

MIL-H-13568B(ME)
17 February 1982
SUPERSEDING
MIL-H-13568A(ME)
23 January 1968

MILITARY SPECIFICATION

HOOKS, HOIST (REGULAR EYE)

This specification is approved for use by the Mobility Equipment Research and Development Command, Department of the Army, and is available for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers a forged-steel, regular eye, hoist hook with safety latch.

1.2 Classification. Hooks shall be of the following sizes as specified (see 6.2):

Size 1-1/2	- 1-1/2 tons, safe working load.
Size 2	- 2 tons, safe working load.
Size 2-1/2	- 2-1/2 tons, safe working load.
Size 3	- 3 tons, safe working load.
Size 5	- 5 tons, safe working load.
Size 8-1/2	- 8-1/2 tons, safe working load.
Size 12-1/2	- 12-1/2 tons, safe working load.
Size 15	- 15 tons, safe working load.

2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Specifications and standards, Unless otherwise specified (see 6.2), the following specifications and standards 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.

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: US Army Mobility Equipment Research and Development Command, ATTN: DRDME-DS, Fort Belvoir, VA 22060 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

FSC 4030

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SPECIFICATIONS

FEDERAL

- | | |
|-----------|---|
| QQ-S-781 | - Strapping, Steel and Seals. |
| QQ-Z-325 | - Zinc Coating Electrodeposited, Requirement for. |
| PPP-B-601 | - Boxes, Wood, Cleated-Plywood. |
| PPP-B-621 | - Boxes, Wood, Nailed and Lock-Corner. |
| PPP-B-636 | - Boxes, Shipping, Fiberboard. |
| PPP-B-640 | - Boxes, Fiberboard, Corrugated, Triple-Wall. |

MILITARY

- | | |
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| MIL-P-116 | - Preservation, Methods of. |
|-----------|-----------------------------|

STANDARDS

MILITARY

- | | |
|--------------|--|
| MIL-STD-105 | - Sampling Procedures and Tables for Inspection by Attributes. |
| MIL-STD-129 | - Marking for Shipment and Storage. |
| MIL-STD-130 | - Identification Marking of U.S. Military Property. |
| MIL-STD-1186 | - Cushioning, Anchoring, Bracing, Blocking and Waterproofing; with Appropriate Test Methods. |
| MIL-STD-1188 | - Commercial Packaging of Supplies and Equipment. |

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

2.2 Other publications. The following documents 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.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

- | | |
|---------|---|
| A153-78 | - Zinc Coating (Hot-Dip) On Iron And Steel Hardware. |
| A711 | - Carbon and Alloy Steel Blooms, Billets and Slabs for Forging. |

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

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(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 Description. Hooks shall be as shown in figure 1 and specified herein.

3.2 First article (preproduction model). The contractor shall furnish a hook for examination and test within the time frame specified (see 6.2), to prove, prior to starting production, that his production methods and choice of design detail will produce hooks that comply with the requirements of this specification (see 6.3). Examination and tests shall be as specified in Section 4 and shall be subject to surveillance and approval by the Government (see 6.3).

3.3 Material. Material shall be as specified herein (see 6.4). Material not specified shall be selected by the supplier and shall be subject to all provisions of this specification.

3.3.1 Steel. Hooks shall be forged from steel conforming to ASTM A711. Grade of steel shall be selected by the contractor and shall be a suitable heat treatment to meet the proof and ultimate strength load specified (see 3.4).

3.3.2 Safety latch. Hooks shall have a safety closure device constructed of noncorrosive metal parts or they shall be treated for corrosion resistance. Safety devices shall be attached to, or integral with the hook.

3.4 Capacities. Hooks shall withstand a proof load equal to twice the safe working load (SWL) specified for hook size (see 1.2), without permanent set or deformation, and a minimum ultimate strength load of five times the SWL without disengagement of the load by straightening of the hook.

3.5 Finish. Unless otherwise specified, hooks shall be zinc-coated in accordance with QQ-Z-325 Class 2, type II or in accordance with ANSI/ASTM A153-78 with a supplementary chromate treatment (see 6.2). Coating shall be not less than 3 oz/sq (0.005 inches thick).

3.6 Identification marking. Hooks shall be identified in accordance with MIL-STD-130.

3.7 Workmanship. Hooks shall be clean and free from cracks and sand, dirt, fins, pits, scale, and other harmful extraneous material. All edges shall be rounded or chamfered. The safety device shall, in the closed position, bridge the throat opening and effectively prevent dislodgement of slack or taut lines from an upset or cocked hook, and shall act to return lines to the bearing point when slack is removed. The safety device must provide positive automatic closure and locking, and shall not intrude into the throat opening during loading and unloading. Unlocking must be manually accomplished.

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4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract, the contractor is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract, 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 assure supplies and services conform to prescribed requirements.

4.1.1 Material inspection. The contractor is responsible for insuring that material used is manufactured, examined, and tested in accordance with referenced specifications and standards.

4.2 Classification of inspection. Inspection shall be classified as follows:

- (a) Preproduction inspection (see 4.3).
- (b) Quality conformance inspection (see 4.4).
- (c) Inspection of packaging (see 4.6).

4.3 Preproduction inspection.

4.3.1 Examination. The hook shall be examined as specified in 4.5.1. Presence of one or more defects shall be cause for rejection.

4.3.2 Test. The hook shall be tested as specified in 4.5.2. Failure of the test shall be cause for rejection.

4.4 Quality conformance inspection.

4.4.1 Sampling. Sampling for examination and tests shall be in accordance with MIL-STD-105.

4.4.2 Examination. Samples selected in accordance with 4.4.1 shall be examined as specified in 4.5.1. AQL shall be 2.5 percent defective for major defects and 6.5 percent defective for minor defects.

4.4.3 Tests. Samples selected in accordance with 4.4.1 shall be tested as specified in 4.5.2. AQL shall be 2.5 percent defective.

4.5 Inspection procedure.

4.5.1 Examination. The hook shall be examined for the following defects:

Major

- 101. Hook does not conform to figure 1.
- 102. Material not as specified.
- 103. Workmanship not as specified.

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Minor

- 201. Zinc coating not as specified.
- 202. Identification marking missing or illegible.

4.5.2 Tests.

4.5.2.1 Test conditions. Strength tests specified in 4.5.2.2 and 4.5.2.3 shall be made on a tensile testing machine. The testing machine shall be set so that the speed of the free running crosshead under no load shall be not more than the uniform rate of 13 inches per minute.

4.5.2.2 Proof load. With the hook positioned in the testing machine specified in 4.5.2.1, steadily apply load until the proof load specified in 3.4 is reached. Nonconformance to 3.4 shall constitute failure of this test.

4.5.2.3 Ultimate strength. After completion of the proof load test specified in 4.5.2.2, one hook from each lot shall be tested to ultimate strength by steadily continuing to apply load to the hook until the ultimate load specified in 3.4 is reached. Nonconformance with 3.4 shall constitute failure of this test.

4.5.2.4 Safety Device test. Unless otherwise specified (see 6.2), each of the sample hooks selected in accordance with 4.4.1 shall be tested for failure of the safety device to perform its proper function of retaining a rope or cable within the hook. A test load shall be applied to the closed and latched safety device in one direction. The load shall be applied to the safety device at a point measured from the tip of the latch along the safety device a distance equal to 1/3 of the latch length. The load shall be applied to the safety device in the plane of the hook at 90° to the safety device and outward from the hook. The test load shall be 75 pounds for safety hooks with safe working loads between 1.5 and 2 tons inclusive; 150 pounds for safe working loads between 2.1 and 5 tons inclusive; and 200 pounds for safe working loads greater than 5 tons. The safety device shall suffer no permanent deformation due to the test load applications and shall be functional upon completion of testing.

4.6 Inspection of packaging.4.6.1 Quality conformance inspection pack.

4.6.1.1 Unit of product. For the purpose of inspection, a completed pack prepared for shipment shall be considered a unit of product.

4.6.1.2 Sampling. Sampling for examination shall be in accordance with MIL-STD-105.

4.6.1.3 Examination. Samples selected in accordance with 4.6.1.2 shall be examined for the following defects. AQL shall be 4.0 percent defective.

- 104. Materials and containers not as specified for level A or B. Each incorrect material or container shall be considered one defect.

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- 105. Hooks of unlike description packed together for level A or B.
- 106. Quantities packed together exceed the weight or size limitation of the box for level A or B.
- 107. Blocking, bracing and anchoring not in accordance with the referenced document for level A or B.
- 108. Preservation and packing not in accordance with the referenced document for commercial.
- 109. Strapping not as specified for level A.
- 110. Marking missing, illegible, incorrect or incomplete for level A, B or commercial.

5. PACKAGING

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

5.1.1 Level A. Unprotected hooks requiring the application of a contact preservation in accordance with MIL-P-116, shall be coated with type P-1 preservative. The preservative shall conform to the applicable specification listed in and shall be applied in accordance with MIL-P-116.

5.1.2 Commercial. Each hook shall be preserved in accordance with MIL-STD-1188.

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

5.2.1 Level A. Hooks, of like description, preserved as specified in 5.1, shall be packed together in a close-fitting box conforming to PPP-B-601, over-seas type, style optional or PPP-B-621, class 2, style optional, in quantities not to exceed the weight limitation of the box. Blocking, bracing and anchoring of the hooks within the box shall be in accordance with MIL-STD-1186. Box closure and strapping shall be in accordance with the appendix to the applicable box specification. Strapping shall conform to QQ-S-781, class 1, type I or IV, size as applicable. Unless otherwise specified (see 6.2), strapping shall be finish B. When specified, (see 6.2), strapping shall be finish A.

5.2.2 Level B. Hooks, of like description, preserved as specified in 5.1, shall be packed as specified in 5.2.1, except boxes shall be domestic type or class as applicable. As an alternate, boxes conforming to PPP-B-640, class 2, style optional or PPP-B-636, V3c, V11c, V13c, or V15c, style optional may be used when the quantity to be packed does not exceed the gross weight or size limitation of the box specification. Box closure and strapping shall be in accordance with the appendix to the applicable box specification.

5.2.3 Commercial. Hooks shall be packed in accordance with MIL-STD-1188.

5.3 Marking.

5.3.1 Military. Marking for military levels of protection (level A or B) shall be in accordance with MIL-STD-129.

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5.3.2 Commercial. Commercial marking shall be in accordance with MIL-STD-1188.

6. NOTES

6.1 Intended use. The hoist hook is intended for use in cargo handling, including the hoisting of conex metal shipping boxes.

6.2 Ordering data. Acquisition documents should specify the following:

- (a) Title, number, and date of this specification.
- (b) Size of hook required (see 1.2).
- (c) Time frame required for submission of preproduction model (see 3.2).
- (d) Finish, if other than as specified (see 3.5).
- (e) Degree of preservation and degree of packing required (see 5.1 and 5.2).
- (f) When other than finish B strapping is required (see 5.2.1).

6.3 Preproduction model. Any changes or deviations of production hooks from the approved preproduction model during production will be subject to the approval of the contracting officer. Approval of the preproduction model will not relieve the contractor of his obligation to furnish hooks conforming to this specification.

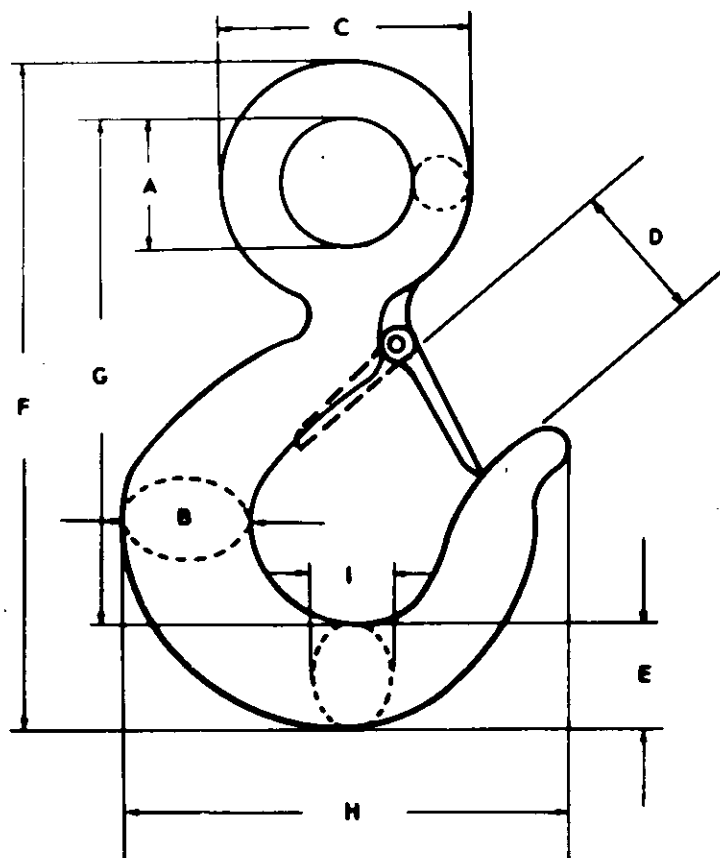
6.4 Recycled material. It is encouraged that recycled material be used when practical as long as it meets the requirements of the specification (see 3.3).

Custodian:
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Preparing activity:
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TOLERANCE $\pm 1/8''$ SIZES 1-1/2 THROUGH 5
 TOLERANCE $\pm 1/4''$ SIZES 8-1/2 THROUGH 15

SIZE NO.	A	B	C	D	E	F	G	H	I	MAX. WT. POUNDS
1-1/2	7/8"	1-3/8"	2-5/16"	1-1/4"	1-1/8"	6-23/64"	4-3/4"	4-5/32"	14/16"	2
2	1-1/8"	1-15/32"	2-7/8"	1-5/16"	1-3/16"	6-15/16"	5-1/16"	4-5/16"	1"	2-1/2
2-1/2	1-3/8"	1-9/16"	2-3/4"	1-1/2"	1-3/8"	7-5/8"	5-9/16"	4-7/8"	1-1/8"	3-1/2
3	1-1/2"	1-13/16"	3-7/16"	1-5/8"	1-7/16"	8"	6-1/4"	5-9/16"	1-3/16"	5-1/2
5	1-3/4"	2"	3-15/16"	1-7/8"	1-3/4"	10"	7-1/4"	6-1/2"	1-7/16"	7
8-1/2	2"	2-7/8"	5-5/16"	2-1/2"	2-11/16"	13-3/4"	9-7/8"	8-5/8"	1-14/16"	19
12-1/2	2-1/2"	3-1/4"	6"	3"	2-5/8"	15-5/16"	10-15/16"	9-11/16"	2"	28
15	3"	3-9/16"	6-1/2"	3-1/4"	3"	16-5/8"	11-3/4"	10-5/16"	2-3/16"	32

FIGURE 1. Hook, hoist (regular eye).

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