

MIL-H-10050B

10 MAY 1957
 SUPERSEDING
 MIL-H-10050A
 6 FEBRUARY 1951

MILITARY SPECIFICATION**HARDWARE, AIRBORNE, EQUIPAGE**

This specification has been approved by the Department of Defense and is mandatory for use by the Departments of the Army, the Navy, and the Air Force.

1. SCOPE

1.1 Scope. This specification covers hardware items made of ferrous metals used on equipment peculiar to Airborne troop needs.

1.2 Classification. Hardware shall be of the following types, as specified (see 6.1).

Type I — Link, Snap, Quick Release, 3 Inches.

Type II — Loop, Slide, 1 $\frac{3}{4}$ Inches.

Type III — Loop, Strap, Fastener 1 $\frac{3}{4}$ Inches by $\frac{7}{16}$ Inches.

Type IV — Loop, Triangular, 1 $\frac{3}{4}$ Inches.

Type V — Snap, Hook, Flanged Tongue, Loop Eye, 1 $\frac{3}{4}$ Inches.

Type VI — Snap, Hook, Quick Release.

Type VII — Buckle, Quick Adjustable, 1 $\frac{3}{4}$ Inches.

Style — 1

Style — 2

Type VIII — Fastener, Quick Release, 1 $\frac{3}{4}$ Inches.

Type IX — Link, Snap, Quick Release, 1 $\frac{3}{4}$ Inches.

Type X — Ring, Dee, with Bar, 1 $\frac{3}{4}$ Inches by 1 $\frac{5}{8}$ Inches.

2. APPLICABLE DOCUMENTS

2.1 The following specifications, standards and drawings of the issue in effect on the date of invitation for bids, form a part of this specification.

SPECIFICATIONS**FEDERAL**

QQ-P-416	— Plating, Cadmium (Electrodeposited).
QQ-S-624	— Steel, Alloy; Bars (General Purpose).
QQ-S-640	— Steel, Carbon; Sheet and Strip.
QQ-S-763	— Steel Bars, Shapes and Forgings, Corrosion-Resisting.
QQ-S-766	— Steel, Corrosion-Resisting, Plates, Sheets and Strips.
QQ-W-401	— Wire; Phosphor-Bronze, Spring.
QQ-W-461	— Wire, Steel (Carbon), Bare and Coated.
QQ-Z-325	— Zinc Plating (Electrodeposited).
LLL-B-631	— Boxes; Fiber Corrugated (for Domestic Shipment).
LLL-B-636	— Boxes; Fiber, Solid (for Domestic Shipment).
PPP-B-585	— Boxes; Wood, Wire-bound.

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- PPP-B-591 — Boxes, Fiberboard, Wood-Cleated.
- PPP-B-601 — Boxes, Wood, Cleated-Plywood.
- PPP-B-621 — Boxes, Wood, Nailed and Lock-Corner.

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- MIL-B-10377 — Box, Wood, Cleated, Veneer, Paper Overlaid.
- MIL-L-10547 — Liners, Case, Waterproof.
- MIL-S-18729 — Steel Alloy Plates, Sheet and Strip (4130) Aircraft Quality.

STANDARDS

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

DRAWINGS**QUARTERMASTER CORPS**

- 4-1-124 — Type VIII, Fastener, Quick Release, 1 $\frac{3}{4}$ Inch.
- 4-1-130 — Type VI, Snap Hook, Quick Release.
- 4-1-131 — Type V, Snap Hook, Flanged Tongue, Loop-Eye, 1 $\frac{3}{4}$ Inch.
- 4-1-136 — Type VII, Style 1 and 2, Buckle Quick Adjustable, 1 $\frac{3}{4}$ Inch.
- Type IX, Link, Snap, Quick Release, 1 $\frac{3}{4}$ Inch.
- Type I, Link, Snap, Quick Release, 3 Inches.
- Type II, Loop, Slide, 1 $\frac{3}{4}$ Inch.

Type III, Loop, Strap, Fastener, 1 $\frac{3}{4}$ Inch by $\frac{7}{16}$ Inch.

Type IV, Loop, Triangular, 1 $\frac{3}{4}$ Inch.

Type X, Ring, Dee With Bar, 1 $\frac{3}{4}$ Inch by 1 $\frac{5}{8}$ Inch.

(Copies of specifications, standards and drawings required by contractors 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. Before production is commenced unless otherwise specified in invitation to bid, a finished sample of the hardware shall be submitted to the contracting officer for approval.

3.2 Material.**3.2.1 Steel.**

3.2.1.1 Carbon, sheet or strip. The carbon steel sheet or strip shall conform to FS-1015, Specification QQ-S-640.

3.2.1.2 Strip, spring-tempered. The spring steel shall conform to FS-1095, Specification QQ-S-640.

3.2.1.3 Chrome, molybdenum, sheet or strip. The chrome-molybdenum steel sheet or strip shall conform to 4130, Specification MIL-S-18729.

3.2.1.4 Chrome-molybdenum bar stock. The bar stock shall be forging quality and conform to FS-4130, Specification QQ-S-624.

3.2.1.5 Corrosion-resisting bar stock. The bar stock corrosion-resisting steel shall conform to class 302, Specification QQ-S-763.

3.2.1.6 Corrosion-resisting sheet or strip. The sheet or strip corrosion-resisting steel shall conform to class 302, Specification QQ-S-766.

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3.2.1.7 Steel wire. The steel wire for rivets shall conform to form 1, grade FS-1015, Specification QQ-W-461.

3.2.1.8 Phosphor-bronze spring wire. The spring wire shall conform to Specification QQ-W-401.

3.3 Construction. Construction of the hardware shall conform to the design, shape and dimensions shown on Drawings 4-1-124, 4-1-130, 4-1-131 and 4-1-136 (miniature copies of Drawings 4-1-124, 4-1-130, 4-1-131 and 4-1-136, identified as figures 1, 2, 3, and 4 are attached for information purposes only) and as specified herein.

3.3.1 Assembly of the following items, Fastener, Quick Release; Snap Hook, Quick Release and Snap Hook, Flanged Tongue, Loop Eye shall be assembled into finished pieces of hardware as shown on drawings after the component parts of these items are finished as specified in 3.4.

3.3.2 Forgings and stampings. Forgings and stampings shall be heat-treated to a tensile strength of 170,000 to 190,000 pounds per square inch with the exceptions of the flanged tongue and the flat spring. The finished forgings and stamping shall be free from seams, laps, cracks, porosity, slivers, scale or other defects that might affect their serviceability.

3.3.3 Rivets. The rivets shall be securely set to retain the flanged tongue and the steel spring in position. The flanged tongue shall rotate freely about hinge rivet without being excessively loose.

3.4 Finish. After complete fabrication the hardware and components thereof shall be thoroughly cleaned by any method with an acceptable recognized solvent. The single piece items of hardware and the component parts of the following items, Fastener, Quick Release; Snap Hook, Quick Release and Snap Hook, Flanged Tongue, Loop Eye except the ball bearing springs, balls, plugs and pins shall be given a coating of cadmium conform-

ing to type I, class A, Specification QQ-P-416 or a coating of zinc conforming to type I, class I, Specification QQ-Z-325.

3.5 Workmanship. The finished hardware shall be clean, well made and free from defects that may affect appearance or serviceability. Edges on all hardware, which may cause injury to hands or wear to the material on which it is attached, shall be smooth.

4. QUALITY ASSURANCE PROVISIONS

4.1 General. The quality assurance provisions contained in this section are applicable to inspection performed by and for the Government. Quality assurance provisions for components or materials described shall be in accordance with this specification and with subsidiary specifications and drawings referenced herein to the extent applicable, except that this specification shall govern in the event of conflict.

4.2 Preacceptance inspection. (Not applicable).

4.3 Inspection for acceptance. Inspection shall be made in accordance with the provisions set forth in Standard MIL-STD-105 except where otherwise indicated hereinafter:

4.3.1 Inspection of components and materials. The quality assurance provisions for components and materials, except as otherwise required by this specification shall be in accordance with the applicable specifications and standards referenced herein. Where there is a conflict in quality assurance provisions, this specification shall govern.

4.3.1.1 Visual examination of components and materials. Each component or material which cannot be checked after final assembly shall be examined in lots or batches, by sampling, for compliance with this specification, applicable specifications or referenced standards. Any deviation therefrom shall constitute a defect. The lot or batch shall be inspected in accordance with 4.3.1.3.

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4.3.1.2 *Dimensional examination of components or materials.* Each component or material which cannot be measured after final assembly shall be inspected in lots or batches, by sampling, for compliance with this specification and applicable specifications. Any deviation shall constitute a defect. The lot or batch shall be inspected in accordance with 4.3.1.3.

4.3.1.3 *Acceptable quality levels (AQL's for inspection of components and materials.* For examination in 4.3.1.1 and 4.3.1.2, the AQL shall be 4.0 defects per 100 units.

4.3.1.4 *Testing of components and material.* In addition to the quality assurance provisions of referenced specifications and standards, tests shall be performed on components to determine compliance with the tensile strength requirements specified in 3.3.2. The unit of product shall be forgings and/or stampings of the same grade of steel heat treated in a single batch. The inspection level shall be L-3 of Appendix to Standard MIL-

STD-105 and the AQL shall be 4.0 defects per 100 units, for samples selected from each heat treatment batch. When the batch cannot be identified the AQL shall be 2.5 defects per 100 units and the inspection level shall be L-6. The sample unit shall be one of each type component and the requirement is applicable to the individual units.

4.3.2 *End product inspection.*

4.3.2.1 *Examination of the end product.* The defects found during examination shall be classified in accordance with 4.3.2.1.1 and 4.3.2.1.2. The Government reserves the right to require examination for any defect not included herein and to classify such defects in accordance with the definitions contained in Standard MIL-STD-105. The sample unit for the examination shall be one completely fabricated and finished end product.

4.3.2.1.1 *Examination for visual characteristics.* Examination for defects in finish, construction, and workmanship.

Examine	Defects	Major	Minor
Finish	Entire assembly, with exception of ball bearings, helical spring, balls, plugs and pins, not zinc or cadmium coated.	X	
	Coating blistered, peeled, area of not coating or otherwise not adherent.		X
	Any area of corrosion.....		X
	Powder residue not removed after plating.....		X
Design	Any departure from the design indicated on drawing.....	X	
Type	Not specified type or size.....	X	
Construction and Workmanship	Any component missing, fractured, malformed or otherwise damaged affecting use.	X	
General	Any component porous, void in metal or with embedded foreign matter.	X	
	Any component loose or otherwise not securely retained e.g., latch pin or spring plug hole not sufficiently peened to retain pin or spring plugs.	X	
	Any part out of alignment that may seriously affect serviceability.	X	
	Any part out of alignment but will not seriously affect serviceability.		X

Examine	Defects	Major	Minor
General—continued	Any functioning part that cannot be operated, requires abnormal force to operate or does not function as intended.	X	
	Any sharp burr exceptionally rough surface or metal sliver that may be injurious to personnel or that may affect operation of the fastener.	X	
	Not smoothly finished but does not seriously affect serviceability.		X
	Any operation omitted.....	X	
	Not symmetrical.....	X	
Assembly	Rivet not peened, broken, insufficiently peened or not peened concentric with the assembly hole which may seriously affect serviceability.	X	
	Rivet not sufficiently peened or peened end not truly concentric with assembly hole but will not seriously affect serviceability.		X
	Latch cannot be snap-locked in body with both retaining balls showing tension.	X	
	Hook tongue does not show tension when in contact with hook tip.	X	
	Crest of hook tip not rounded.....		X
	Housing not sufficiently peened to securely retain ball assembly.	X	

4.3.2.1.2 *Examination for dimensions.* Any dimension that is not within the specified tolerance shall be classified a defect.

4.3.2.1.3 *Acceptable quality levels (AQL's).* The acceptable quality levels expressed in defects per hundred units shall be as follows:

	Major	Total
For defects applicable to 4.3.2.1.1	2.5	6.5
For defects applicable to 4.3.2.1.2	—	6.5

200 p.s.i. The gross weight of each box shall not exceed 20 pounds. Each box shall be agitated from time to time during filling to assure a compact and well-filled box. All flaps of the box shall be securely sealed with an adhesive commercially used for the specific product being packaged by application throughout the entire area of contact between flaps, or by a combination of metal stitching the bottom flaps and sealing the top flaps with adhesive.

5. PREPARATION FOR DELIVERY

5.1 Packaging.

5.1.1 *Level A.* Hardware of one type, style, and size only shall be packaged in a corrugated or solid fiberboard box constructed to conform to style RSC, Specification LLL-B-631 or LLL-B-636, except that the minimum bursting strength of the fiberboard shall be

5.2 Packing.

5.2.1 *Level A.* The hardware, packaged as specified in 5.1.1, shall be packed one type, style, and size only in snug-fitting shipping containers constructed and strapped to conform to overseas type, Specification PPP-B-591, PPP-B-601, or MIL-B-10377; class 2, style 2 or 4, Specification PPP-B-621; or style 1, 2, or 2A, class 3 use, Specification

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PPP-B-585. Each overseas shipping container shall be provided with a Type 1 or 11, grade B or C, class 2 caseliner conforming to Specification MIL-L-10547. The gross weight of each shipping container shall not exceed 100 pounds and only one type, style, and size container shall be used for any one item on any one contract.

5.2.2 *Level B.* The hardware, packaged as specified in 5.1.1, shall be packed in the same manner as specified in 5.2.1, except that caseliners shall not be required and the shipping containers shall be constructed to conform to style A or B, domestic type, Specifications PPP-B-591, PPP-B-601, or MIL-B-10377; class 1, style 2 or 4, Specification PPP-B-621; or style 1, 2, or 2A, class I use, Specification PPP-B-585.

5.3 **Marking.** Interior packages and shipping containers shall be marked in accordance with Standard MIL-STD-129.

6. NOTES

6.1 **Ordering data.** Procurement documents shall specify the following:

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

- (b) Types, styles and size of hardware to be furnished (see 1.2).
- (c) Whether preproduction sample is waived (see 3.1).
- (d) The applicable levels of packaging and packing.

Notice. When Government drawings, specifications, or other data are used for any purpose other than in connection with a definitely related Government procurement operation, the United States Government thereby incurs no responsibility nor any obligation whatsoever; and the fact that the Government may have formulated, furnished, or in any way supplied the said drawings, specifications, or other data is not to be regarded by implication or otherwise as in any manner licensing the holder or any other person or corporation, or conveying any rights or permission to manufacture, use, or sell any patented invention that may in any way be related thereto.

Custodian:

Army—Quartermaster Corps
Navy Bureau of Aeronautics

Other interest:

Army—M Sig

Preparing Activity:

Army—Quartermaster Corps

