for a single stitched seam.
- 5/ A seam shall be classified as loose, when the top and bobbin threads are on the same surface.
- 6/ Puckering is evidence of tight tension or gathering of the material. When puckering is evident and is not caused by the gathering of the material, the stitching shall be inspected for tight tension and breaking of stitches by exerting normal pull in the lengthwise direction of the stitching, by pulling the material taut to straighten out the seam. Puckering due to the gathering of the material shall be classified as an accuracy of seaming defect.
- 7/ The stitches per inch defect shall be classified only, when the condition exists on the major portion of the seam.

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TABLE IV

LIST OF DEFECTS FOR THE DIMENSIONS
OF THE ASSEMBLED GLOVES

ASSEMBLED MEASUREMENTS	DEFECT
<u>MEASURE</u>	
A, B, C, D, E, F, G, and Stretch	Any measurement deviating from the measurements specified in 3.4 and Table I, and applicable tolerances, shall be enumerated as a dimensional defect.
Equal length or width	The variation, in the length or the width, between the left and right glove, in any pair, shall be enumerated as a dimensional defect, when it exceeds 1/4 inch.
Thickness of the leather parts at the thumb, each finger, palm, and gauntlet	Any thickness of the leather parts not as specified shall be enumerated as a dimensional defect.

4.5.5.2 Preparation for delivery - Each of the fully prepared shipping containers, containing pairs of assembled gloves of one size, selected as a sample unit from the lot, shall be visually examined to determine that the packaging, packing, and marking conform to this specification. The list of defects, Table V, shall be used to enumerate the defects found.

TABLE V

LIST OF DEFECTS FOR PREPARATION FOR DELIVERY

ITEM	DEFECT
Exterior and interior markings	Missing, incorrect, incomplete, or illegible; of improper size, location, sequence, or method of application; size shown on any interior box, exterior fiberboard container, or on the paper label not the same; information on the paper label in the polyethylene bag not readable through the film or no paper label in the polyethylene bag.
Materials	Any nonconforming component; any component or component part missing, damaged, or otherwise defective.

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TABLE V (Continued)

ITEM	DEFECT
Workmanship	Inadequate application of the components such as incomplete closure of any container flap or loose strapping; bulging or distortion of any container; any end of the kraft paper tape that does not extend beyond any seam for at least 2 inches; any polyethylene bag damaged, completely sealed, or any open or noncontinuous heat sealed seam.
Exterior and interior weight or content	Gross or net weight exceeds the requirement; number per container more or less than specified; more than one size gloves in the same container; any glove folded, deformed, distorted, or bent in the bagged condition; not individually packaged within the polyethylene bag.

4.5.6 Procedure for measuring - The glove to be measured shall be laid flat, without tension, on a smooth, flat surface so that any creases or wrinkles shall not affect the measurement. The glove shall be measured, as follows:

- A - Measure the overall length, from the tip of the second finger to the top of the glove.
- B - Measure the length of the index finger, from the base to the tip of the finger.
- C - Measure the length of the second finger, from between the base of the index and second fingers to the tip of the second finger.
- D - Measure the length of the third finger, from between the base of the second and third fingers to the tip of the third finger.
- E - Measure the length of the fourth (little) finger, from between the base of the third and fourth fingers to the tip of the fourth finger.
- F - Measure the length of the thumb, from the pipe of the thumb to the tip of the thumb.
- G - Measure the width, on the palm side, 1/4 inch below the base of the third and fourth fingers.

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Stretch - The glove shall be grasped, with the thumb and the forefinger, at the fold-line side and the closing seam side, at the location where the width dimension G was taken. While held in this position, the glove shall be subject to an outward pull (stretch) to the maximum extent that can be exerted by hand pressure, without damaging the glove. The extent of the stretch shall be measured. The difference between this dimension and the G dimension shall be the amount of stretch.

5. PREPARATION FOR DELIVERY

5.1 Packaging - Packaging shall be Level A or C, as specified (see 6.2(e)).

5.1.1 Level A - A paper label (see 5.3.1) shall be placed on each mated pair of gloves (see 3.3.6) when the polyethylene bag is not imprinted with the information specified in 5.3.1. The mated pair of gloves and the paper label, when used, shall be inserted within a snug fitting clear polyethylene bag of 0.00125 ±25 percent inch gage film. One end of the bag shall not be sealed. One end and the two sides shall be sealed. The heat sealed seams shall be straight, continuous, and parallel to each other and the edges of the polyethylene bag. The heat sealed seams, as applicable, shall be as close as possible to the edge of the bag. The bag may be fabricated from polyethylene film tubing or sheeting. No glove shall be folded, deformed, distorted, or bent in the bagged condition nor shall the polyethylene bag be damaged. Six pairs of the bagged gloves of one size only, with every other pair in a reverse position to the one on top of it, shall be packaged within a commercial type folding or set up box, approximately 13-1/2 by 5-1/2 by 2 inches. The boxes shall be sealed with kraft paper tape. The tape shall be applied lengthwise on the seams and shall extend beyond the seams for at least two inches. Full telescopic boxes, if used, need not be sealed.

5.1.2 Level C - Each mated pair of gloves of one size shall be packaged to afford adequate protection against physical damage during shipment from the supply source to the first receiving activity. The supplier may use his standard practice when it meets this requirement.

5.2 Packing - Packing shall be Level A, B, or C, as specified (see 6.2(e)). Each shipping container shall contain gloves of only one size.

5.2.1 Level A - Sixteen boxes, 96 pairs of the gloves, packaged as specified in 5.1.1, shall be packed as specified in 5.2.2, except that the fiberboard container shall be Weather-Resistant Class, Type SF, Grade V2s, Style RSC, closed in accordance with the appendix to PPP-B-636, Method III, and waterproofed in accordance with Method V.

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5.2.2 Level B - Sixteen boxes, 96 pairs of the gloves, packaged as specified in 5.1.1, shall be packed within a snug fitting fiberboard container conforming to PPP-B-636, Type CF or SF, Domestic Class, Variety SW, Grade 200, Style RSC. Each container shall be constructed and closed in accordance with the appendix to PPP-B-636, Method II. Toward the end of the contract, or when there are less than the specified amount for the same size container, mixed sizes may be packed within the same shipping container (see 5.3.2).

5.2.2.1 When specified (see 6.2(f)), the fiberboard shipping container shall be a Weather-Resistant Class, Type CF or SF, Grade V3c, V3s, or V4s fiberboard box fabricated in accordance with PPP-B-636 and closed in accordance with Method III as specified in the appendix to PPP-B-636.

5.2.3 Level C - The gloves, packaged as specified in 5.1, shall be packed in a manner to insure carrier acceptance and safe delivery at destination at the lowest transportation rate for such supplies. The containers shall be in accordance with the Uniform Freight Classification Rules or National Motor Freight Classification Rules, as applicable.

5.3 Marking - In addition to any special marking required by the contract or order (see 6.2(g)), the interior boxes and the exterior fiberboard containers shall be marked in accordance with MIL-STD-129 and shall include the size of the gloves and the date of manufacture (month and year).

5.3.1 Polyethylene bag - The specified information shall be printed or stamped with legible and durable black characters directly onto the center face of the polyethylene bag or onto a white paper label. The paper label shall be placed inside each polyethylene bag in such a manner that it shall be capable of being read through the bag. The polyethylene bag or label shall contain the following information:

FEDERAL STOCK NUMBER
 GLOVES, FLYER'S, SUMMER, TYPE GS/FRP-2
 MIL-G-81188B
 SIZE
 QUANTITY
 CONTRACT OR ORDER NUMBER
 NAME OF MANUFACTURER
 DATE OF MANUFACTURE (Month and Year)

5.3.2 Mixed sizes container - A white paper label with legible black letters and numerals, approximately 5 by 4 inches, shall be securely attached to the end and side of each container containing mixed sizes of the gloves. The labels shall contain the following information:

MIXED SIZES
 Sizes and quantity of each size

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6. NOTES

6.1 Intended use - The gloves covered by this specification are intended to be worn by flying personnel in the warm temperate zones. The gloves are also intended to protect the back of the hands in the event of fire in the cockpit of the aircraft.

6.2 Ordering data - Procurement documents shall specify the following:

- (a) Title, number, and date of this specification.
- (b) Size and quantity desired (see 1.2).
- (c) Whether first article inspection is waived (see 4.3.1).
- (d) Name and address of the first article inspection laboratory (see 4.3.1).
- (e) Selection of applicable levels of packaging and packing (see 5.1 through 5.1.2 and 5.2 through 5.2.3).
- (f) Whether Weather-Resistant Class fiberboard shipping containers are required for Level B Packing (see 5.2.2.1).
- (g) Whether any special markings are required (see 5.3).

6.3 Supersession data - The Type GS/FRP-2, summer, flyer's gloves covered by this specification also supersedes the gloves covered by the Naval Air Systems Command Purchase Description AS 2613, HAU-11/P, summer, flyer's gloves.

6.4 Patterns - The patterns, for the gloves, will be furnished by the contracting officer to the contractor for use in cutting working patterns or dies (see 3.3.1).

6.5 Perspiration resistance container - The plastic container, Part Number 9472-F16 listed in the 1972 catalog of the Arthur L. Thomas Company, Philadelphia, Pennsylvania has been found to be suitable.

6.6 Data - For the information of contractors and contracting officers, any of the data, specified in the applicable documents, listed in Section 2 of this specification, or referenced lower-tier documents, need not be prepared for the Government and shall not be furnished to the Government, unless specified in the contract or order. The data, to be furnished, shall be listed on DD Form 1423 (Contractor Data Requirements List), which shall be attached to and made a part of the contract or order. NavWeps Form 4200/25 (Drawings, Lists, and Specifications Required) shall be attached, where applicable.

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Custodians:

Army - GL
Navy - AS
Air Force - 82

Preparing activity:

Navy - AS
(Project No. 8415-0838)

Review activities:

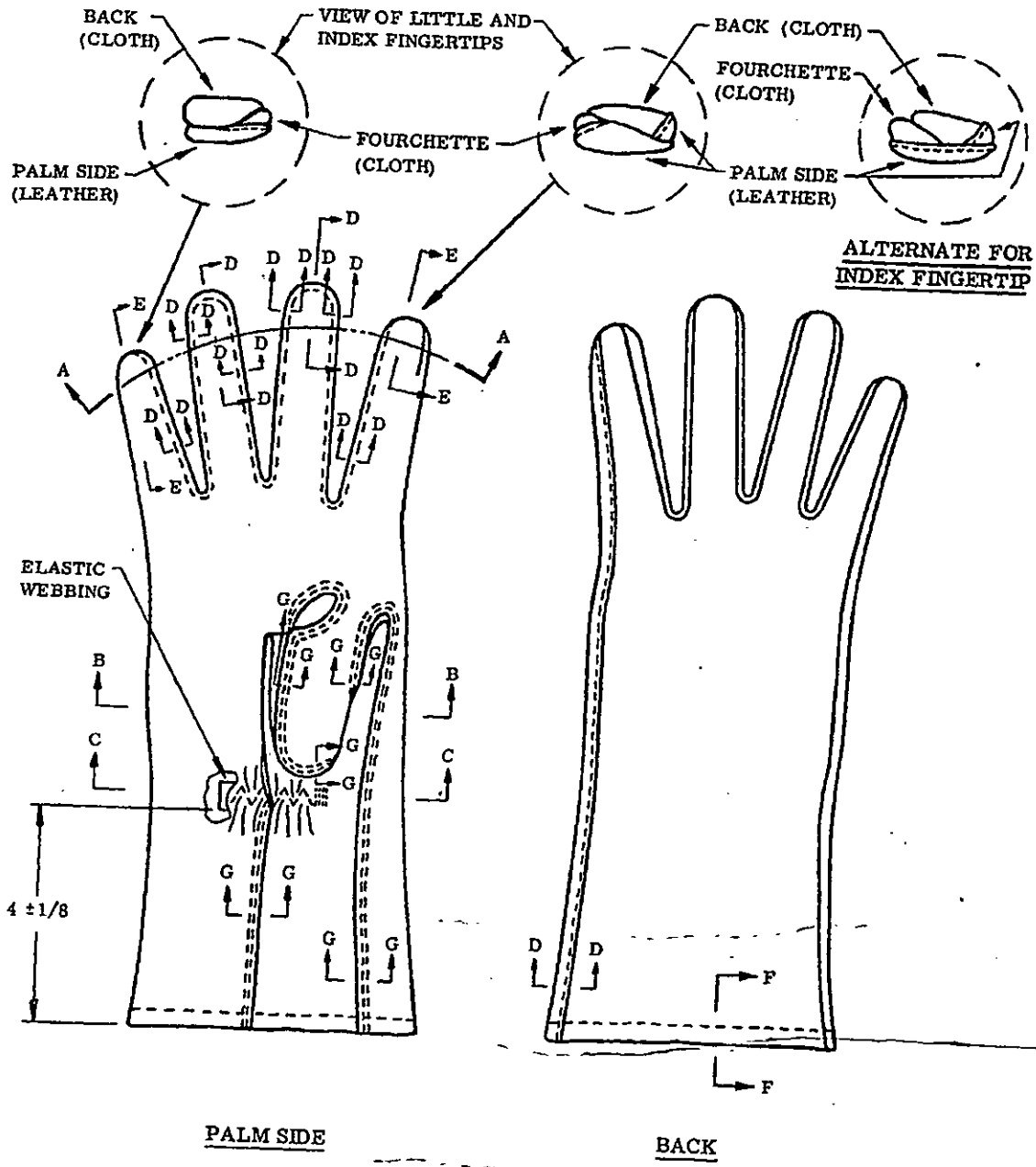
Army - AV and MD
Air Force - 11

User activities:

Navy - CG and MC

NOTICE - Review/user information is current as of date of this document. For future coordination of changes to this document, draft circulation should be based on the information in the current Federal Supply Classification Listing of DOD Standardization Documents.

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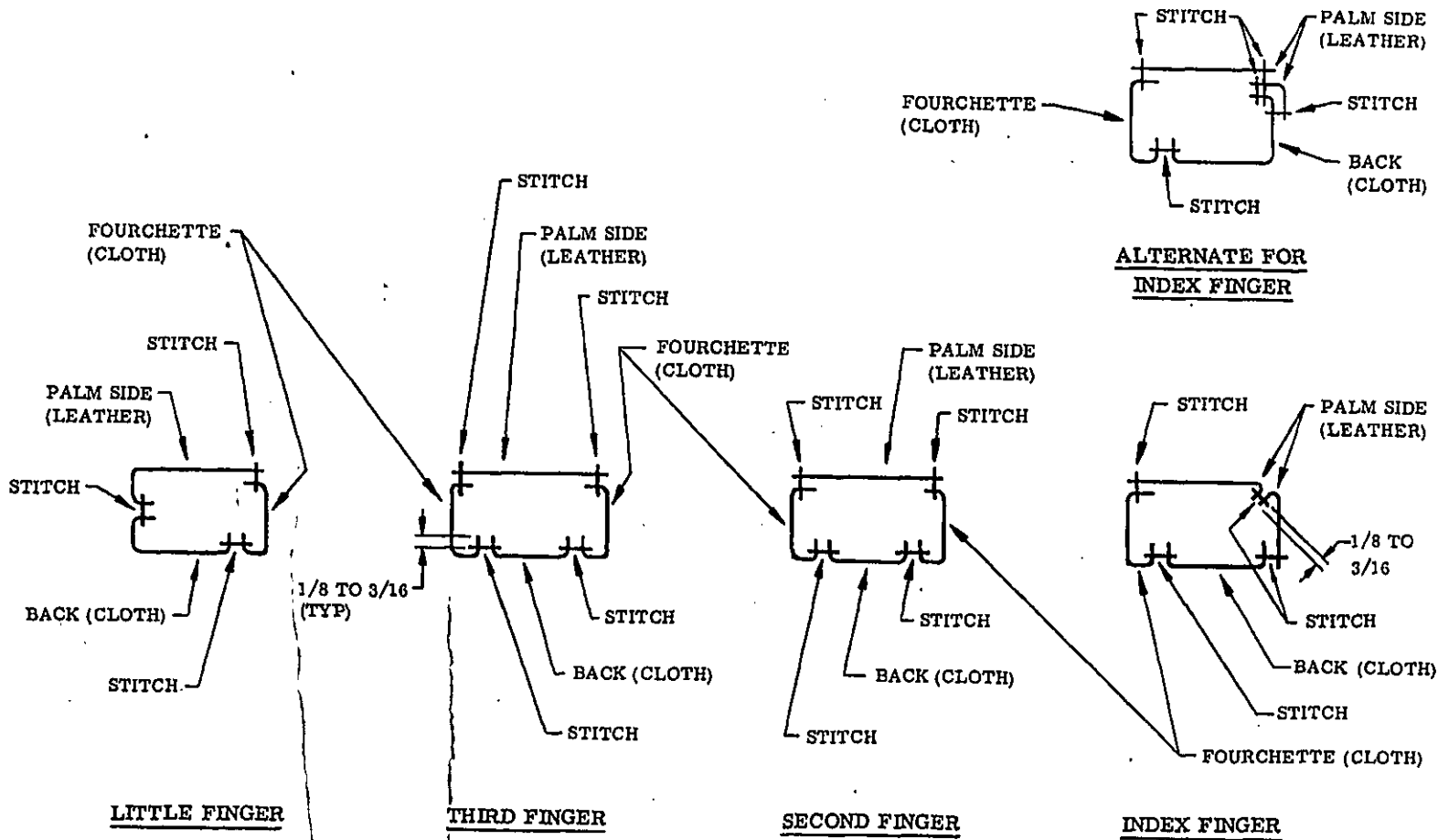


FOR SECTION A-A, SEE FIGURE 2.
 FOR SECTIONS B-B AND C-C, SEE FIGURE 3.
 FOR SECTIONS D-D, E-E, F-F, AND G-G, SEE FIGURE 4.

DIMENSIONS IN INCHES. UNLESS OTHERWISE SPECIFIED, TOLERANCES ON DIMENSIONS SHALL BE AS FOLLOWS:

DIMENSIONS	TOLERANCES
0 TO 1/2 INCLUSIVE	$\pm 1/32$
OVER 1/2 TO 1 INCLUSIVE	$\pm 1/16$
OVER 1 TO 6 INCLUSIVE	$\pm 1/8$

FIGURE 1. GLOVE

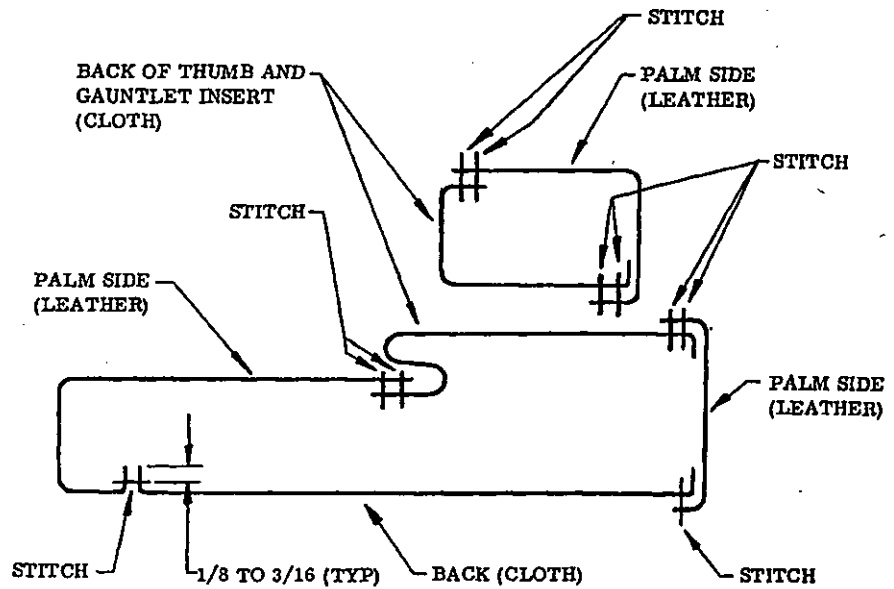


DIMENSIONS IN INCHES.
UNLESS OTHERWISE SPECIFIED,
TOLERANCES SHALL BE AS
SPECIFIED IN FIGURE 1.

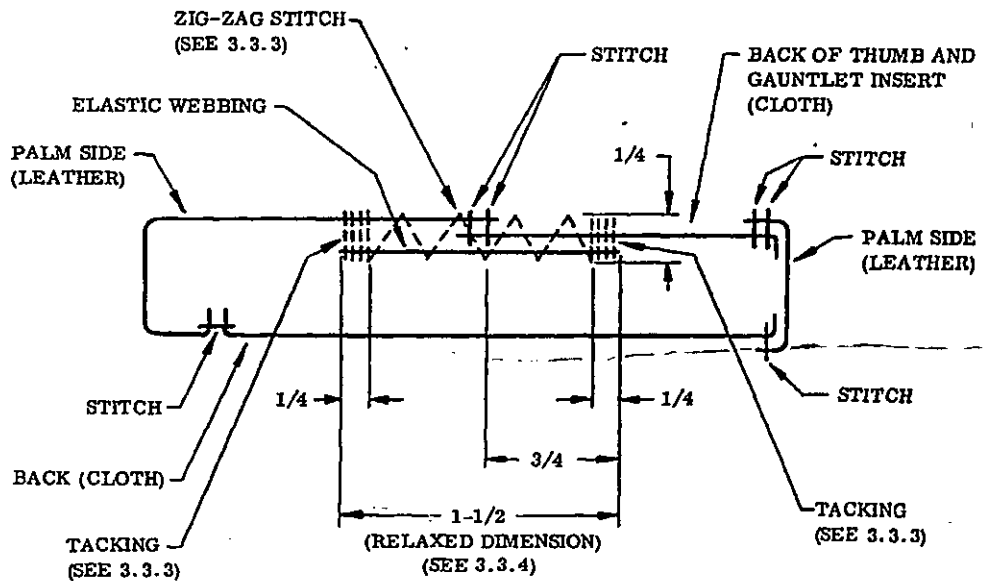
SECTION A-A

FIGURE 2. FINGER SECTIONS

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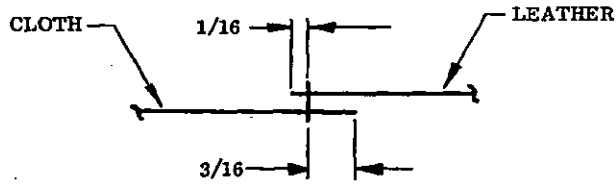
SECTION B-B



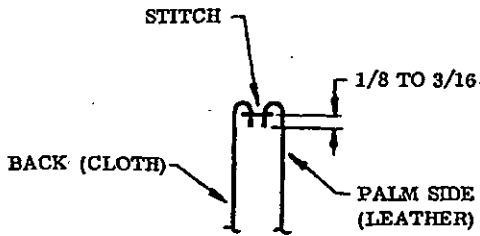
SECTION C-C

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

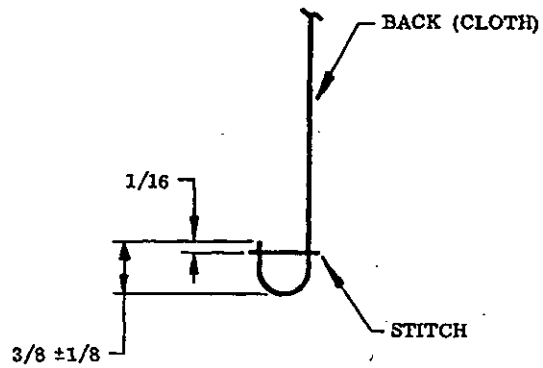
FIGURE 3. GLOVE SECTIONS



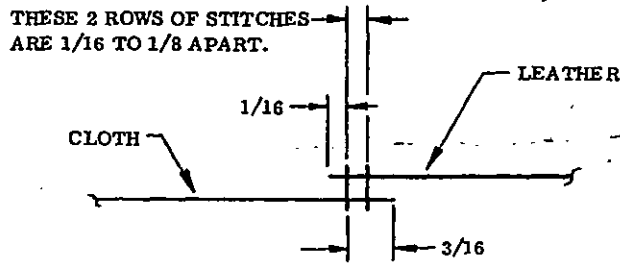
SECTION D-D
TYPICAL SEAM JOINING THE
LEATHER TO THE CLOTH
 (SEE NOTE)



SECTION E-E



SECTION F-F



SECTION G-G
TYPICAL SEAM JOINING
THE THUMB AND GAUNTLET
CONTINUATION OF THE THUMB
 (SEE NOTE)

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

NOTE: FOR REFERENCE,
 THE OVERLAP OF THE
 LEATHER AND CLOTH
 SHALL BE 1/4 INCH.

FIGURE 4. GLOVE SECTIONS

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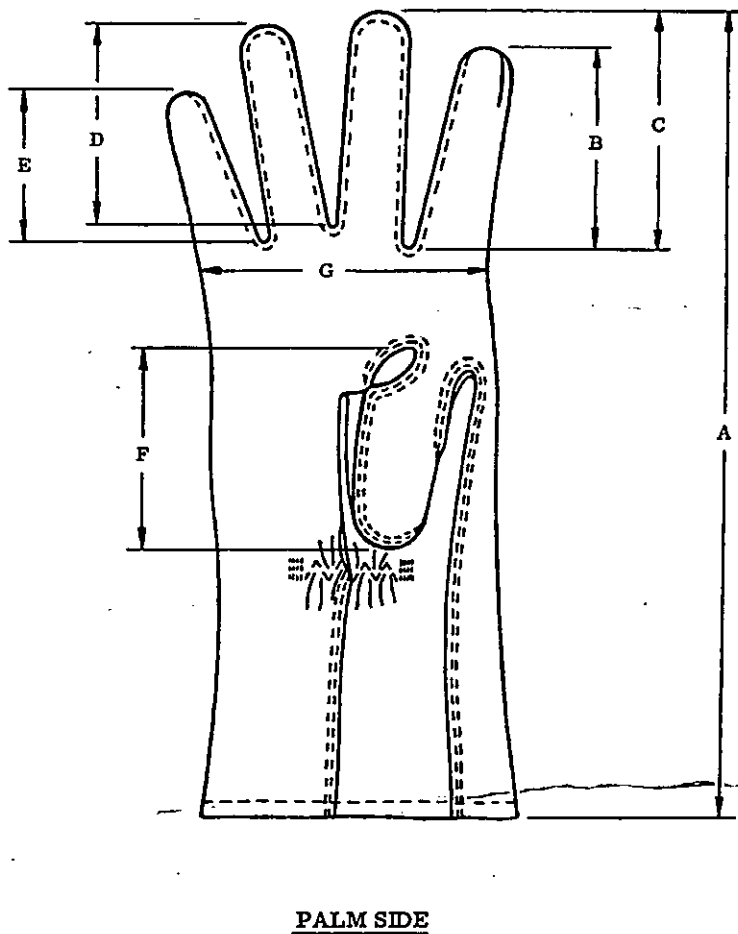


FIGURE 5. LOCATION OF THE GLOVE DIMENSIONS

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DOCUMENT IDENTIFIER AND TITLE MIL-G-81188B		
GLOVES, FLYER'S, SUMMER, TYPE GS/FRP-2		
NAME OF ORGANIZATION AND ADDRESS	CONTRACT NUMBER	
	MATERIAL PROCURED UNDER A <input type="checkbox"/> DIRECT GOVERNMENT CONTRACT <input type="checkbox"/> SUBCONTRACT	
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