

**INCH-POUND**

MIL-B-24141A(SH)

9 November 1990

SUPERSEDING

MIL-B-24141(SHIPS)

26 April 1965

(See 6.8)

**MILITARY SPECIFICATION****BLOCKS, TACKLE, WIRE ROPE**

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

**1. SCOPE**

1.1 Scope. This specification covers single- and multiple-sheave tackle blocks, snatch blocks, and cargo hoisting blocks for use with wire rope.

1.2 Classification. The blocks are of the following types, classes, sizes, and rigs, which are commonly used throughout the fleet, as specified (see 6.2):

Type I - Blocks, oval pattern.

Class 1 - Single sheave.

Class 2 - Double sheave.

Class 3 - Triple sheave.

Type II - Blocks, diamond pattern.

Class 1 - Single sheave.

Class 2 - Double sheave.

Class 3 - Triple sheave.

Type III - Blocks; snatch, safety locking.

Type IV - Blocks; cargo hoisting.

1.2.1 Sizes. The size of the block shall be listed as the outside diameter of the sheave to conform with current commercial practice.

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Commander, Naval Sea Systems Command, SEA 5523, Department of the Navy, Washington, DC 20362-5101 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC N/A

FSC 3940

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## 2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Specifications, standards, and handbooks. The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those listed in the issue of the Department of Defense Index of Specifications and Standards (DODISS) and supplement thereto, cited in the solicitation (see 6.2).

## SPECIFICATIONS

## FEDERAL

PPP-F-320 - Fiberboard; Corrugated and Solid, Sheet Stock  
(Container Grade) and Cut Shapes.

## MILITARY

MIL-B-3865 - Blocks, Rope Tackle: Packaging of.  
MIL-L-19140 - Lumber and Plywood, Fire-Retardant Treated.

## STANDARDS

## FEDERAL

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

## MILITARY

MIL-STD-130 - Identification Marking of U.S. Military Property.  
MIL-STD-278 - Welding and Casting Standard.

(Unless otherwise indicated, copies of federal and military specifications, standards, and handbooks are available from the Standardization Documents Order Desk, BLDG. 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.)

2.2 Non-Government publications. The following document(s) form a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents which are DOD adopted are those listed in the issue of the DODISS cited in the solicitation. Unless otherwise specified, the issues of documents not listed in the DODISS are the issues of the documents cited in the solicitation (see 6.2).

## AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

A 27 - Standard Specification for Steel Castings, Carbon, for  
General Application. (DOD adopted)  
A 36 - Standard Specification for Structural Steel. (DOD adopted)  
A 108 - Standard Specification for Steel Bars, Carbon, Cold-  
Finished, Standard Quality. (DOD adopted)  
A 109 - Standard Specification for Steel, Strip, Carbon, Cold-  
Rolled. (DOD adopted)  
A 148 - Standard Specification for Steel Castings High Strength for  
Structural Purposes.

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## ASTM (Continued)

- A 153 - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware. (DOD adopted)
- A 569 - Standard Specification for Steel, Carbon (0.15 Maximum, Percent) Hot-Rolled Sheet and Strip Commercial Quality. (DOD adopted)
- A 668 - Standard Specification for Steel Forgings, Carbon and Alloy, for General Industrial Use. (DOD adopted)
- B 438 - Standard Specification for Sintered Bronze Bearings (Oil Impregnated).

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

(Non-Government standards and other publications are normally available from the organizations that prepare or distribute the documents. These documents also may be available in or through libraries or other informational services.)

2.3 Order of precedence. In the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

## 3. REQUIREMENTS

3.1 First article. When specified (see 6.2), a sample shall be subjected to first article inspection (see 6.4) in accordance with 4.3.

3.2 Design and construction. Block design shall be as shown in tables I through IV and on figures 1 through 5, as to type, class, style, size, and rig. Each block shall be free from any defects that would adversely affect the performance or maintainability of individual components. Replacement parts shall be manufactured to standard tolerances to permit replacement without requiring modification. All parts subject to wear shall be removable without dismantling adjacent parts.

TABLE I. Type I blocks, oval pattern.

Size	Wire dia.	Sheave			Working load (pounds)		
		OD	Rim width	Center pin	SGL	DBL	TRIPLE
6	3/8	6	1	3/4	4,000	5,000	6,000
8	1/2	8	1-1/4	7/8	5,000	7,000	9,000
10	5/8	10	1-1/4	7/8	6,000	9,000	11,000
12	5/8	12	1-1/2	1	8,000	12,000	14,000
14	3/4	14	1-1/2	1-1/8	10,000	14,000	16,000
16	7/8-1	16	1-3/4	1-1/2	16,000	30,000	36,000
18	1	18	1-3/4	1-1/2	20,000	36,000	40,000

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TABLE II. Type II blocks, diamond pattern.

Size	Wire dia.	Sheave			Working load (pounds)		
		OD	Rim THK	Center pin	SGL	DBL	TRIPLE
6	3/8	6	1	3/4	4,000	5,000	6,000
8	1/2	8	1-1/4	7/8	5,000	7,000	9,000
10	5/8	10	1-1/4	7/8	6,000	9,000	11,000
12	5/8	12	1-1/2	1	8,000	12,000	14,000
14	3/4	14	1-1/2	1-1/8	10,000	14,000	16,000
16	7/8-1	16	1-3/4	1-1/2	16,000	30,000	36,000
18	1	18	1-3/4	1-1/2	20,000	36,000	40,000

TABLE III. Type III blocks, snatch.

Size	Wire dia.	Sheave			Load (pounds)
		OD	Rim THK	Center pin	Working
4	3/8	4	3/4	1/2	2,000
6	3/8-1/2	6	1	3/4	4,000
8	1/2-5/8	8	1-1/4	7/8	6,000
10	5/8	10	1-1/4	1	8,000
12	3/4	12	1-1/2	1-1/8	10,000
14	3/4-7/8	14	1-1/2	1-1/4	12,000
16	7/8-1	16	1-3/4	1-1/2	15,000
18	1	18	1-3/4	1-1/2	20,000
20	1-1/4	20	2-1/4	1-3/4	24,000
20	1-1/2	20	2-1/4	1-3/4	28,000

TABLE IV. Type IV blocks, cargo hoist.

Size	Wire dia.	Sheave		Load (pounds)
		OD	Rim THK	Working
12	3/4	12	1-3/4	10,000
14	3/4-7/8	14	1-3/4	16,000
16	3/4-1-1/4	16	---	20,000
18	1/4-1-1/4	18	---	20,000

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3.3 Material. Material shall be as specified herein. Material not specifically specified shall be selected by the manufacturer and shall be subject to all provisions of this specification. Material shall be new and unused.

3.3.1 Castings. Castings shall be of uniform quality, free of blowholes, porosity, hard spots, shrinkage defects, cracks, or other injurious defects. Strength and other essential physical properties of the castings shall conform to ASTM A 27 for carbon steel and ASTM A 148 for carbon and low alloy steel.

3.3.2 Forgings. Forgings shall be of uniform quality, free of flash, scale, cracks, hard spots, cold shuts, and excessive cooling stresses. Strength and other essential physical properties of the forgings shall conform to ASTM A 668.

3.3.3 Welding. Welding, if necessary, shall be performed in accordance with MIL-STD-278. Welding shall not be used to repair blocks.

3.3.4 Fastening devices. Screws, pins, bolts, and similar parts subject to removal, tightening or adjustment shall not be swaged, peened, staked or otherwise permanently deformed.

3.3.5 Threads. Threaded parts shall be in accordance with the applicable requirements of FED-STD-H28.

3.3.6 Surface. Castings, forgings, stampings and welded parts shall be thoroughly cleaned and free of sand, dirt, scale, flux, or other harmful or extraneous materials. External surfaces shall be free from burrs, sharp edges and corners. All bearing surfaces between matching parts shall be finished to the necessary tolerances to provide the required stability in operation. Surface roughness of bearing surfaces shall not reduce bearing areas appreciably or detract from appearance.

3.3.7 Galvanizing. Metal surfaces of blocks except bearing surfaces and bushings shall be hot dip galvanized in accordance with ASTM A 153, class B3. The basic metal shall be clean and free from defects that will impair appearance or protective value of the coating. Galvanizing shall be done prior to assembly of component parts.

3.3.8 Recovered materials. Unless otherwise specified herein, all equipment, material, and articles incorporated in the products covered by this specification shall be new and may be fabricated using materials produced from recovered materials to the maximum extent practicable without jeopardizing the intended use. The term "recovered materials" means materials which have been collected or recovered from solid waste and reprocessed to become a source of raw materials, as opposed to virgin raw materials. None of the above shall be interpreted to mean that the use of used or rebuilt products is allowed under this specification unless otherwise specifically specified.

3.4 Rig assemblies. Blocks and fittings of corresponding size and strength shall be assembled into rigs and identified by rig numbers (see 3.5 and figure 5). Special blocks and rigs not designated on figure 5 shall be assembled as specified in the contract or order.

3.5 Identification markings. Each block assembly shall be permanently and legibly marked by stamping the shell plate with the manufacturer's name or trademark, the safe working load, and the sheave diameter. Abbreviations may be used. Identification marking shall be in accordance with MIL-STD-130.

3.6 Details of types I, II, III, and IV blocks.

3.6.1 Block components.

3.6.1.1 Shells. Shell plates shall be made of steel casting, structural steel, or carbon steel hot-rolled sheet, as required, conforming to ASTM A 27, A 36, or A 159, respectively. The edges shall be well rounded.

3.6.1.2 Straps. Steel straps shall be made of structural steel, cold-rolled carbon steel or hot-rolled carbon steel as required, conforming to ASTM A 36, A 109, or A 569, respectively. Steel straps shall support the center pin and transmit sheave loads to the fitting (hook, shackle, swivel, and so forth) as required.

3.6.1.3 Sheaves. Unless otherwise specified in the contract or order, sheaves shall be cast steel conforming to ASTM A 27 or forged steel conforming to ASTM A 688, and shall be designed to prevent cutting action on the rope. The rim and tread section of each sheave shall be properly grooved to fit the contour of the rope under load conditions. The sheaves shall be concentric with the bore, and shall be designed so that only the hub bears against the shell. Side play shall not exceed 1/8 inch. Sheaves shall have a smooth-running action. Sheaves shall conform to minimum dimensions listed in tables I, II, III, and IV.

3.6.1.4 Bushings. Each sheave shall be furnished with a one-piece bronze bushing conforming to ASTM B 438, grade 1, class A, type II, which shall be pressed into the sheave with sufficient tightness to prevent slippage under extreme loads. The bushing shall be equal in length to the sheave thickness at the hub and shall have a minimum wall thickness of 3/16 inch.

3.6.1.5 Roller bearings. Bearings shall be tapered roller bearings, which can take both load and side thrust and hold the sheave centrally so it cannot chafe or wear on the sides. The bearings shall be locked in a grease packed chamber with felt washers to retain the grease and exclude dirt.

3.6.1.6 Center pin. The center pin shall be of carbon steel conforming to ASTM A 108, having a carbon content of 0.25 to 0.50 percent. The pin shall transmit the sheave load to the shell or straps without rotating (see tables I, II, and III for minimum pin diameters).

3.6.1.7 Fittings. Each block shall include a shackle, swivel shackle, hook or swivel hook, as specified (see 6.2) using a rig number shown on figure 5 to identify the type of fitting required. Safety factors of fittings shall be as specified in 3.7.1.

3.6.1.8 Hook. The hook shall be drop forged from carbon steel, with heavier sections at the areas which take the maximum stress. Hook safety factors shall be as specified in 3.7.1.

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3.6.1.9 Becket. The becket shall be formed by the extension of the strap ends, and shall show no distortion with the wire rope dead ended at the becket and the loads specified in tables I and II suspended from the hook.

3.6.1.10 Spacers and roller guides. Spaces shall be provided as required to make the block a strong, rugged unit with the required sheave clearances. Roller guides shall be provided as required to prevent the wire from coming out of the sheaves when the block is overhauled.

3.6.2 Type I blocks, oval pattern. Type I blocks shall be in accordance with 3.2, figure 1, table I, and as specified in 3.6.1.1 through 3.6.1.4 and 3.6.1.6 through 3.6.1.10.

3.6.3 Type II blocks, diamond pattern. Type II blocks shall be in accordance with 3.2, figure 2, table II, and as specified in 3.6.1.1 through 3.6.1.4 and 3.6.1.6 through 3.6.1.10.

3.6.4 Type III blocks; snatch, safety locking. Type III blocks shall be in accordance with 3.2, figure 3, table III, and as specified in 3.6.1.3, 3.6.1.4, 3.6.1.6, 3.6.1.10 and 3.6.4.1 through 3.6.4.3.

3.6.4.1 Shell. The shell shall be as specified in 3.6.1.1 and shall have a rope guard indented around the top of the shell to prevent jamming of the rope between the sheave and the shell.

3.6.4.2 Fittings. Blocks shall be fitted with either a swivel hook or a swivel eye with shackle as specified in the contract (see 6.2).

3.6.4.3 Safety locking device. Each block shall be provided with a self-locking safety device that will hold the block securely closed under load (see 6.2).

3.6.5 Type IV blocks, cargo hoisting. Type IV blocks shall be in accordance with 3.2, table IV, figure 4 and as specified in 3.6.1.3, 3.6.1.5 and 3.6.5.1 through 3.6.5.3.

3.6.5.1 Shell. Shells shall be as specified in 3.6.1.1 with recessed mortise.

3.6.5.2 Center pin. The center pin shall be as specified in 3.6.1.6 and shall contain a recessed grease fitting in the head and grease grooves.

3.6.5.3 Fittings. Blocks shall be rigged as rig 1 and rig 3; in addition, they may be self-adjusters shown as rig 15. All swivel connections shall contain a recessed Alemite grease fitting, or equal, and all fittings shall be in accordance with 3.6.1.7.

### 3.7 Physical requirements.

3.7.1 Safe working load (SWL). The SWL shall be based on a safety factor of 5 on the minimum breaking strength of the complete block assembly. The SWL, rope, and sheave size shall be as shown in tables I, II, III, and IV as applicable for the type block specified.



3.7.2 Proof load. When subjected to a proof load of twice the SWL specified in tables I, II, III, and IV, the block assembly shall show no evidence of deformation, distortion, cracks or permanent set of any component part.

3.7.3 Breaking load. When tested for breaking strength, the block assembly shall not fail at loads less than 5 times the SWL specified in tables I, II, III, and IV.

#### 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 (examinations and tests) 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 this specification where such inspections are deemed necessary to ensure supplies and services conform to prescribed requirements.

4.1.1 Responsibility for compliance. All items shall meet all requirements of sections 3 and 5. The inspection set forth in this specification shall become a part of the contractor's overall inspection system or quality program. The absence of any inspection requirements in the specification shall not relieve the contractor of the responsibility of ensuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the contract. Sampling inspection, as part of the manufacturing operations, is an acceptable practice to ascertain conformance to requirements, however, this does not authorize submission of known defective material, either indicated or actual, nor does it commit the Government to accept defective material.

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

- (a) First article inspection (see 4.3).
- (b) Quality conformance inspection (see 4.4).

4.3 First article inspection. The first article inspection shall be performed on one block when a first article is required (see 3.1 and 6.2). The inspection shall consist of the examinations specified in 4.6 and the test specified in 4.7 (see 6.3). Presence of one or more defects, or failure of either test shall be cause for rejection.

4.4 Quality conformance inspection. The quality conformance inspection shall consist of the examinations specified in 4.6 and the tests specified in 4.7.

4.5 Sampling. A lot consists of all the blocks of the same size, type, class, and rig offered for delivery at one time under one contract or order.

4.5.1 Sampling for examination. Sample blocks shall be selected at random from each lot in accordance with table V. Any sample block having one or more defects specified in table VII shall be rejected. If any defects are noted in the original sample blocks, additional blocks shall be randomly selected as specified in the original sampling plan and if any defects specified in table VII are noted, the entire lot shall be rejected.



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TABLE V. Sampling for examination.

Lot size	Sample size
2 - 8	2
9 - 15	3
16 - 25	5
26 - 50	8
51 - 90	13
91 - 150	20
151 - 280	32
281 - 500	50
501 - 1,200	80
1,201 - 3,200	125

4.5.2 Sampling for proof test. Sample blocks shall be randomly selected from each lot in accordance with table VI for the proof test specified in 4.7.1. If any block fails this test, the entire lot shall be rejected. Sample blocks passing the proof test may be reused for the breaking strength test.

4.5.3 Sampling for minimum breaking strength test. Sample blocks shall be selected in accordance with table VI for the minimum breaking strength test specified in 4.7.2. If any block fails this test, the entire lot shall be rejected.

TABLE VI. Sampling for tests.

Lot size	Sample size	
	Proof test	Breaking strength test
2 - 8	2	2
9 - 15	2	2
16 - 25	3	2
26 - 50	5	2
51 - 90	5	3
91 - 150	8	3
151 - 280	13	3
281 - 500	13	3
501 - 1,200	20	5
1,201 - 3,200	32	5

4.6 Examination. Each sample block selected in accordance with 4.5.1 shall be examined to verify conformance to all the requirements of this specification not involving tests. Defects shall be classified in accordance with table VII.

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TABLE VII. Classification of defects.

Categories	Defects
101	Block type and class nonconforming; not for specified size of rope.
102	Material nonconforming; evidence of cracks, blowholes, excessive porosity, hard spots, shrinkage defects, foreign inclusions, cold shuts, sprues, fins, flash, and scale.
103	Incomplete; component parts missing, not secured, not positioned, fitted or assembled as specified.
104	Rigs and fittings nonconforming; inoperative, evidence of binding, misalignment of components or excessive looseness.
105	Welding, nonconforming; evidence of cracks, nonfusion, deep undercut, slag inclusions, porosity, and incomplete or undersize welds.
106	Galvanizing nonconforming, evidence of uncoated areas, not smooth, not free from blisters, lumps, sharp projections or excess coating.
107	Evidence of unauthorized welding.
108	Evidence of permanent deformation of fastening devices subject to removal; evidence of swaging, peening or staking.
109	Fastening devices subject to removal not in alignment, inoperative; excessive looseness.
110	Threads nonconforming; size, length and fit not as required; not matching threads with components; stripped, crossed, cracked and incomplete.
111	Shell material not as specified (see 3.6.1.1); components not fastened securely; not cross bolted as specified (see 3.3.4).
112	Straps malformed; fails to support center pin as specified.
113	Sheave outside diameter and thickness less than the minimum specified (see 3.6.1.3).
114	Sheave fails to turn freely by hand; loose or wobbly on pin, side play exceeds specified tolerance (see 3.6.1.3).
115	Sheave rim and tread section not grooved to fit specified size of rope; surfaces not smooth, evidence of sharp edges, burrs or projections.
116	Sheave rim not concentric with bore.
117	Bushing nonconforming; loose in sheave, length not as specified (see 3.6.1.4), wall thickness less than the minimum specified (see 3.6.1.4).
118	Bushing bore nonconforming for center pin.
119	Bushing not grooved for self-lubricating as specified.
120	Center pin diameter less than specified (see 3.6.1.6), surfaces not smooth; evidence that pin rotates in shell or strap.
121	Lock device nonconforming, inoperative, fails to lock shackle link in position, prevents opening of block for quick entry of rope.

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TABLE VII. Classification of defects - Continued.

Categories	Defects
122	Hook, eye or shackle fails to swivel as specified (see 3.6.1.7).
123	Swivel crosshead and link nonconforming.
124	Identical parts not interchangeable.
125	Surfaces not free of sharp edges, or burrs, not clean.
126	Marking; manufacturer's name or trade-mark not permanent, missing or not legible.

4.7 Test procedures. Each sample block shall be subjected to the tests specified in 4.7.1 and 4.7.2, and in addition such blocks and their component parts may be subjected to any additional tests deemed necessary to determine compliance with the requirements of this specification.

4.7.1 Proof load test. Each sample block shall be proof tested to twice the safe working load specified in tables I through IV. The applicable proof load shall be applied to the block assembly and held for a period of not less than 10 minutes. At the conclusion of the test, the block and its components shall be carefully examined and measured for signs of fracture, permanent set, or evidence of instability, deformation, excessive wear, or mechanical defects (see 4.5.2).

4.7.2 Minimum breaking strength test. Each sample block shall be tested to destruction. A steadily increasing load shall be applied until failure occurs. The block or fittings when tested to destruction shall not fail at less than 5 times the safe working load specified in tables I through IV (see 4.5.3).

4.8 Inspection of packaging. Sample packs and the inspection of preservation, packing, and marking for shipment and storage shall be in accordance with the requirements of section 5 and the documents specified therein.

## 5. PACKAGING

(The packaging requirements specified herein apply only for direct Government acquisition. For the extent of applicability of the packaging or preparation for delivery requirements of referenced documents listed in section 2, see 6.5.)

### 5.1 General.

#### 5.1.1 Navy fire-retardant requirements.

- (a) Treated lumber and plywood. When specified (see 6.2), all lumber and plywood including laminated veneer material used in shipping containers and pallet construction, members, blocking, bracing, and reinforcing shall be fire-retardant treated material conforming to MIL-L-19140 as follows:

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Levels A and B - Type II - weather resistant.  
Category 1 - general use.

Level C - Type I - non-weather resistant.  
Category 1 - general use.

- (b) Fiberboard. Unless otherwise specified (see 6.2), fiberboard used in the construction of class-domestic, non-weather resistant fiberboard and cleated fiberboard boxes including interior packing forms shall meet the flamespread index and the specific optic density requirements of PPP-F-320.
- (c) Cushioning and wrapping materials. The use of excelsior, newspaper, shredded paper (all types), and similar hygroscopic or nonneutral materials and all types of loose fill materials for packaging applications such as cushioning, fill, stuffing, and dunnage is prohibited. Materials selected for cushioning and wrapping shall have properties (characteristics) for resistance to fire (see 6.6). Cushioning or wrapping materials, as applicable, shall be provided to prevent item and package damage and to prevent free movement of the container contents.

5.2 Packaging requirements. The packaging (preservation, packing and marking) requirements shall be in accordance with MIL-B-3865 for the level (A or commercial) of preservation; level of packing (A, B or commercial), marking including bar coding and other packaging acquisitioning options therein as specified (see 6.2).

## 6. NOTES

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

6.1 Intended use. Single- and multiple-sheave tackle blocks, snatch blocks, and cargo hoisting blocks are intended for use with wire rope.

6.2 Acquisition requirements. Acquisition documents must specify the following:

- (a) Title, number, and date of this specification.
- (b) Issue of DODISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced (see 2.1.1 and 2.2).
- (c) Type, class, size, and rig (see 1.2).
- (d) When first article inspection is required (see 3.1).
- (e) Fittings required (see 3.6.1.7 and 3.6.4.5).
- (f) Locking connections required (see 3.6.4.7).
- (g) When fire-retardant packaging materials are/are not required (see 5.1.1).
- (h) Preservation, packing, marking required (see 5.2).

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6.3 Consideration of data requirements. The following data requirements should be considered when this specification is applied on a contract. The applicable Data Item Descriptions (DID's) should be reviewed in conjunction with the specific acquisition to ensure that only essential data are requested/provided and that the DID's are tailored to reflect the requirements of the specific acquisition. To ensure correct contractual application of the data requirements, a Contract Data Requirements List (DD Form 1423) must be prepared to obtain the data, except where DoD FAR Supplement 27.475-1 exempts the requirement for a DD Form 1423.

<u>Reference Paragraph</u>	<u>DID Number</u>	<u>DID Title</u>	<u>Suggested Tailoring</u>
4.3	DI-T-4902	First article inspection report	-----

The above DID's were those cleared as of the date of this specification. The current issue of DoD 5010.12-L, Acquisition Management Systems and Data Requirements Control List (AMSDL), must be researched to ensure that only current, cleared DID's are cited on the DD Form 1423.

6.4 First article. When first article inspection is required, the contracting officer should provide specific guidance to offerors whether the item(s) should be a preproduction sample, a first article sample, a first production item (see 3.1), and the number of items to be tested as specified in 4.3. The contracting officer should also include specific instructions in acquisition documents regarding arrangements for examinations, approval of first article test results, and disposition of first articles. Invitations for bids should provide that the Government reserves the right to waive the requirement for samples for first article inspection to those bidders offering a product which has been previously acquired or tested by the Government, and that bidders offering such products, who wish to rely on such production or test, must furnish evidence with the bid that prior Government approval is presently appropriate for the pending contract. Bidders should not submit alternate bids unless specifically requested to do so in the solicitation.

6.5 Sub-contracted material and parts. The packaging or preparation for delivery requirements of referenced documents listed in section 2 do not apply when material and parts are acquired by the contractor for incorporation into the equipment and lose their separate identity when the equipment is shipped.

6.6 Cushioning and wrapping materials (see 5.1.1(c)). Materials having properties for resistance to fire and acceptable for use within unit packs and shipping containers for Navy acquisitions are:

<u>Material</u>	<u>Specification</u>
Paper, kraft, treated (fire-resistant)	A-A-1894
Paper, kraft, wrapping	UU-P-268, type II, grade C or D
Fiberboard	PPP-F-320, class-domestic/fire-retardant

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<u>Material</u>	<u>Specification</u>
Plastic film, flexible, cellular	PPP-C-795, class 3 - fire-retardant
Polystyrene expanded, resilient	PPP-C-850, grade SE
Bound fiber	PPP-C-1120, type III or IV, class C
Rubber, latex foam	MIL-R-5001, grade A
Rubber, cellular	MIL-R-6130, grade A
Fibrous glass	MIL-C-17435
Polystyrene foam	MIL-P-19644, type II
Rubber, cellular, synthetic	MIL-R-20092, class 5
Polyurethane foam	MIL-P-26514
Polyurethane foam, flexible, open cell	MIL-F-81334
Foam-in-place packaging materials: general specification for	MIL-F-83671
Foam, combustion, retardant, for cushioning supply items aboard Navy ships	MIL-F-87090

6.7 Subject term (key word) listing.

Becket  
 Bushing  
 Hook  
 Rig  
 Sheave  
 Shell  
 Strap

6.8 Changes from previous issue. Marginal notations 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 - SH  
 (Project 3940-N019)



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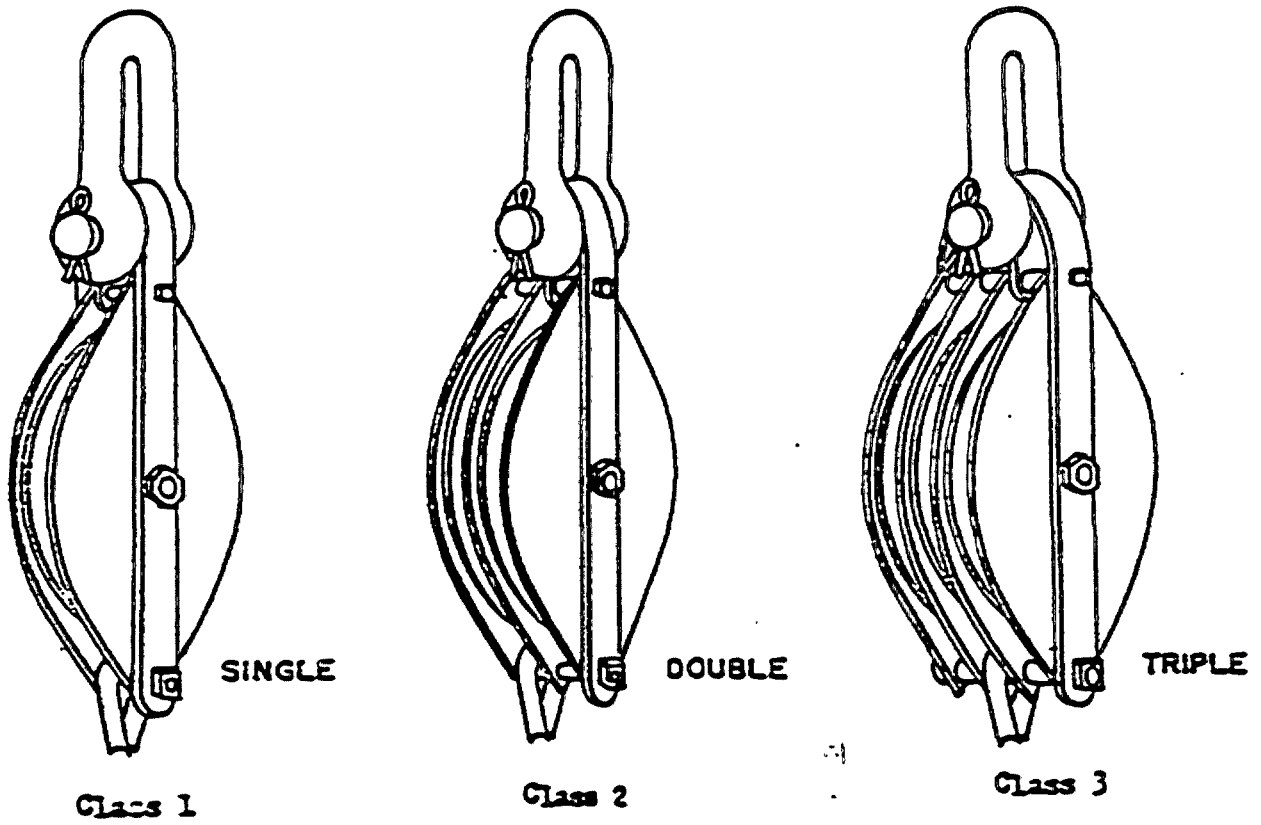


FIGURE 1. Regular pattern oval blocks.

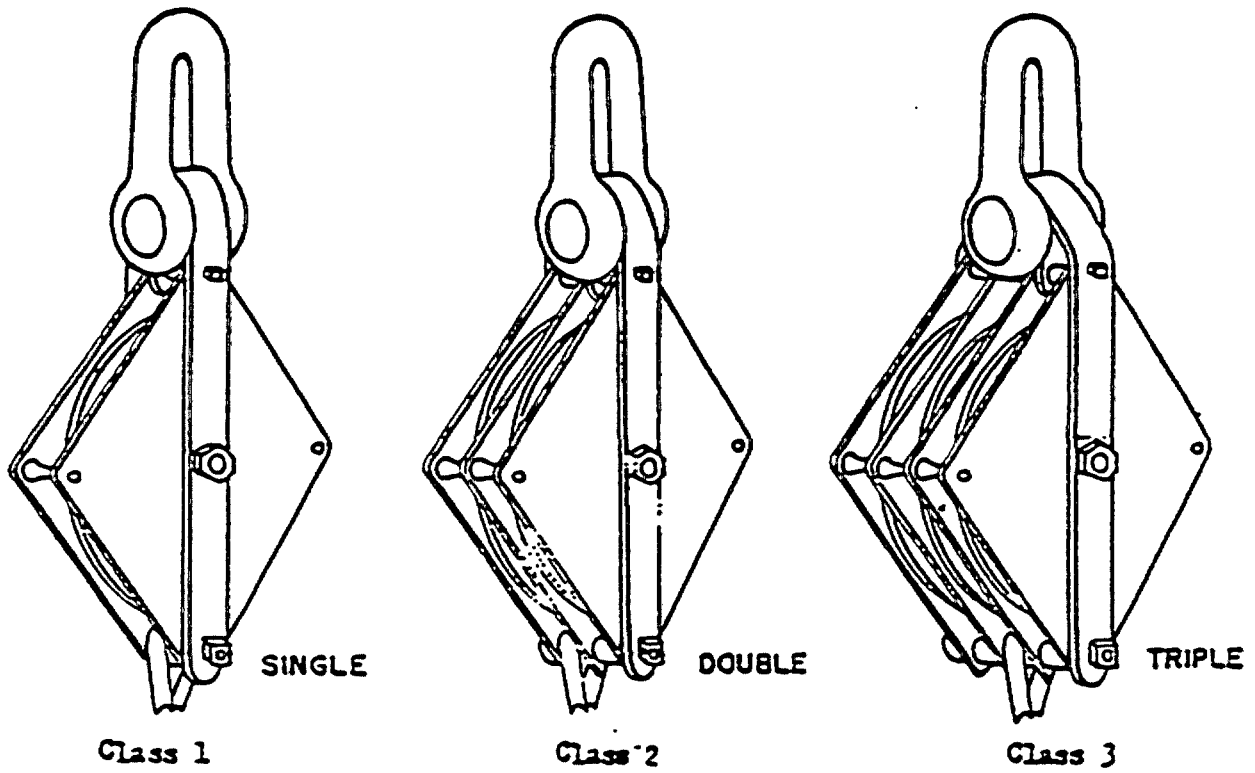
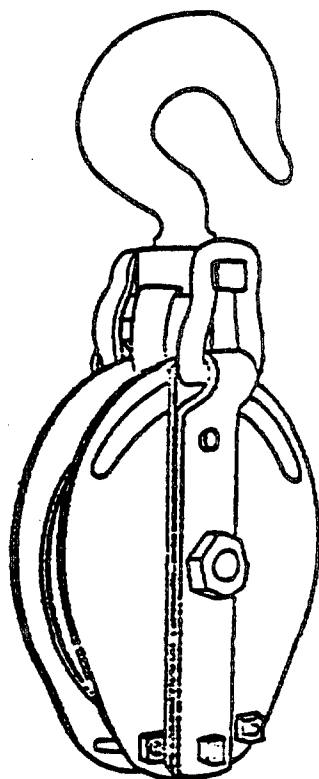


FIGURE 2. Regular pattern diamond blocks.

MIL-B-24141A(SH)



**SAFETY LOCKING  
SWIVEL HOOK**

FIGURE 3. Snatch blocks.

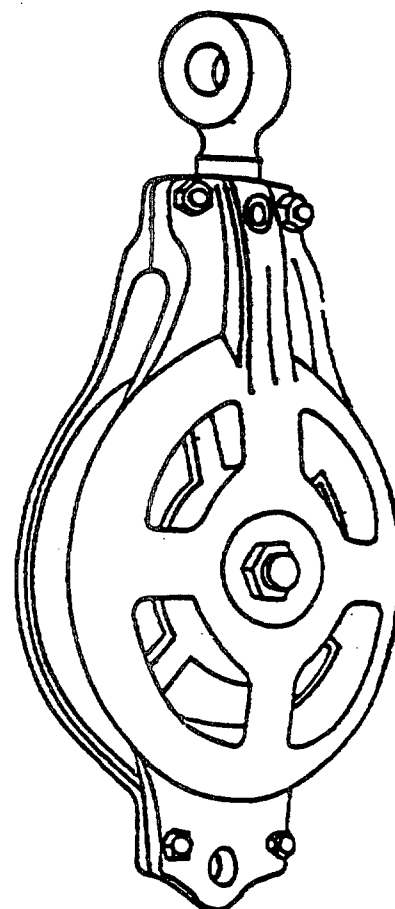
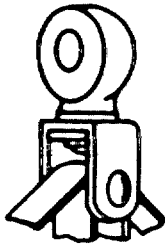
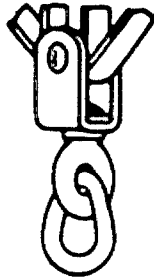


FIGURE 4. Cargo hoisters.

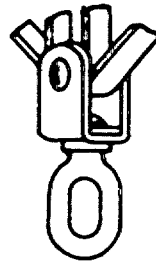
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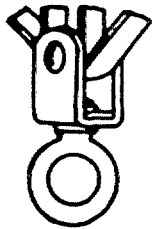
DRILLED SWIVEL EYE  
RIG 1



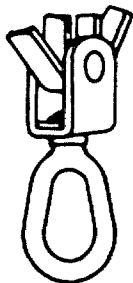
PEAR SHAPED LINK  
IN SWIVEL EYE  
RIG 2



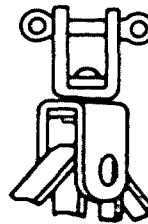
OBLONG SWIVEL EYE  
RIG 3



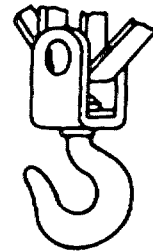
ROUND SWIVEL EYE  
RIG 4



PEAR SHAPED  
SWIVEL EYE  
RIG 5



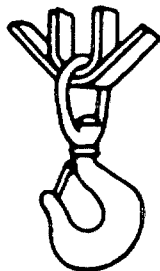
SWIVEL JAW  
AND GUY EYES  
RIG 6



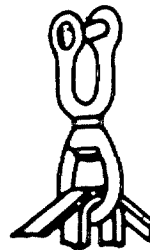
FLATTED STIFF  
SWIVEL HOOK  
RIG 7



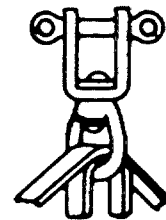
FLATTED STIFF SWIVEL  
SAFETY SNAP HOOK  
RIG 8



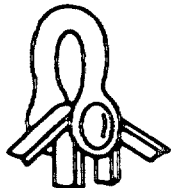
FLATTED STIFF SWIVEL  
SAFETY SNAP HOOK  
RIG 9



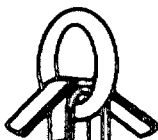
JAW AND EYE SWIVEL  
RIG 10



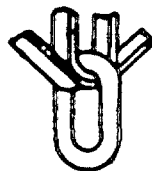
LOOSE SWIVEL JAW  
AND GUY EYES  
RIG 11



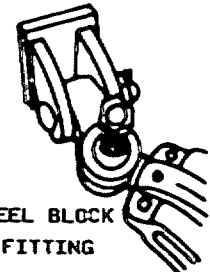
CHAIN SHACKLE  
RIG 12



RING  
RIG 13



OBLONG LINK  
RIG 14



KEEL BLOCK  
.FITTING  
RIG 15

FIGURE 5. Wire rope block rigs.

# STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

## INSTRUCTIONS

1. The preparing activity must complete blocks 1, 2, 3, and 8. In block 1, both the document number and revision letter should be given.
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3. DOCUMENT TITLE BLOCKS, TACKLE, WIRE ROPE		
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5. REASON FOR RECOMMENDATION		
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