



Model	Serial No.
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SBX

Operation & Maintenance Manual

ANSI/ASME B30.26

Hook Type/Style

- SB3-2T (2t)
- SB4.5-4T (4t)
- SB6-8T (8t)
- SB8-8T (8t)

Shackle Type/Style

- SBS3-2T (2t)
- SBS4.5-4T (4t)
- SBS6-8T (8t)
- SBS8-8T (8t)



READ THIS MANUAL BEFORE USING THESE PRODUCTS.
 This manual contains important safety, installation, and operation information.



LEA ESTE MANUAL ANTES DE USAR ESTOS PRODUCTOS.
 Este manual contiene información importante de seguridad, instalación y operación.

LIRE CE MANUEL AVANT D'UTILISER CES PRODUITS.
 Ce manuel contient des informations importantes relatives à la sécurité, à l'installation et au fonctionnement.

This manual provides important information for all personnel involved with the safe installation and operation of these products. Even if you feel you are familiar with this or similar equipment, you should read this manual and refer to ASME B30.26 before operating the product.

AMH recognizes that most companies who use snatch blocks have a safety program in force in their plants. In the event you are aware that some conflict exists between a rule set forth in this publication and a similar rule already set by an individual company, the more stringent of the two should take precedence. Safe Operating Instructions are provided to make an operator aware of unsafe practices to avoid and are not necessarily limited to the following list. Refer to specific sections in the manual for additional safety information.



Warning

1. Only allow people, trained in safety and operation of this product, to operate the Block.
2. Only operate Snatch Blocks if you are physically fit to do so.
3. When a "DO NOT OPERATE" sign is placed on the Block, do not operate the Block until the sign has been removed by designated personnel.
4. Before each shift, the operator should inspect the Block for wear or damage.
5. Never use a Block which inspection indicates is worn or damaged.
6. Periodically, inspect the Block thoroughly and replace worn or damaged parts.
7. Lubricate the Block regularly.
8. Do not use Block if hook latch has been sprung or broken.
9. Check that the hook latches are engaged before using.
10. Only lift loads less than or equal to the rated capacity of the Block. See "SPECIFICATIONS" section.
11. When using two or more Blocks to suspend one load, select Blocks each having a rated capacity equal to or more than the applied load.
12. Never place your hand or body parts inside the throat area of a hook, sheaves, swivels, and away from all pinch points where the rope touches the block or load.
13. Never operate a Block with twisted, kinked, "capsized" or damaged Wire Rope.
14. Be certain the load is properly seated in the saddle of the hook and the hook latch is engaged.
15. Do not support the load on the tip of the hook.
16. Always pay attention to the load when operating the Block.
17. Always ensure that you, and all other people, are clear of the path of the load. Do not lift a load over people.
18. Never use the Block for lifting or lowering people, and never allow anyone to stand on a suspended load.
19. Do not swing a suspended load.
20. Never weld or cut on a load suspended by the Block.
21. Do not operate Block if Wire Rope is jumping, excessive noise, jamming, overloading, or binding occurs.
22. After use, or when in a non-operational mode the Snatch Block should be secured against unauthorized and unwarranted use.
23. Chemically active environments, such as caustic or acidic substances or fumes, can affect the strength, operating characteristics, or both of rigging blocks.
24. A qualified person should be consulted when rigging blocks are used in chemically active environments.
25. Failure to design and operate the block lifting system properly may cause the system to malfunction causing the load to slip or fall resulting in serious injury or death.

Storage

Rigging blocks should be stored in an area where they will not be subjected to damage, corrosive action, or extreme temperatures.

Inspection (Ref ASME B30.26)

Frequent and periodic inspections should be performed by a qualified person on the equipment in regular service. Frequent inspections are visual examinations performed by operators or service personnel during routine operation. Periodic inspections are thorough inspections performed by personnel trained in inspection and maintenance of the Blocks. Careful inspection on a regular basis will reveal potentially dangerous conditions while still in the early stages, allowing corrective action to be taken before the condition becomes dangerous.

Any deficiencies identified shall be examined and a determination made by a qualified person as to whether they constitute a hazard.

Initial Inspections

Prior to use; all new, altered, modified, or repaired rigging blocks shall be inspected to verify compliance with the applicable provisions of this Chapter. Written records are not required.

Frequent Inspection

(a) A visual inspection shall be performed each shift before the rigging block is used. Rigging hardware in semi-permanent and inaccessible locations where frequent inspections are not feasible shall have periodic inspections performed.

(b) Conditions such as those listed in Removal Criteria or any other condition that may result in a hazard, shall cause the rigging block to be removed from service. Rigging blocks shall not be returned to service until approved by a qualified person.

(c) Written records are not required but are recommended.

Periodic Inspection

(a) A complete inspection of the rigging block shall be performed. The rigging block shall be examined for conditions such as those listed in Removal Criteria and a determination made as to whether they constitute a hazard.

(b) *Periodic Inspection Frequency*

(1) Periodic inspection intervals shall not exceed 1yr. The frequency of periodic inspections should be based on

(-a) frequency of use

(-b) severity of service conditions

(-c) nature of lifting or load handling activities

(-d) experience gained on the service life of rigging blocks used in similar circumstances

(2) Guidelines for the time intervals are

(-a) normal service — yearly

(-b) severe service — monthly to quarterly

(-c) special service — as recommended by a qualified person

(c) Written records are not required but are a good practice.

Removal Criteria

Rigging blocks shall be removed from service if conditions such as the following are present and shall only be returned to service when approved by a qualified person:

- (a) missing or illegible identification
- (b) misalignment or wobble in sheaves
- (c) excessive sheave groove corrugation or wear
- (d) loose or missing nuts, bolts, cotter pins, snap rings, or other fasteners and retaining devices
- (e) indications of heat damage, including weld spatter or arc strikes
- (f) excessive pitting or corrosion
- (g) bent, cracked, twisted, distorted, stretched, elongated, or broken load-bearing components
- (h) excessive wear, nicks, or gouges
- (i) Wear criteria: 10% reduction of the original or catalog dimension at any point
- (j) excessive damage to load-bearing threads
- (k) evidence of unauthorized welding or modifications
- (l) for hooks, the removal criteria specified in B30.10
- (m) for shackles, the removal criteria specified in B30.26
- (n) inspect shackle for wear, not to exceed 10%, distortion, nicks, gouges, or head damage. No damage to the shackle pin or threads allowed.
- (o) other conditions, including visible damage that cause doubt as to the continued use of the rigging block.
- (p) For wire rope inspection reference ASME B30.30 Ropes in Work

Rigging Practices and Load Block Factor Multipliers

The Working Load Limit (WLL) for the AMH snatch blocks indicates the maximum load that can be exerted on the block and its connecting fittings. This total load value may differ from the weight being lifted or pulled by a hoisting/hauling system. It is imperative to determine the total load being imposed on each block in a system to properly determine the proper rated capacity block to be used. The total load value varies with the angle between the incoming and departing lines to the block.

The total load on the snatch block is equal to the line pull times the angle factor multiplier (see table below). A single sheave block used to change load line direction can be subject to total loads greatly different from the line pull.

Rigging block users shall be trained in the selection, inspection, cautions to personnel, effects of environment, and rigging practices.

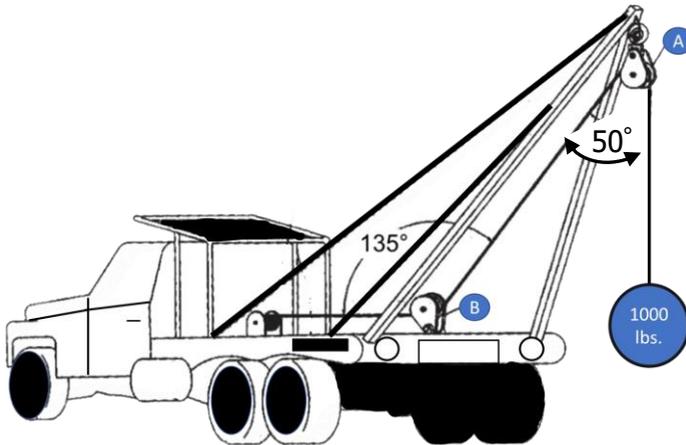
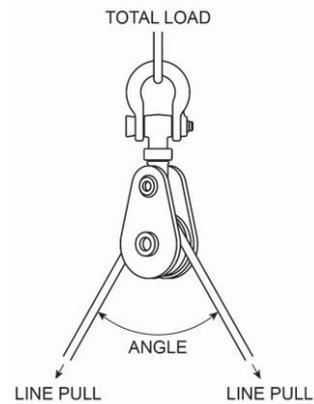
Rigging Practices

- The rigging block components shall be fully engaged, with all fasteners and retaining devices in place and in good working order before use.
- Contact with sharp edges that could damage the rigging block should be avoided.
- Shock loading should be avoided.
- The load applied to the rigging block should be in-line with the sheave and load fitting(s) to prevent side loading of the block.
- Ensure the wire rope is in the sheave groove when the rigging block begins to take load.

- The line load multiplied by the block load factor shall not exceed the rated load of the rigging block (see below).
- Rigging blocks should not be dragged on an abrasive surface.
- Load line fittings shall not contact the rigging block sheave(s).

ANGLE FACTOR MULTIPLIERS			
ANGLE	FACTOR	ANGLE	FACTOR
0°	2.00	100°	1.29
10°	1.99	110°	1.15
20°	1.97	120°	1.00
30°	1.93	130°	.84
40°	1.87	135°	.76
45°	1.84	140°	.68
50°	1.81	150°	.52
60°	1.73	160°	.35
70°	1.64	170°	.17
80°	1.53	180°	.00
90°	1.41		

TOTAL LOAD = LINE PULL X ANGLE FACTOR EXAMPLE:
 1,000 LBS. LINE PULL AT 60 DEGREES
 TOTAL LOAD= 1,000 X 1.73 = 1,730 LBS.



No mechanical advantage in a single part load line system, which line pull is equal to 1,000 lbs. or the weight being lifted.

To calculate total load on snatch block A:

A = 1,000 lbs. x 1.81 = 1,810 lbs.

(line pull) (factor 50° angle)

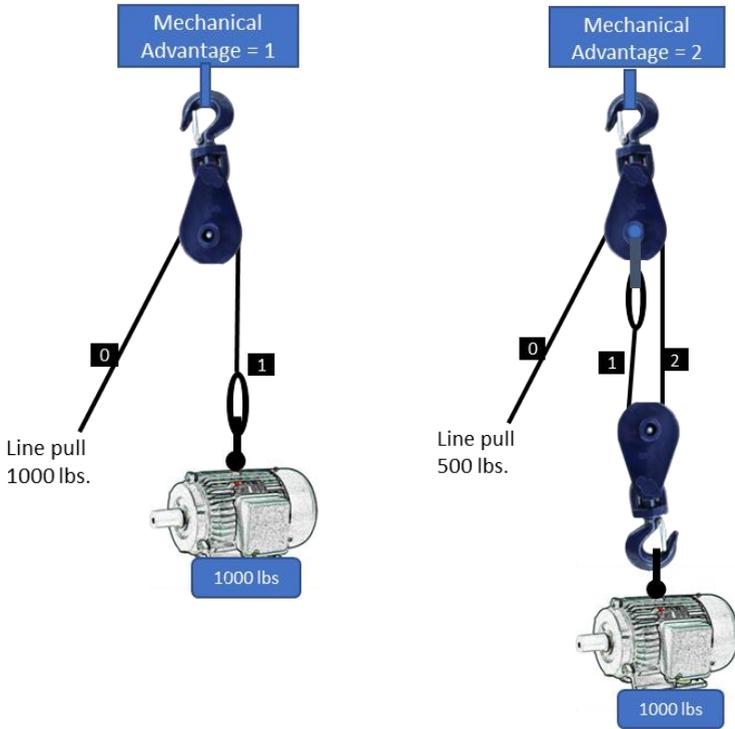
To calculate total load on snatch block B:

B = 1,000 lbs. x .76 = 760 lbs.

(line pull) (factor 135° angle)

(line pull will be greater than shown due to efficiency losses)

MECHANICAL ADVANTAGE (DETERMINING LINE PULL)



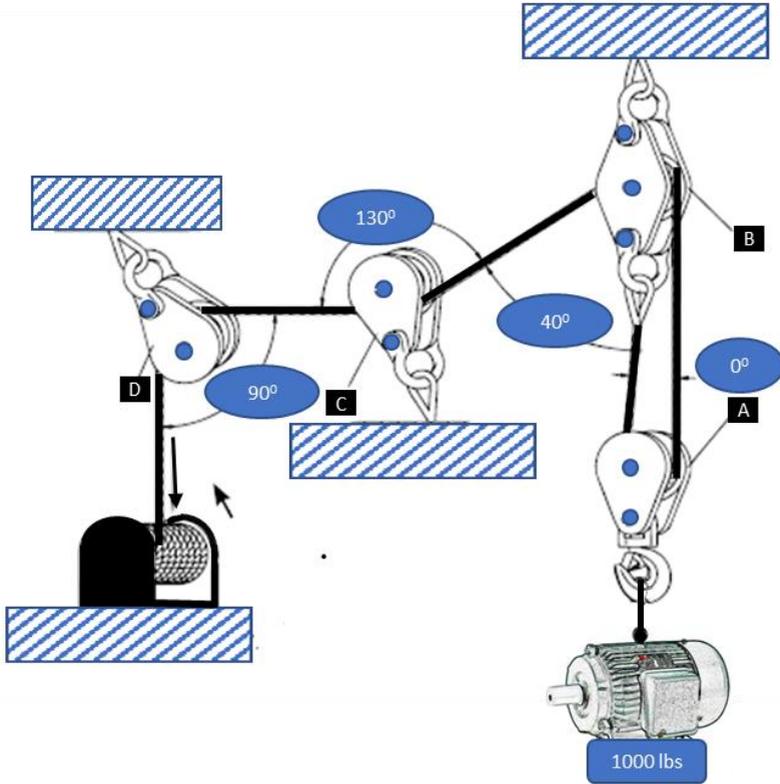
LINE PULL = WEIGHT TO BE LIFTED / MECHANICAL ADVANTAGE

Only the part of line supporting the load is counted. Never include the line pull line represented as a "0" above.

A qualified person must determine correct anchorage or lift points.
Consult a rigging manual for further information.

English

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Determine line pull (force required to lift load):

$$1000 \text{ lbs} / 2 = 500 \text{ lbs}$$

Determine load on block "A"

Line pull x (factor of 0 degrees, see angle factor chart)

$$500 \text{ lbs} \times 2 = 1,000 \text{ lbs}$$

Determine load on block "B"

(Line pull x angle factor) + dead end load

$$500 \text{ lbs.} \times 1.87 + 500 \text{ lbs} = 1435 \text{ lbs}$$

Determine load on block "C"

Line pull x factor of 130 degrees, see Angle factor Chart

$$500 \text{ lbs} \times .84 = 420 \text{ lbs}$$

Determine load on block "D"

Line pull x factor of 90 degrees, see Angle factor Chart

$$500 \text{ lbs} \times 1.41 = 705 \text{ lbs}$$

Lubrication

The use of thread lubricant or anti-seize compound is recommended for threaded components. Use NLG # 2 grease for zerk fitting. Unless otherwise stated, remove old lubricant, clean the part with an acid free solvent and apply a new coating of lubricant to the part.

Specifications

	Capacity	WLL	SHEAVE Día	Wire Rope	Proof	Test
Model	KG	Lbs.	(inches)	Día inch	Kg.	Lbs.
SB3-2T	2000	4400	3	5/16-3/8	3000	6600
SB4.5-4T	4000	8800	4.5	3/8-1/2	6000	13200
SB6-8T	8000	17600	6	5/8-3/4	12000	26400
SB8-8T	8000	17600	8	5/8-3/4	12000	26400

Use the chart above block model with shackle upper attachment. Shackle attachment will have the first three letters of the model number as SBS.

OPERATING TEMPERATURE RANGE

The block can be used in the temperature range of -40 degrees (F or C) to 100 degrees C. or 212 degrees F.

Typical issues caused by misuse that are not covered by warranty:

- Bent, stretched or broken hooks or parts due to side pulling or overloading
- Missing or sprung hook latch
- Missing parts
- Corrosion
- Lack of maintenance (improper storing or lubrication)
- Exposure to abnormal environments
- Any type of heat damage
- Worn or deformed components or wear from normal use

Specifications and dimensions listed on the AMH website or in printed materials are provided as general information and are not binding. AMH reserves the right to alter equipment, parts, fittings, or accessories without prior notice for any reason.

This manual and other product information is available from: www.allmaterialhandling.com

Spare Parts

Part #	Model	Description
CLKSB3	SB3-2T	Hook Latch Kit
CLKSB4.5	SB4.5-4T	Hook Latch Kit
CLKSB6-SB8	SB6-8T & SB8-8T	Hook Latch Kit

LIFETIME LIMITED WARRANTY

We make every effort to assure that our products meet high quality and durability standards, and we warrant to the original consumer of the product that each is free from defects in material and workmanship as follows:

This warranty does not apply to defects due directly or indirectly to misuse, negligence or accidents, repairs, or alterations outside our facilities or to a lack of maintenance. The warranty begins with the date of purchased from an authorized AMH dealer by the original user. Please retain your dated sales receipt as proof of purchase to validate the warranty. Except as stated herein, any implied warranties or merchantability and fitness are excluded. AMH shall in no event be liable for death, injuries to persons or property or for incidental, contingent, special, or consequential damages arising from the use of our products. Some states do not allow the exclusions or limitation of incidental or consequential damages; hence the above limitations or exclusions may not apply to you. To take advantage of this warranty, the product must be returned for examination, postage prepaid to an authorized service station. Proof of purchase date and an explanation of the complaint must accompany the product. No returns will be accepted without prior authorization obtained through an AMH dealer. If our inspection discloses a manufacturing defect, we will either repair or replace the product or refund the purchase price, if we cannot quickly provide a repair or replacement, if you are willing to accept such a refund. We will return repaired products or the replacement at our expense, but if we find that there is no defect, or that the defect resulted from causes not within the scope of this warranty, then the user must bear the cost of returning the product. This warranty gives you specific legal rights, and you may also have other rights that vary from state to state.