

MIL-D-82062B(YD)
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 SUPERSEDING
 MIL-D-82062A(YD)
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MILITARY SPECIFICATION

DERRICK, BARGE MOUNTING, 100-LONG-TON CAPACITY

This specification is approved for use by the Naval Facilities Engineering Command, Department of the Navy, and is available for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 This specification covers one type of derrick for pontoon barge mounting.

2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Specifications and standards. Unless otherwise specified, 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.

SPECIFICATIONS

FEDERAL

QQ-S-781 - Strapping, Steel, and Seals.
 RR-W-410 - Wire Rope and Strand.
 RR-S-550 - Socket, Wire Rope.
 PPP-B-601 - Boxes, Wood, Cleated Plywood.
 PPP-B-621 - Boxes, Wood, Nailed and Lock Corner.
 PPP-B-636 - Boxes, Shipping, Fiberboard.

MILITARY

MIL-P-116 - Preservation, Methods of.
 MIL-C-3774 - Crates, Wood, Open 12,000 and 16,000 Pound Capacity.

Beneficial comments (recommendations, additions, deletions) and any pertinent data that may be of use in improving this document should be addressed to: Commanding Officer (Code 156), Naval Construction Battalion Center, Port Hueneme, CA 93043, 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-S-15083 - Steel Castings.

MIL-E-15129 - Enamel, Ship, Exterior, Alkyd, Navy Gray, No. 7,
(Formula No. 5N).

STANDARDS

FEDERAL

FED-STD-H28 - Screw Thread Standards for Federal Services.

MILITARY

MIL-STD-129 - Marking for Shipment and Storage.

DRAWINGS

Naval Facilities Engineering Command.

- 1109659 - 100 Long Ton Derrick Pontoon Barge Mounting, Title Sheet.
- 1109660 - General Arrangements.
- 1109661 - Boom Pedestal - Front Base Assembly.
- 1109662 - Boom Pedestal, Front Base Details.
- 1109663 - Boom Pedestal - Rear Base Assembly.
- 1109664 - Boom Pedestal - Rear Base Details.
- 1109665 - Back Stay Anchorage Arrangement.
- 1109666 - Back Stay Anchorage Assembly.
- 1109667 - Back Stay Anchorage Details.
- 1109668 - Miscellaneous Fittings Details.
- 1109669 - Miscellaneous Items Sheave Components - Spacer Block -
Dummy Pins.
- 1109670 - Boom Pedestal - Front Bent Assembly.
- 1109671 - Boom Pedestal - Front Bent Details.
- 1109672 - Boom Pedestal - Front Bent Details.
- 1109673 - Boom Hinge Block Assembly.
- 1109674 - Boom Hinge Block Details.
- 1109675 - Boom Pedestal - Rear Bent Assembly.
- 1109676 - Boom Pedestal - Rear Bent Details.
- 1109677 - Signal Bridge Details.
- 1109678 - Inner End of Boom Details.
- 1109679 - Mid-Section of Boom Details.
- 1109680 - Outer End of Boom Assembly, and Details.
- 1109681 - Outer End of Boom Details.
- 1109682 - End of Boom Arrangement.
- 1109683 - Boom Extension Details.
- 1109684 - Boom Extension Assembly.
- 1109685 - Boom Stay Strut Arrangement.
- 1109686 - Back Stay Strut Sheaves for 2-3/8 Rope Assembly.
- 1109687 - Back Stay Strut Sheaves for 2-3/8 Rope Details.
- 1109688 - Back Stay Strut Assembly.
- 1109689 - Back Stay Strut Detail.
- 1109690 - Deflecting Support Assembly.
- 1109691 - Deflecting Support Details.
- 1109692 - Boom Stay Strut - Ladder Assembly.

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- 1109693 - Boom Stay Strut - Ladder Details.
- 1109694 - Reeving Diagram.
- 1110553 - Boom Fall Blocks Arrangement.
- 1110554 - Upper & Lower Main Hoist Blocks Arrangement.

(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.)

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

AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)

AISC Handbook, Standards, etc.

(Application for copies should be addressed to the American Institute of Steel Construction, 400 North Michigan, 8th Floor, Chicago, IL 60611.)

AMERICAN NATIONAL STANDARDS INSTITUTE, INC. (ANSI)

B30.8 - Floating Cranes And Floating Derricks.

(Application for copies should be addressed to American National Standards Institute, Inc., 1430 Broadway, New York, NY 10018.)

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

A36 - Structural Steel.

A325 - Steel Bolts, Joints, Structural High Strength For.

A500 - Tubing, Cold Formed Welded and Seamless Carbon Steel Structural, in Rounds and Shapes.

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

AMERICAN WELDING SOCIETY (AWS)

AWS Handbook, Standards, etc.

(Application for copies should be addressed to the American Welding Society, P.O. Box 351040, 550 Le Jeune Road, Miami, FL 33135.)

SOCIETY OF AUTOMOTIVE ENGINEERS, INC. (SAE)

J462 - Copper Base Casting Alloys, Brass or Bronze.

(Application for copies should be addressed to the Society of Automotive Engineers, Inc., 400 Commonwealth Drive, Warrendale, PA 15096.)

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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. The derrick shall be as specified herein and as shown on Drawings 1109659 through 1109694, 1110553, and 1110554. The derrick shall consist of a nonrotating three-piece boom, adjustable for reach, 84 feet long, with a 15-foot boom extension, carrying both the main hook block line sheave and the auxiliary hook line sheave; a 41-foot boom back stay strut; a back stay anchorage; an A-frame boom pedestal that extends 31 feet 6 inches above a deck; a front and rear pedestal base; a main hook block system for 12-part, 1-1/8 inch diameter wire rope; an auxiliary hook system, with overhaul ball, for single-part 7/8-inch diameter wire rope; a boom fall block system from the back stay anchorage with a 9-part, 1-1/8 inch diameter wire rope; a structural tension member system consisting of four lengths of 2-3/8 inch diameter wire rope from the boom point to the back stay strut and from the back stay strut to the boom ball blocks; various running and equalizing sheaves; a load indicator for both the main hook load and auxiliary hook load; and a radius indicator for the boom.

3.2 First article. When specified (see 6.2), the contractor shall furnish one derrick for first article inspection and approval (see 4.2.1 and 6.4).

3.3 Drawings. The drawings, forming a part of this specification are engineering design drawings. The contractor is responsible for preparing his own shop drawings. Where tolerances prescribed could cumulatively result in incorrect fits, the contractor shall provide tolerances within those prescribed on the drawings to ensure correct fit, assembly, and operation of the item. No deviation from the prescribed dimensions or tolerances is permissible without prior approval of the contracting officer.

3.4 Material. Material shall be as specified herein or shown on the applicable drawings. Material not definitely specified shall be of standard commercial quality suitable for the intended use. All material shall be new and unused. All nuts, bolts, and screws shall have standard screw threads in accordance with FED-STD-H28.

3.4.1 Structural steel. Steel for structural members shall conform to ASTM A36.

3.4.2 Alloy steel. Steel for pins or shafts shall conform to SAE J404, alloy No. 4140 or 4340.

3.4.3 Castings. Steel for castings shall conform to MIL-S-15083, grade 105-85.

3.4.4 Bronze. Bronze for bushings and bearings shall conform to SAE J462, alloy No. 660, No. 661, or equivalent.

3.4.5 Contact of dissimilar metals. Intimate contact between dissimilar metals, which can be expected to cause galvanic corrosion, shall be avoided. When such contact cannot be avoided, an interposing insulating material shall be provided to minimize the corrosive effect.

3.5 Additional requirements. The derrick shall conform to requirements of ANSI B30.8.

3.5.1 Safety. All moving, hot, or electrically energized parts, having inherent qualities or location that makes the parts hazardous to operating personnel, shall be insulated, fully enclosed, or properly guarded. Such guards may be fabricated of solid or expanded metal and shall be firmly attached to the framework by means of bolts or screws.

3.5.2 Maintainability. All major assemblies and installed attachments shall be accessible for maintenance, repair, and replacement without the removal of other major assemblies, and installed attachments not normally removed. Covers or plates that must be removed for component adjustment, repair, replacement, or maintenance shall be equipped with quick-disconnect fastenings. Each maintenance assembly or disassembly operation shall be accomplished with common tools and special tools furnished with the unit.

3.6 Construction. The derrick shall have the dimensions, characteristics, and construction details specified herein and as shown on the drawings. The contractor shall check all drawings and shall promptly notify the contracting officer of any discrepancies. The contractor shall be responsible for any errors that might have been avoided thereby. Dimensions, tolerances, and fits shall provide interchangeability of like parts and components for all derricks constructed in accordance with this specification.

3.7 Fasteners. A minimum of 20 percent in excess of all fasteners, over the actual quantities required, shall be furnished with each derrick except, that when actual quantities required are less than five, one spare shall be furnished.

3.7.1 High strength structural bolts, nuts, and washers. High strength structural bolts, nuts, and washers shall conform to ASTM A325. Each bolt shall be equipped with two round washers and one nut.

3.7.2 Capscrews, self-locking. Hexagon head and socket head capscrews used in tapped holes as safety locking devices shall be a positive self-locking type.

3.7.3 Nuts, self-locking. Through-machine bolts, used as safety retaining devices on structural pins, shall each have a positive self-locking nut.

3.7.4 Star nuts. The star nuts for microadjustment tightening of the inner race of the double row tapered roller bearings shall be as shown on the applicable drawings.

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3.8 Design and performance. The overall safety factor for design shall be not less than five. The allowable working load, safe working load, and the design load shall be considered identical. Each of the design assemblies shall be capable of withstanding the applicable proof test load specified herein or as indicated on the applicable drawings and shall show no evidence of breakage, fracture, or permanent distortion of any component part, during or after such test.

3.8.1 Boom fall blocks. The boom fall block shall meet the design criteria indicated on Drawing 1110553.

3.8.2 Main hoist blocks and hook. The main hoist blocks and hook shall meet the design criteria indicated on Drawing 1110554.

3.8.3 Auxiliary swivel safety hook and overhaul ball. The auxiliary swivel safety hook and overhaul ball shall meet the design criteria indicated on the applicable drawings and shall be proof tested in conformance to 4.4.3 at twice the allowable working load.

3.9 Fabrication. The derrick assemblies, subassemblies, and component parts shall be fabricated as specified herein to the dimensions and tolerances shown on the applicable drawings.

3.9.1 Sheaves. Derrick sheaves shall be of cast steel, normalized, and tempered. Sheaves shall be machine grooved to the correct line size and hardened in the groove to not less than Rockwell C-38. The hub, rim, and bore of the sheave shall be machine finished.

3.9.2 Pins and shafts. All pins and shafts shall be alloy steel, turned, ground, and polished, except that when an inner bearing race is called, the sheave pin need not be polished. Pins and shafts shall have a surface hardness of not less than Rockwell C-40.

3.9.3 Bearings. Bronze bearings shall be of the material specified herein and of the type shown on the applicable drawing. Antifriction (tapered roller) bearings shall be as indicated on the applicable drawing.

3.9.4 Wire rope. Wire rope shall be 6 by 37 Warrington-Seale, fibre core, preformed, regular lay, improved plow steel in accordance with RR-W-410. Minimum breaking strength shall be 61,200 pounds (lb), for 7/8-inch wire rope, 100,200 lb for 1-1/8 inch wire rope, and 428,000 lb for 2-3/8 inch wire rope. The single part auxiliary hoist line shall be 18x7 or 19x7 nonrotating wire rope. Length and end terminations shall be as indicated on the applicable drawing.

3.9.5 Sockets, wire rope. Wire rope sockets shall conform to RR-S-550, type A, finish 2, sizes as indicated on the applicable drawings, or where size permits, swagged wire rope sockets may be used.

3.10 Attachments.

3.10.1 Radius indicator. A radius indicator for the boom shall be provided by the contractor. The indicator shall be accurate and reliable under all operating conditions including derrick out of level and severe weather.

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It shall compensate for the change in radius caused by the list of the pontoon barge on picking up a load. It shall be a pendulum type, heavily weighted. It shall have a remote type dial indicating device for attaching to the operator's control console. The dial-indicating device shall have a removable bezel for field calibration. The operator's control console location can be taken as directly beside the main hoist winch.

3.10.2 Load indicators. Both the main hook and auxiliary hook shall have a load indicator. The load indicators shall have a remote dial type indicator for attaching to the operator's console. The dials shall be calibrated in increments of long tons (2,240 lb). The load indicators shall be rated at 1-1/2 times the allowable safe working load and the remote indicating dials shall be so calibrated.

3.11 Cleaning, treatment, and painting. Surfaces normally painted in good commercial practice shall be cleaned, treated, and painted as specified herein. Surfaces to be painted shall be cleaned and dried to ensure that they are free from contaminants such as oil, grease, welding slag and spatter, loose mill scale, water, dirt, corrosion product, or any other contaminating substances. As soon as practicable after cleaning, and before any corrosion product or other contamination can result, the surfaces shall be prepared or treated to ensure the adhesion of the coating system. The painting shall consist of at least one coat of primer and one finish coat. The primer shall be applied to a clean, dry surface as soon as practicable after cleaning and treating. Painting shall be with manufacturer's current materials according to manufacturer's current processes and the total dry film thickness shall be not less than 2.5 mils over the entire surface. The paint shall be free from runs, sags, orange peel, or other defects. The finish coat of paint shall conform to MIL-E-15129.

3.12 Instruction plates. The equipment shall be equipped with instruction plates suitably located, describing any special or important procedures to be followed in operating and servicing the equipment. Plates shall be of a material that will last and remain legible for the life of the equipment and shall be securely affixed thereto with nonferrous screws, rivets, or bolts of not less than 1/8-inch diameter.

3.13 Identification plate. The contracting officer will furnish the required identification plates to the Government inspector. The contractor will be required to stamp the necessary data in the blank spaces thereon and securely affix said plates in a conspicuous place on each unit, assembly and/or subassembly, and parts as directed by the Government inspector. Non-ferrous screws, rivets, or bolts of not less than 1/8 inch in diameter shall be used to affix the plates. Nomenclature shall be "DERRICK, 100 LONG TON CAPACITY."

3.14 Marking. The erection marks of each component part of the derrick shall be stenciled on the component part or inscribed on an attached metal tag in the case of pins, shafts, or other narrow items. Markings shall be Gothic type capitals and Arabic numerals not less than 1-inch high for stenciled information and not less than 3/16-inch high for inscribed information. The safe working load rating, in long tons, of each block and the auxiliary hook

overhaul ball combination shall be clearly marked by recessed or raised lettering. Markings shall be Gothic type capitals and Arabic type numerals not less than 1-inch high.

3.15 Workmanship.

3.15.1 Steel fabrication. The steel used in fabrication shall be free from kinks, sharp bends, and other conditions that would be deleterious to the finished product. Manufacturing processes shall not reduce the strength of the steel to a value less than intended by the design. Manufacturing processes shall be done neatly and accurately. All bends shall be made by controlled means to ensure uniformity of size and shape.

3.15.2 Bolted connections. Bolt holes shall be accurately punched or drilled and shall have the burrs removed. Washers or lockwashers shall be provided in accordance with good commercial practice, and all bolts, nuts, and screws shall be tight. Connections shall be in accordance with ASTM A325.

3.15.3 Welding. Welding procedures shall be in accordance with the AWS and AISC codes. The surface of parts to be welded shall be free from rust, scale, paint, grease, or other foreign matter. Welds shall be of sufficient size and shape to develop the full strength of the parts connected by the welds. Welds shall transmit stress without permanent deformation or failure when the parts connected by the weld are subjected to proof and service loadings.

3.15.4 Riveted connections. Rivet holes shall be accurately punched or drilled and shall have the burrs removed. Rivets shall be driven with pressure tools and shall completely fill the holes. Rivet heads, when not countersunk or flattened, shall be of approved shape and uniform size for the same diameter of rivet. Rivet heads shall be full, neatly made, concentric with the rivet holes, and in full contact with the surface of the member.

3.15.5 Castings. All castings shall be sound and free from patching, misplaced coring, warping, or any other defect that reduces the ability of the casting to perform its intended function.

3.16 Servicing and restoration. Each unit tested shall be serviced and restored to a service condition equal to the original condition of the unit, neglecting nominal wear incurred during the tests. The restoration shall include paint touchup or repainting, as required for delivery.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the contractor is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract or purchase order, 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 ensuring that supplies and materials are inspected for compliance with all the requirements specified herein and in applicable referenced documents.

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

- a. First article inspection (see 4.2.1).
- b. Quality conformance inspection (see 4.2.2).

4.2.1 First article inspection. The first article inspection shall be performed on one derrick when a first article is required (see 3.2 and 6.4). This inspection shall include the examination of 4.3 and the tests of 4.4. The first article may be either a first production item or a standard production item from the supplier's current inventory provided the item meets the requirements of the specification and is representative of the design, construction, and manufacturing technique applicable to the remaining items to be furnished under the contract.

4.2.2 Quality conformance inspection. The quality conformance inspection shall include the examination of 4.3, the tests of 4.4, and the packaging inspection of 4.5.

4.3 Examination. Each derrick shall be examined for compliance with the requirements specified in section 3 of this specification. Any redesign or modification of the contractor's standard product to comply with specified requirements, or any necessary redesign or modification following failure to meet specified requirements shall receive particular attention for adequacy and suitability. This element of inspection shall encompass all visual examinations and dimensional measurements. Noncompliance with any specified requirements or presence of one or more defects preventing or lessening maximum efficiency shall constitute cause for rejection.

4.4 Tests: The proof load determinations shall be made on a suitable static testing machine.

4.4.1 Boom fall blocks proof load test. Each boom fall block set as shown on Drawing 1110553 shall be fully reeved as shown on Drawing 1109694 with wire rope of the size and physical characteristics recommended for use thereon. The hoist line shall be attached to one of the heads of the testing machine. The pin connection of the traveling upper block shall be attached to the same head of the testing machine as the hoist line. The pin connection of the fixed lower block shall be attached to the opposite head of the testing machine. A proof load of not less than 200,000 lb shall be maintained on the block set for not less than 10 minutes duration. After proof testing, any evidence of damage, deformation, distortion, or elongation of any of the component parts shall be cause for rejection.

4.4.2 Main hoist blocks and hook proof load test. Each main hoist block set and hook as shown on Drawing 1110554 shall be fully reeved as shown on Drawing 1109694 with wire rope of the size and physical characteristics recommended for use. The hoist line shall be attached to one of the heads of the testing machine. The pin connection of the fixed upper block shall be attached to the same head of the testing machine as the hoist line. One hook

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of the duplex swivel hook on the lower block shall be attached to the opposite head of the testing machine. A proof load of not less than 448,000 lb shall be maintained on the block set for not less than a 10-minute duration. After testing with one hook, the test shall be repeated using the opposite hook of the duplex swivel hook. After proof testing, any evidence of damage, deformation, distortion, or elongation of any of the component parts shall be cause for rejection.

4.4.3 Auxiliary hook and overhaul ball proof test. The auxiliary swivel safety hook and integral overhaul ball shall have the hook attached to one head of the testing machine and the pin connection attached to the opposite head of the testing machine. A proof load of not less than 22,400 lb shall be maintained on the auxiliary hook overhaul ball integral unit for not less than a 10-minute duration. After proof testing, any evidence of damage, deformation, distortion, or elongation of any of the component parts shall be cause for rejection.

4.4.4 Semierrection alinement test. Each assembly intended for final field welding shall be completely assembled by use of the alinement bolts for this test. The test shall consist of the following:

- a. The front and rear bases of the derrick, AD-E, and AD-G, shall be assembled for fit, on a suitable level surface, using the alinement bolts as required, on the appropriate drawing. The total runout deviation permissible from a level plane shall be $\pm 3/8$ -inch longitudinally and $\pm 1/8$ -inch laterally. The front and rear derrick bases shall be supported, symmetrically, at not less than eight contact points.
- b. The front and rear bents of the derrick AD-F and AD-H shall be placed and pinned to the respective simulated base and together at the common point with the pins indicated on the applicable drawings. The maximum departure of the front bent AD-F from a vertical plane shall not be greater than $3/4$ inch. The derrick signal bridge assembly AD-L, less the deck plate, shall be bolted in position onto the rear bent AD-H.
- c. With the front bent AD-H secured to the base, the derrick boom hinge blocks AD-K shall be fastened to the rear bent AD-H. The inner end of the boom AD-C and the back stay strut AD-D shall be alternately placed in the common hinge pin position and pinned to the hinge blocks AD-K with the hinge pins AD-V4.
- d. The derrick back stay anchorage AD-J shall be completely assembled for fit on a suitable level surface. The total runout deviation from a level plane shall be $\pm 1/8$ -inch longitudinally and $\pm 1/8$ -inch laterally. The back stay anchorage shall be supported symmetrically at not less than four contact points.
- e. The three boom assemblies and the boom extension assembly AD-A, AD-B, AD-C, and AD-X of the derrick shall be bolted together for fit, on the ground, with the 1-inch high strength bolts indicated on the applicable drawing. Full torquing of bolts is not required.
- f. All sheaves, with the mating shaft and shaft nuts, shall be assembled in operating position on the respective major assembly. Each sheave shall be checked for freedom of rotation.

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- g. The derrick boom stay strut ladder assembly and the deflecting support assembly AD-P and AD-Q shall be alternately bolted to the back stay strut AD-D by the alignment bolts, as indicated on Drawings 1109660 and 1109688.
- h. Failure of any assembly to permit pinning to its mating assembly or assemblies shall be cause for rejection of the faulty assembly or component. Faulty assemblies or components may be repaired by the contractor and resubmitted for retesting except that inadvertent oversize holes shall be refilled to not less than 0.250 inch under-size by welding. The weld material shall be equal to or not exceed the tensile strength of the base material by more than 10 percent. The rebores shall show full and uninterrupted machine tool marks. The bearing length of the rebores shall be within ± 0.005 inches of the original part thickness.

4.5 Packaging inspection. The preservation, packing, and marking of the item shall be inspected to verify conformance to the requirements of section 5.

5. PACKAGING

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

5.1.1 Level A.

5.1.1.1 Methods of preservation. Cleaning processes, drying procedures, preservatives, and methods of preservation are listed in MIL-P-116 and shall conform to the requirements of MIL-P-116 and any applicable specifications.

5.1.1.2 Disassembly. Disassembly shall be the minimum necessary to protect parts subject to damage or loss, and to accomplish reduction in cube. Removed bolts, nuts, pins, screws, and washers shall be reinstalled in mating parts and secured to prevent their loss.

5.1.1.3 Matchmarking. Parts removed and mating parts on the equipment and attachments shall be match-marked to facilitate reassembly. Parts and accessories removed and mating parts on the equipment shall be identified with weatherproof tags attached to mating parts and locations. Markings shall be applied to the tags with a waterproof material.

5.1.1.4 Unprotected surfaces. Unprotected exterior metal surfaces requiring the application of a contact preservative in accordance with MIL-P-116 and not specifically provided for herein shall be preserved as follows:

Any unpainted and uncoated exposed metal surfaces of the derrick and component parts, including threaded surfaces and surfaces exposed by disassembly, 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.

5.1.1.5 Wire rope. Wire rope shall be coated with type P-1 preservative. The coating shall be applied by drawing the wire through a trough filled with preservative. Excess preservative shall be removed from the wire rope. Wire rope shall be wound on wooden reels.

5.1.1.6 Fasteners. Bolts, nuts, and washers shall be packaged, method III, in a box conforming to PPP-B-636, class weather-resistant.

5.1.1.7 Instruments. Each radius and load-indicating instrument shall be packaged, method III, in a box conforming to PPP-B-636, class weather-resistant.

5.1.2 Commercial. The equipment shall be preserved in accordance with the contractor's standard practice in a manner to prevent deterioration and damage.

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

5.2.1 Level A.

5.2.1.1 Blocks and sheaves. The blocks and sheaves shall be packed in close-fitting boxes conforming to PPP-B-621, class 2. Where a single item or assembly exceeds the weight limitation of the above box specification, open crates conforming to MIL-C-3774, type I, style A, shall be used. The contents shall be blocked, braced, fastened, or otherwise secured to prevent movement inside the container.

5.2.1.2 Reels. Reels or wire rope shall be shipped uncrated. The reels shall be completely enclosed with wooden lagging, with the boards touching each other. Lagging boards shall be the same thickness as the reel flange, but not thicker than nominal 2-inch lumber, and shall be nailed to the outside of the flanges of the reel. Each reel shall be strapped girthwise with two flat steel straps conforming to QQ-S-781, type I, finish B. Strapping shall be stapled to the lagging boards.

5.2.1.3 Miscellaneous components. Pins, plates, bolts, nuts, washers, instruments, erection manuals, and any other similar miscellaneous components and fittings requiring the protection of a container for safe and convenient handling, shall be packed in close-fitting boxes conforming to PPP-B-621, class 2, or PPP-B-601, overseas type. The contents shall be cushioned, blocked, and braced to prevent movement inside the container.

5.2.1.4 Bundled components. Disassembled structural components and any assemblies suitable for bundling shall be bundled into secured lifts of a size and weight convenient for handling and stowing. The components and assemblies shall be nested, arranged, and the bundles secured girthwise with 0.035 by 1-1/4 inch flat steel strapping conforming to QQ-S-781, type I, finish B, or bolting, in combination with suitable wood blocking or battens as required to form compact nonshifting bundles. Strapping shall be spaced not to exceed approximately 36 inches on center, with end strapping placed not more than 18 inches from each end. Edge protectors of metal or pressed fiberboard shall be used where strapping bears on sharp metal edges. The strapping shall be stapled to any wood blocking or battens provided. Structural components and assemblies too large for convenient bundling, such as boom sections, base longitudinal beams, and back stay struts, shall be shipped as individual pieces.

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5.2.2 Level B. Each complete derrick shall be packed as specified for level A, except that the boxes shall be domestic type or class 1, as applicable, and strapping shall be either finish A or B.

5.2.3 Commercial. The equipment shall be prepared for shipment in a manner that will ensure arrival at destination in a satisfactory condition. Preparation for delivery shall comply with applicable carrier rules and regulations.

5.3 Marking. Marking shall be in accordance with MIL-STD-129.

6. NOTES

6.1 Intended use. The derrick covered by this specification is for use on a 10 by 30 single tier pontoon barge assembly in harbors and other protected waters at military advance bases.

6.2 Ordering data. The acquisition documents should specify the following:

- a. Title, number, and date of this specification.
- b. When first article inspection is required for inspection and approval (see 3.2, 4.2.1, and 6.4).
- c. Level of preservation and level of packing required (see 5.1 and 5.2).

6.3 Contract data requirements. When this specification is used in an acquisition that incorporates a DD Form 1423 and invokes the provisions of paragraph 7-104.9(n) of the Defense Acquisition Regulations (DAR), the data requirements will be developed as specified by an approved Data Item Description (DD Form 1664) and delivered in accordance with the Contract Data Requirements List (DD Form 1423) incorporated into the contract. When the provisions of DAR 7-104.9(n) are not invoked, the data shall be delivered in accordance with the contract requirements.

6.4 First article. When a first article inspection is required, the item will be tested and should be a first production item or it may be a standard production item from the contractor's current inventory as specified in 4.2.1. The first article should consist of one unit. The contracting officer should include specific instructions in acquisition documents regarding arrangements for examination, test, and approval of the first article.

6.5 Changes from previous issue. Asterisks are not used in this revision to identify changes with respect to the previous issue, due to the extensiveness of the changes.

Preparing activity:

Navy - YD

Project No. 3950-N208

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