

**U.S. DEPARTMENT OF AGRICULTURE  
FOREST SERVICE**

**SPECIFICATION**

**GLOVES, HEAVY-DUTY LEATHER**

1. SCOPE

1.1 Scope. This specification covers the requirements for one type and five sizes of heavy-duty leather work gloves.

1.2 Classification. The gloves covered by this specification shall be furnished in the following sizes as specified (see 6.2):

X-Small  
Small  
Medium  
Large  
X-Large

2. APPLICABLE DOCUMENTS

2.1 Government documents

2.1.1 Specifications, standards, and handbooks. The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those in effect on the date of the invitation for bids or request for proposals (see 6.2).

SPECIFICATIONS

FEDERAL

A-A-52067 - Binding, Textile, Cotton, Bias-Cut  
A-A-55217 - Thread, Aramid, Spun Staple

Beneficial comments (recommendations, additions, deletions) and any pertinent data that may be used in improving this document should be addressed to: USDA Forest Service, Missoula Technology and Development Center, 5785 Highway 10 West, Missoula, MT 59808, [ddavis02@fs.fed.us](mailto:ddavis02@fs.fed.us).

MILITARY

MIL-DTL-32075 - Label: For Clothing, Equipage, and Tentage (General Use)  
MIL-L-40051 - Leather, Cattlehide, for Glove Leather

STANDARDS

FEDERAL

FED-STD-123 - Marking for Shipment (Civil Agencies)  
FED-STD-311 - Leather, Methods of Sampling and Testing

(Unless otherwise indicated, copies of federal and military specifications and standards are available online at <http://assist.daps.dla.mil/quicksearch/> or in hard copy from the Standardization Documents Order Desk, Bldg. 4D, 700 Robbins Ave., Philadelphia, PA 19111-5094)

2.1.2 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this specification to the extent specified herein. Unless otherwise specified, the issues of these documents are those in effect on the date of the invitation for bids or request for proposals.

DRAWINGS

USDA FOREST SERVICE

MTDC-918 - Gloves, Heavy-Duty Leather

(Copies are available from the preparing activity, see 6.5.)

2.2 Non-Government publications. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those in effect on the date of the invitation for bids or request for proposals.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

D 1974 - Standard Practice for Methods of Closing, Sealing, and Reinforcing Fiberboard Boxes  
D 3951 - Standard Practice for Commercial Packaging  
D 5118- Standard Practice for Fabrication of Fiberboard Shipping Boxes  
D 6193 - Standard Practice for Stitches and Seams  
SI-10 - Standard For Use of the International System of Units (SI): The Modern Metric System (IEEE/ASTM Standard available from ASTM)

(Copies are available from ASTM, 100 Barr Harbor Dr., West Conshohocken, PA 19428-2959, Website: <http://www.astm.org/>.)

AMERICAN SOCIETY FOR QUALITY (ASQ)

Z1.4 - Sampling Procedures and Tables for Inspection by Attributes

(Copies are available from the American Society for Quality, PO Box 3005, Milwaukee, WI 53201-3005.)

AMERICAN TRUCKING ASSOCIATIONS, INC.

National Motor Freight Classification

(Address requests for copies to American Trucking Associations, Inc., Traffic Department, 2200 Mill Rd., Alexandria, VA 22314.)

NATIONAL FIRE PROTECTION ASSOCIATION

NFPA 1977 - Protective Clothing and Equipment for Wildland Fire Fighting, 2005 edition, with NFPA TIA #826

(Note: TIA #826 specifically affects certification of the gloves specified by this document.)

(Address requests for copies to National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101.)

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

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

3. REQUIREMENTS

3.1 First article. Unless otherwise specified (see 6.2), the contractor shall furnish samples for first article inspection and approval (see 4.3 and 6.3). During the term of the contract the contractor shall be required to notify the contracting officer in writing when a component, or the component supplier, changes in any way; when a major manufacturing process changes in any way; and when a manufacturing location changes. The contracting officer may at any time require the contractor to submit a new first article sample when substantive changes occur during the term of the contract.

3.1.1 NFPA 1977. The gloves shall be certified as being in compliance with National Fire Protection Association (NFPA) Standard 1977, 2005 edition (NFPA 1977-2005). Proof of this certification shall be presented at the time of First Article submission and as thereafter requested.

3.2 Materials and construction. The gloves shall conform in all respects to the design, details, dimensions, and materials specified herein and in the referenced drawing, MTDC-918. Should there be conflicts between the text of this document and the drawing, this document takes precedence, unless otherwise specified. In addition, the materials and components shall comply with the requirements of NFPA 1977-2005.

3.2.1 Leather. The gloves shall be made from full-grain cattlehide conforming to type II, class a or b, of MIL-L-40051, except that the thickness shall be such as to produce gloves meeting the finished thickness requirements in 3.2.1.1. The color of the leather shall be cream.

3.2.1.1 Leather thickness. The thickness of the leather parts of the finished gloves, except the welts, arrow straps, and buckle chapes, shall be not less than 2.75 ounces nor more than 3.75 ounces. The thickness of the welts of the finished gloves shall be not less than 2.0 ounces nor more than 3.75 ounces. The thickness of the arrow straps and buckle chapes of the finished gloves shall be not less than 2.75 ounces nor more than 4.25 ounces. Thickness determination shall be made as specified in 4.3.4.2.

3.2.2 Buckles. The buckles shall be 0.050 gauge steel, nickel finish, size 1/2 inch, double bar, Waterbury Buckle Co. part number 00875-09-2001 (see 6.4).

3.2.3 Thread. The aramid thread for sewing all parts of the gloves shall be Type I, Tex size 98 of A-A-55217 or Type II, Tex size 90 of A-A-55217, natural in color. The aramid thread for sewing the binding shall be Type I, Tex size 98 of A-A-55217 or Type II, Tex size 70, of A-A-55217, color dark brown. All thread shall meet the requirements of A-A-55217.

3.2.4 Binding. The binding shall be 1-1/4 inch width bias-cut cotton conforming to type I, class 2, of A-A-52067. The color shall be dark brown.

3.3 Design. The design shall be a slip-on style, grain side in, Gunn-cut glove, with a continuous thumb, side vent at cuff, leather draw strap closure on the back of the wrist, and top edge binding. The back is welted where attached to the palm. The seams shall be to the inside except for the palm/finger seam.

3.4 Patterns. Standard patterns will be furnished by the Government. The standard patterns shall not be altered in any way and are to be used for making working patterns or dies. The working patterns or dies shall be identical to the standard patterns.

3.4.1 Pattern parts. The pattern parts and cutting quantities for the gloves shall be as follows:

<u>Glove Parts</u>	<u>Cutting Quantities Per Pair of Gloves</u>
1 back of hand	2
1 palm	2
finger palm	2
thumb back	2
arrow strap	2
buckle chape	2
thumb welt	2

3.5 Stitches, seams and stitchings. All seaming and stitching types specified in table I shall conform to ASTM D 6193. The minimum and maximum number of stitches per inch shall be as specified in table I. Use of sewing machines with leather trimmer attachments shall not be permitted (unless otherwise specified). The ends of all seams and stitchings when not caught in other seams or stitchings shall be backstitched or overstitched not less than 3/8 inch. Thread tension shall be maintained so that there shall be no tight or loose stitching.

3.5.1 Type 301 stitching. The lock shall be embedded in the materials sewn.

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

- a. When thread breaks or bobbin run-outs occur during sewing, the stitching shall be repaired by restarting the stitching a minimum of 1/2 inch back of the end of the stitching.
- b. Thread breaks or two or more consecutive skipped stitches or runoffs noted during inspection of the item (in-process or end item) shall be repaired by over stitching. The stitching shall start a minimum of 1/2 inch back of the nonconforming area, continue over the nonconforming area and continue a minimum of 1/2 inch beyond the nonconforming area onto the existing stitching. Loose or tight stitching shall be repaired by removing the nonconforming stitching without damaging the leather and restitching in the required manner.

(When making the above repairs, the ends of stitching are not required to be backstitched.)

3.5.2. Type 401 stitching. Where stitch type 401 is used, the looper shall finish to the inside of the gloves. All repairs shall be in accordance with 3.5.1.1.a and 3.5.1.1.b. Repairs of type 401 stitching may be performed using type 301 stitching.

3.6 Cutting. Skins may be dampened with tap water only and staked in such a way that the stretch in the lengthwise direction, butt end to head end, is pulled out before cutting. Each leather component shall be cut with its long dimension, cuff to fingertip direction, in the lengthwise direction of the leather. All leather components of each pair of gloves shall be the same shade of leather.

3.6.1 Body of the glove. There shall be sufficient stretch in the glove width direction of the leather to prevent constriction or binding across the back of hand and knuckles in the finished glove when fingers are doubled under to form a fist.

3.7 Label. Each glove shall have a label which shall include identification and care information. The label may be woven or non-woven, and shall meet the requirements of NFPA 1977-2005. The label shall include the following warning and information printed in letters at least 3/32nd inch in height:

THIS WILDLAND FIRE FIGHTING PROTECTIVE GLOVE MEETS THE REQUIREMENTS OF  
NFPA 1977, STANDARD ON PROTECTIVE CLOTHING AND EQUIPMENT FOR WILDLAND  
FIRE FIGHTING, 2005 EDITION.

GLOVE, HEAVY-DUTY, LEATHER  
[Manufacturer's name] (1/)  
[Manufacturer's address] (1/)  
[Country of origin] (1/)  
[Manufacturer's identification number, lot number, or serial number] (1/)  
DATE OF MANUFACTURE: [mm/yy] (1/)  
USDA FOREST SERVICE SPECIFICATION 6170-5D  
SIZE: [ ] (1/)  
CONTRACT NUMBER: [ ] (1/)  
NSN: [ ] (1/)[Authorized mark of certifying organization] (1/)  
DATE OF CERTIFICATION [mm/yy (as a minimum) ] (1/)

DO NOT REMOVE THIS LABEL (2/)

1/ The manufacturer shall insert the applicable information.

2/ When a split label is used, this legend shall appear as the bottom line of both labels."

3.8 Instruction slip. An instruction slip shall be inserted in each right-hand glove. The instruction slip shall be printed on paper in a sans serif type face in black ink clearly legible from up to 24 inches. The content and format shall be as follows:

WEARING INSTRUCTIONS

Choose a glove size with correct finger and thumb lengths (i.e., little or no excess length) and which does not fit tightly around the fingers and hand.

Adjust strap for better fit.

Tighten strap when riding in helicopters or in fire entrapment situations.

Wear gloves on the fireline.

Gloves that have absorbed oil are not to be used for fireline duty.

Wash gloves in mild soap and lukewarm water. Rinse thoroughly.

Dry gloves slowly away from extreme heat or flame.

Gloves are flame resistant. They are not flame proof.

3.9 Construction. The gloves shall be made by and with the use of all operations listed in table I. The supplier is not required to follow the exact sequence of operations listed. The grain side of the leather shall finish to the inside of the gloves. The gloves shall be full inseam construction, with the exception of the palm/finger seam (see Table I, step 1).

TABLE I - Manufacturing Operations

NO.	MANUFACTURING OPERATIONS	STITCH TYPE	SEAM & STITCHING TYPE	STITCHES PER INCH	THREAD BOBBIN NEEDLE or LOOPER	
1.	<u>Join middle and ring fingers to palm</u> Join middle and ring finger piece to palm with a lapped seam, not less than 3/16 nor more than 1/4 inch wide. Seam shall be double stitched, 1/16 to 1/8 inch gage, with the outer row of stitching 1/16 to 1/8 inch from edge. The palm edge shall finish to the outside of the glove.	301 or 401	LSa-2	8-10	90	90
2.	<u>Join thumb back to palm</u> Join thumb back to palm by sewing 3/32 to 1/8 inch from edge. The welting strip shall be caught between the thumb and palm, edges aligned, and centered between the notches on the thumb back piece.	301 or 401	SSa-1 And SSj-1 (welting)	8-10	90	90
3.	<u>Assemble pull strap and buckle</u> Insert buckle chape strap in the buckle, grain sides together, with ends aligned. Arrow strap shall be threaded over buckle bar so that grain side of arrow strap finishes to the outside.					
4.	<u>Join back to palm assembly</u> Join back to palm assembly, notches matching, by sewing 3/32 to 1/8 inch from edge. Start stitching at top, on thumb side, and catch ends of chape strap in stitching. The chape strap shall be positioned as indicated by the notches on the pattern and as shown in figure 1. Stitching shall continue at least 1 inch past ends of chape strap.	301 or 401	SSa-1	8-10	90	90
5.	<u>Bind top edge</u> Bind top edge of gloves with stitching 1/8 ±1/32 inch from folded edge. The bottom of a label shall be caught in the binding seam, centered on each back, with printing facing to the inside of glove.	301 or 401	BSc-1	8-10	70	70

Table I (continued) - Manufacturing Operations

NO.	MANUFACTURING OPERATIONS	STITCH TYPE	SEAM & STITCHING TYPE	STITCHES PER INCH	THREAD BOBBIN NEEDLE or LOOPER	
6.	<p><u>Closing</u> The gloves shall be closed by sewing 3/32 to 1/8 inch from edge in a manner to prevent twisting of the fingers, aligning notches at fingertips of back and palm pieces, and aligning finger palm seam, or notch, with finger crotches, as appropriate. The stitching shall start 1 inch below notch for arrow strap and continue to top of glove catching the end of the arrow strap in the stitching. The arrow strap shall be positioned as indicated by the notches on the pattern and as shown in figure 1. Reverse direction and continue stitching back over previous stitching continuing until closing is completed at the end of the tape.</p>	301 or 401	SSa-1	8-10	90	90
7.	<p><u>Seam inspection and trimming</u> Prior to turning glove grain side in, the supplier shall inspect all glove seams to ensure that the inseams are constructed in accordance with this specification. All ends of threads shall be trimmed to a length of not more than 3/8 inch and the loose threads brushed or shaken from the glove.</p>					
8.	<p><u>Turning</u> Turn the glove grain side in.</p>					

Table I (continued) - Manufacturing Operations

NO.	MANUFACTURING OPERATIONS	STITCH TYPE	SEAM & STITCHING TYPE	STITCHES PER INCH	THREAD BOBBIN NEEDLE or LOOPER
9.	<p><u>Forming</u> The gloves may be dampened with tap water only and laid off on forms heated to a temperature sufficient to properly form glove (about 225°F). The thumb shall be well worked out of the thumb stick. The gloves shall be pulled down on the form made for the particular size. Seams on fingertips shall be worked until smooth and uniform, and the gloves shall be pulled down so that after removal of the glove from the heated form, the back shall be even in length with the palm with +1/8 inch tolerance.</p>				
10.	<p><u>Instruction slip</u> Insert one instruction slip in each right hand glove.</p>				

## 6170-5D

3.10 Pairing. The gloves shall be matched, paired, and stapled or tacked together just below the hem and approximately 1/2 inch from closing seam. Tacking shall be done with not less than two stitches using a cord thread which will permit the pair to be pulled apart without tearing the leather. Alternately, a noncorrosive staple shall be used that permits the pair to be pulled apart without tearing the leather.

3.11 Measurements. The finished gloves shall conform to measurements shown in table II and taken in accordance with figure 1. Measurements shall be made using a 1/4 inch wide metal measuring tape that has a metal tip positioned at a right angle to the tape at its beginning. The metal tip shall be hooked over and placed against the edge of the glove when taking measurements. Measurements shall be taken to the nearest 1/16 inch.

TABLE II. Glove measurements (inches)

Size	Minimum length 1/	Width 2/
X-small	8-7/8	4-1/8
Small	9-5/16	4-3/8
Medium	9-3/4	4-5/8
Large	10-3/16	4-7/8
X-large	10-5/8	5-1/8
Tolerance	-	± 1/4

1/ Place the glove palm down on a flat surface. Measure the back length by hooking the end of the metal tape over the tip of the middle finger and recording the distance to the top edge.

2/ Place the glove palm up on a flat surface and fold the thumb back toward the top edge. Measure the width 1/2 inch above the base of the little finger by hooking the end of the metal tape over one edge and recording the distance to the other edge.

3.12 Replacement of nonconforming components. During the spreading, cutting, and manufacturing processes, components having material nonconformities or damages that are classified as nonconformities in 4.3.4.1 and 4.3.4.2 shall be removed from production and replaced with conforming and properly matched components.

3.13 Marking. Each glove shall be marked for size using the following lettering system: "XS", "S", "M", "L", or "XL" (see 1.2). The size designation shall be stamped with a black marking medium on the glove back within 1 inch of the top and centered. The base of the size character(s) shall be toward the top of the glove. Marking shall be in a sans serif bold type face 3/8 ± 1/8 inch high. Size markings shall conform to type IV, class 9 of MIL-DTL-32075.

3.14 Deviations and waivers. There shall be no deviations or waivers to the materials or construction specified herein unless authorized in writing by the contracting officer.

3.15 Workmanship. The finished gloves shall conform to the quality of product established by this specification. The occurrence of nonconformities shall not exceed the applicable acceptance quality levels (see 4.3.4.3).

3.16 Metric products. Products manufactured to metric dimensions will be considered on an equal basis with those manufactured using inch/pound units, provided they fall within the tolerances specified using conversion tables contained in the latest revision of IEEE/ASTM SI-10, and all other requirements of this specification are met.

#### 4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the contractor is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract or purchase order, the contractor may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to ensure supplies and services conform to prescribed requirements.

4.1.1 Responsibility for certification. An approved Certification Organization shall certify whether the gloves meet the requirements of NFPA 1977-2005. The contractor shall provide all required materials, garments, and information to the Certification Organization to permit such certification.

4.1.2 Responsibility for compliance. All items shall meet all requirements of sections 3 and 5. The inspection set forth in this specification shall become a part of the contractor's overall inspection system or quality program. The absence of any inspection requirements in the specification shall not relieve the contractor of the responsibility of ensuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the contract. Sampling inspection, as part of manufacturing operations, is an acceptable practice to ascertain conformance to requirements, however, this does not authorize submission of known nonconforming material, either indicated or actual, nor does it commit the Government to acceptance of nonconforming material.

4.1.3 Certification of compliance. Unless otherwise specified, certificates of compliance supplied by the manufacturer of the item, component, or material, listing the specified test method and test results obtained, may be furnished in lieu of actual lot by lot testing performed by the contractor (see 4.3.2). Where certificates of compliance are submitted, the Government reserves the right to check test such items to determine the validity of the certification.

4.1.4 Responsibility for dimensional requirements. Unless otherwise specified in the contract or purchase order, the contractor is responsible for assuring that all specified dimensions have been met. When dimensions cannot be examined on the end item, inspection shall be made at any point or at all points in the manufacturing process necessary to assure compliance with all dimensional requirements.

4.2 Sampling for inspections and tests. Sampling for inspections and tests shall be made in accordance with ASQ Z1.4. The inspection level and acceptable quality level (AQL) shall be as specified.

4.3 Quality conformance inspection. Each end item lot shall be sampled and inspected as specified in 4.3.4.1 and 4.3.4.2. As part of quality conformance inspections, test results shall be submitted to determine compliance of the leather with the requirements of this specification. The packaging shall be sampled as specified in 4.4. Packaging is not required when first articles are presented. Unless otherwise specified (see 6.2), the first articles submitted in accordance with 3.1 shall be inspected as specified in 4.3.4.1 and 4.3.4.2. The presence of any nonconformity or failure to pass any test shall be cause for nonacceptance of a first article sample.

## 6170-5D

4.3.1 Component and material inspection. In accordance with 4.1, components and materials shall be inspected in accordance with all the requirements of referenced documents, drawings, and standards unless otherwise excluded, amended, modified, or qualified in this specification or applicable purchase document.

4.3.2 Certification. As a part of the first article submission the contractor shall provide certificates of compliance (COC) for the materials of the gloves. COCs shall be provided for the following components:

- Leather (3.2.1)
- Buckles (3.2.2)
- Thread (3.2.3)
- Binding (3.2.4)
- Label (3.7)

4.3.2.1 COC Contents. The COCs shall be supported by test reports on the component, these test reports shall also be submitted as a part of the first article submission. Test reports supplied by the manufacturer are acceptable. The COC shall include the following:

- Specification with type, class, etc.
- Quantity purchased
- Purchase source, address, and telephone number
- Purchase date

4.3.2.2 NFPA 1977. As a part of first article submission, the contractor shall provide copies of the third party certification to NFPA 1977-2005.

4.3.3 In-process inspection. Inspection shall be made at any point or during any phase of the manufacturing process to determine whether cut and finished lengths, cut parts, marking for location of components, and location of assembled component parts are in accordance with specified requirements and the drawings. Whenever non-conformance is noted, corrections shall be made to the parts and lot affected in-process. Parts that cannot be corrected shall be removed from production.

4.3.4 Examination of the end item. Examination of the end items shall be in accordance with 4.3.4.1 and 4.3.4.2.

4.3.4.1 Visual examination. Each sample pair of gloves selected from lots presented for delivery shall be examined for nonconformities in color, design, material, construction, workmanship, and marking and the nonconformities classified in accordance with table III as follows:

6170-5D

TABLE III. Classification of visual nonconformities

Examine	Nonconformity	Classification	
		Major	Minor
Pairing	Not properly mated; i.e., not right and left of same size	X	
	Not stapled or tacked together		X
	Leather damaged when pairs pulled Apart	X	
Color	Not specified color, color not uniform or shaded parts, seriously affecting appearance		X
	Thread color not natural for glove body, or not dark brown for binding		X
Design	Not as specified	X	
Cleanliness	Spots or stains seriously affecting Appearance		X
Material (leather)	Any through hole, cut, tear, or rip (except pinhole, needle hole, or turning cut)	X	
	Four or more pinholes and needle holes		X
	Surface cut from turning glove right side out:		
	- More than one turning cut per pair		X
	- Any turning cut more than 9/16 inch in length or more than 3/32 inch in width		X
	- Any turning cut seriously affecting serviceability such as deep cut or cut through		X
	- Turning cut on any part except back part		X
	Not cattlehide	X	
	Not full grain	X	
	Not soft and pliable	X	
	Grain damage or imperfections:		
	- Seriously affecting serviceability	X	
	- Affecting serviceability but not seriously		X
Deep open scratch	X		
Deep wrinkles:			
- Seriously affecting serviceability	X		
- Affecting serviceability but not seriously		X	

## 6170-5D

TABLE III. End item classification of visual nonconformities (continued)

Examine	Nonconformity	Classification	
		Major	Minor
	Any scar or abraded area:		
	- Seriously affecting serviceability	X	
	- Affecting serviceability but not seriously		X
	Brittle, bony area, or thin spot:		
	- Seriously affecting serviceability	X	
	- Affecting serviceability but not seriously		X
	Stains, pronounced discoloration		X
	Flesh side of leather not smooth or contains loose flesh in excess of 1 square inch in total area		X
	Loose or spongy leather	X	
	Flanky leather:		
	- Seriously affecting serviceability	X	
	- Affecting serviceability but not seriously		X
	Excessive stretch in length direction	X	
Finish (leather)	Finish applied to grain surface	X	
Fabric (binding)	Not type or color specified		X
	Any hole, cut, tear, or rip	X	
Construction and workmanship, general (applicable to all components unless otherwise indicated herein)	Any component misplaced, operation omitted or not properly performed seriously affecting serviceability, e.g., fingers twisted or distorted	X	
	Any component misplaced or operation not properly performed affecting serviceability but not seriously		X
	Any component missing	X	
	Welting omitted on thumb	X	
	Any component not securely affixed	X	
	Any workmanship damage, i.e., scissor or knife cut	X	
	Any mend in leather, i.e., patch, (not applicable to restitched seam repair)	X	
	Needle chews likely to develop into a hole	X	
	Sharp burr or metal sliver on buckle		X
	Improperly functioning buckle	X	
	Deformed or broken buckle	X	
	Improperly threaded chape or arrow		
	Strap	X	

## 6170-5D

TABLE III. End item classification of visual nonconformities (continued)

Examine	Nonconformity	Classification	
		Major	Minor
Seams and Stitching	Open seam:		
	- In stitched seam (except wrist hem)	X	
	- In wrist hem		X
	- Repaired, but not repaired as specified		X
	NOTE: A seam shall be classified as open when one or more stitches joining a seam are broken or when two or more consecutive skipped stitches or run-offs occur.		
	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 leather or breaking of stitches when normal pull is applied	X	
Seams and stitching (cont.)	Ends of stitching not secured as specified		X
	Margin of stitching irregular or not as specified		X
	Margin of stitching greater than 3/16 inch in any area of the fingers or thumb, including fingertips and finger crotches	X	
	Any part caught in unrelated row of stitching	X	
	One or two stitches per inch less than specified		X
	Three or more stitches per inch less than specified	X	
	More than the maximum specified number of stitches per inch damaging leather	X	
	More than the maximum specified number of stitches per inch but not damaging leather		X

## 6170-5D

TABLE III. End item classification of visual nonconformities (continued)

Examine	Nonconformity	Classification	
		Major	Minor
Assembly detail	Glove not neatly laid off		X
	Thumb welt not completely caught in seam		X
	Fingers distorted or twisted affecting comfort of wearer	X	
	Buckle chape strap and arrow strap not sewn in alignment causing malformation when strap is tightened		X
	Insufficient stretch to prevent constriction or binding across knuckles when fingers are doubled to form a fist	X	
	Not properly formed or finished causing discomfort to user--not properly trimmed	X	
	Not constructed with specified number of pieces of leather	X	
	Thread ends not trimmed throughout		X
	Back of glove more than 1/8 inch longer than palm after removal from heating forms		X
	Back of glove shorter than palm of Glove		X
	Label and size Marking	Omitted, incorrect, illegible, misplaced	X
Instruction slip	Omitted, incorrect, illegible, misplaced		X

4.3.4.2 Dimensional examination. The gloves shall be examined for conformance to the leather thickness requirements for the finished gloves specified in 3.2.1.1 and to the dimensions specified in table II. Any dimension that is not within the established tolerance shall be classified as a nonconformity.

NOTE: Each leather part of the glove shall be checked for thickness, i.e., thumb, back, palm, fingers, and welts (where feasible). Any of these parts that are not within the required thickness range shall constitute a nonconformity. Thickness shall be determined in accordance with Method 1011 of FED-STD-311.

**6170-5D**

4.3.4.3 Inspection levels and AQL's. The inspection levels and AQL's expressed in nonconformities per 100 units shall be as followed:

<u>Examination</u>	<u>Inspection</u>	<u>AQL's</u>	
		<u>Major</u>	<u>Total</u>
4.3.4.1, visual characteristics	II	2.5	6.5
4.3.4.2, dimensional characteristics	S-3	---	4.0 (one class)

4.4 Packaging examination. The fully packaged end items shall be examined for the nonconformities in Table IV. The sample unit shall be one shipping container fully prepared for delivery except that it need not be closed. Nonconformities of closure listed in Table IV shall be examined on shipping containers fully prepared for delivery. The lot size shall be the number of shipping containers in the end item inspection lot. The inspection level shall be S-2 and the AQL, expressed in terms of nonconformities per hundred units, shall be 2.5.

Table IV. Packaging Examination

<u>Examine</u>	<u>Nonconformity</u>
Markings	Omitted; incorrect; illegible; of improper size, location, sequence, or method of application.
Materials	Any component missing or not as specified. Any component damaged, affecting serviceability.
Workmanship	Inadequate application of components, such as: incomplete closure of container flaps, improper taping, loose strapping, inadequate stapling. Bulged or distorted container.
Contents	Number of pairs of gloves per container is more or less than required.

1/ For this nonconformity, three bundles shall be examined from each shipping container in the sample.

**5. PACKAGING**

5.1 Preservation. Preservation shall be in accordance with ASTM D 3951 and as specified herein and in the contract or purchase order.

5.2 Packaging. Ten pair of gloves, of one size only, shall be neatly stacked in a bundle with every other pair reversed end for end. The bundle shall be securely tied at each end with cotton tape or twine, or the bundle shall be inserted in a snug-fitting clear polyethylene film bag 0.003 inch thickness (+20 percent tolerance) and the end sealed or tied.

5.3 Packing. One hundred (100) pairs of gloves of one size only, packaged as specified in 5.2, shall be packed into a 21”L X 17”W X 11.50”D fiberboard box, minimum burst strength 275 psi (ECT 44) meeting the requirements of the latest version of ASTM D 5118. Boxes shall be in compliance with the National Motor Freight Classification. Each box shall be closed in accordance with the latest version of ASTM D 1974.

5.4 Marking. Each shipping container shall be marked in accordance with FED-STD-123.

6. NOTES

6.1 Intended use. The gloves are intended to be used in outdoor manual labor including fighting wildland fires and conducting controlled burning operations.

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) When first article is not required.

6.3 First article. The first article samples shall be inspected and approved under the appropriate provisions of FAR 52.209. The first articles shall consist of three pair of each size glove. The contracting officer should include specific instructions in all procurement instruments regarding arrangements for inspection and approval of the first article.

6.4 Suggested sources.

Buckle (3.2.2)  
ITW Waterbury Buckle  
952 S. Main St.  
Waterbury, CT 06706  
800-969-5908  
<http://www.buckle-hardware.com/>

6.5 Preparing activity. USDA Forest Service, Missoula Technology and Development Center, 5785 Highway 10 West, Missoula, MT 59808.

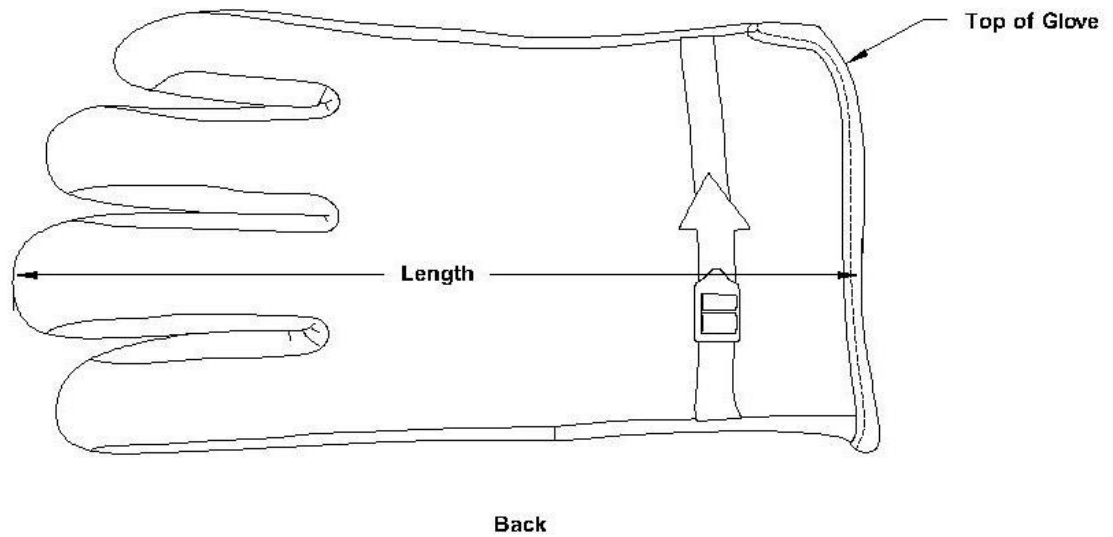
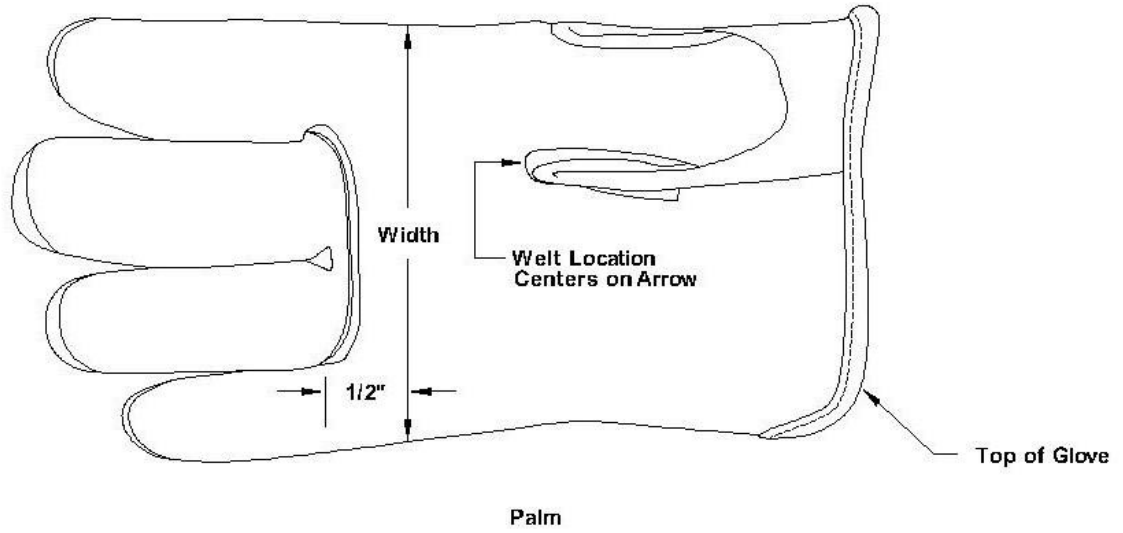


Figure 1. - Gloves, heavy-duty leather.