

MIL-H-3280D
26 July 1978
SUPERSEDING
MIL-H-3280C
28 August 1972

MILITARY SPECIFICATION

HOISTS, CHAIN, MANUALLY OPERATED, PACKAGING OF

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

1. SCOPE

1.1 This specification covers the minimum requirements for preservation, packing, and marking of manually operated chain hoists.

2. APPLICABLE DOCUMENTS

2.1 Issues of documents. 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-781 | - Strapping, Steel, and Seals. |
| PPP-B-601 | - Boxes, Wood, Cleated-Plywood. |
| PPP-B-621 | - Boxes, Wood, Nailed and Lock-Corner. |
| PPP-B-636 | - Boxes, Shipping, Fiberboard. |
| PPP-P-40 | - Packaging and Packing of Hand Tools. |
| PPP-T-60 | - Tape: Packaging, Waterproof. |

FSC PACK

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.

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- MIL-C-104 - Crates, Wood; Lumber and Plywood Sheathed, Nailed and Bolted.
- MIL-P-116 - Preservation-Packaging, Methods of.
- MIL-B-121 - Barrier Material, Greaseproofed, Waterproofed, Flexible.
- MIL-C-3774 - Crates, Wood; Open, 12,000- and 16,000-Pound Capacity.
- MIL-V-13811 - Varnish, Waterproofing, Electrical, Ignition.
- MIL-C-52950 - Crates, Wood, Open and Covered.

STANDARDS

FEDERAL

- FED. TEST METHOD
STD. No. 101 - Preservation, Packaging and Packing Materials, Test Procedures.

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- MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attributes.
- MIL-STD-129 - Marking for Shipment and Storage.
- 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 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 pack. Unless otherwise specified (see 6.2), the contractor shall furnish a preproduction pack for examination and testing within the time frame specified (see 6.2) to prove, prior to starting production packaging, that the applied preservation, packing, and marking comply with the requirements of this specification. Examination and tests shall be as specified in Section 4 and shall be subject to surveillance and approval by the Government (see 6.3). The preproduction

pack may be prepared utilizing either the preproduction model or a production hoist. When the preproduction model is utilized, any preservation and packing shall be removed by the contractor at no expense to the Government, when requested by the Government, to facilitate comparison between the preproduction model and production hoists.

3.2 Materials. Materials shall be as specified herein and in applicable specifications and standards. Materials not specified shall be selected by the contractor and shall be subject to all provisions of this specification. Materials shall be free of defects affecting serviceability (see 6.4).

3.3 Preservation. Preservation shall be Level A or Commercial as specified (see 6.2).

3.3.1 Level A.

3.3.1.1 Cleaning, drying, and preservatives. Surfaces to which a contact preservative is to be applied shall be cleaned and dried in accordance with MIL-P-116. Preservatives specified herein shall conform to the applicable specifications listed in and shall be applied in accordance with MIL-P-116.

3.3.1.2 Unprotected metal surfaces. Unpainted and untreated exterior components and parts of the hoist, except machined surfaces, requiring the application of a contact preservative in accordance with MIL-P-116, shall be coated with Type P-1 preservative. Machined surfaces shall be coated with Type P-11 preservative. The coated surfaces shall be wrapped or covered with barrier-material conforming to MIL-B-121, Type I, Grade A, Class 2 and the wraps or covers shall be secured in place with tape conforming to PPP-T-60, Type IV. Unpainted information plates, except anodized aluminum plates, shall be coated with varnish conforming to MIL-V-13811.

3.3.1.3 Lubrication. The hoists, including the bearings, shall be lubricated, using the lubricants required for operation of the hoists.

3.3.1.4 Enclosed gears. Gear housings shall be filled to the operating level with the operational lubricant. The gears shall be actuated to assure coating all interior parts and surfaces with the lubricant.

3.3.1.5 Roller chains. Roller chains shall be coated with enough Type P-3 or Type P-9 preservative to assure penetration of the preservative to the inner surfaces of the rollers, pins, and bushings.

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After the excess Type P-3 or Type P-9 preservative has drained, the entire chain and the unpainted surfaces of sprockets shall be coated with Type P-1 preservative.

3.3.1.6 Repair parts. The preservative application criteria and applicable method(s) of preservation of MIL-P-116, shall be used to preserve the repair parts.

3.3.1.7 Tools. Tools shall be preserved in accordance with PPP-P-40, Level A.

3.3.1.8 Technical publications. Technical publications for each hoist shall be preserved together in accordance with MIL-P-116, Method IC-1.

3.3.1.9 Consolidation. The preserved repair parts, tools, and publications for each hoist weighing not more than 1,000 pounds shall be consolidated in a close-fitting box conforming to PPP-B-636, Class Weather-Resistant, style optional. Box closure shall be in accordance with the appendix to the box specification, Method V. The preserved repair parts, tools, and publications for each hoist weighing over 1,000 pounds shall be consolidated in a close-fitting box conforming to PPP-B-601, Overseas Type, style optional. Strapping of the box shall not be required.

3.3.2 Commercial. Each complete hoist, repair parts, tools, and publications shall be preserved in accordance with MIL-STD-1188.

3.4 Packing. Packing shall be Level A, Level B, or Commercial as specified (see 6.2).

3.4.1 Level A.

3.4.1.1 Hoists weighing not more than 1,000 pounds. Unless otherwise specified (see 6.2), each complete hoist, with consolidated repair parts, tools, and publications shall be packed in a close-fitting box conforming to PPP-B-601, Overseas Type, style optional or PPP-B-621, Class 2, style optional. Blocking, bracing, and anchoring of hoists within the boxes shall be in accordance with MIL-STD-1186. 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.

3.4.1.1.1 Hoists not weighing over 50 pounds. When specified (see 6.2), hoists, weighing not more than 50 pounds, complete with consolidated repair parts, tools, and publications furnished in a vendors carton, shall be packed in quantities not to exceed 1,000 pounds in containers as specified in 3.4.1.1.

3.4.1.2 Hoists weighing over 1,000 pounds. Each complete hoist, with consolidated repair parts, tools, and publications shall be packed in a crate conforming to MIL-C-104, Type I, Class 1 or 2, Style A. Blocking, bracing, and anchoring of hoists within the crates shall be in accordance with MIL-STD-1186. Unless otherwise specified (see 6.2), strapping shall be Finish B. When specified (see 6.2), strapping shall be Finish A.

3.4.2 Level B. Unless otherwise specified (see 6.2), the hoists shall be packed as specified in 3.4.1.1 and 3.4.1.2 as specified for Level A, except wood boxes shall be Domestic Type or Class and crates shall conform to MIL-C-3774, Type I or MIL-C-52950, Type V, Style A, nondemountable. When specified (see 6.2), hoists weighing not more than 50 pounds, complete with consolidated repair parts, tools, and publications furnished in a vendors carton, shall be packed in quantities not to exceed the weight limitations of the wood boxes specified herein.

3.4.3 Commercial. Each complete hoist, repair parts, tools, and publications shall be packed in accordance with MIL-STD-1188.

3.5 Marking.

3.5.1 Military packaging. Marking shall be in accordance with MIL-STD-129.

3.5.2 Commercial packaging. Marking shall be in accordance with MIL-STD-1188.

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.

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

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

- (a) Preproduction pack inspection (see 4.3).
- (b) Quality conformance inspection (see 4.4).

4.3 Preproduction pack inspection.

4.3.1 Examination. The preproduction pack for Level A or Level B shall be examined as specified in 4.4.4. Presence of one or more defects shall be cause for rejection.

4.3.2 Tests. The preproduction pack for Level A or Level B shall be tested as specified in 4.3.2.1 for boxed hoists and 4.3.2.2 for crated hoists. Failure of either test shall be cause for rejection.

4.3.2.1 Boxed hoists. Boxed hoists not exceeding 200 pounds gross weight shall be subjected to the free-fall drop test in accordance with FED. TEST METHOD STD. No. 101, Test Method 5007. Boxed hoists exceeding 200 pounds shall be subjected to the pendulum-impact test in accordance with FED. TEST METHOD STD. No. 101, Test Method 5012.

4.3.2.2 Crated hoists. Crated hoists shall be subjected to the guided-impact test (railroad-car) in Appendix A to MIL-STD-1186. The test car shall strike a string of five empty cars with draft gear extended and brakes set, at a speed of not less than 10 miles per hour and not more than 11 miles per hour. When it is impractical to test in accordance with the railroad-car method, the incline-impact Test Method 5023 or the pendulum-impact Test Method 5012 of FED. TEST METHOD STD. No. 101 may be substituted.

4.3.3 Failure criteria. Any shifting of contents, visible damage to the contents, or any loose, broken, or displaced anchoring, blocking or bracing within the container, or rendering of the interior containers, wraps, liners, barriers, or cushioning ineffectual in providing protection to the contents shall constitute failure of either test.

4.4 Quality conformance inspection.

4.4.1 Inspection stages. Inspection shall be in two stages as follows:

- (a) The first stage shall include inspection of materials, methods, containers, and markings inside the shipping container.
- (b) The second stage shall include inspection of materials and markings after closing the container.

4.4.2 Unit of product. For the purpose of inspection, a pack of any one level containing all components prepared for any applicable stage of inspection shall be considered a unit of product.

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

4.4.4 Examination. Samples selected in accordance with 4.4.3 shall be examined for the following defects. AQL shall be 2.5 percent defective.

- 101. Materials, methods, or containers not as specified. Each incorrect material, method, or container shall constitute one defect.
- 102. Preservatives not applied as specified.
- 103. Hoists not lubricated as specified.
- 104. Gear housings not filled and the gears not operated as specified.
- 105. Roller chains and sprockets not preserved as specified.
- 106. Repair parts, tools, or publications not preserved as specified.
- 107. Consolidation not as specified.
- 108. Blocking, bracing, and anchoring not provided as specified.
- 109. Strapping not as specified.
- 110. Hoists weighing under 50 pounds not packed as specified, when required.
- 111. Marking illegible, incomplete, incorrect, or missing.

5. PACKAGING

(This section not applicable to this specification.)

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6. NOTES

6.1 Intended use. It is intended that this specification be used for reference in Section 5 of equipment specifications, for direct reference in contracts or orders, and in the preparation of packaging data sheets.

6.2 Ordering data. Procurement documents should specify the following:

- (a) Title, number, and date of this specification.
- (b) When a preproduction pack is not required (see 3.1).
- (c) Time frame required for submission of the preproduction pack, when applicable (see 3.1).
- (d) Degree of preservation and degree of packing required (see 3.3 and 3.4).
- (e) When hoists weighing not more than 50 pounds are required to be packed in quantities (see 3.4.1.1.1 and 3.4.2).
- (f) When strapping shall be Finish A (see 3.4.1.1 and 3.4.1.2).

6.3 Preproduction pack. Any changes or deviations of production packs from the approved preproduction pack will be subject to the approval of the contracting officer. Approval of the preproduction pack will not relieve the contractor of his obligation to preserve, pack, and mark the hoists in accordance with 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 3.2).

6.5 Environmental. Environmental pollution prevention measures are contained in the packaging material specification referenced herein. Refer to material specification or preparing activity for recommended disposability methods.

Custodians:

Army - ME
Navy - YD
Air Force - 99

Preparing activity:

Army - ME

Project 3950-0202

Review activities:

Army - SM
DLA - CS

User activities:

Army - AR, AT

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