

MIL-L-2045B

15 September 1966

SUPERSEDING

MIL-L-2045A

16 July 1962

## MILITARY SPECIFICATION

## LOOPS, STRAP FASTENER (FOR NONEQUIPAGE ITEMS)

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

## 1. SCOPE

1.1 Scope.- This specification covers metal strap fastener loops to be used on nonequipage items.

\* 1.2 Classification.- Strap fastener loops shall be of the following types and sizes, as specified (see 6.2):

Type V - Drilled.

Size - 1-1/4 inch.

Size - 1-1/2 inch.

Size - 3 inch.

Type VI - Undrilled.

Size - 1-1/4 inch.

Size - 1-1/2 inch.

Size - 3 inch.

Type VII - Drilled with countersunk holes.

Size - 1-1/2 inch.

## 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

QQ-S-634 - Steel, Bar, Carbon, Cold Finished, (Standard Quality).

QQ-W-461 - Wire, Steel, Carbon, (Round, Bare and Coated).

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- QQ-Z-325 - Zinc Coating, Electrodeposited, Requirements For.
- TT-E-529 - Enamel, Alkyd, Semigloss.
- PPP-B-576 - Box, Wood, Cleated, Veneer, Paper Overlaid.
- PPP-B-585 - Boxes, Wood, Wirebound.
- PPP-B-591 - Boxes, Fiberboard, Wood-Cleated.
- PPP-B-601 - Boxes, Wood, Cleated-Plywood.
- PPP-B-621 - Boxes, Wood, Nailed and Lock-Corner.
- PPP-B-636 - Box, Fiberboard.
- PPP-B-665 - Boxes; Paperboard, Metal Stayed (Including Stay Material).
- PPP-B-676 - Boxes, Setup.

## MILITARY

- JAN-E-480 - Enamel, Baking, Phenol- or Urea- Formaldehyde.
- MIL-L-10547 - Liners, Case, and Sheet, Overwrap; Water - Vapor-proof or Waterproof, Flexible.

## STANDARDS

## FEDERAL

- Fed. Std. No. 595 - Colors.

## MILITARY

- MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attributes.
- MIL-STD-129 - Marking for Shipment and Storage.

## DRAWINGS

## ARMY NATICK LABORATORIES

- 4-1-205 - Loop, Strap Fastener
- 4-1-434 - Loops, Strap Fastener; Types V and VI

(Miniature copies of Drawings 4-1-205 and 4-1-434, identified as figures 1 and 2 respectively, are attached for information purposes only.)

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

## 3. REQUIREMENTS

- \* 3.1 Preproduction sample.- When specified (see 6.2), before production is commenced, a sample of the finished loop shall be submitted or made available

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to the contracting officer or his authorized representative for approval in accordance with 4.2. The approval of the preproduction sample authorizes the commencement of production but does not relieve the supplier of responsibility for compliance with all provisions of this specification. The preproduction sample shall be manufactured in the same facilities to be used for the manufacture of the production items.

3.2 Materials.- Materials shall conform to the applicable specifications and requirements specified herein.

3.2.1 Steel wire.- The steel wire shall conform to composition 1006, 1010 or 1015, finish 1 of QQ-W-461.

3.2.2 Steel bar.- The steel bar shall be cold finished conforming to composition 1010-1015 of QQ-S-634.

3.2.3 Enamel, olive drab.- The olive drab enamel shall conform to class B of TT-E-529, color number X24087 of Fed. Std. No. 595.

\* 3.2.4 Enamel, black.- The black enamel shall conform to type I or II of IAN-E-480, color number 27038 of Fed. Std. No. 595.

3.3 Construction.- The strap fastener loops shall be stamped from steel wire specified in 3.2.1 or forged from steel bar specified in 3.2.2 and shall conform to the design, shape and dimensions shown on Drawings 4-1-205 and 4-1-434, as applicable, and as specified herein.

\* 3.4 Finish.- The strap fastener loops shall be given a phosphate treated zinc plate conforming to type III, class 2 of QQ-Z-325, followed by bake enameling. The enamel shall conform to 3.2.3 or 3.2.4 as specified (see 6.2). The coating shall level out to a uniform dry thickness, without orange peel, wrinkles, drops, streaks, or areas of no film.

\* 3.5 Marking for identification.- Strap fastener loops shall be marked with the manufacturers' identification.

\* 3.6 Workmanship.- All surfaces shall be free from burrs, fins, rough spots, and sharp edges.

#### 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, the supplier may utilize his own facilities or any commercial laboratory acceptable to 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.

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- \* 4.2 Preproduction sample inspection.- When a preproduction sample is required, it shall be examined for defects in table I and specified dimensions.
- \* 4.3 Sampling for inspection.- Sampling for inspection shall be performed in accordance with the provisions set forth in MIL-STD-105, except where otherwise indicated.
- \* 4.3.1 Component and material inspection.- In accordance with 4.1 above, components and materials shall be inspected and tested in accordance with all the requirements of reference specifications, drawings, and standards unless otherwise excluded, amended, modified or qualified in this specification or applicable purchase document.
- \* 4.3.2 In-process inspection.-
  - 4.3.2.1 In-process examination.- Examination shall be conducted to see that the loops are phosphate treated, zinc plated as specified in 3.4, in conformance with QQ-Z-325. Whenever non-conformance is noted, correction shall be made to affected items and lot in-process.
  - \* 4.3.3 End item inspection.- The lot shall be all loops of one type and size offered for inspection at one time. The sample unit for this examination shall be one loop.
  - \* 4.3.3.1 Visual examination.- Examination shall be made of the finished loops for defects in table I. The inspection level shall be 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 (general)	Not finished	X	
	Color not as specified	X	
	Area of no film		X
	Finish not free of wrinkles orange peels, drops or streaks		X
Construction and workmanship	Not design specified	X	
	Burrs, fins, rough spots or sharp edges	X	
Marking	Missing, illegible or incorrect		X

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- \* 4.3.3.2 Dimensional examination.- Examination shall be made of the end item for defects in dimensions. Any nonconformance to the specified requirements shall be classified as a defect. The inspection level shall be S-2 with an AQL of 4.0 expressed in terms of defects per hundred units.

4.3.4 Examination of preparation for delivery.- An examination shall be made to determine that the packaging, packing, and marking as required by section 5 of this specification are complied with. Defects shall be scored as specified in table II. The sample unit shall be one shipping container fully prepared for delivery except that it need not be sealed. 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 defects, expressed in terms of defects per hundred units.

TABLE II.- Examination of preparation for delivery

<u>Examination</u>	<u>Defect</u>
Marking (exterior and interior container).	Omitted; incorrect; illegible; of improper size, location, sequence or method of application.
Material	Component missing, damaged, or otherwise defective.
Workmanship	Inadequate application of components such as incomplete closure of container flaps, inadequate strapping or tape banding, stapling, bulging or distortion of containers.
Contents (exterior and interior container).	Number per container is more or less than required.

## 5. PREPARATION FOR DELIVERY

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

- \* 5.1.1 Level A.- One hundred loops of one type and size only shall be packaged in a setup paperboard, metal stayed paperboard or fiberboard box conforming to PPP-B-676, PPP-B-665 or type CF variety SW, or type SF, class domestic of PPP-B-636, respectively, except that the weight limitation of the box specification shall not be exceeded. Boxes shall be compactly filled and agitated or tamped during packaging operation to settle the contents and prevent the creation of voids during shipment. Each box shall be securely closed with tape in accordance with the applicable box specification or appendix thereto (see 6.3).

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- \* 5.1.2 Level C.- The loops 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.- Loops of one type and size only, packaged as specified in 5.1, shall be packed in a snug-fitting shipping container conforming to V3c or V3s of PPP-B-636; class II of PPP-B-591; overseas type of PPP-B-601; class 2 of PPP-B-576; style 1, 2, or 2A, class 3 use, type 2 load of PPP-B-585; or class 2, style 2 or 4 of PPP-B-621. Each fiberboard shipping container shall be waterproofed with tape in accordance with the appendix of the container specification. All other shipping containers shall be provided with a type I or II, grade C, case liner conforming to MIL-L-10547. Gross weight of fiberboard shipping containers shall not exceed 40 pounds. Gross weight of all other containers shall not exceed 200 pounds. Each shipping container shall be closed and reinforced with flat strapping or tape banding in accordance with the appendix of the applicable container specification.

- \* 5.2.2 Level B.- Loops of one type and size only, packaged as specified in 5.1 shall be packed in a snug-fitting shipping container conforming to type CF, Variety optional or type SF, class domestic, grade 275 of PPP-B-636; class 1, style A or B of PPP-B-591 or domestic type, style A or B of PPP-B-601; class 1 of PPP-B-576; style 1, 2 or 2A, class 1 use type 2 load of PPP-B-585; or class 1, style 2 or 4 of PPP-B-621. Gross weight of fiberboard shipping containers shall not exceed the weight limitations of the container specification. Gross weight of all other containers shall not exceed 200 pounds. Closure of the fiberboard shipping container shall be in accordance with method II of the appendix of the container specification.

5.2.3 Level C.- Loops, 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 and packing shall meet the minimum requirements of 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, interior packages and shipping containers shall be marked in accordance with MIL-STD-129.

## 6. NOTES

6.1 Intended use.- Strap fastener loops covered by this specification are intended to be used on trucks or other nonequipage items as attachments for the lashing of loads.

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6.2 Ordering data.- Procurement documents should specify the following:

- (a) Title, number, and date of this specification.
- (b) Type and size of loop required (see 1.2).
- (c) When a preproduction sample is required (see 3.1).
- (d) Color of enamel required (see 3.4).
- (e) Selection of applicable levels of packaging and packing (see 5.1 and 5.2).

\* 6.3 Packaging.- The method of packaging referred to in 5.1.1, is similar to method III of MIL-P-116.

6.4 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 as written irrespective of the marginal notations and relationship to the last previous issue.

Custodians:

Army - GL  
Navy - YD  
Air Force - 69

Preparing activity:

Army - GL  
Project No. 5340-0517

Review activities.

Navy - YD  
Air Force - 69

User activity:

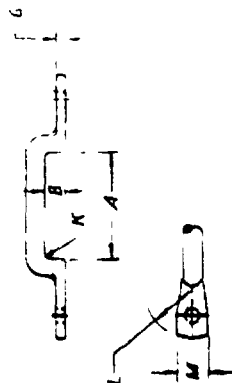
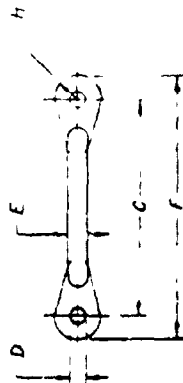
Navy - MC

Review and User information is current as of the date of this document. For future coordination of changes to this document, draft circulation should be based on the information in the current Federal Supply Classification Listing of DOD Documents.

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STW	SALA OR	OR	CE	REVISIONS	DATE	APP
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**OPTIONAL END**

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**FIGURE - 2**

TYPES V AND VI

LOOPS, SNAP FASTENER;

"to detach this form, cl. along this line"

<b>SPECIFICATION ANALYSIS SHEET</b>		Form Approved Budget Bureau No 119-R004
<b>INSTRUCTIONS</b>		
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 a minimum amount of delay and at the least cost. Comments and the return of this form will be appreciated. Fold on lines on reverse side, staple in corner, and send to preparing activity.		
<b>SPECIFICATION</b>		
Loops, Strap Fastener (For Nonequipage Items) - MIL-L-2045B		
ORGANIZATION	CITY AND STATE	
CONTRACT NO	QUANTITY OF ITEMS PROCURED	DOLLAR AMOUNT
		\$
MATERIAL PROCURED UNDER A		
<input type="checkbox"/> DIRECT GOVERNMENT CONTRACT <span style="margin-left: 100px;"><input type="checkbox"/> SUBCONTRACT</span>		
<b>1. HAS ANY PART OF THE SPECIFICATION CREATED PROBLEMS OR REQUIRED INTERPRETATION IN PROCUREMENT USE?</b> <b>A. GIVE PARAGRAPH NUMBER AND WORDING</b> <div style="height: 100px; border: 1px solid black;"></div>		
<b>B. RECOMMENDATIONS FOR CORRECTING THE DEFICIENCIES</b> <div style="height: 150px; border: 1px solid black;"></div>		
<b>2. COMMENTS ON ANY SPECIFICATION REQUIREMENT CONSIDERED TOO RIGID</b> <div style="height: 80px; border: 1px solid black;"></div>		
<b>3. IS THE SPECIFICATION RESTRICTIVE?</b> <input type="checkbox"/> YES <input type="checkbox"/> NO    IF "YES", IN WHAT WAY? <div style="height: 60px; border: 1px solid black;"></div>		
<b>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)</b> <div style="height: 100px; border: 1px solid black;"></div>		
SUBMITTED BY (Printed or typed name and activity)		DATE

DD FORM 1 OCT 64 1426

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U. S. Army Natick Laboratories  
Natick, Massachusetts 01762

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Natick, Massachusetts 01762

"to detach this form, cut along this line"

FOLD

MIL-L-2045B  
AMENDMENT-1  
18 October 1977

MILITARY SPECIFICATION

LOOPS, STRAP FASTENER (FOR NONEQUIPAGE ITEMS)

This amendment forms a part of Military Specification MIL-L-2045B, dated 15 September 1966, and is approved for use by all Departments and Agencies of the Department of Defense.

PAGE 1

2.1, under Federal Specifications: Delete "QQ-S-634 - Steel, Bar, Carbon, Cold Finished, (Standard Quality)."

PAGE 2

2.1, under Military Specifications: Delete "JAN-E-480" and substitute "MIL-E-480".

Add new paragraph:

"2.2 Other publications. The following documents form a part of this specification to the extent specified herein. Unless otherwise indicated, the issue in effect on date of invitation for bids or request for proposal shall apply:

UNIFORM CLASSIFICATION COMMITTEE, AGENT

Uniform Freight Classification

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

NATIONAL MOTOR FREIGHT TRAFFIC ASSOCIATION, INC., AGENT

National Motor Freight Classification

(Application for copies should be addressed to the American Trucking Associations, Inc., Traffic Department, 1616 P Street, NW, Washington, DC 20036.)

FSC 5340

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Amendment-1

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

A 108 - Steel Bars, Carbon, Cold  
Finished, Standard Quality

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

PAGE 3

3.2, line 2: At end of sentence, add "(see 6.5)".

3.2.2, line 2: Delete "QQ-S-634" and substitute "ASTM A 108".

3.2.4, line 2: Delete "JAN-E-480" and substitute "MIL-E-480".

PAGE 5

4.3.4, line 5: Delete "sealed" and substitute "closed".

After the third sentence: Add "Defects for closure listed in Table II shall be examined on shipping containers fully prepared for delivery."

Line 6: Delete "delivery" and substitute "inspection".

PAGE 6

5.1.2, second sentence: Delete and substitute "The package and the quantity per package shall be the same as that normally used by the contractor for retail distribution."

5.2.1, line 2: Delete "V3c or".

5.2.3, second sentence: Delete and substitute "The quantity per shipping container shall be the same as that normally used by the contractor for retail distribution. Containers shall comply with the Uniform Freight Classification or National Motor Freight Classification, as applicable."

PAGE 7

Add the following in proper sequence:

"6.5 Recycled material. It is encouraged that recycled material be used when practical as long as it meets the requirement of the specification (see 3.2)."

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Amendment-1

**Custodians:**

Army - GL  
Navy - YD  
Air Force - 99

**Preparing activity:**

Army - GL  
Project No. 5340-0771

**Review activities:**

Army - EA, AV  
DLA - IS

**User activity:**

Navy - MC