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MIL-L-36696B
21 Aug 1989
SUPERSEDING
MIL-L-36696A
22 September 1978

MILITARY SPECIFICATION

LARYNGOSCOPE, CHILD-ADULT, WISCONSIN

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

1. SCOPE

1.1 Scope. This specification covers detachable and hook-on laryngoscope of the Wisconsin design, suitable for use in medical procedures concerning the human larynx.

2. APPLICABLE DOCUMENTS

2.1 GOVERNMENT DOCUMENTS

2.1.1 Specifications and standards and handbooks. The following specifications, standards, and handbooks form a part of this specification to the extent specified herein. Unless otherwise specified, the issues of these documents shall be those listed in the issue of the Department of Defense Index of Specifications and Standards (DoDISS) and supplement thereto, cited in the solicitation (see 6.2).

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Headquarters, Defense Personnel Support Center, ATTN: Directorate of Medical Materiel, DPSC-RST, 2800 S. 120th Street, Philadelphia, PA 19101, by using self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC N/A

FSC 6515

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SPECIFICATIONS

Federal

- GG-I-526 - Instruments, Dental and Surgical; General Specifications.
- PPP-B-556 - Boxes, Folding, Paperboard.
- PPP-B-601 - Boxes, Wood, Cleated-Plywood.
- PPP-B-621 - Boxes, Wood, Nailed and Locked-corner.
- PPP-B-636 - Box, Shipping, Fiberboard.
- PPP-B-676 - Boxes, Setup.

Military

- MIL-P-116 - Preservation, Methods of.
- MIL-L-10547 - Liner, Case and Sheet, Overwrap, Water Vaporproof or Waterproof, Flexible.
- MIL-L-36628 - Laryngoscope Set, MacIntosh.

STANDARDS

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.
- MIL-STD-794 - Parts and Equipment, Procedures for Packaging of.

(Unless otherwise indicated copies of federal and military specifications, standards, and handbooks are available from the Naval Publications Forms Center, (ATTN: NPODS), 5801 Tabor Avenue, Philadelphia, PA 19120-5099.)

2.1.2 Other Government documents, drawings and publications. The following other Government documents, drawings, and publications form a part of this document to the extent specified herein. Unless otherwise specified, the issues shall be those cited in the solicitation.

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DRAWING

Defense Personnel Support Center (DPSC)

No. 1249 - Lamp, Incandescent, 2.5 Volt, 0.28 Ampere,
Bulb, T 1-1/2, Frosted

No. 2234 - Laryngoscope, Child, Adult, Wisconsin Type

No. 24276 - Handle, Laryngoscope, Battery Type, Universal, Large

(Copies of these drawings may be obtained from the Defense Personnel Support Center, ATTN: Directorate of Medical Materiel, DPSC-RST, 2800 South 20th Street, Philadelphia, PA 19101.)

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 the documents which are DOD adopted are those listed in the issue of the DODISS cited in the solicitation. Unless otherwise specified, the issues of documents not listed in the DODISS are the issues of the documents cited in the solicitation (see 6.2).

ASTM STANDARDS

E 18 - Rockwell Hardness and Rockwell Superficial Hardness of
Metallic Materials, Tests for.

E 92 - Vickers Hardness of Metallic Materials, Tests for.

E 140 - Hardness Conversion Tables for Metals (Relationship
Between Brinell Hardness, Vickers Hardness, Rockwell
Hardness, Rockwell Superficial Hardness and Knoop
Hardness).

F 899 - Stainless Steel Billet, Bar and Wire for Surgical
Instruments.

F 965 - Rigid Laryngoscope for Tracheal Intubation.

F 1089 - Standard Test Method for Corrosion of Surgical
Instruments.

(Application for copies should be addressed to the ASTM, 1916 Race St., Philadelphia, PA 19103).

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

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2.3 Order of precedence. In the event of a conflict between the text of this document and the references cited herein (except for related associated detail specifications, specification sheets, or MS standards), the text of this specification shall take precedence. Nothing in this document, however, shall supersede applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 Material. The laryngoscope blades shall be fabricated from materials specified in MIL-L-36628 and ASTM F899. The Rockwell hardness of the Class 3 material shall be B75 minimum when tested as specified in 4.4.3. Plating requirements for brass components shall be in accordance with MIL-L-36628.

3.1.2 Battery handle. Battery handle shall be manufactured from materials specified in MIL-L-36628.

3.1.3 Lamps. Lamps shall be manufactured from materials specified in MIL-L-36628.

3.2 Style, design and dimensions. Shall be a laryngoscope blade and handle of the Wisconsin design. The handle shall be in accordance with MIL-L-36628. Blades shall be of the detachable and hook-on type, suitable for the introduction of endotracheal tubes in the administration of anesthesia. The hook-on fitting shall be in accordance with ASTM F965. A frosted lamp, in accordance with MIL-L-36628 for Type II lamp shall be assembled to each blade. Blades shall be in strict accordance with DPSC Drawing 2234 for appropriate size and National Stock Number (NSN).

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The complete laryngoscope shall consist of a corrugated box containing all of the following components in the specified quantities.

<u>COMPONENT</u>	<u>SIZE</u>	<u>QUANTITY</u>
Laryngoscope Blade	Child	1
Laryngoscope Blade	Medium Adult	1
Laryngoscope Blade	Large Adult	1
Handle, Laryngoscope, Battery Type, Universal (When furnished separately, NSN 6515-00-797-2190)		1
Lamp, Incandescent, 2.5 Volt, 0.28 Ampere, Bulb T 1-1/2 Frosted (When furnished separately NSN 6240-00-797-0420)	Type II lamp as specified in MIL-L-36628	6 <u>1/</u>

1/ Each laryngoscope of the sizes listed above shall be furnished with one lamp assembled to each blade, and one extra lamp for each blade.

3.2.1 Internal threads of lamp socket. Internal threads of the lamp socket shall allow the "GO" thread plug gages to be inserted and turn freely, and shall not allow entry of the "NO GO" thread gage when tested as specified in 4.4.2.

3.3 Finish. Finish on all edges and surfaces shall be uniform and free from burrs, sharp edges, pits, crevices, grind marks, rough areas and cracks. Finish shall be mirror and satin as indicated on DPSC Drawings 1249, 2234 and 24276.

3.4 Resistance to boil test and salt-spray test. The finished stainless steel blades shall show no evidence of corrosion when subjected to the boil test specified in 4.4.1.1, and for the alternate brass composition shall be subjected to the salt-spray test specified in 4.4.1.2.

3.4.1 Interchangeability and illumination test. The blade hook-on fitting shall be compatible with a battery handle that is in accordance with the hook-on fitting specified in ASTM F965. Further, the lamp shall illuminate, provided that the handle contains new batteries and the blade has a new lamp.

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3.5 Identification marking. Each laryngoscope blade and handle shall be permanently and legibly marked with the contractor's name or registered trademark (and country of origin when manufactured in countries outside of the United States). Blades shall be permanently and legibly marked "Wisconsin 1", "Wisconsin 2" or "Wisconsin 3", as applicable. Laryngoscope blades and handles manufactured from Class 3 material shall also be marked "stainless".

3.6 Workmanship. Workmanship shall be first class throughout. The blades shall be free from defects which detract from their appearance or impair their serviceability.

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 (examinations and tests) as specified herein. Except as otherwise specified in the contract or 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 compliance. All items must 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 defective material, either indicated or actual, nor does it commit to the Government to accept defective material.

4.1.2 Inspection. Inspection, as used in this specification, is defined as both examination (such as visual, auditory, etc. investigation without the use of special laboratory appliances or procedures) and testing (determination by technical means of physical and chemical properties), of the item.

4.1.4 Records. Records of examinations and tests performed by or for the contractor shall be maintained by the contractor and made available to the Government, upon the Government's request, at any time, or from time to time, during the performance of the contract and for a period of 3 years after delivery of the supplies to which such records relate.

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4.2 Sampling.

4.2.1 For examination. Sampling for examination shall be conducted in accordance with MIL-STD-105, and as indicated in Table I. Unit of product for examination purposes shall be one laryngoscope blade.

TABLE I. Sampling criteria for examination.

Type of defect	Inspection level	AQL'S
		(percent defective)
Major	I	1.0
Minor	II	2.5

4.2.2 For tests. Sampling for tests shall be conducted in accordance with MIL-STD-105 and as indicated in Table II. The unit of product for test purposes shall be one complete laryngoscope consisting of all components specified in 3.2. Where feasible, the same sample unit shall be used for the determination of two or more test characteristics.

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TABLE II. Sampling for Tests.

Component	Characteristic	Requirement	Test Procedure	Inspection level	AQL percent defective
Blade, Handle and Lamps	Dimensions	3.2	----	S-2	2.5
	Internal thread	3.2.1	4.4.2	S-2	2.5
	Plating test	3.1 and GG-I-526	GG-I-526	S-2	2.5
	Boil test	3.4	4.4.1.1	S-2	2.5
	Salt-spray test	3.4	4.4.1.2	S-2	---
	Hardness (for class 3 material)	3.1.1	4.4.3	---	---
Lamp Handle	For All requirements, see MIL-L-36628 for Type II lamps				
Blade and Handle	Inter-changeability	3.4.1 and ASTM F965	ASTM F965	----*	----*
	Illumination	3.4.1 and ASTM F965	ASTM F965	----*	----*

* Note: Defects are not permissable.

4.2.3. Raw materials. A sufficient quantity of each lot of metal used in the manufacture of the laryngoscope blades shall be selected for chemical analysis.

4.3 Examination.

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4.3.1 Examination of blades. Laryngoscope blades shall be examined to determine compliance with all the requirements contained in this specification. Examination shall be conducted as specified in Tables I and III. Examination, however, shall not be restricted to defects listed in Table III. Any blades in the sample containing one or more defects shall be rejected and if the number of defective blades in any sample exceeds the acceptance number for the sample, the lot represented by that sample shall be rejected.

TABLE III. Classification of defects.

CATEGORIES	DEFECTS
Critical	None defined
Major	
101	Blades not of the specified size.
102	Blades not of detachable, hook-on design.
103	Blades do not positively seat (hook-on) when inserted onto a universal battery handle in accordance with MIL-L-36628.
104	Blades not of finish specified.
105	Blades not free from pits, cracks, crevices, sharp edges, burrs, scale or corrosion.
106	Internal threads of lamp socket and external threads of lamps not complete or not well defined.
107	Glass envelope of lamp not properly secured to lamp base.
108	Glass envelope of lamp cracked.
109	Plated parts not free from flaking.
110	Extra lamps not furnished with complete laryngoscope set.
111	Battery handle cannot accommodate two standard size "D" batteries
112	Blades and battery handle not permanently or legibly marked as specified in 3.5
Minor	
201	Battery handle inner surfaces not plated.
202	Glass envelope of lamp not free from bubbles, dirt or other imperfections.

4.4 Tests. Tests shall be conducted to determine compliance with specification requirements.

4.4.1 Corrosion tests.

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4.4.1.1 Boil test. Laryngoscope blades shall be subjected to the boil test as specified in ASTM-F1089.

4.4.1.2 Salt-spray test. Laryngoscope blades shall be subjected to the salt-spray test as specified in GG-I-526.

4.4.2 Internal thread test of lamp socket. The contractor shall provide the necessary thread plug gages to the Government Quality Assurance Representative (QAR) for checking the internal threads of the lamp socket in accordance with the thread dimensions shown on DPSC Drawing 2234. The following dimensional parameters shall be inscribed on the gages:

- a. "GO" Thread Plug Gage for PITCH DIAMETER (X gage)
Identification marking: 8-32 UNC GO PD .1437
- b. "HI" Thread Plug Gage for PITCH DIAMETER (X gage)
Identification marking : 8-32 UNC-2B HI PD .1475
- c. "GO" Plain Plug Gage for MINOR DIAMETER (Z gage)
Identification marking: 8-32 UNC GO .1300
- d. "NOT GO" Plain Plug Gage for MINOR DIAMETER (Z gage)
Identification marking: 8-32 UNC-2B NOT GO .1390

To perform thread tests of lamp socket, remove lamp from lamp socket and place "GO" plug gage into lamp socket. Remove "GO" gage and place "NO GO" plug gage into lamp socket. Fits of gages into lamp sockets shall be noted.

4.4.3 Hardness test. Hardness shall be determined in accordance with ASTM Standards E-18 or E-92. Conversion of Vickers hardness values to Rockwell values shall be in accordance with ASTM Standard E-140.

4.4.2 Inspection of packaging. The sampling and inspection of the preservation and interior package marking shall be in accordance with groups A and B quality conformance inspection requirements of MIL-P-116. The sampling and inspection of the packing and marking for shipment and storage shall be in accordance with the quality assurance provisions of the applicable container specification and the marking requirements of MIL-STD-129.

5. PACKAGING

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

5.1.1 Level A.

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5.1.1.1 Cleaning and drying. Each complete laryngoscope shall be cleaned and dried in accordance with MIL-P-116.

5.1.1.2 Preservative applications. Preservatives shall not be used.

5.1.1.3 Unit package.

5.1.1.3.1 Laryngoscope. Each complete laryngoscope along with extra lamps shall be wrapped in neutral tissue or other suitable non-corrosive material and individually packaged in a box of appropriate size and design. Each complete laryngoscope shall be further packaged in accordance with MIL-P-116, method IC-2. Interior container shall be a corrugated box (see 3.2).

5.1.1.3.2 Blades or handles. Each blade or each handle shall be wrapped in neutral tissue or other suitable non-corrosive material and packaged in accordance with MIL-P-116, method IC-2.

5.1.2 Level C. Each complete laryngoscope shall be clean, dry and individually packaged in a manner that will afford adequate protection against corrosion, deterioration and physical damage during shipment from the supply source to the first receiving activity.

5.1.2.1 Unit package. Preservation for laryngoscopes shall conform to the requirements of MIL-STD-794 for level C.

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

5.2.1 Level A. Twenty-four unit packages shall be packed in an exterior container designed for a type 2 load and conforming to PPP-B-601, overseas type, PPP-B-621, class 2, or PPP-B-636, class weather-resistant. Closure and strapping shall be as specified in the applicable box specification.

5.2.1.1 Case liner. Each level A wood box shall be lined with a waterproof case liner conforming to MIL-L-10547. Closure and sealing shall be as specified in the liner specification. Case liner shall not be required for fiberboard boxes. Each fiberboard box shall be waterproofed as specified in PPP-B-636.

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5.2.2 Level B. Twenty-four unit packages shall be packed in an exterior container designed for a type 2 load and conforming to PPP-B-601, domestic type, PPP-B-621, class 1 or PPP-B-636, class domestic. Closure shall be as specified in the applicable box specification.

5.2.3 Level C. Twenty-four unit packages shall be packed in accordance with the requirements of MIL-STD-794 for level C.

5.2.4 Packing variation permitted. If the required number of units to be shipped is less than the number of units specified to be overpacked in an exterior container, such units shall be packed in an exterior container of suitable size and design, acceptable to a common carrier, which will insure safe delivery to destination.

5.2.5 Unitized loads. Unitized loads, commensurate with the level of packing specified in the contract or order, shall be used whenever total quantities for shipment to one destination exceed 250 pounds or 20 cubic feet. Loads shall be unitized on pallets conforming to MIL-STD-147. Quantities less than 20 cubic feet need not be unitized. Pallet loads including the pallet shall not exceed 43 inches in length, 52 inches in width, and 54 inches in height. Pallet shall conform to Type IV or Type V.

5.2.5.1 Levels A and B. Laryngoscopes packed as specified in 5.2.1 and 5.2.2 shall be unitized on pallets conforming to MIL-STD-147.

5.2.5.2. Level C. Laryngoscopes packed as specified in 5.2.3 shall be unitized as specified in 5.2.5.

5.3 Marking.

5.3.1 Levels A, B and C. Each unit pack, exterior container and unitized load shall be marked as specified in MIL-STD-129.

5.4 General.

5.4.1 Exterior container. Exterior container (see 5.2.1, 5.2.2, and 5.2.3) shall be of minimum tare and cube consistent with the protection required and shall contain equal quantities of identical stock numbered items to the greatest extent practicable.

5.4.2 Packaging inspection. The inspection of these packaging requirements shall be in accordance with 4.4.2.

6. NOTES

6.1 Intended use. The laryngoscope is used in medical procedures concerning the human larynx.

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6.2 Acquisition requirements. Acquisition documents should specify the following:

- (a) Title, number, and date of specification.
- (b) Type required (see 1.2).
- (c) Selection of applicable levels of packaging and packing (see 5.1 and 5.2).
- (d) National Stock Number.

6.3 National Stock Number (NSN) Coverage. This specification covers the following National Stock Number:

<u>National Stock No.</u>	<u>Item Identification</u>
6515-00-346-0480	LARYNGOSCOPE, Child-Adult, Wisconsin

6.5 Subject term (key word) listing.

Battery
Blade
Handle
Lamps
Hook-on fitting

MILITARY INTERESTS:

Custodians:

Army - MD
Navy - MS
Air Force - 03

Preparing Activity:

DoD-MB

Agent:

DLA-DM

CIVIL COORDINATING ACTIVITIES:

VA-OSS
PHS
FDA-MPQAS

Project No. 6515-4279

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

(See Instructions - Reverse Side)

1. DOCUMENT NUMBER

MIL-L-36696B

2. DOCUMENT TITLE

LARYNGOSCOPE, CHILD-ADULT, WISCONSIN

3a. NAME OF SUBMITTING ORGANIZATION

4. TYPE OF ORGANIZATION (Mark one)

☐

VENDOR

☐

USER

☐

MANUFACTURER

☐

OTHER (Specify):

b. ADDRESS (Street, City, State, ZIP Code)

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)

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, 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.

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