

## PURCHASE DESCRIPTION

### UNISEX SOFT SHOULDER BOARDS, U.S. PUBLIC HEALTH SERVICES

#### 1 SCOPE.

1.1 Scope. This purchase description covers the requirements for unisex soft shoulder boards worn on U.S. Public Health Services Uniformed Officers.

#### 1.2 Classifications.

Type I -Officers of Flag Rank  
Type II-Commissioned Officers below Flag Rank

#### 2 APPLICABLE SPECIFICATIONS.

##### 2.1 Government documents

###### FEDERAL

A-A-50199 Thread, Polyester Core, Cotton- or Polyester-Covered

###### MILITARY

MIL-DTL-21115 Cloth, Tropical, Wool, Polyester/Wool

MIL-L-17507 Lace, Ornamental

MIL-E-17568 Embroidery Materials, Metallic and Synthetic Metallic

1.1 Non-Government Publications. The following documents form a part of this document to the extent specified herein.

American Association of Textile Chemists and Colorists

AATCC 8 Crocking

AATCC 16 Colorfastness to Light

AATCC 20A Fiber Analysis Quantitative

AATCC 132 Colorfastness to Dry cleaning

(Applications for copies should be addressed to the American Association of Textile Chemists and Colorists, P.O. Box 12215, Research Triangle Park, NC 27709-2215)

American Society for Testing and Materials	
ASTM D-6193	Standard Practice for Seams and Stitches
ASTM D-1777	Standard Test Method for Thickness of Textile Materials
ASTM D-1388	Standard Test Method for Stiffness of Fabrics
ASTM D-2724	Standard Test Method for Bonded, Fused, and Laminated Apparel Fabrics

(Applications for copies should be addressed to the American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959)

American National Standards Institute (ANSI)

ANSI/ASQC Z1.4 Sampling Procedures and Tables of Inspections by Attributes

(Applications for copies should be addressed to the American Society for Quality Control, 600 North Plankinton Ave., Milwaukee, WI 53203)

Department of Defense Standard Shades for Heraldic Yarns for Embroidery and Ribbons

(Applications for copies of this standard can be requested online at <http://www.iragreen.com> or addressed to Ira Green, Inc. 177 Georgia Ave., Providence, RI 02905)

### 3 REQUIREMENTS.

#### 3.1 Materials and Components

- 3.1.1 Cloth, Basic. The soft shoulder boards shall be constructed from a 6.5-ounce plain weave, 55/45 Polyester and wool blend, conforming to type III, Class 3 of MIL-DTL-21115, color blue 3346, that has been fused with clothing meeting the requirements of 3.1.2. The fabric is to be cut on the straight of grain as indicated in Figure 1.
- 3.1.2 Cloth, Fusible. A fusible material used for interlining the basic cloth of the soft shoulder boards shall be suitable for the purpose intended. The fusible cloth shall have a maximum thickness of 0.030 inches and shall not change the color of the basic fabric when tested in accordance with 4.2.1. The fusible shall score no lower than Grade 3 for wet and dry crocking when tested in accordance with 4.2.1.
- 3.1.3 Cloth, Laminated. After materials listed in 3.1.1 and 3.1.2 have been fused together with heat and pressure, the laminated material shall conform to the requirements specified in Table I when tested in accordance with 4.2.1 .

TABLE I. Laminated Cloth Requirements

Characteristic	Requirement	
Flex Stiffness inch lbs. (N.m)		
Warp	50 (5.65) min	89 (10.06) max
Filling	30 (3.39) min	57 (6.44) max
Peel Strength ounces (grams) Warp direction only	23 (652.04) min	

3.1.4 Thread, Sewing. The thread used for seaming, hemming, and attaching lace as applicable shall be cotton covered polyester conforming Type I, tex size 36-45 conforming to the requirements of A-A-50199. The threads shall approximate the shade of the basic material and lace as applicable.

3.1.5 Lace, Ornamental: The lace used for striping shall conform to the requirements of MIL-L-17507 in the following types, classes, and widths listed below.

- Type I Soft Shoulder Boards-Type II, Classes 3, 4 or 5, Style A, 1-1/2 inch (2 Vellum)
- Type II Soft Shoulder Boards- Type II, Classes 3, 4, or 5, Style A, 1/8 inch (1 Vellum) and 3/8 inch (2 Vellum)

3.1.6 Embroidery Material. The embroidery material shall conform to Type II and Type III, Classes 1 (silver matte bullion), 5 (silver frizze), and 8 (gold synthetic) of MIL-E-17568.

3.1.7 Yarn, Embroidery. Yarns used for highlights of the embroidery shall be polyester when tested in accordance with 4.2.1. Yarns shall be bright (with abundant luster), continuous filament embroidery yarn. The yarns shall be dyed to match Cable No. 67138, Black Han and Cable No. 67111, Scarlet Red. All yarns shall show good colorfastness of not less than grade 4 to light and wet-dry cleaning when tested as specified in 4.2.1.

3.1.8 Yarn color. Colors of for accent embroidery yarns specified in 3.1.7 shall be in accordance with the Department of Defense Standard Shades for Heraldic Yarns for Embroidery and Ribbons.

3.1.9 Yarn color matching. The color and appearance of the embroidery yarn on the basic cloth shall match the standard sample when viewed in accordance with the method specified in 4.2.1.1.

## 3.2 Construction

3.2.1 Soft Shoulder Boards Design. The soft shoulder boards shall be a pressed flat tube, open at each end and in a trapezoidal shape as indicated in Figure 1. The soft shoulder boards come in pairs of left and right and shall have the appropriate embroidered design (Figures 2A and 2B), design placement and lace

configuration as indicated in Figures 4-8.

- 3.2.2 Type I, Face. The face of the Type I soft shoulder boards shall consist of a 1-1/2 inch wide gold lace meeting the requirements of 3.1.5 and stitched to the laminated cloth specified in 3.1.3 running from the top end to the bottom end and centered between the left and right edges of the soft shoulder boards. The lace attachment stitches shall be 1/16 (+1/16,-0) inches from the finished edge of the lace. The top and bottom ends of lace shall overlap the top and bottom ends of the soft shoulder boards 1/2 ( $\pm$  1/8) inch.
- 3.2.3 Type 1, Embroidered Design. The corps design shall be hand embroidered onto the 1-1/2 inch gold lace with gold synthetic metallic embroidery materials specified in 3.1.6 and accent yams as specified in 3.1.7 as indicated in Figure 3A. The size of the corps embroidery and stars shall be in accordance with Figures 2A and 2B. Stars for Type I soft shoulder boards shall be embroidered with silver metallic embroidery materials as specified in 3.1.6 and as indicated in Figure 3B.
- 3.2.4 Type II, Rank (Stripes). The gold lace conforming to the requirements of 3.1.5 shall be stitched to the laminated cloth 1/16 inch from the finished edge of the lace. The lace shall circumvent the width of the shoulder boards with each end of the lace being caught in the joining seam on the backside of the shoulder boards. The position, number, width, and spacing of the lace stripes shall be as shown in Figures 6-8.
- 3.2.5 Type II, Embroidered Design. The corps design shall be machine embroidered onto the laminated cloth specified in 3.1.3 with gold synthetic metallic embroidery materials specified in 3.1.6 and polyester accent as specified in 3.1.7 as indicated in figure 3A. The size and design of the embroidery shall be in accordance with government provided embroidery file see 3.2.7.
- 3.2.6 Stitching. Center back seams of the soft shoulder boards shall be 3/8 inch, but may be trimmed to no less than 3/16 inch to facilitate turning. Each end shall be turned up and hemmed (edge stitched 1/16 to 1/8 inch from edge). Stitch length for seams and hemming shall be a minimum of 8-10 stitches per inch. Each end of the seam shall be back tacked.
- 3.2.7 Embroidery File. The Government will furnish a computer embroidery file in .DST format to embroider the Type II soft shoulder boards. The Government computer embroidery files shall not be altered in any way. They are to be used by the contractor to make duplicate computer files. Minor modifications are permitted to the duplicate computer files to accommodate automated equipment. The embroidery design and finished measurements shall be maintained. These modifications shall not alter the serviceability, dimensions or appearance requirements specified in this purchase description. The computer embroidery files provided by the Government shall only be used to fabricate soft shoulder boards specified in this purchase description.

- 3.3 Finished dimensions. The dimensions of the finished soft shoulder boards and lace placement shall be as shown in Table II and Figures 1B, 2B and 4-8, respectively, all dimensions are expressed in inches.

TABLE II – Dimensions, Soft Shoulder Boards

Measurement	Dimensions (inches)
Overall Length of Shoulder Boards	4-3/16
Width of Shoulder Boards (Narrow End)	1-3/4
Width of Shoulder Boards (Wide End)	2-1/8

- 3.4 Dimensional tolerances. Unless otherwise specified in this document dimensional tolerances shall be as detailed in Table III:

TABLE III - Dimensional Tolerances

Measurement	Tolerances (inches)
Overall Length of Shoulder Boards	± 1/8
Width of Shoulder Boards (Narrow End)	- 1/16, + 1/8
Width of Shoulder Boards (Wide End)	- 1/16, + 1/8
Design (Corps and Star Embroidery) Overall Size	± 1/16
Design (Corps and Star Embroidery) Placement	± 1/16
Lace Width	± 1/32
Lace Placement	± 1/8

- 3.5 Figures. Figures are furnished for informational purposes only. When inconsistencies exist between figures and the written specification, the written specification shall govern. All measurements indicated on figures are in inches unless otherwise specified. Figures are not drawn to scale and are provided to illustrate dimensions only.
- 3.6 Workmanship. Each soft shoulder boards shall conform to the design and construction requirements specified in this purchase description. Each item shall be uniform in appearance, quality and free from irregularities or defects that could affect form, fit or function including performance or durability when tested or visually and/or dimensionally inspected as specified in Section 4.

#### 4 VERIFICATION

- 4.1 Conformance inspection. Conformance inspection shall consist of the examinations and tests specified in Table IV.
- 4.1.1 Conformance inspection samples. Unless otherwise specified, sampling for conformance inspection shall be performed in accordance with ASQC Z1.4. Conformance inspection shall be performed on selected soft shoulder boards. The lot shall be expressed in units of soft shoulder board pairs. The sample unit shall be one pair of soft shoulder boards.

TABLE IV - Conformance inspection

Inspection	Requirement Paragraph	Verification
End item testing:		
Visual examination	3.1.1 through 3.2.7 Figure 3A and 3B	4.2.2
Dimensional examination	3.1.5 through 4.2.2 and Figures 1, 2A, 2B and 4-8	4.2.3

4.2 Methods of verification.

4.2.1 Materials and component verification. The materials and components shall be verified in accordance with the requirements of Table V.

TABLE V - Material and component verification.

Component	Requirement Paragraph	Verification <u>1/</u>
Cloth, Polyester/Wool	3.1.1	MIL-DTL-21115
Cloth, Fusible	3.1.2	ASTM D-1777 AATCC-8
Cloth, Laminated	3.1.3	ASTM D-1388 ASTM D-2724
Thread, Sewing	3.1.4	A-A-50199
Lace Ornamental	3.1.5	MIL-L-17507
Embroidery Material	3.1.6	MIL-E-17568
Embroidery Yarns Testing <u>2/</u> : Colorfastness to Light (40 AATCC Fading Units or 170 kilojoules)	3.1.7	AATCC-16 Opt 1 or 3
Colorfastness to Wet-Dry Cleaning	3.1.7	AATCC-132
Fiber Identification <u>3/</u> , <u>2/</u>	3.1.7	AATCC 20A
Visual color matching <u>2/</u>	3.1.9	4.2.1.1

1/ When applicable, the material or components shall be evaluated according to the test methods and requirements in its respective document.

2/ Unless otherwise specified, a certificate of compliance shall be submitted and will be acceptable for the stated requirements.

3/ Acid and Alkaline

4.2.1.1 Visual Color Matching. The color and appearance of the embroidered yarns in the insignia design shall match their respective cable number colors specified in 3.1.6 when viewed using the AATCC Evaluation Procedure 9, Option A, with sources simulating artificial daylight D75 illuminant with a color temperature of 7500 ( $\pm$  200) K illumination of 100 ( $\pm$  20) foot candles, and shall be a good match to the cable number color under incandescent lamplight at 2856 ( $\pm$  200)K.

4.2.2 End item visual examination. The soft shoulder boards selected for end item visual inspection shall be visually examined for compliance to Section 3. The soft shoulder boards shall be examined for defects in shade, design, material, construction and workmanship. Defects shall be classified as specified in Table VI.

TABLE VI – Classification of end item visual and dimensional defects

Examine	Defect	Classification	
		Major	Minor
Fabrics	Hole, cut, tear, misweave	X	
	Color or material not as specified	X	
	Fabric not cut straight of grain	X	
	Visual evidence of bubbling, color change, or bleed through.	X	
Stripes	Any scuffed or abraded area	X	
	Type, color or pattern not as specified	X	
	Spacing, number, or combination of stripes not as specified	X	
	Incorrect width	X	
	Material not as specified	X	
Pressing	Singed, scorched, gloss marks, or misshaped by pressing	X	
Embroidered Design	Any design incorrect or missing	X	
	Use of outline stitching	X	
	Poorly defined, distorted or misshaped	X	
	Unrelated colors of yarn visible on face		X
	Surface yarns loose, tight, or shifted	X	
	Bunched, kinked or tangled yarns on face	X	
	Finished height or width of design not as specified		X
	Placement of embroidery not as specified		X
Any component part not securely attached or stitched		X	
Stitching/Seaming	Back tacks omitted on center back seaming	X	
	Machine stitching less than 8 stitches per inch	X	
	Broken or missing stitches	X	
	Loose or tight tension affecting appearance	X	
	Thread not good match to laminated cloth or gold lace	X	
	Stitching runoff		X

TABLE VI – Classification of end item visual and dimensional defects (Continued)

Examine	Defect	Classification	
		Major	Minor
Dimensions for construction only	Not as specified	X	
Cleanliness	Any spot, streak, stain, or foreign matter on the face	X	
Pairing	Shoulder boards incorrectly paired	X	

4.2.3 End item dimensional examination. The end item soft shoulder boards selected for examination shall conform to the dimensions specified in Section 3 and Figures 1A, 1B and 4-8. Any dimension not within the specified tolerance shall be classified as a defect as specified in Table VI.

5 NOTES

5.1 Embroidery file requests. Computer Disks of digitized embroidery designs may be requested by writing to:

Navy Clothing and Textile Research Facility  
 Attn: Whse 20/86  
 Kansas Street  
 Natick, MA 01760

5.2 Sources of Supply

5.2.1 Embroidery yarn suggested source. The suggested source of supply for the embroidery yarn is listed below.

Robison Anton  
 P. O. Box 159  
 175 Bergen Boulevard  
 Fairview, NJ 07022  
 (800) 932-0250

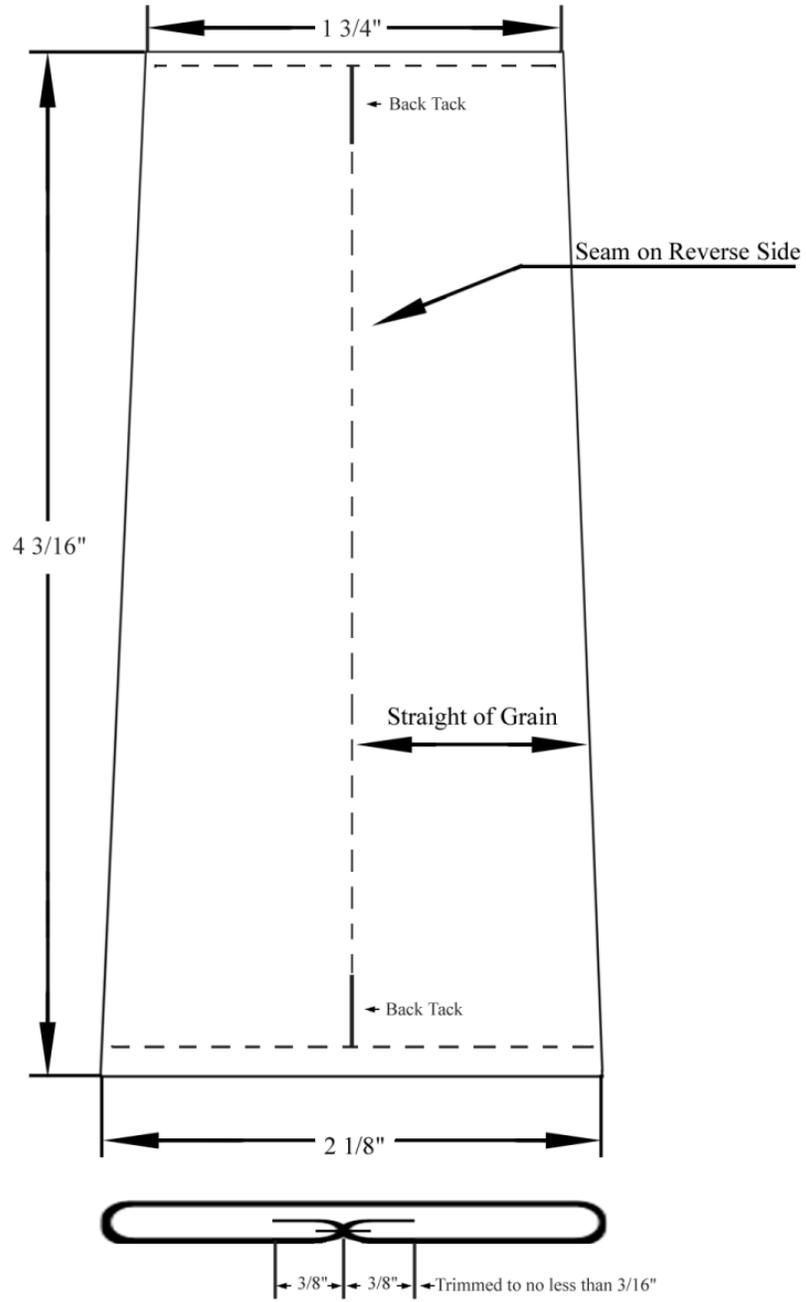


Figure 1 - Soft Shoulder Boards Assembly Details

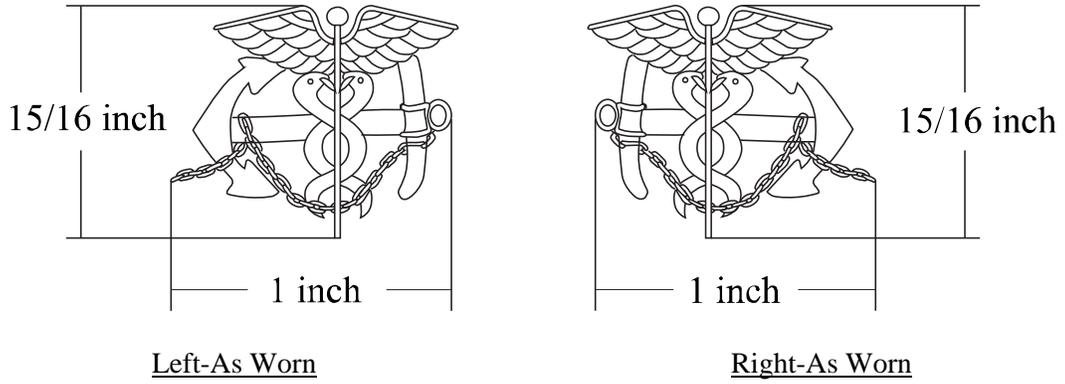


Figure 2A – Soft Shoulder Boards Corps Embroidery Dimensions

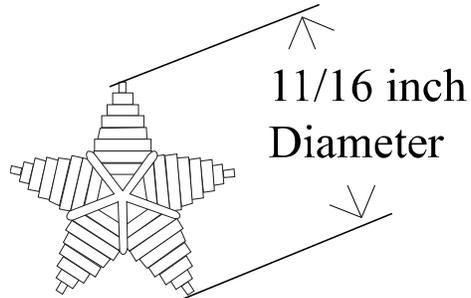
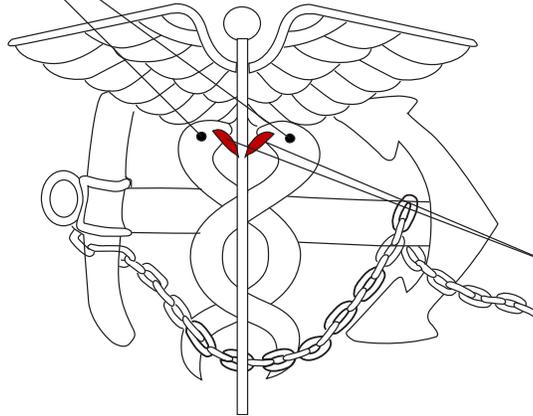


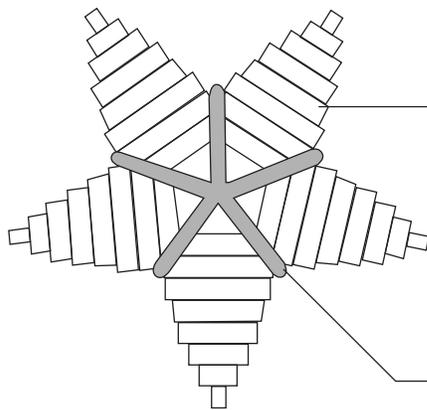
Figure 2B – Soft Shoulder Boards Star Embroidery Dimensions

BLACK HAN  
CABLE NO. 67128  
(Type I Soft Shoulder Boards Only)



SCARLET RED  
CABLE NO 67111

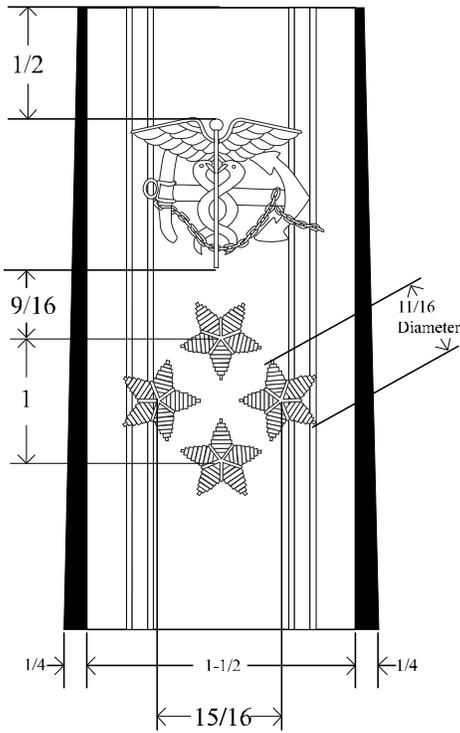
Figure 3A Corps Embroidery Thread and Material Configuration



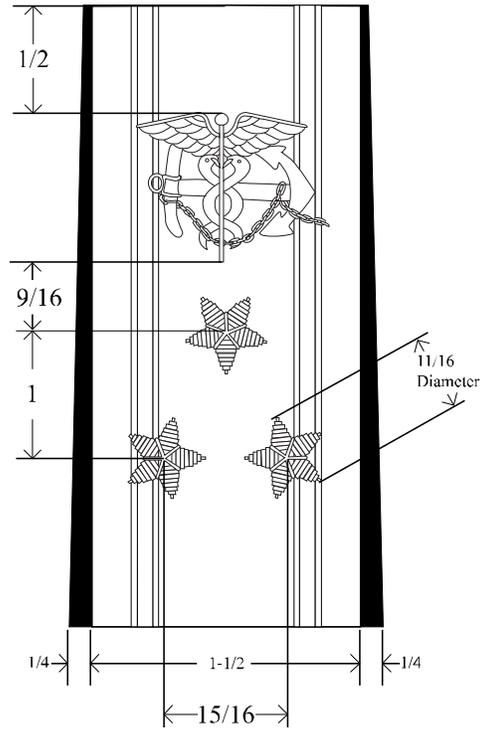
TYPE II CLASS 1 - SILVER MATTE BULLION

TYPE II, CLASS 5 - SILVER FRIZZE

Figure 3B Star Embroidery Thread and Material Configuration



ASSISTANT SECRETARY FOR HEALTH  
(O-10)



SURGEON GENERAL  
(O-9)

Figure 4 – Soft Shoulder Boards, Type I

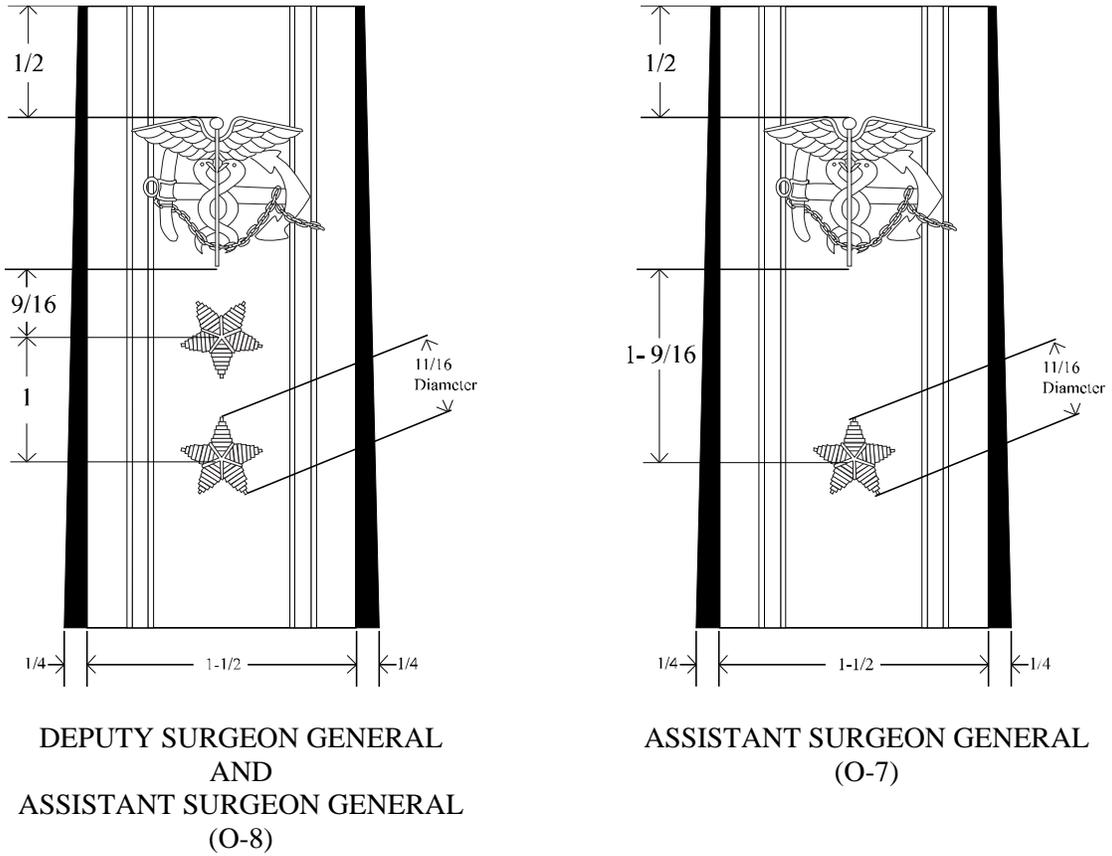


Figure 5 – Soft Shoulder Boards, Type I

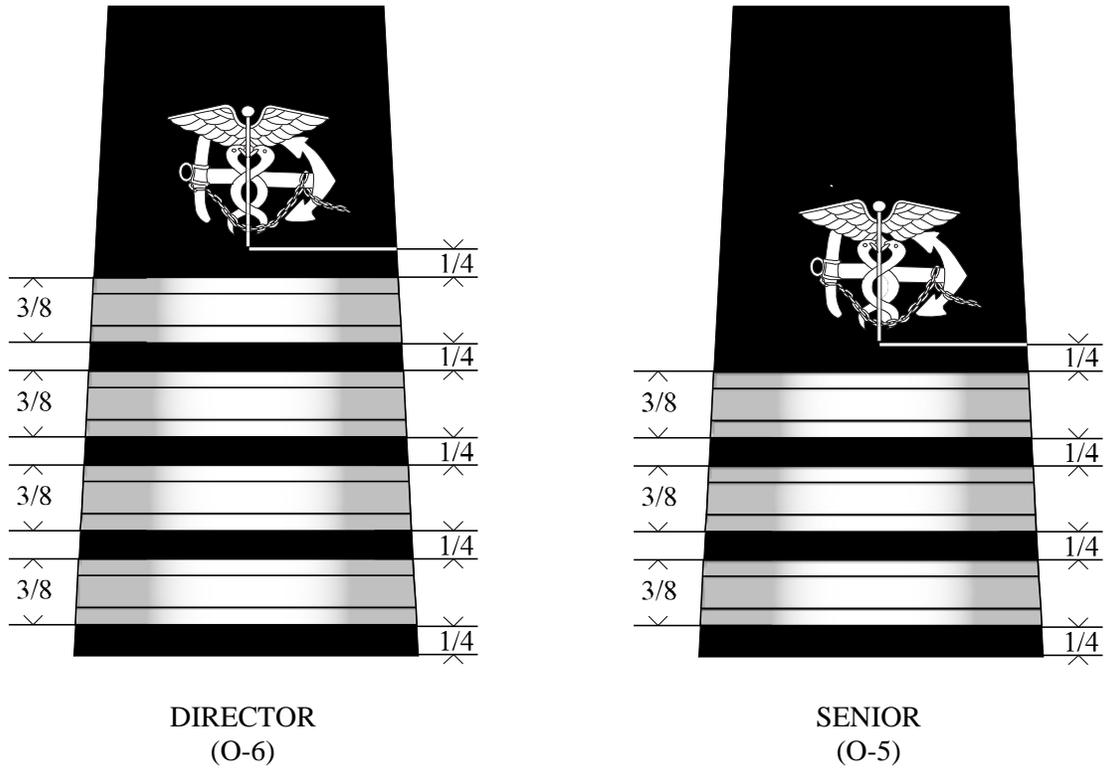


Figure 6 – Soft Shoulder Boards, Type II

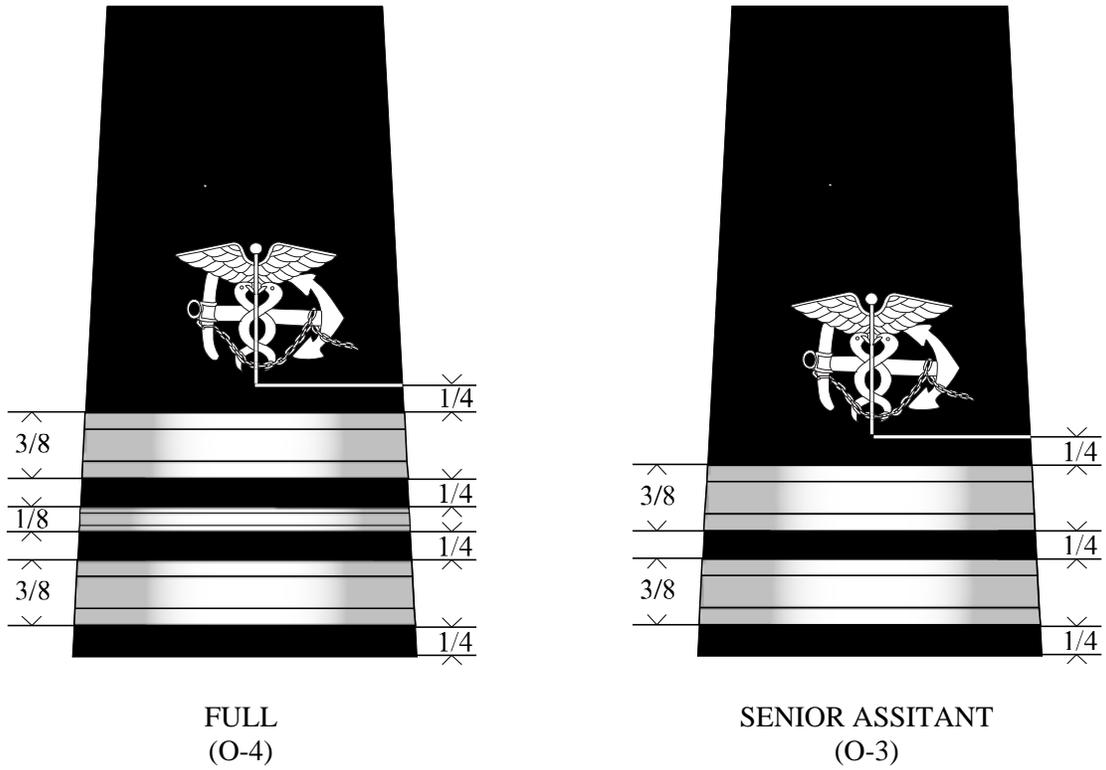


Figure 7 – Soft Shoulder Boards, Type II

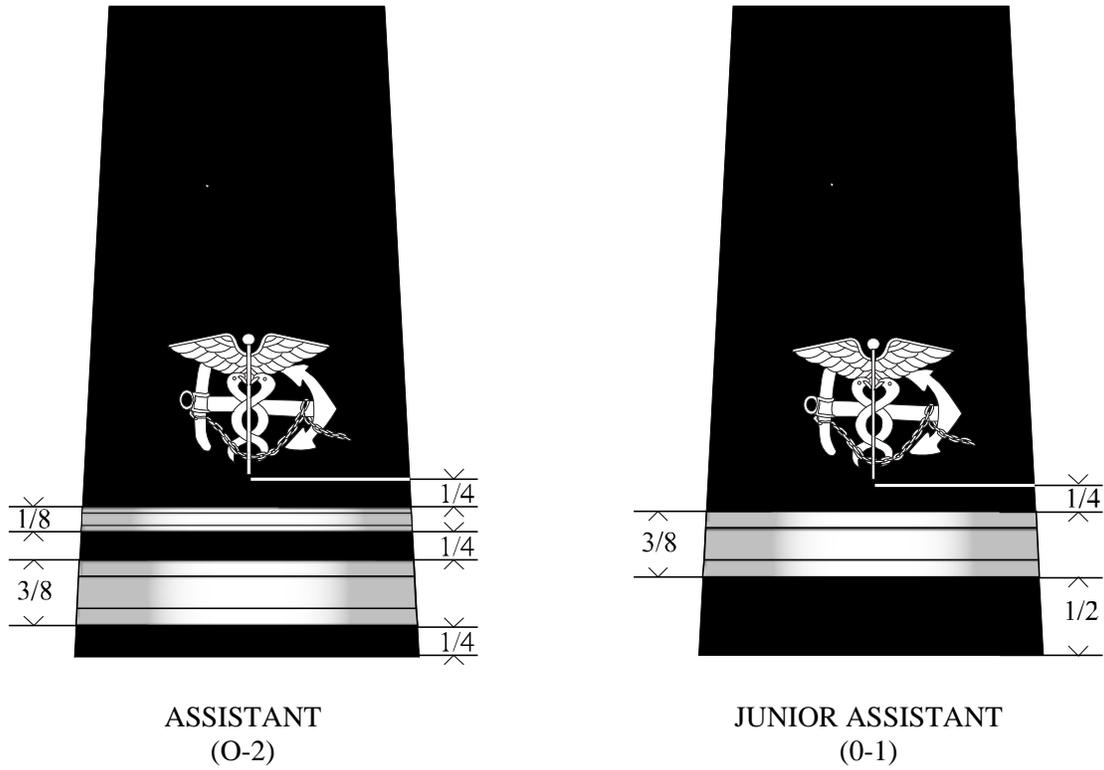


Figure 8 – Soft Shoulder Boards, Type II