

MIL-F-284E

13 June 1973

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SUPERSEDING

MIL-F-284D

30 June 1967

## MILITARY SPECIFICATION

## FORK, KNIFE, AND SPOON, FIELD MESS

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

## 1. SCOPE

1.1 This specification covers one type of fork, knife, and spoon (see 6.1).

## 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.

## SPECIFICATIONS

## FEDERAL

PPP-B-636	- Boxes, Shipping, Fiberboard
PPP-B-676	- Boxes, Setup
PPP-T-45	- Tape, Gummed, Paper, Reinforced, and Plain, for Sealing and Securing

## STANDARDS

## FEDERAL

FED-STD-151	- Metals; Test Methods
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## MILITARY

MIL-STD-105	- Sampling Procedures and Tables for Inspection by Attributes
MIL-STD-129	- Marking for Shipment and Storage
MIL-STD-130	- Identification Marking of U. S. Military Property

FSC 7340

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## DRAWING

### ARMY NATICK LABORATORIES

2-9-3 - Fork, Knife, and Spoon, Field Mess

(Miniature copy of Drawing 2-9-3, identified as figure 1, is attached for information purposes only.)

(Copies of specifications, standards, and drawings required by suppliers in connection with specific procurement functions should be obtained from the procuring agency 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:

#### American Society for Testing and Materials (ASTM)

Designation A167	-	Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip, Standard Specification for
Designation A176	-	Stainless and Heat-Resisting Chromium Steel Plate, Sheet and Strip, Standard Specification for
Designation B85	-	Aluminum-Alloy Die Castings, Standard Specification for
Designation B108	-	Aluminum-Alloy Permanent Mold Castings, Standard Specification for

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

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

## 3. REQUIREMENTS

- \* 3.1 First article. When specified (see 6.2), the supplier shall furnish a sample for first article inspection and approval (see 4.3 and 6.3).

3.2 Materials. The materials specified shall conform to the applicable specifications, standards and requirements specified herein.

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- \* 3.2.1 Stainless steel. The stainless steel shall conform to chemical composition of types 302 or 304, of ASTM A167 or types 410 or 420 of ASTM A176 unless otherwise specified herein.
- \* 3.2.2 Aluminum alloy for mold castings. Aluminum alloy permanent and semipermanent mold castings shall conform to alloy number SC64D of ASTM B108.
- \* 3.2.3 Aluminum alloy used for die castings. Aluminum alloy used for die castings shall conform to alloy number SC84A of ASTM B85.

3.3 Design and construction. The design and construction of the fork, knife, and spoon shall conform to the requirements specified herein and on Drawing No. 2-9-3.

- \* 3.3.1 Fork. The fork shall be fabricated from 302 or 304 stainless steel sheet or strip specified in 3.2.1 and the material thickness shall not be less than 0.0651 inch. The tines shall be tapered to a sharp and uniform point. The inside of the tines shall be ground or coined, and the tine edges shall be rounded.
- \* 3.3.2 Spoon. The spoon shall be fabricated from 302 or 304 stainless steel sheet or strip specified in 3.2.1, and the material thickness shall not be less than 0.0461 inch. The bowl edges shall be finished free of irregularities and rough or sharp edges.
- \* 3.3.3 Knife. The knife shall be constructed of either one or two pieces as illustrated on Drawing No. 2-9-3. The one-piece knife and the two-piece knife shall either be forged from stainless steel, types 410 or 420 specified in 3.2.1, or blanked or rolled from stainless steel sheet or strip, types 302, 304, 410 or 420 specified in 3.2.1. The knife blade shall be bevelled or tapered within the area shown on Drawing No. 2-9-3. The cutting edge of the knife blade shall be uniformly sharp and smooth. When the knife is constructed from type 410 or 420 stainless steel specified in 3.2.1, the blades shall be heat treated to a Rockwell hardness of 38 to 46 on the C-scale (see 4.5.1). The handle for the two piece knife specified in 3.3.3.1 shall be securely cast onto the blade of the two-piece knife and the blade shall not be warped or turned out of longitudinal alignment.

3.3.3.1 Knife handle (two-piece). The handle for the two-piece knife construction shall be securely cast on to the knife blade specified in 3.3.3 and shall be cast from material specified in 3.2.2 or 3.2.3. The casting shall be free of blowholes or imperfections.

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3.4 Finish. The fork, spoon, one-piece knife, and blade of the two-piece knife shall be cleaned and polished to a commercial number 2B finish or better and the handle for the two-piece knife shall be cleaned and polished.

3.5 Marking for identification. The letters "U.S." in characters  $3/16$  inch high, plus or minus  $1/32$  inch, shall be stamped or embossed on the one piece knife, fork, and spoon handles and cast into the two piece knife handle in accordance with MIL-STD-130. The location of identification shall be as shown on Drawing No. 2-9-3. The manufacturer's name, trade name or trademark, in characters  $3/32$  inch high, plus or minus  $1/32$  inch, shall be stamped or embossed on the underside of the one-piece knife, fork and spoon handles and on the reverse side of the "U.S." on the two-piece knife handle. The surface opposite the stamp markings shall show no signs of penetration or unevenness.

3.6 Workmanship. The finished item shall be clean and shall not contain any rough and sharp edges (except the knife cutting edge), burrs, cracks, chips, or slivers; rough die or grind marks, gouges, pits, stains, rust or scale. The finished item shall not be fractured, buckled, bent, twisted or warped out of specified shape, punctured, malformed or damaged.

#### 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.

4.2 Classification of inspection. The inspection requirements specified herein are classified as follows:

1. First article inspection (see 4.3).
2. Quality conformance inspection (see 4.4).

4.3 First article inspection. When a first article is required (see 6.3), it shall be examined for the defects in table I and specified dimensions and the knife shall be tested as specified in 4.5.1 (see 3.3.3). Failure of any test shall be cause for rejection of the first article. The presence of any defect listed in table I or any dimension not within specified requirements shall be cause for rejection of the first article.

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4.4 Quality conformance inspection. Sampling for inspection shall be performed in accordance with MIL-STD-105, except where otherwise indicated hereinafter.

4.4.1 Components and materials inspection. In accordance with 4.1 above, components and materials shall be inspected and tested in accordance with all the requirements of referenced specifications, drawings, and standards unless otherwise excluded, amended, modified or qualified in this specification or applicable purchase document.

4.4.2 End item inspection. The inspection lot shall be the number of knives, forks, or spoons offered for inspection at one time. The sample unit shall be one completely fabricated knife, fork, or spoon.

4.4.2.1 Visual examination. Examination shall be made of the knife, fork and spoon for the defects listed in table I. The inspection level shall be level II with an acceptable quality level (AQL) of 2.5 for major defects and 6.5 for total defects expressed in terms of defects per hundred units.

TABLE I. Classification of defects

Examine	Defect	Classification	
		Major	Minor
Finish			
(Fork; spoon; knife one piece construction, knife blade two piece construction)	Rust, pits, scale or burns	X	
	Not a No. 2B or better commercial finish	X	
	(Knife handle two piece construction)	Not cleaned and uniformly polished	
Construction and workmanship (applicable to all components and assemblies)	Any rough or sharp edges (except knife cutting edge) burrs, cracks, chips, slivers or scratches; gouges, rough die or grind marks	X	
	Any component fractured, buckled, bent, punctured, twisted or warped out of specified shape, malformed or damaged	X	
	Forks	Tines do not taper to a sharp and uniform point	X
	Tine edges not rounded	X	
	Inside of tines not ground or coined	X	

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TABLE I. Classification of defects (cont'd)

<u>Examine</u>	<u>Defect</u>	<u>Classification</u>	
		<u>Major</u>	<u>Minor</u>
Knives (one or two piece)	Blade not sharpened	X	
	Blade not bevelled or tapered	X	
	Blade warped or turned out of longitudinal alignment with handle	X	
	Handle casting not free of blow-holes, or imperfections		X
Spoon	Bowl edge not finished free of irregularities	X	
Handles	Hanging hole missing	X	
Identification	Missing, incomplete, illegible; not in proper location		X
	Surface opposite markings shows penetration or unevenness (i.e. one piece knife, fork and spoon).		X
	Lettering not embossed, stamped or cast as specified	X	

- \* 4.4.2.2 Dimensional examination. An examination shall be made to determine compliance with dimensions specified herein. Any nonconformance shall be classified a defect. The inspection level shall be S-2 with an AQL of 4.0 expressed in defects per hundred units.
- \* 4.4.2.3 End item testing. When a first article is not required, the first produced knife (see 3.3.3) shall be tested as specified in 4.5.1. Any nonconformance shall be cause for rejection of the lot. Failure of a test shall be recorded as a defect. The inspection level shall be S-2 with an AQL of 4.0 expressed in terms of defects per hundred units.
- \* 4.4.3 Examination of preparation for delivery. An examination shall be made to determine that packaging, packing, and marking as required by section 5 of this specification are complied with. Defects shall be scored in accordance with defects set forth in table II. The sample unit shall be one shipping container fully prepared for delivery. The lot shall be the number of containers offered for delivery at one time. The inspection level shall be S-2 with an AQL of 4.0, expressed in terms of defects per hundred units.

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TABLE II. Examination of preparation for delivery

<u>Examine</u>	<u>Defect</u>
Markings (exterior and interior container)	Missing, incorrect, illegible, of improper size, location, sequence or method of application.
Materials	Component missing, damaged, or otherwise defective.
Contents (interior)	More or less than required.
Workmanship	Inadequate application of components such as incomplete closure of container flaps; loose strapping or tape banding, inadequate sealing or stapling. Bulging or distortion of containers.

#### 4.5 Test.

4.5.1 Hardness test. The blade of a knife, fabricated from 410 or 420 stainless steel shall be tested in accordance with method 243.1 of FED-STD-151. The hardness of the individual knife blade shall be determined by the average of three readings and this average reading shall determine compliance with 3.3.3.

### 5. PREPARATION FOR DELIVERY

5.1 Packaging. Packaging shall be level A or C as specified (see 6.2).

#### 5.1.1 Level A.

5.1.1.1 Unit package. Ten forks with tines at one end; ten knives, reversed end for end; or ten spoons, shall be interleaved and completely inclosed with two thicknesses of tissue paper having a minimum basis weight of ten pounds per ream (24 by 36-480). The wrap shall be secured with 2 inch minimum gummed kraft paper tape, (see 6.4).

5.1.1.2 Intermediate package. One hundred forks, knives, or spoons, unit-packaged as specified in 5.1.1.1, shall be packaged in a setup paper-board box conforming to type I, variety 1, class A, style 3 or 4 of PPP-B-676. Alternatively, fiberboard boxes may be used that conform to style RSC, type CF, variety SW, or type SF, class domestic of PPP-B-636, box closures shall be secured with 2-inch minimum width gummed paper tape conforming to type III, grade B of PPP-T-45.

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5.1.2 Level C. Fork, knives, and spoons shall be packaged to afford adequate protection against 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).

5.2.1 Level A. Six hundred forks, knives, or spoons, packaged as specified in 5.1, shall be packed in a snug-fitting fiberboard shipping container conforming to style RSC, V2s of PPP-B-636. Each shipping container shall be closed, waterproofed by means of tape, and reinforced with flat strapping or tape banding in accordance with the appendix of PPP-B-636.

5.2.2 Level B. Unless otherwise specified (see 5.2.2.1), six hundred forks, knives or spoons, packaged as specified in 5.1, shall be packed in a snug-fitting fiberboard shipping container conforming to style RSC, type CF, variety SW, or type SF, class domestic, grade 275 of PPP-B-636. Closure shall be in accordance with method II of the appendix of PPP-B-636.

5.2.2.1 When specified (see 6.2), the shipping container shall conform to style RSC, V3c or V3s of PPP-B-636.

5.2.3 Level C. Forks, knives, and spoons, 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. Containers shall be in accordance with rules or regulations of carriers applicable to the mode of transportation.

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

## 6. NOTES

6.1 Intended use. The fork, knife and spoon covered by this specification are components of the individual mess equipment used by Armed Forces personnel in the field.

\* 6.2 Ordering data. Procurement documents should specify the following:

- (a) Title, number, and date of this specification.
- (b) When a first article is required (see 3.1, 4.3, and 6.3).
- (c) Selection of applicable levels of packaging and packing (see 5.1 and 5.2).
- (d) When V3c or V3s fiberboard is required for level B pack (see 5.2.2.1).



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\* 6.3 First article. When a first article is required, it shall be inspected and approved under the appropriate provisions of ASPR 7-104.55. The first article should be a preproduction sample, initial production item or other specific item described under the definition of a first article in the ASPR. The contracting officer should specify the appropriate type of first article and the number of units to be furnished. The contracting officer should include specific instructions in all procurement instruments regarding arrangements for inspection and approval of the first article.

6.4 Packaging. The method of packaging referred to in 5.1.1.1, is similar to method III of MIL-P-116.

6.5 The margins of this specification have been marked with an asterisk (\*) to indicate where changes (additions, modifications, corrections, deletions) from the previous issue were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and suppliers are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the last previous issue.

**Custodians:**

Army - GL  
Navy - SA

**Preparing activity:**

Army - GL

Project No. 7340-0067

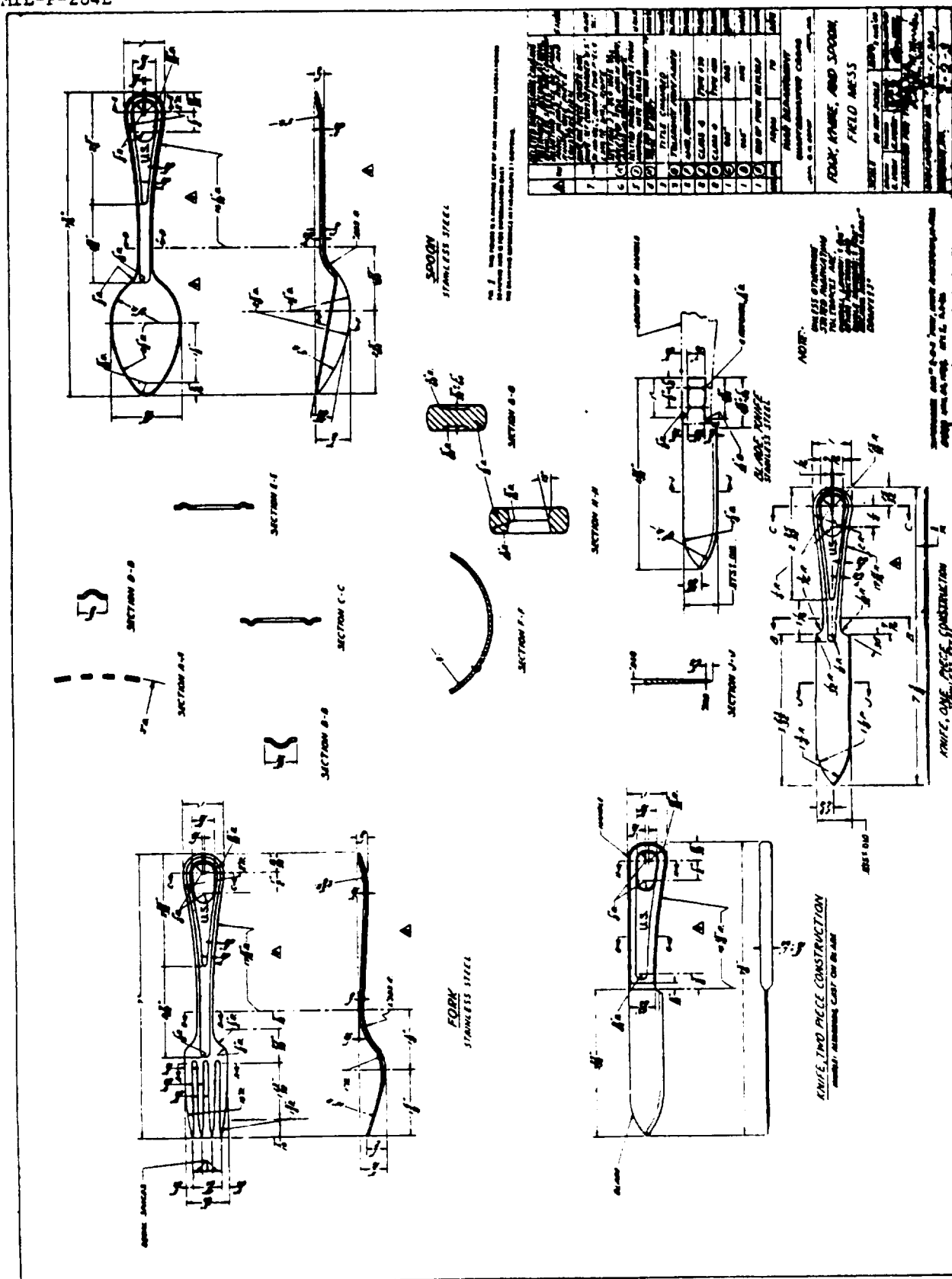
**Review activities:**

Army - MD  
Navy - SA, MC  
Air Force - 84

**User activities:**

Navy - CG

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SPECIFICATION ANALYSIS SHEET		Form Approved Budget Bureau No. 119-R004
<p style="text-align: center;"><u>INSTRUCTIONS</u></p> <p>This sheet is to be filled out by personnel either Government or contractor, involved in the use of the specification in procurement of products for ultimate use by the Department of Defense. This sheet is provided for obtaining information on the use of this specification which will insure that suitable products can be procured with minimum amount of delay and at the least cost. Comments and the return of this form will be appreciated. Fold lines on reverse side, staple in corner, and send to preparing activity (as indicated on reverse hereof).</p>		
SPECIFICATION		
ORGANIZATION (of submitter)		CITY AND STATE
CONTRACT NO.	QUANTITY OF ITEMS PROCURED	DOLLAR AMOUNT \$
MATERIAL PROCURED UNDER A		
<input type="checkbox"/> DIRECT GOVERNMENT CONTRACT <input type="checkbox"/> SUBCONTRACT		
1. HAS ANY PART OF THE SPECIFICATION CREATED PROBLEMS OR REQUIRED INTERPRETATION IN PROCUREMENT USE?		
A. GIVE PARAGRAPH NUMBER AND WORDING.		
B. RECOMMENDATIONS FOR CORRECTING THE DEFICIENCIES.		
2. COMMENTS ON ANY SPECIFICATION REQUIREMENT CONSIDERED TOO RIGID		
3. IS THE SPECIFICATION RESTRICTIVE?		
<input type="checkbox"/> YES <input type="checkbox"/> NO IF "YES", IN WHAT WAY?		
4. REMARKS (Attach any pertinent data which may be of use in improving this specification. If there are additional papers, attach to form and place both in an envelope addressed to preparing activity)		
SUBMITTED BY (Printed or typed name and activity)		DATE