

MIL-C-44219(GL)
28 January 1986
(See 6.7)

MILITARY SPECIFICATION

CARRIER, CANTEEN, COLLAPSIBLE, 5-QUART CAPACITY

This specification is approved for use by the Natick Research, Development, and Engineering Center, Department of the Army, and is available for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This document covers the requirements for one type and size of carrier for a 5-quart collapsible canteen.

2. APPLICABLE DOCUMENTS

2.1 Government documents. Unless otherwise specified, the following documents of the issue in effect on date of invitation for bids or request for proposal form a part of this document to the extent specified herein.

SPECIFICATIONS

FEDERAL

V-T-295	- Thread, Nylon
UU-P-268	- Paper, Kraft, Wrapping
DDD-L-20	- Label: For Clothing, Equipage, and Tentage, (General Use)
PPP-B-636	- Boxes, Shipping, Fiberboard

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: U.S. Army Natick Research, Development, and Engineering Center, Natick, MA 01760-5014 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC N/R

FSC 8465

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

MIL-C-44219(GL)

MILITARY

- MIL-T-5038 - Tape, Textile and Webbing, Textile, Reinforcing, Nylon
- MIL-C-5040 - Cord, Nylon
- MIL-F-10884 - Fasteners, Snap
- MIL-F-21840 - Fastener Tapes, Hook and Pile, Synthetic
- MIL-C-43128 - Cloth, Plain Weave, Nylon: Water Repellent, OG-106
- MIL-C-43256 - Cord, Polyester, Solid Braid

STANDARDS

FEDERAL

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

MILITARY

- MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attributes
- MIL-STD-129 - Marking for Shipment and Storage
- MIL-STD-147 - Palletized Unit Loads

DRAWINGS

U.S. ARMY NATICK RESEARCH, DEVELOPMENT, AND ENGINEERING CENTER

- 2-2-291 - Carrier, Canteen, Collapsible, 5-Quart Capacity Assembly and Sections
- 2-2-292 - Carrier, Details
- 2-2-293 - Carrier, Canteen, Collapsible, 5-Quart Capacity Sections

(Copies of documents required by contractors in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting officer.)

2.2 Other publications. Unless otherwise specified, the following documents of the issue in effect on date of invitation for bids or request for proposal, form a part of this document to the extent specified herein.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

D 3951 - Standard Practice for Commercial Packaging

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

MIL-C-44219(GL)

(Technical society and technical association documents are generally available for reference from libraries. They are also distributed among technical groups and using Federal agencies.)

2.3 Order of precedence. In the event of a conflict between the text of this document and the references cited herein, the text of this document shall take precedence.

3. REQUIREMENTS

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

3.2 First article. When specified in the contract or purchase order, a sample shall be subjected to first article inspection (see 4.2 and 6.5).

3.3 Materials (see 6.6).

3.3.1 Cloth, nylon. The nylon cloth shall be Olive Green 106, water repellent conforming to MIL-C-43128.

3.3.2 Tape, nylon. The nylon tape shall be dyed Olive Drab 7 to match the standard sample (see 6.3) and conform to type III, class 2, 1-inch wide and type II, class 2, 2-inch wide of MIL-T-5038.

3.3.3 Cord, polyester. The polyester cord shall be 3/32 inch diameter, OD-7 conforming to MIL-C-43256, except the elongation requirement shall not apply.

3.3.4 Cord, nylon. The nylon cord shall be type I or IA, OD-7 conforming to MIL-C-5040.

3.3.5 Fastener tape, hook and pile, nylon. The nylon fastener tape shall be dyed OG-106 to match the standard sample (see 6.3) and conform to type II, class 1, 3/4 and 1-inch widths of MIL-F-21840.

3.3.6 Thread, nylon. The thread for all stitching shall conform to type I, class A, size E of V-T-295.

3.3.6.1 Color. The thread shall be dyed Olive Drab, Shade S-1 (C.A.66022), and shall show fastness to chlorine bleaching equal to or better than the standard sample (see 6.3). If no standard sample is available, the thread shall show good fastness to chlorine bleaching.

3.3.7 Fastener, snap. The snap fastener shall be style 2, finish 2, conforming to MIL-F-10884. The size of the button and eyelet components shall be determined by the supplier. The size selected shall effect a secure clinch of the assembled materials.

MIL-C-44219(GL)

3.4 Construction. The construction shall conform in all respects to the drawings listed in section 2 and as specified herein.

3.4.1 Stitching, machine. All stitching shall conform to FED-STD-751, type 301 with 8 to 10 stitches per inch.

3.4.1.1 Type 301 stitching. Ends of all stitching shall be backstitched or overstitched not less than 1 inch (1/2 inch for box and box-x stitching) except where ends are turned under or caught in other seams or stitching. Thread tensions shall be maintained so that there will be no loose stitching resulting in loose bobbin or top thread or excessively tight stitching resulting in puckering of the materials sewn. The lock shall be imbedded in the materials sewed.

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

a. When thread breaks or bobbin run-outs occur during stitching, except prestitching, the stitching shall be repaired by restarting the stitching a minimum of one inch (1/2 inch for box and box-x stitching) back of the end of the stitching. 1/

b. Except for prestitching, thread breaks, or two or more consecutive skipped or run-off stitches noted during inspection of the item (in-process or end item) shall be repaired by overstitching. The stitching shall start a minimum of one inch in back of the defective area (1/2 inch on box and box-x stitching), continue over the defective area and continue a minimum of one inch (1/2 inch on box and box-x stitching) beyond the defective area onto the existing stitching. Loose or excessively tight stitching shall be repaired by removing the defective stitching without damaging the materials and restitching in the required manner. 1/

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

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

3.4.1.3 Thread ends. All thread ends shall be trimmed to 1/4 inch maximum length.

3.4.2 Setting of snap fasteners. The hole punched before inserting the male or female part of the fastener shall be smaller than the outside diameter of the fastener barrel so that the barrel must be forced through the hole. The fasteners shall be securely clinched without cutting the surrounding material.

MIL-C-44219(GL)

3.4.3 Fusing of ends of tape and cord and raw edges of nylon cloth. All ends of tape and cord and raw edges of the cloth shall be fused smooth. Fusing of the tape ends and raw edges of the cloth shall be accomplished prior to assembling the components for stitching.

3.4.4 Location marks. Location and notice marks shall not be drilled.

3.5 Marking.

3.5.1 Identification. The identification marking shall be applied in the location shown on the applicable drawing and shall conform to type IV, class 5 of DDD-L-20. The letters "U.S." shall be applied in the location and in the size characters indicated on the applicable drawing and shall conform to type IV, class 9 of DDD-L-20. Fastness of the class 9 marking shall be as specified for class 5 marking.

3.5.2 Label, instruction. Each carrier shall have an instruction label stitched to the back side of the carrier in the location shown on Drawing 2-2-292. The size of the label shall be approximately 7 inches by 4-1/2 inches, with a 1/4 inch blank margin on all four sides. The information printed on the label shall be as shown on figure 1. The size of the characters and illustrative details shall be the maximum size possible relative to the size of the label. The label shall conform to type VI, class 5 of DDD-L-20, except that the color of the label shall be medium green (see 6.4).

3.6 Workmanship. The finished carrier assembly shall conform to the quality and grade of product established by this document. The occurrence of defects shall not exceed the applicable acceptable quality levels.

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 document where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

4.1.1 Responsibility for compliance. All items must meet all requirements of sections 3 and 5. The inspection set forth in this document shall become a part of the contractor's overall inspection system or quality program. The absence of any inspection requirements in the document shall not relieve the contractor of the responsibility of assuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the contract. Sampling in quality conformance does not authorize submission of

MIL-C-44219(GL)

known defective material, either indicated or actual, nor does it commit the Government to acceptance of defective material.

4.2 First article inspection. When a first article is required (see 6.5), it shall be examined for the defects specified in 4.3.3. The presence of any defect shall be cause for rejection of the first article.

4.3 Quality conformance inspection. Unless otherwise specified, sampling for inspection shall be performed in accordance with MIL-STD-105.

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 unless otherwise excluded, amended, modified or qualified in this document or applicable purchase document.

4.3.2 In-process inspection. Inspection of sub-assemblies shall be made to ascertain that construction details which cannot be examined in the finished product are in accordance with specified requirements. The Government reserves the right to exclude from consideration for acceptance, any material or service for which in-process inspection has indicated nonconformance.

4.3.3 End item examination.

4.3.3.1 Visual examination. The end item (one complete carrier) shall be examined for the defects listed below. The lot size shall be expressed in units of end items. The sample unit shall be one end item. The inspection level shall be II and the acceptable quality level (AQL), expressed in terms of defects per hundred units, shall be 2.5 for major and 6.5 for total (major and minor combined) defects.

Examine	Defect	Classification	
		Major	Minor
Cloth	Any hole, cut, tear or abrasion.	X	
	Smash, open place, broken or missing yarn or multiple floats.	X	
	Raw edges not fused.		X
Tape	Ends not fused.		X
	Frayed or scalloped edges; not firmly and tightly woven.	X	
Fastener tape-hook and pile	Any hole, cut or tear.	X	
	Hooks missing or flattened impairing function.	X	
	Broken or missing yarn in pile impairing function.	X	
	Ends not fused.		X

MIL-C-44219(GL)

Examine	Defect	Classification	
		Major	Minor
Cord	Cut, chafed or abraded. Ends not fused.	X	X
Hardware: General	Broken or malformed, protective finished omitted or not as specified; corroded area, burr or sharp edge.	X	
Snap fastener	Any fastener not functioning pro- perly, i.e., fails to snap closed, to provide a secure closure, or to open freely.	X	
	Clinched excessively tight, cutting surrounding material.	X	
	Clinched loosely, permitting male components to rotate freely in the hole in the material.		X
	NOTE: The fasteners shall be snapped and unsnapped twice to determine whether parts of fastener separate freely and also effect a secure closure.		
Seams and stitching: Open seams	Less than 1/2 inch. 1/2 inch or more.	X	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 runoffs occur.		
Seams and stitch types	Wrong seam or stitch type.	X	
Stitch tension	Loose tension, resulting in a loose top or bobbin thread.		X
	Tight tension, resulting in pucker- ing of material.		X

MIL-C-44219(GL)

Examine	Defect	Classification	
		Major	Minor
Seams and stitching: (cont'd)			
Stitches per inch	One to two stitches less than minimum specified.		X
	Three or more stitches less than minimum specified.	X	
	One or more stitches in excess of maximum specified.		X
	NOTE: Variation in the number of stitches per inch, caused by the operator's speeding up the machine and pulling the material in order to sew over heavy places, or in turning corners, shall be classified as follows:		
	a. Within the minor defect classification - no defect.		
	b. Within the major defect classification - minor defect.		
Stitching ends (On stitch type 301)	Not secured as specified (except where ends are held down by other stitching or turned under in a hem).		X
Thread breaks, skipped stitches or runoffs (on type 301 stitching)	Thread breaks, two or more consecutive skipped stitches, or runoffs overstitched less than 1/2 inch in each direction beyond the defective stitching area.		X
	NOTE: Thread breaks, two or more consecutive skipped stitches or runoffs not overstitched shall be classified as open seams.		
Box stitching	One row of stitching missing.		X
	Two or more rows of stitching missing.		X
Cleanness	Grease or oil stains clearly noticeable.		X
	Thread ends not trimmed throughout.		X

MIL-C-44219(GL)

Examine	Defect	Classification	
		Major	Minor
Components and assembly	Any component or required operation omitted (unless otherwise classified herein).	X	
	Mend, darn or patch.	X	
	Needle chews:		
	-Up to 1/8 inch in length.		X
	-1/8 inch or more in length.	X	
Fastener tape	Location of hook and pile reversed, i.e., hook attached where pile is required or vice versa.		X
Tie down cords	Sewed with only one row of stitching or one row of stitching does not pass through cord.	X	
Identification marking	Omitted, incorrect, illegible, misplaced, or size of characters not as specified.		X

4.3.3.2 Dimensional examination. The end item (one complete carrier) shall be examined for the defects listed below. The lot size shall be expressed in units of end items. The sample unit shall be one end item. The inspection level shall be S-3 and the AQL, expressed in terms of defects per hundred units, shall be 2.5 for major and 10.0 for total (major and minor combined) defects.

Examine	Defect	Classification	
		Major	Minor
Overall dimensions	Smaller than nominal dimensions less applicable minus tolerance, but not smaller than twice the applicable minus tolerance.		X
	Smaller than nominal dimensions less twice the applicable minus tolerance.	X	
	Larger than nominal dimensions and applicable plus tolerance.		X
Component and location dimensions	Not within specified tolerance.		X

MIL-C-44219(GL)

4.3.4 Packaging inspection. An examination shall be made to determine that the preservation, packing and marking comply with the section 5 requirements. Defects shall be scored in accordance with the list below. The sample unit shall be one shipping container fully packaged. 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 defects per hundred units, shall be 2.5.

<u>Examine</u>	<u>Defect</u>
Marking (exterior and interior)	Omitted; incorrect; illegible; of improper size, location, sequence, or method of application.
Materials	Any component missing, damaged, or not as specified.
Workmanship	Inadequate application of components, such as: incomplete closure of container flaps, improper taping, loose strapping or inadequate stapling. Bulged or distorted container.
Content	Number of bundles per shipping container is more or less than required. Number of carriers per bundle is more or less than required. <u>1/</u>

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

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

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

MIL-C-44219(GL)

5. PACKAGING

5.1 Preservation. Preservation shall be level A or Commercial as specified (see 6.2).

5.1.1 Level A. Each carrier shall be laid flat with the front up. The neck of each carrier shall be folded over the body and secured. The side snap fasteners shall also be secured. Twenty carriers, alternated top to bottom and side to side, shall be evenly stacked to form a bundle measuring approximately 14 by 10-1/2 by 5 inches. The bundle shall be securely cross-tied with cotton tape or twine.

5.1.2 Commercial. Each carrier shall be preserved in accordance with ASTM D 3951.

5.2 Packing. Packing shall be level A, B or Commercial as specified (see 6.2).

5.2.1 Level A packing. One hundred and twenty carriers, preserved as specified in 5.1, shall be packed in a snug-fitting fiberboard shipping container conforming to style RSC-L, grade V2s of PPP-B-636. The inside of each shipping container shall be fitted with a liner conforming to type CF, class weather-resistant, variety DW, grade V15c of PPP-B-636. Level A bundles shall be packed flat, two in length, one in width and three in depth within a shipping container. Inside dimensions of each shipping container shall approximate 21-1/2 inches in length, 15 inches in width and 15 inches in depth. Approximate dimensions are furnished as a guide only. Each shipping container shall have the contents completely covered on the top and bottom with a sheet of 30-pound minimum basis weight kraft paper conforming to type I, grade B of UU-P-268. Each shipping container shall be closed in accordance with method III, waterproofed in accordance with method V and reinforced as specified in the appendix of PPP-B-636, except that the inspection shall be in accordance with 4.3.4.

5.2.2 Level B packing. One hundred and twenty carriers, preserved as specified in 5.1, shall be packed in a snug-fitting fiberboard shipping container conforming to style RSC-L, type CF (variety SW) or SF, class domestic, grade 275 of PPP-B-636. The inside of each shipping container shall be fitted with a liner conforming to type CF, class domestic, variety DW, grade 275 of PPP-B-636. Level A bundles shall be packed flat two in length, one in width and three in depth within a shipping container. Inside dimensions of each shipping container shall approximate 21-1/2 inches in length, 15 inches in width and 15 inches in depth. Approximate dimensions are furnished as a guide only. Each shipping container shall have the contents completely covered on the top and bottom with a sheet of 30-pound minimum basis weight kraft paper conforming to type I, grade B of UU-P-268. Each shipping container shall be closed in accordance with method II as specified in the appendix of PPP-B-636, except that the inspection shall be in accordance with 4.3.4.

MIL-C-44219(GL)

5.2.2.1 Weather-resistant fiberboard containers. When specified (see 6.2), the shipping container shall be a 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 of PPP-B-636, except that the inspection shall be in accordance with 4.3.4.

5.2.3 Commercial packing. Carriers, preserved as specified in 5.1, shall be packed in accordance with ASTM D 3951.

5.3 Palletization. When specified (see 6.2), carriers, packed as specified in 5.2, shall be palletized on a 4-way entry pallet in accordance with load type Ia of MIL-STD-147. Pallet types shall be type I (4-way entry), type IV or type V in accordance with MIL-STD-147. Each prepared load shall be bonded with primary and secondary straps in accordance with bonding means K and L or film bonding means O or P. Pallet pattern shall be number 3 in accordance with the appendix of MIL-STD-147. Interlocking of loads shall be effected by reversing the pattern of each course.

5.4 Marking. In addition to any special marking required by the contract or purchase order, shipping containers and palletized unit loads shall be marked in accordance with MIL-STD-129 or ASTM D 3951, as applicable.

6. NOTES

6.1 Intended use. The carrier is designed for carrying a collapsible 5-quart canteen. The carrier is furnished with loops and tiedown cords at each corner for securing the carrier to personnel or equipment.

6.2 Ordering data. Acquisition documents should specify the following:

- a. Title, number and date of this document.
- b. When a first article sample is required (see 3.2, 4.2 and 6.5).
- c. Selection of applicable levels of preservation and packing (see 5.1 and 5.2).
- d. When weather-resistant grade fiberboard shipping containers are required for level B packing (see 5.2.2.1).
- e. When palletization is required (see 5.3).

6.3 Samples. For access to samples, address the contracting activity issuing the invitation for bids.

6.4 The following cable numbers of the Standard Color Card of America are furnished for information and guidance as to the intensity of the shade of medium green desired for the instruction label (see 3.5.2):

Cable No. 70034
Cable No. 70130
Cable No. 70131

MIL-C-44219(GL)

6.5 First article. When a first article is required, it shall be inspected and approved under the appropriate provisions of FAR 52.209. The first article should be a preproduction sample consisting of one finished carrier assembly. The contracting officer should include specific instructions in all acquisition documents regarding arrangements for inspection and approval of the first article.

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

6.7 Supersession data. This document includes the requirements of Limited Production Purchase Description 15-68, dated 4 April 1968, Carrier, Floatation/Bladder/Collapsible Canteen, (5-quart).

Custodian:

Army - GL

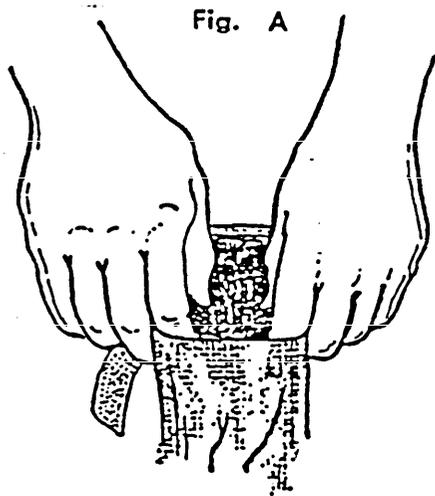
Preparing activity:

Army - GL

Project No. 8465-A935

MIL-C-44219(GL)

CANTEEN, COLLAPSIBLE, 5-QT CAPACITY



1. Open and flatten canteen.
2. Hang screw-cap outside of canteen.
3. Spread neck open into square shape as shown in (Fig. A).
 - a. Place thumbs inside about 3 inches apart.
 - b. Place middle fingers outside.
 - c. Place forefingers inside and push outwards.
4. Keep canteen vertical with narrow width facing body.
5. Quickly submerge, filling neck and raise above water.
6. Repeat until full keeping mouth continuously covered with water.
7. Remove strainer and put in purification tablets.

FIGURE 1

INSTRUCTIONS: In a continuing effort to make our standardization documents better, the DoD provides this form for use in submitting comments and suggestions for improvements. All users of military standardization documents are invited to provide suggestions. This form may be detached, folded along the lines indicated, taped along the loose edge (*DO NOT STAPLE*), and mailed. In block 5, be as specific as possible about particular problem areas such as wording which required interpretation, was too rigid, restrictive, loose, ambiguous, or was incompatible, and give proposed wording changes which would alleviate the problems. Enter in block 6 any remarks not related to a specific paragraph of the document. If block 7 is filled out, an acknowledgement will be mailed to you within 30 days to let you know that your comments were received and are being considered.

NOTE: This form may not be used to request copies of documents, nor to request waivers, deviations, or clarification of specification requirements on current contracts. Comments submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or to amend contractual requirements.

(Fold along this line)

(Fold along this line)

DEPARTMENT OF THE ARMY

US ARMY NATICK RESEARCH
and DEVELOPMENT CENTER
ATTN: STRNC-ES
Natick, MA 01760-5014



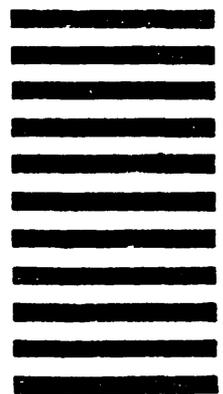
**NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES**

**OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE \$300**

BUSINESS REPLY MAIL
FIRST CLASS PERMIT NO. 12062 WASHINGTON D. C.

POSTAGE WILL BE PAID BY THE DEPARTMENT OF THE ARMY

Commander
US Army Natick Research
and Development Center
ATTN: STRNC-ES
Natick, MA 01760-5014



STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

(See Instructions - Reverse Side)

1. DOCUMENT NUMBER MIL-C-442219(GL)		2. DOCUMENT TITLE CARRIER, CANTEEN, COLLAPSIBLE, 5-QUART CAPACITY	
3a. NAME OF SUBMITTING ORGANIZATION		4. TYPE OF ORGANIZATION (Mark one)	
b. ADDRESS (Street, City, State, ZIP Code)		<input type="checkbox"/> VENDOR <input type="checkbox"/> USER <input type="checkbox"/> MANUFACTURER <input type="checkbox"/> OTHER (Specify): _____	
5. PROBLEM AREAS			
a. Paragraph Number and Wording:			
b. Recommended Wording:			
c. Reason/Rationale for Recommendation:			
6. REMARKS			
7a. NAME OF SUBMITTER (Last, First, MI) - Optional		b. WORK TELEPHONE NUMBER (Include Area Code) - Optional	
c. MAILING ADDRESS (Street, City, State, ZIP Code) - Optional		8. DATE OF SUBMISSION (YYMMDD)	