MIL-B-20269D(MC)
28 January 1983
SUPERCEDING
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MILITARY SPECIFICATION

BUCKLES: INSIGNIA AND PLAIN

This specification is approved for use by U. S. Marine Corps, Department of the Navy, and is available for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers requirements for brass buckles for personnel of the U. S. Marine Corps.

1.2 Classification. The buckle shall be of the following types, as specified (see 6.2).

Type I - Buckle, Insignia

Type II - Buckle, Plain

2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Specifications, standards, and handbooks. Unless otherwise specified, the following specifications, standards, and handbooks of the issue listed in that issue of the Department of Defense Index of Specifications and Standards (DoDISS) specified in the solicitation form a part of this specification to the extent specified herein.

SPECIFICATIONS

FEDERAL

PPP-B-676 - Box, Set-up.

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to the Commandant of the Marine Corps (LMA-1), Headquarters, U. S. Marine Corps, Washington, D. C. 20380, by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

MILITARY

MIL-B-17757 - Box, Shipping, Fiberboard (Modular Sizes).

STANDARDS

FEDERAL

FED-STD-151 - Metal, Test Methods.

MILITARY

MIL-STD-105 - Sampling Procedures And Tables For Inspection By Attributes.

MIL-STD-129 - Marking For Shipment And Storage

(Copies of specifications, standards, handbooks, drawings, and publications required by manufacturers in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting officer.)

2.1.2 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this specifiction to the extent specified herein.

LAWS AND REGULATIONS

U. S. Postal Service Manual

(Application for copies of the manual should be addressed to the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.)

2.2 Other publications. The following document(s) form a part of this specification to the extent specified herein. The issues of the documents which are indicated as DoD adopted shall be the issue listed in the current DoDISS and the supplement thereto, if applicable.

UNIFORM CLASSIFICATION COMMITTEE, AGENT

Uniform Freight Classification Rules

(Application for copies should be addressed to the Uniform Classification Committee, Room 1106, 222 South Riverside Plaza, Chicago, Illinois 60606.)

NATIONAL MOTOR FREIGHT TRAFFIC ASSOCIATION, INC., AGENT

National Motor Freight Classification

(Application for copies should be addressed to the American Trucking Association, Inc., Tariff Order Section, 1616 P. Street, N.W., Washington, D. C. 20026.)

(Industry association specifications and standards 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 specification and the references cited herein, the text of this specification shall take precedence.

3. REQUIREMENTS

3.1 Standard sample. Standard samples are furnished solely for guidance and information to the contractor (see 6.3). Variation from this specification may appear in the sample, in which case the specification shall govern.

3.2 First article. When specified (see 6.2), the contractor shall furnish sample unit(s) for first article inspection and approval (see 4.4 and 6.4).

3.3 Materials.

3.3.1 Copper base alloys. When tested as specified in 4.6.2, the chemical composition of the copper base alloy from which the buckles, male catch, female catch, and keepers are stamped shall be 84.0 to 86.0 percent copper, 0.05 percent maximum lead, 0.05 percent maximum iron, 0.15 percent maximum total other elements and the remaining percent zinc. The copper base alloys shall be free from pits, scale (including red oxide), dents, nicks, cracks, deep scratches, segregations, and foreign inclusions which cannot be removed in later processing.

3.3.2 Hard solder. Hard solder shall be a nonferrous alloy having a melting point of not less than 1,075°F.

3.4 Design. The buckles shall be the Marine Corps design shown on Figures 1 and 2. Each buckle shall consist of a front plate with a male catch soldered to the back, a female catch to be attached to the end of the the belt and two belt keepers. As an alternate to the design shown on Figures 1 and 2, the integral female catch may be made with 1/8-inch diameter wire or rod of material specified in 3.3.1 hard soldered on the back at each square corner of the female catch. Each soldered end shall be located 1/16 inch maximum from the side edge of the female catch. When this alternate female catch is used, the inside opening shall be 13/32 inch wide and 1-7/8 inches long. The stamped design of the front plate for type I buckle shall be true impressions of the dies extracted from the hub furnished by the Government.

3.5 Hubs, dies and tools. A hub for type I buckle will be loaned to the supplier by the Government. The Government-furnished hub shall be used only for making the supplier's working dies. Upon completion of

contract, the hub shall be returned to a point designated by the contracting officer. The supplier shall be held responsible for the loss, damage, or mutilation of the hub while in his possession. Determination of cost of replacing the lost, broken, or damaged hub shall be made by the Government. Dies and tools shall be furnished by the supplier and, unless otherwise specified, shall remain his property. The supplier's dies shall be tooled and polished to remove any dents, nicks, scratches, or other imperfections. No alterations to the design shall be permitted.

3.6 Construction. Buckles shall be made of the materials specified herein and shall be constructed to include the components and construction details specified herein and as shown on Figures 1 and 2. A forcer shall be permitted to bring up the Marine Corps design and there shall be no sharp or rough edges or corners. The impression of the forcer shall be regular and symmetrical upon the back of the front plate.

3.6.1 Soldering. Soldered parts shall be completely joined without excess solder. All flux shall be removed, and the joint shall be clean, smooth, and strong without burned or reduced areas. The soldered joint shall withstand the test specified in 4.6.1.

3.6.2 Finish. Finished buckles shall match an approved sample for color and finish. All component parts of the buckles shall be acid dipped to produce a uniform gold color free from scale. The outer surfaces and edges of the front plate and female catch and all surfaces and outer edges of the keepers shall be highly polished to a mirror-like finish free from dents, nicks, and scratches. All corners and edges shall be slightly rounded. However, such finishings shall not be carried to the point where edges are excessively rounded or details of design fail to meet the requirements specified herein. All other surfaces and edges shall be clean, smooth, and free from burrs, drag, step, tool marks, sharp edges and corners, and roughness.

3.7 Workmanship. The finished buckles shall conform to the quality of product established by this specification. The occurrence of defects shall not exceed the applicable acceptable quality level (AQL).

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.

4.1.1 Certificate of compliance. Where certificates of compliance are submitted, the Government reserves the right to check such items to determine the validity of the certification.

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

a. First article inspection (see 4.4).
b. Quality conformance inspection (see 4.5).

4.3 Inspection. Inspections shall be in accordance with the provisions set forth in MIL-STD-105, except where otherwise indicated herein.

4.4 First article inspection. When first article is required, inspection shall be made of a completely fabricated buckle for conformance to all provisions of this specification.

4.5 Quality conformance inspection.

4.5.1 Component and material inspection. Testing shall be performed on the copper base alloy specified in 3.3.1 for chemical composition. The lot shall be expressed in terms of 1 pound and the requirement shall be applicable to lot average with two determinations for each element. The results shall be reported to the nearest 0.1 percent and the inspection level shall be S-1. The sample unit shall be 8 ounces or equivalent of a composite sample. Components and materials listed below may be accepted on the basis of a contractor's certification of compliance for characteristics shown.

Component	Characteistic	Rqmt. para.
Hard solder	Material identification and melting point.	3.3.2

4.5.2 Examination of end item. The end item shall be examined for the defects listed in 4.5.2.1 and 4.5.2.2. The sample unit shall be one buckle of each type.

4.5.2.1 General defects. General defects shall be classified as follows:

Examine	Defect	Classification		
		Major	Minor	
			A	B
Color and finish	a. Does not compare favorably with standard or approved sample.	X		
	b. Outer surfaces and edges of the front plate and female catch or all surfaces and outer edges of the keepers not mirror-like finish.	X		
	c. Abraded, scuffed, scratched or otherwise damaged.		X	
	d. Stain or discoloration clearly noticeable.		X	
	e. Buff drag or cloudy finish, clearly noticeable.			X
	f. Segregations or foreign inclusions in the metal.		X	
Design	a. Type I buckle insignia design details are altered and do not conform to Government hub.	X		
	b. Any significant detail of the insignia reduced or obliterated.	X		
Type	Not type specified.	X		
Quality of metal	Surface spotted or open grained, i.e., pitted, porous or crystalline.	X		
Construction and workmanship	a. Metal cracked or fractured.		X	
	b. Any warp, twist, or distortion producing irregular surface contour or outline.	X		
	c. Any detail struck over, resulting in double impression.	X		
	d. Burr, fin, rough or sharp edge, drag or step.		X	

Examine	Defect	Classification		
		Major	Minor	
			A	B
	e. Dent, pit, dig, gouge, nick, metal mark or mutilitation.		X	
	f. Any component missing, damaged, malformed, bent or otherwise defective, affecting appearance or serviceability.			
	g. Any corner or edge not slightly rounded or excessively rounded.		X	
	h. Soldered parts not completely joined i.e., any perceptible opening in joint.			X
	i. Any solder spatter or discoloration on edge.		X	
	j. Any solder spatter or discoloration on back of buckle exceeding 3/16 inch.			X
	k. Any area burned or reduced in soldering or acid cleaning clearly noticeable or flux not removed.			X

4.5.2.2 Examination for dimensions. Any dimension that is not within the tolerances specified herein shall be classified as a defect.

4.5.2.3 Inspection levels and AQL's. The inspection levels and AQL's expressed in defects per hundred units (DHU) shall be as follows:

	Inspection level	AQL Major	AQL Total
For examinations applicable to 4.5.2.1	II	2.5	10.0
For examinations applicable to 4.5.2.2	S-2	(one class)	4.0

4.5.3 Testing of the end item. Testing of the completely fabricated buckle shall be performed in accordance with Table I for the characteristics shown therein. There shall be one determination per sample unit and the results shall be reported as pass or fail. The sample unit shall be one buckle (front plate, female catch and keeper) of each type. The requirements are applicable to the individual unit. The inspection level shall be S-1 and the AQL shall be 6.5 DHU.

Table I - End item testing

Characteristic	Rqmt. para.	Test method
Test for soldered joints	3.6.1	4.4.1

4.5.4 Examination of preparation for delivery requirements. An examination shall be made to determine compliance with packaging, packing and marking requirements in Section 5. Defects shall be scored in accordance with the list below. The sample unit shall be one shipping container fully prepared for delivery with the exception that it need not be sealed. Defects of closure listed below 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 shall be 2.5 DHU.

Examine	Defect
Markings (exterior and interior)	Omitted, incorrect, illegible, of improper size, location, sequence or method of application.
Materials	Any component missing. Any component damaged, affecting serviceability.
Workmanship	Inadequate application of components, such as incomplete closure of case liners, container flaps, loose strapping, inadequate stapling. Bulging or distortion of containers.

Weight of content (exterior and interior)	Number of intermediate containers is more or less than required; gross/net weight exceeds requirements.

4.5.3.1 Examination for count of buckles in intermediate containers. Buckles packaged for shipment shall be examined to determine conformance with package markings and specified quantity. The sample unit for this examination shall be one box (interior package). Any box containing less than the specified or marked quantity of buckles shall be classified as a defect. The inspection level shall be the number of intermediate containers in one shipping container.

4.6 Tests.

4.6.1 Test for soldered joints. Buckles, and female catch when alternate is used, to be tested shall be placed in an oven maintained at 1,075°F ± 10°F for not less than 15 minutes. While at the specified temperature, the buckle shall be lifted by the male catch, and the alternate female catch by the wire or rod, without the soldered parts separating.

4.6.2 Chemical composition test. Chemical composition shall be determined in acordance with Test Method 111 of FED-STD-151. Results shall be evaluated to determine compliance with the requirements specified in 3.3.1.

5. PACKAGING

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

5.1.1 Level A. Each buckle, with female catch and keepers, shall be individually wrapped in antitarnish tissue paper and place together within a set-up paper-board box 3-3/4 by 2-1/2 by 1 inches, outside dimensions, conforming to PPP-B-676, type I, variety 1, class A, style 4. Closure shall be in accordance with appendix to the box specification.

5.1.2 Commercial. The buckles shall be packaged in accordance with manufacturer's commercial practice.

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

5.2.1 Level A.

5.2.1.1 Method 1. One hundred and twenty-six (126) buckles of one

type only, packaged as specified in 5.1, shall be packed in a fiberboard shipping container conforming to class weather resistant, size No. 1 of MIL-B-17757 and assembled, closed, and reinforced as specified in the appendix thereto. Fill all excess voids to prevent movement.

5.2.1.2 Method 2. When specified (see 6.2), 12 level B shipping containers (1,512 buckles of one type only) shall be packed in a fiberboard shipping container conforming to class weather resistant, size No. 4 of MIL-B-17757 and assembled, closed and reinforced as specified in the appendix, thereto. Fill all excess voids to prevent movement.

5.2.2 Level B. One hundred and twenty-six (126) buckles of one type only, packaged as specified in 5.1, shall be packed in a fiberboard shipping container conforming to class-domestic, grade 275, size No. 1 of MIL-B-17757 and assembled, closed and reinforced as specified in the appendix thereto. Fill all excess voids to prevent movement.

5.2.3 Commercial. Buckles, packaged as specified in 5.1, shall be packed in a manner to insure carrier acceptance and safe delivery at destination. Containers shall be in accordance with US Postal Service Manual, Uniform Classification Rules, National Motor Freight Classification or reguiations of others carriers applicable to the mode of transportation.

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

6. NOTES

6.1 Intended use. The buckles are intended for use by enlisted personnel with the white web belt worn on the blue gabardine coat.

6.2 Ordering data. Purchasers should exercise any desired options offered herein, and procurement documents should specify the following.

6.2.1 Procurement requirements.

(a) Title, number and date of this specification.

(b) Type required (see 1.2).

(c) Whether first article is required (see 3.2).

(d) Level of packaging and packing required (see 5.1 and 5.2).

(e) When level A, method 2, packing is required (see 5.2.1.2).

6.2.2 Contract data requirements. Data conforming to Data Item Descriptions DI-R-4803, DI-R-4805, DI-T-4901, DI-T-4902, DI-T-4903 and

DI-T-4904 will usually be required for delivery in connection with this specification. When so required, such data will be specified for delivery on a DD Form 1423 included in the contract.

6.3 Sample. For information regarding the availability of sample buckles, address inquiry to the procuring activity issuing the invitation for bids.

6.4 First article. Examination, test, and approval shall be as specified by the contracting officer (see 3.2).

6.5 Figures. Figures 1 and 2 are furnished for information purposes only. To the extent of any inconsistencies between the written specification and the figure, the written specification shall govern.

6.6 Marginal notations. Asterisks are not used in this specification due to the extensive changes.

Preparing activity:
Navy - MC
Project No. 8315-N296

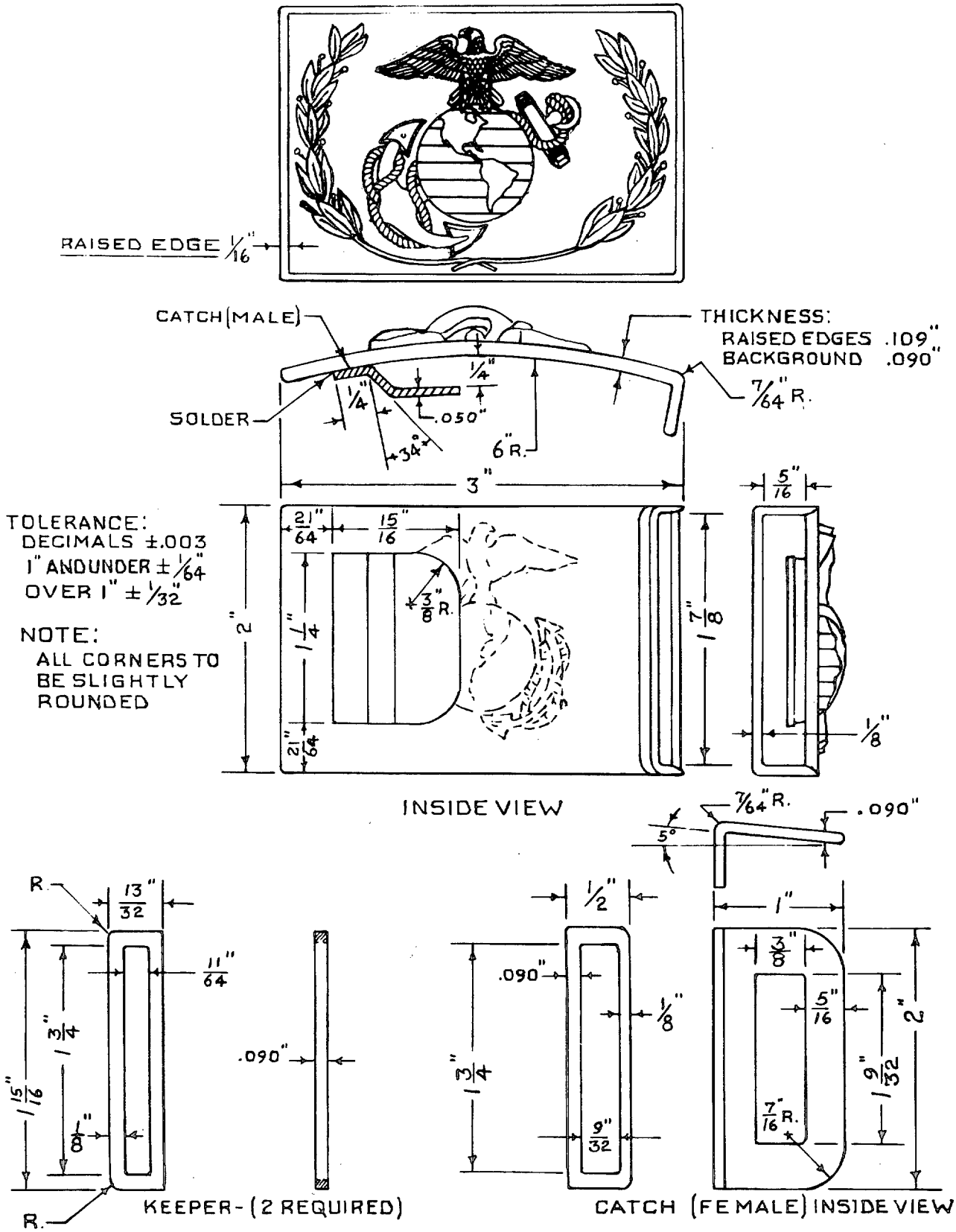
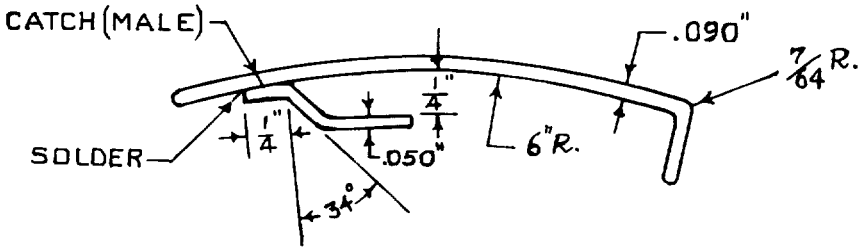
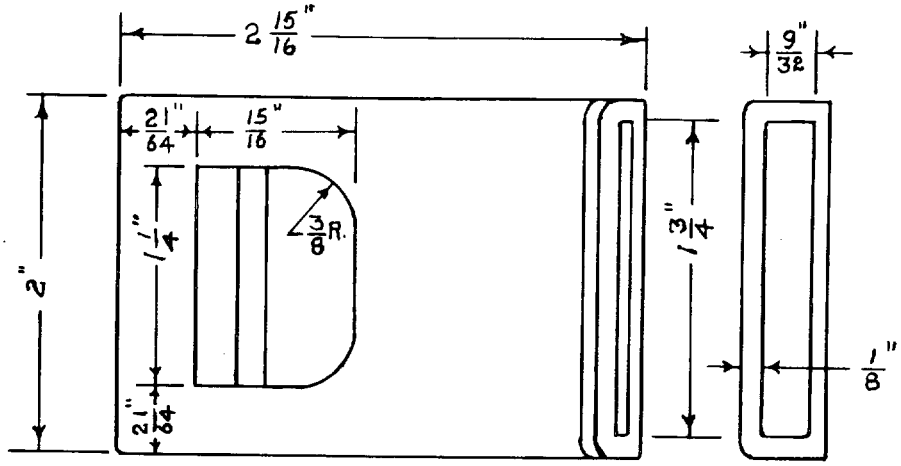


FIGURE 1. BUCKLE: (INSIGNIA)

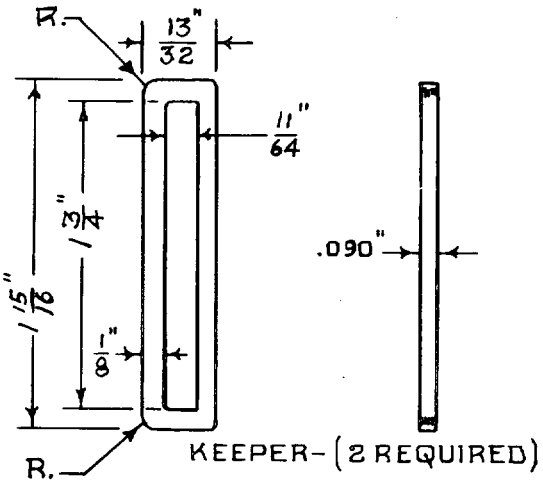


TOLERANCES
DECIMALS ±.003
1" AND UNDER ±1/64"
OVER 1" ±1/32"

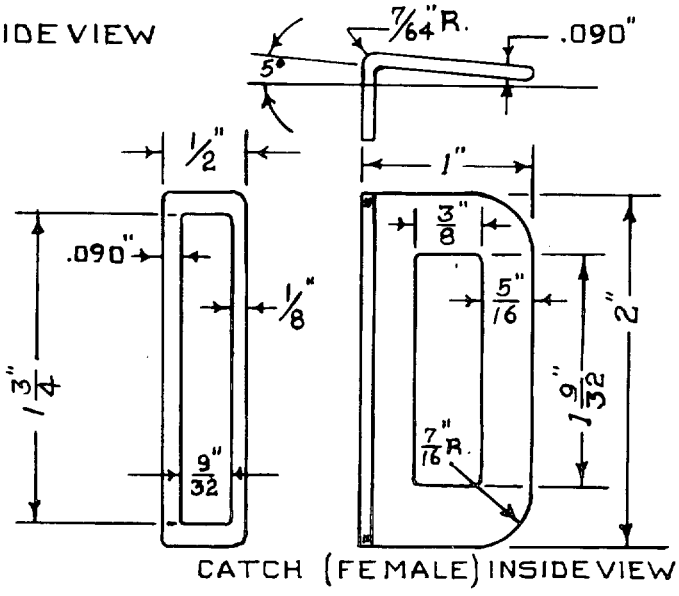
NOTE:
ALL CORNERS TO BE SLIGHTLY ROUNDED



INSIDE VIEW



KEEPER - (2 REQUIRED)



CATCH (FEMALE) INSIDE VIEW

FIGURE 2. BUCKLE: (PLAIN)