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NOTES

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Blocks/
Sheaves/
Swivels

Tackle Blocks

Warnings, Use & Maintenance Information:

! WARNING!

- A potential hazard exists when lifting or dragging heavy loads with tackle block assemblies.
 - Failure to design and use tackle block systems properly may cause a load to slip or fall - the result could be serious injury or death.
 - A tackle block system should be rigged by a qualified person as defined by ANSI/ASME B.30.
 - Instruct workers to keep hands and body away from block sheaves and swivels - and away from "pinch points" where rope touches block parts or loads.
- Do not side load tackle blocks.
- See OSHA Rule 1926.550 (g) for Personnel Hoisting for Cranes and Derricks. Only a Crosby or McKissick Hook with a PL Latch attached, and secured with the bolt, nut and cotter pin provided, may be used for any personnel hoisting. A hook with a Crosby SS-4055 Latch attached shall not be used for personnel hoisting.
 - Instruct workers to be alert and to wear proper safety gear in areas where loads are moved or supported with tackle block systems.
 - Use only genuine Crosby parts as replacement.
 - Read, understand, and follow these instructions to select, use and maintain tackle block systems.

For maximum safety and efficiency, tackle block systems must be properly designed, used, and maintained. You must understand the use of tackle block components in the system. These instructions provide this knowledge. Read them carefully and completely.

Some parts of these instructions must use technical words and detailed explanations. NOTE: If you do not understand all words, diagrams, and definitions - DO NOT TRY TO USE A TACKLE BLOCK SYSTEM! Please call for further assistance.

General Cautions or Warnings

Ratings shown in Crosby Group literature are applicable only to new or "in as new" products.

Working Load Limit (WLL) ratings indicate the greatest force or load a product can carry under usual environmental conditions. Shock loading and extraordinary conditions must be taken into account when selecting products for use in tackle block systems.

In general, the products displayed in Crosby Group literature are used as parts of a system being employed to accomplish a task. Therefore, we can only recommend within the Working Load Limits, or other stated limitations, the use of products for this purpose.

The Working Load Limit or Design (Safety) Factor of each Crosby product may be affected by wear, misuse, overloading, corrosion, deformation, intentional alteration, and other use conditions. Regular inspection must be conducted to determine whether use can be continued at the catalog assigned WLL, a reduced WLL, a reduced Design (Safety) Factor, or withdrawn from service.

Crosby Group products generally are intended for tension or pull. Side loading must be avoided, as it exerts additional force or loading which the product is not designed to accommodate.

Always make sure the hook supports the load. The latch must never support the load.

Welding of load supporting parts or products

can be hazardous. Knowledge of materials, heat treatment, and welding procedures is necessary for proper welding. Crosby Group should be consulted for information.

Definitions

Static Load - The load resulting from a constantly applied force or load.

Working Load Limit (WLL) - The maximum mass or force which the product is authorized to support in general service when the pull is applied in-line, unless noted otherwise, with respect to the center line of the product. This term is used interchangeably with the following terms.

1. WLL
2. Rated Load Value
3. SWL
4. Safe Working Load
5. Resultant Safe Working Load

Working Load - The maximum mass or force which the product is authorized to support in a particular service.

Proof Load - The average force applied in the performance of a proof test; the average force to which a product may be subjected before deformation occurs.

Proof Test - A test applied to a product solely to determine non conforming material or manufacturing defects.

Ultimate Load - The average load or force at which the product fails, or no longer supports the load.

Shock Load - A force that results from the rapid application of a force (such as impacting and/or jerking) or rapid movement of a static load. A shock load significantly adds to the static load.

Design (Safety) Factor - An industry term denoting a product's theoretical reserve capability; usually computed by dividing the catalog Ultimate Load by the Working Load Limit. Generally expressed for blocks as a ratio of 4 to 1.

Tackle Block - An assembly consisting of a sheave(s), side plates, and generally an end fitting (hook, shackle, etc.) that is used for lifting, lowering, or applying tension.

Fitting Maintenance

Fittings, including hooks, shackles, links, etc., may become worn and disfigured with use, resulting in nicks, gouges and sharp corners which produce additional stress conditions. Regular inspection is recommended to monitor product condition.

Grinding is the recommended procedure to restore smooth surfaces. The maximum allowance for reduction of a product's original dimension due to wear or repair before removal from service is:

1. Any single direction - No more than 10% of original dimension;
2. Two directions - No more than 5% of each dimension.

For detailed instructions on specific products, see the application and warning information for that product. Any greater reduction may necessitate a reduced Working Load Limit.

Any crack or deformation in a fitting is sufficient cause to withdraw the product from service.

Selection Guide

Some of the blocks shown in Crosby Group literature are named for their intended use and selection is routine. A few examples include the "Double Rig Trawl Block" used in the fishing industry, the "Well Loggers Block" used in the oil drilling industry, and the "Cargo Hoisting Block" used in the freighter boat industry. Others are more generally classified and have a variety of uses. They include snatch blocks, regular wood blocks, standard steel blocks, etc.

For example, snatch blocks allow the line to be attached by opening up the block instead of threading the line through the block. This feature eliminates the use of rope guards and allows various line entrance and exit angles to change direction of the load. These angles determine the load on the block and/or the block fitting. (See "Loads on Blocks.") Snatch blocks are intended for infrequent and intermittent use with low line speeds.

A tackle block is one element of a system used to lift or drag a load. There are other elements in the system including the prime mover (hoist, winch, hand), supporting structure, power available, etc. All of these elements can influence the type of tackle block required. When selecting a block for the system in your specific application, you should consider the other elements as well as the features of the blocks shown in Crosby Group literature.

To select a tackle block to fit your requirements, consider the following points:

1. Are there regulations which could affect your choice of blocks, such as federal or state OSHA, elevator safety, mine safety, maritime, insurance, etc.?
2. What is the weight of the load, including any dynamics of impacts that add to load value? You must know this to determine the minimum required Working Load Limit value of the block.
3. How many parts of line are required? This can be determined given the load to be lifted and the line pull you have available. As an alternative, you could calculate the line pull required with a given number of parts of line and a given load weight (See "How to Figure Line Parts").
4. What is the size of line to be used? Multiply the available line pull by the desired safety factor for wire rope to determine the minimum catalog wire rope breaking strength; consult a wire rope catalog for the corresponding grade and diameter of wire rope to match. You should also consider fatigue factors that affect wire rope life. (See "Sheave Size & Wire Rope Strength").
5. What is the speed of the line? This will help you determine the type of sheave bearing necessary.

There are several choices of bearings suitable for different applications, including:
Common (Plain) Bore for very low line speeds and very infrequent use (high bearing friction).
Self Lubricating Bronze Bushings for slow line speeds and infrequent use (moderate bearing friction).
Bronze Bushing with pressure lubrication for slow line speeds and more frequent use at greater loads (moderate bearing friction).
Anti-friction Bearings for faster line speeds and more frequent use at greater loads (minimum bearing friction).
6. What type of fitting is required for your application? The selection may depend on whether the block will be traveling or stationary. Your choices include single or multiple hooks with or without throat latches and shackles, which are the most secured load attachment. You should also decide whether the fitting should be fixed, swivel or swivel with lock. If it is a swivel fitting, then a selection of thrust bearing may be necessary. There are plain fittings with no bearings for positioning at no load, bronze bushed fittings for infrequent and moderate load swiveling, and anti-friction bearing equipped fittings for frequent load swiveling.
7. How will the block be reeved and does it require a dead end becket? (See "The Reeving of Tackle Blocks").

Blocks/Sheaves/Swivels

Tackle Blocks

- If the block is to be a traveling block, what weight is required to overhaul the line? (See "How to Determine Overhaul Weights").
- What is the fleet angle of the wire line? Line entrance and exit angles should be no more than 1-1/2 degree.
- How will the block be maintained? Do conditions in your application require special maintenance considerations? (See "Tackle Block Maintenance" and "Fitting Maintenance").

Tackle Block Maintenance

Tackle Blocks must be regularly inspected, lubricated, and maintained for peak efficiency and extended usefulness. Their proper use and maintenance is equal in importance to other mechanical equipment. The frequency of inspection and lubrication is dependent upon frequency and periods of use, environmental conditions, and the user's good judgment.

Inspection

As a minimum, the following points should be considered:

- Wear on pins or axles, rope grooves, side plates, bushing or bearings, and fittings (See Fitting Maintenance). Excessive wear may be a cause to replace parts or remove block from service.
- Deformation in side plates, pins and axles, fitting attachment points, trunnions, etc. Deformation can be caused by abusive service and / or overload and may be a cause to remove block from service.
- Misalignment or wobble in sheaves.
- Security of nuts, bolts, and other locking methods, especially after reassembly following a tear down inspection. Original securing method should be used; e.g., staking, set screw, cotter pin, cap screw.
- Pins retained by snap rings should be checked for missing or loose rings.
- Sheave pin nuts should be checked for proper positioning. Pins for tapered roller bearings should be tightened to remove all end play during sheave rotation. Pins for bronze bushings and straight roller bearings should have a running clearance of .031 inch per sheave of end play and should be adjusted accordingly.
- Hook or shackle to swivel case clearance is set at .031 to .062 at the factory. Increased clearance can result from component wear. Clearance exceeding .12 to .18 should necessitate disassembly and further inspection.
- Deformation or corrosion of hook and nut threads.
- Surface condition and deformation of hook (See Fitting Maintenance and ANSI B30.10.)
- Welded side plates for weld corrosion or weld cracking.
- Hook latch for deformation, proper fit and operation.

Lubrication:

The frequency of lubrication depends upon frequency and period of product use as well as environmental conditions, which are contingent upon the user's good judgment.

Assuming normal product use, the following schedule is suggested when using lithium-base grease of a medium consistency.

Sheave Bearings

Tapered Roller Bearings - Every 40 hours of continuous operation or every 30 days of intermittent operation.

Roller Bearings - Every 24 hours of continuous operation or every 14 days of intermittent operation.

Bronze Bushings - (Not Self Lubricated) - Every 8 hours of continuous operation or every 14 days of intermittent operation.

Hook Bearings

Anti Friction - Every 14 days for frequent swiveling; every 45 days for infrequent swiveling.

Bronze Thrust Bushing or No Bearing - Every 16 hours for frequent swiveling; every 21 days for infrequent swiveling.

Tackle Block Maintenance also depends upon proper block selection (see "Loads on Blocks"), proper reeving (see "The Reeving of Tackle Blocks"), consideration of shock loads, side loading and other adverse conditions.

Sheave Bearing Application Information

Bronze Bushings

Bronze Bushings are used primarily for sheave applications using slow line speed, moderate load, and moderate use. The performance capability of a bearing is related to the bearing pressure and the bearing surface velocity by a relationship known as true PV (Maximum Pressure - Velocity Factor). The material properties of the Bronze Bushings furnished as standard in Crosby catalog sheaves are:

(BP) Maximum Bearing Pressure: 4500 PSI

(BV) Maximum Velocity at Bearing: 1200 FPM

(PV) Maximum Pressure Velocity Factor: 55000
(It should be noted that due to material property relations, the maximum BP times the maximum BV is NOT equal to the maximum PV.)

Formula for Calculating Bearing Pressure:

$$BP = \frac{\text{Line Pull} \times \text{Angle Factor}}{\text{Shaft Size} \times \text{Hub Width}}$$

Note: See "Angle Factor Multipliers."

Formula for Calculating Bearing Velocity:

$$BV = \frac{PV}{BP}$$

Formula for Calculating Line Speed:

$$\text{Line Speed} = \frac{BV (\text{Tread Dia.} + \text{Rope Dia.})}{\text{Shaft Dia.}}$$

Calculations can be made to find the maximum allowable line speed for a given total sheave load. If the required line speed is greater than the maximum allowable line speed calculated, then increase the shaft size and/or the hub width and recalculate. Continue the process until the maximum allowable line speed is equal to or exceeds the required line speed.

Example

Using a 14 in. sheave (Stock # 917191; refer to wire rope sheave section of General Catalog for dimensions) with a 4600 lb. line pull and an 80° angle between lines determine maximum allowable line speed.

$$BP = (4600 \text{ lb.} \times 1.53) \div (1.50 \times 1.62) = 2896 \text{ PSI}$$

(line pull) (angle factor) (Shaft Size) (Hub Width)

$$BV = 55000 \div 2896 = 19 \text{ FPM Allowable}$$

(PV Factor) (BP)

Line Speed =

$$19 \times (12 + .75) \div 1.50 = 161.5 \text{ FPM ALLOWABLE}$$

(BV) ▲ ▲ (Shaft Dia.)
(Tread Dia. + Rope Size)

If the application required a line speed equal to 200 FPM, then another calculation would be necessary. Trying another 14 in. sheave (stock #4104828) under the same loading conditions, the results are as follows:

$$BP = (4600 \text{ lbs.} \times 1.53) \div (2.75 \times 2.31) = 1108 \text{ PSI}$$

$$BV = 55000 \div 1108 = 50 \text{ FPM}$$

Line Speed =

$$50 \times (12.25 + .75) \div 2.75 = 236 \text{ FPM ALLOWABLE}$$

Common (Plain) Bore - Very slow line speed, very infrequent use, low load.

Roller Bearing - Faster line speeds, more frequent use, greater load. Refer to --manufacturer's rating.

Loads on Blocks

The Working Load Limit (WLL) for Crosby Group blocks indicates the maximum load that should be exerted on the block and its connecting fitting. This total load value may be different from the weight being lifted or pulled by a hoisting or hauling system. It is necessary to determine the total load being imposed on each block in the system to properly determine the rated capacity block to be used. A single sheave block used to change load line direction can be subjected to total loads greatly different from the weight being lifted or pulled. The total load value varies with the angle between the incoming and departing lines to the block.

The following chart indicates the factor to be multiplied by the line pull to obtain the total load on the block.

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	-	-



Example A

(Calculations for determining total load value on single line system.) A gin pole truck lifting 1,000 lbs.



There is no mechanical advantage to a single part load line system, so winch line pull is equal to 1,000 lbs. or the weight being lifted.

To determine total load on snatch block A:

$$A = 1,000 \text{ lbs.} \times 1.81 = 1,810 \text{ lbs.}$$

(line pull) (factor 50° angle)

To determine total load on toggle block B:

$$B = 1,000 \text{ lbs.} \times .76 = 760 \text{ lbs.}$$

(line pull) (factor 135° angle)

Example B

(Calculation for determining total load value for mechanical advantage system.)

Hoisting system lifting 1,000 lbs. using a traveling block. The mechanical advantage of traveling block C is 2.00 because two (2) parts of load line support the 1,000 lb. weight. (To determine single line pull for various bearing efficiency see "How to Figure Line Parts").

To Determine Line Pull:

$$\text{Line Pull} = 1000 \text{ lbs.} \div 2.00 = 500 \text{ lbs.}$$

Tackle Blocks



To determine total load on traveling block C:

$$C = 500 \text{ lbs.} \times 2.0 = 1,000 \text{ lbs.}$$

(line pull) (Factor 0° angle)

To determine total load on stationary block D:

$$D = 500 \text{ lbs} \times 1.87 + 500 \text{ lbs.} = 1,435 \text{ lbs.}$$

(line pull) (dead end load)
(Factor 40° angle)

To determine total load on block E:

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

(line pull) (Factor 130° angle)

To determine total load on block F:

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

(line pull) (Factor 90° angle)

The Reeving of Tackle Blocks

In reeving of tackle blocks, there are many methods. The method discussed below is referred to as "Right Angle" reeving. Please consult your rigging manual for other methods of reeving.

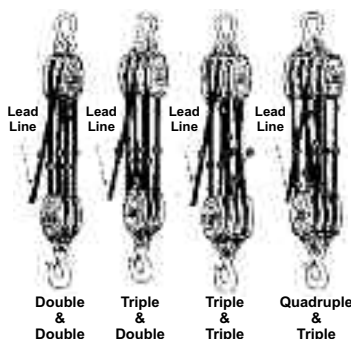
Right Angle Reeving

In reeving a pair of tackle blocks, one of which has more than two sheaves, the hoisting rope should lead from one of the center sheaves of the upper block to prevent toppling and avoid injury to the rope. The two blocks should be placed so that the sheaves in the upper block are at right angles to those in the lower one, as shown in the following illustrations.

Start reeving with the becket or dead end of the rope. Use a shackle block as the upper one of a pair and a hook block as the lower one. Sheaves in a set of blocks revolve at different rates of speed. Those nearest the lead line revolve at the highest rate of speed and wear out more rapidly.

All sheaves should be kept well lubricated when in operation to reduce friction and wear.

"Right Angle" Reeving Diagram



Sheave Size & Wire Rope Strength

Strength Efficiency

Bending wire rope reduces its strength. To account for the effect of bend radius on wire rope strength when selecting a sheave, use the table shown:

Ratio A	Strength Efficiency Compared to Catalog Strength in %
40	95
30	93
20	91
15	89
10	86
8	83
6	79
4	75
2	65
1	50

$$\text{Ratio A} = \frac{\text{Sheave Dia.}}{\text{Rope Dia.}}$$

Example

To determine the strength efficiency of 1/2" diameter wire rope using a 10" diameter sheave:

$$\text{Ratio A} = \frac{10'' \text{ (sheave diameter)}}{1/2'' \text{ (wire rope diameter)}} = 20$$

Refer to ratio A of 20 in the table then check the column under the heading "Strength Efficiency Compared to Catalog Strength in %"...91% strength efficiency as compared to the catalog strength of wire rope.

Fatigue Life

Repeated bending and straightening of wire rope causes a cyclic change of stress called "fatiguing." Bend radius affects wire rope fatigue life. A comparison of the relative effect of sheave diameter on wire rope fatigue life can be determined as shown:

Ratio B	Relative Fatigue Bending Life
30	10.0
25	6.6
20	3.8
18	2.9
16	2.1
14	1.5
12	1.1

$$\text{Ratio B} = \frac{\text{Sheave Diameter}}{\text{Rope Diameter}}$$

$$\text{Relative Fatigue Bending Life} = \frac{\text{Relative Fatigue Bending Life (Sheave \#1)}}{\text{Relative Fatigue Bending Life (Sheave \#2)}}$$

Example

To determine the extension of fatigue life for a 3/4" wire rope using a 22.5" diameter sheave versus a 12" diameter sheave:

$$\text{Ratio B} = \frac{22.5'' \text{ (sheave diameter)}}{3/4'' \text{ (wire rope diameter)}} = 30$$

$$\text{Ratio B} = \frac{12 \text{ (sheave diameter)}}{3/4'' \text{ (wire rope diameter)}} = 16$$

The relative fatigue bending life for a ratio B of 16 is 2.1 (see above Table) and ratio B of 30 is 10.

$$\text{Relative Fatigue Bending Life} = \frac{10}{2.1} = 4.7$$

Therefore, we expect extension of fatigue life using a 22.5" diameter sheave to be 4.7 times greater than that of a 12" diameter sheave.

How to Determine Overhauling Weights

To determine the weight of the block or overhaul ball that is required to free fall the block, the following information is needed: size of wire rope, number of line parts, type of sheave bearing, length of crane boom, and drum friction (use 50 lbs, unless other information is available).

Wire Rope Size (in)	Factor A - Wire Rope Wt Lbs. Per Ft., 6 x 19 IWRC	No. of Line Parts	Factor B - Roller Bearing Sheaves	Overhaul Factors Bronze Bushed Sheaves
3/8	.26	1	1.03	1.05
7/16	.35	2	2.07	2.14
1/2	.46	3	3.15	3.28
9/16	.59	4	4.25	4.48
5/8	.72	5	5.38	5.72
3/4	1.04	6	6.54	7.03
7/8	1.42	7	7.73	8.39
1	1.85	8	8.94	9.80
1-1/8	2.34	9	10.20	11.30
1-1/4	2.89	10	11.50	12.80

The Formula is:

$$\text{Required Block Wt.} = [(\text{Boom Length} \times \text{Factor A}) + \text{Drum Friction}] \times \text{Factor B}$$

Example

To determine the required block or overhaul weight using 5 parts of 7/8" diameter wire rope, a 50 ft. boom and roller bearing sheaves:

$$\text{Required Block} = [50 \text{ ft.} \times 1.42 + 50 \text{ lbs}] \times 5.38 = 651 \text{ lbs.}$$

Wt. (Factor A) (Drum Friction)

How to Figure Line Parts

To help figure the number of parts of line to be used for a given load, or the line pull required for a given load, (for example, use reeving diagram. Only numbered lines shall be used in the calculation) the following ratio table is provided with examples of how to use it.

Ratio A Bronze Bushed Sheaves	Ratio B Anti-Friction Bearing Sheaves	No. of Line Parts	Ratio A Bronze Bushed Sheaves	Ratio B Anti-Friction Bearing Sheaves	No. of Line Parts
.96	.98	1	8.52	9.79	11
1.87	1.94	2	9.11	10.60	12
2.75	2.88	3	9.68	11.40	13
3.59	3.81	4	10.20	12.10	14
4.39	4.71	5	10.70	12.90	15
5.16	5.60	6	11.20	13.60	16
5.90	6.47	7	11.70	14.30	17
6.60	7.32	8	12.20	15.00	18
7.27	8.16	9	12.60	15.70	19
7.91	8.98	10	13.00	16.40	20

$$\text{Ratio A or B} = \frac{\text{Total Load to be Lifted}}{\text{Single Line Pull (lbs.)}}$$

After calculating Ratio A or B, consult table to determine number of parts of line.

Examples

To find the number of parts of line needed when weight of load and single line pull are known, and using Bronze Bushed Sheaves.

$$\text{Ratio A} = \frac{72,180 \text{ lbs. (load to be lifted)}}{8,000 \text{ lbs. (single line pull)}} = 9.02$$

Refer to ratio 9.02 in table or number nearest to it, then check column under heading "Number of Line Parts" = 12 parts of line to be used for this load.

To find the single line pull needed when weight of load and number parts of line are known, and using anti-friction bearing sheaves.

$$\text{SLP} = \frac{68,000 \text{ lbs. (load to be lifted)}}{7.32 \text{ (Ratio B of 8 part line)}} = 9,290 \text{ lbs.}$$

9,290 lbs. single line pull required to lift this load on 8 parts of line.

To find the lift capacity when the parts of line and single line pull are known, and using anti-friction bearing sheaves.

$$\frac{10,000 \text{ lbs. (single line pull)}}{x 4.71 \text{ (ratio B of 5 parts of line)}} = 47,100 \text{ lbs. (Lift Capacity)}$$

10,000 lbs. single line pull with 5 parts of line will accommodate 47,100 lbs. lift capacity.

Blocks/Sheaves/Swivels

Blocks (Snatch)

All Alloy Snatch Blocks - McKissick®

- Entire block made from heat treated alloy steel. Use of heat treated alloy gives block only 60% of the weight of blocks of comparable capacities.
- Available with a bronze bushed or roller bearing sheaves.
- Easy opening feature of "Champion" blocks retained.
- Pressure lube fittings.
- Hook and shackle assemblies can be interchanged.
- Can be furnished with SS-4055 hook latch.
- Fatigue rated.
- Blocks furnished with dual rated wireline sheaves.

Sheave Dia. (in.)	Bearing Code	Wire Rope Size† (in)	WLL* (Metric tons)	Wt. Each (lbs)		
				416 Alloy with Hook	417 Alloy with Shackle	402 Alloy Tail Board
6	BB RB	3/4-7/8	12	26	27	15
8	BB RB	3/4-7/8	12	33	34	21
10	BB RB	3/4-7/8	12	41	42	29

* Ultimate Load is 4x the Working Load Limit.
† May be furnished in other wire rope sizes.
NOTE: When ordering, please specify: size, block number, hook or shackle, bronze bushed or roller bearing & wire rope size.



New Improved Light Champion Snatch Blocks- McKissick®

- Forged alloy heat treated hooks.
- Forged steel swivel tees, yokes and shackles.
- Hook and shackle assemblies on 4-1/2" through 14" sizes can be interchanged.
- Can be furnished with bronze bushings or roller bearings.
- Opening feature permits insertion of rope while block is suspended from gin-pole.
- 3" thru 18" 418 and 419 blocks have exclusive bolt retaining spring to assure no lost bolts.
- Can be furnished with SS-4055 hook latch.
- Pressure lube fittings.
- Fatigue rated.
- 3" - 10" feature dual rated wireline sheaves.

Sheave Dia. (in.)	Wire Rope Size (in)††	WLL* (Metric tons)	Wt. Each (lbs)		
			418 with Hook	419 with Shackle	404 Tail Board
**3	5/16-3/8	2	4.5	4	2.7
**4-1/2	3/8-1/2	4	11.7	12	6.6
6	5/8-3/4	8	26.9	27.8	15
8	5/8-3/4	8	33	34	21
10	5/8-3/4	8	41	42	29
12	5/8	8	48	49	36
12	3/4	8	48	49	36
14	5/8	8	55	56	-
14	3/4	8	55	56	-
16	3/4	15	130	135	-
16	7/8	15	130	135	-
18	7/8	15	150	155	-
18	1	15	150	155	-

* Ultimate Load is 4x the Working Load Limit (WLL).
** Available in Bronze Bushed only 3" and 4-1/2" have self lubricating Bronze Brushing.
† Fitted with 1-1/4" ID Swivel Eye.
†† May be furnished in other wire rope sizes.
NOTE: When ordering, please specify: size, block number, hook or shackle, bronze bushed or roller bearing, and wire rope size.



Champion Snatch Blocks - McKissick®

- Hooks and side plates are forged alloy steel and heat treated.
- Shackles and yokes are forged and heat treated steel.
- Side plates are designed to eliminate possibility of rope jamming.
- Can be furnished with bronze bushings or sealed roller bearings.
- Opening feature permits insertion of rope while block is suspended from gin-pole.
- Can be furnished with SS-4055 hook latch. Pressure lube fittings.
- Fatigue rated.
- Hook and shackle assemblies can be interchanged.
- Blocks furnished with dual rated wireline sheaves.

Sheave Dia. (in.)	Bearing Code	Wire Rope Size† (in)	WLL* (Metric tons)	Wt. Each (lbs.)		
				420 with Hook	421 with Shackle	406 Tail Board
6	BB RB	3/4-7/8	12	40	48	24
8	BB RB	3/4-7/8	15	51	57	30
10	BB RB	3/4-7/8	15	63	69	42

* Ultimate Load is 4x the Working Load Limit.
† May be furnished in other wire rope sizes.
NOTE: When ordering, please specify: size, block number, hook or shackle, bronze bushed or roller bearing and wire rope size.



Light Champion Double Sheave Snatch Blocks- McKissick®

- Light champion snatch block as a double sheave block.
- Drop forged swivel hook or swivel shackle.
- Can be furnished with bronze bushings or roller bearings.
- Opening feature permits easy insertion of wire rope in both sheaves with removal of one bolt.
- Can be furnished with SS-4055 hook latch.
- Pressure lube fittings.
- Fatigue rated.
- 4-1/2" - 10" models furnished with dual rated wireline sheaves.

Wire Sheave Dia. (in.)	Bearing Code	Rope Size†† (in)	WLL* (Metric tons)	Wt. Each (lbs)	
				408 with Hook	409 with Shackle
†4-1/2	BB	3/8-1/2	4	18	18
6	BB RB	5/8-3/4	12	45	50
8	BB RB	5/8-3/4	12	53	58
10	BB RB	5/8-3/4	12	70	75
12	BB RB	5/8	12	90	95
12	BB RB	3/4	12	90	95
14	BB RB	5/8	12	100	105
14	BB RB	3/4	12	100	105

* Ultimate Load is 4x the Working Load Limit (WLL).
† Available in Bronze Bushed Only.
†† May be furnished in other Wire Rope sizes.
NOTE: When ordering, please specify: size, block number, hook or shackle, bronze bushed or roller bearing and wire rope size.



Super Champion Snatch Blocks - McKissick®

- Drop forged, heat treated swivel hook or swivel shackle.
- Hook and shackle assemblies on 8" through 14" sizes can be interchanged.
- Can be furnished with bronze bushings or roller bearings.
- 8" thru 14" 430 and 431 blocks have exclusive bolt retaining spring to assure no lost bolts.
- Can be furnished with SS-4055 hook latch.
- Fatigue rated.
- Pressure lube fittings.
- 8" and 10" models furnished with dual rated wireline sheaves.

Sheave Dia. (in.)	Wire Rope Size (in)†	WLL* (Metric tons)	Wt. Each (lbs)		
			430 with Hook	431 with Shackle	407 Tail Board
8	1-1-1/8	20	75	87	42
10	1-1-1/8	20	89	101	55
12	1	20	103	115	70
12	1-1/8	20	103	115	70
14	1	20	123	135	90
14	1-1/8	20	123	135	90
18	1	25	240	260	165
18	1-1/8	25	240	260	165
20	1-1/8	30	375	400	215
20	1-1/4	30	375	400	215
24	1-1/8	30	450	475	290
24	1-1/4	30	450	475	290

Available w/hook latch.
* Ultimate Load is 4x the Working Load Limit.
† May be furnished in other wire rope sizes.
NOTE: When ordering, please specify: size, block number, hook or shackle, bronze bushed or roller bearing and wire rope size.



Blocks/Sheaves/Swivels

Blocks (Snatch/Gin/Wood/Steel)

Team Snatch Blocks for Wire Rope - Western®

- With Drop Forged Swivel Hook and Extra Large Lubricated Center Pin.
- Steel Sleeve over center pin gives a bearing surface of larger diameter. This sleeve is held tightly between the plates and makes the block extremely rigid.

Block Size (in)	WLL* (in)	Wire Rope Size (in)	Wt. Each (lbs)
6	7	5/8	28
8	10	3/4	55
10	12	7/8	80
12	14	7/8	100

Bearing Code: S - Bronze Self-lubricating Steel Sheave.
* Ultimate Load is 4x the Working Load Limit.



T-924-S

Regular Wood Blocks for Manila Rope - Western®

- Laser cut side plates
- Grade 5 bolts secured with lock washers and staked nuts.
- Bronze bushed sheaves with larger bearing diameter for extended block life.
- Becketts furnished on all blocks.
- Meets or exceeds all requirements of ASME B30.26 including identification, ductility, design factor, proof load and temperature requirements. Importantly, these blocks meet other critical performance requirements including fatigue life, impact properties and material traceability, not addressed by ASME B30.26.

HS-21-B
-Single-Available in N & S



Fittings: HS—Loose Side Hook w/Latch N—Loose Swivel Latch Hook
S—Round Pin Anchor Shackles

Block Size (in)	Fitting	Single Sheave 21B Stock No	Double Sheave 22B Stock No	Triple Sheave 23B Stock No
4	HS	603831	604634	605438
5	HS	603859	604652	605456
6	HS	603877	604670	605474
8	HS	603911	604714	605517
4	N	606437	606838	607230
5	N	606455	606856	607258
6	N	606473	606874	607276
8	N	606516	606918	607310
4	S	610039	611635	613232
5	S	610057	611653	613250
6	S	610075	611671	613278
8	S	610119	611715	613312

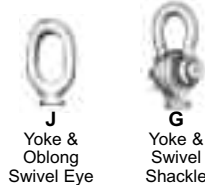
Snatch Block w/Removable Sheave

- Most styles available as Snatch Block w/ Removable Sheave. To order add "-SN" to product no. ex: "02548-SN"
- All products are also available on carded skin pack at no extra cost!
- Packing includes product description on front and product information on reverse side along with UPC labeling. To order, add "-C" to product no. ex: "01548-C"



Drop Link & Self Locking Snatch Blocks for Manila Rope - Western®

- All styles have drop forged heads and links.
- Edges of shell are rounded to protect rope.
- Steel sleeve over center pin gives a bearing surface of larger diameter. The sleeve is held tightly between the plates and makes blocks extremely rigid.



J Yoke & Oblong Swivel Eye

G Yoke & Swivel Shackles

Drop Link

Block Size (in.)	Sheave Size (in.)			Manila Rope Size (in)	WLL* (lbs)	Wt. Each (lbs)
	Out-side Dia.	Rim Thkns.	Bearing Dia.			
6	3.00	1.13	.75	3/4-7/8	2400	7
8	4.50	1.38	.88	1-1/8	4800	13
10	5.75	1.88	1.00	1-1/4	6600	25
12	6.75	2.13	1.00	1-1/2	7600	34

*Ultimate Load is 4x the Working Load Limit.



T-385-B

T-390-B

Self Locking

Block Size (in.)	Sheave Size (in.)			Manila Rope Size (in)	WLL* (lbs)	Wt. Each (lbs)
	Out-side Dia.	Rim Thkns.	Bearing Dia.			
6	3.00	1.13	.75	3/4-7/8	3000	8
8	4.50	1.38	.88	1-1/8	5000	15
10	5.75	1.88	1.00	1-1/4	8000	28
12	6.75	2.13	1.00	1-1/2	10000	38

*Ultimate Load is 4x the Working Load Limit.



T-386-B

T-391-B

Gin Blocks for Manila Rope - Western®

- For light hoisting by Roofers and Contractors
- Furnished with drop forged swivel latch hooks. Can be furnished with SS-4055 hook latch.

Block Size (in)	Sheave Size (in.)			Manila Rope Size (in)	WLL* (lbs)	Wt. Each (lbs)
	Out-side Dia.	Rim Thkns	Bearing Dia.			
8	8.00	1.25	.75	7/8	1000	9.0
10	10.00	1.25	.88	1	1000	9.8
12	12.00	1.38	.88	1	1000	12.7
14	14.00	1.50	1.00	1	1000	20.0

* Ultimate Load is 3x the Working Load Limit.

Bearing Code: C—Common Iron, R—Roller, B—Self-Lubricating Bronze Bushed



T-350-C

Standard Steel Blocks for Manila Rope - Western®



HS-261-B
-Single-
261-C
261-B
261-R

HS-262-C
-Double-
262-C
262-B
262-R

HS-263-R
-Triple-
263-C
263-B
263-R

Fittings: HS—Loose Side Hook w/Latch

Bearing Code: C—Common Iron, R—Roller, B—Bronze Bushed Self Lubricating

Block Size (in)	Fitting	Single Sheave			Double Sheave		Triple Sheave	
		261 C Stock No. Painted	261 B Stock No. Painted	261 C Stock No. Painted	262 C Stock No. Painted	262 B Stock No. Painted	263 B Stock No. Painted	263 R Stock No. Painted
3	HS	666005	666808	666602	666407	666201	667406	667200
4	HS	666023	666826	666620	666425	666229	667424	667228
5	HS	666041	666844	-	666443	666247	667442	667246
6	HS	666069	666862	-	666461	666265	667460	667264
8	HS	666103	666906	-	666504	666309	667503	667308

Block Size (in)	Out-side Dia.	Rim Thick-ness	Manila Rope Dia. (in)	WLL* (lbs)			Wt. Each (lbs)		
				261 Single	262 Double	263 Triple	261 Single	262 Double	263 Triple
3	1-3/4	1/2	3/8	500	800	1200	0.75	1.37	1.63
4	2-1/4	5/8	1/2	900	1400	1800	1.38	3.21	3.25
5	3	3/4	5/8	1200	1800	2400	2.25	3.88	5.00
6	3-1/2	1	3/4	1800	2500	3200	3.75	6.00	9.50
8	4-3/4	1-1/8	7/8-1	2800	3800	4800	7.13	10.75	14.75

*Ultimate Load is 3x the Working Load Limit.

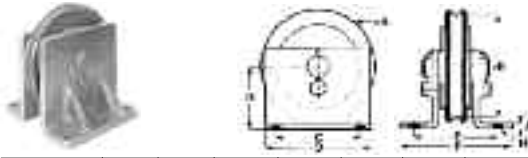
Blocks/Sheaves/Swivels

Blocks (Directional)

DIRECTIONAL BLOCKS W/STEEL SHEAVES & BEARINGS

- **High Quality** – Steel sheaves are precision made from the highest quality fine-grain steel. They're tough, hassle free and they last longer.
- **High Strength with Low Weight** – Steel sheaves are stronger and up to 50 percent lighter. They're easy to handle and install.
- **High Efficiency Bearings** – Steel sheaves are fit with high-efficiency, deep-groove, double ball bearings. You get far less friction, smoother rope motion and longer life.
- **Exceptional Arc of Support** – Steel sheaves ensure that the shape of your rope is maintained under normal load conditions.
- **High Sheave to Rope Diameters** – With a minimum diameter of 16:1, the rope's bending stress is reduced for longer life.
- **Work Hardened** – Rope grooves are hardened during forming, increasing the life of sheave & rope.
- **Lifetime Lubrication** – Precision sealed, bearings stay lubricated ensuring low maintenance.

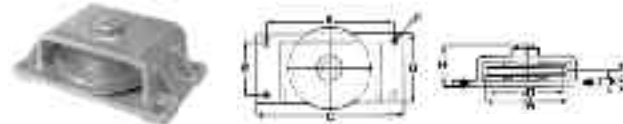
Vertical Directional Blocks w/Steel Sheaves & Bearings



Model No.	VB3500	VB7000	VB10500	VB16000	VB23000	VB31000	VB41000
WLL	lb 3500 kg 1587	7000 3175	10500 4772	16000 7272	23000 10455	31000 14090	41000 18636
Sheave Dia.	in 4.25 mm 109	6.00 152	8.00 203	10.00 254	12.00 305	14.00 357	16.00 406
Rope Size	in 1/4* mm 6*	3/8 10	1/2 13	5/8 16	3/4 19	7/8 22	1 25
Dim. (mm)	A	109	152	203	254	305	406
	B	95	136	179	222	265	313
	C	60	83	114	153	216	267
	D	89	127	165	203	280	330
	E	87	122	151	185	219	253
	F	125	167	202	236	283	317
	G	61	86	112	143	165	194
Wt.	lb	6	11	18	54	80	128
	kg	2.7	5	8.2	24.5	36.3	58

*The VB3500 can be supplied with groove for 1/8 of an inch (3 mm) wire rope. Sheave diameters are available up to 28 inches (711 mm). Call us for complete details. All specifications are subject to change without notice.

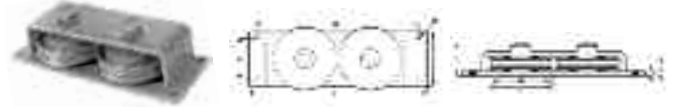
Horizontal Directional Blocks w/Steel Sheaves and Bearings



Model No.	HB3500	HB7000	HB10500	HB16000	HB23000	HB31000	HB41000
WLL	lb 3500 kg 1587	7000 3175	10500 4772	16000 7272	23000 10455	31000 14090	41000 18636
Sheave Dia.	in 4.25 mm 109	6.00 152	8.00 203	10.00 254	12.00 305	14.00 357	16.00 406
Rope Size	in 1/4* mm 6*	3/8 10	1/2 13	5/8 16	3/4 19	7/8 22	1 25
Dim. (mm)	A	109	152	203	254	305	406
	B	160	222	286	326	445	514
	C	184	248	324	413	508	590
	D	95	136	179	222	265	313
	E	76	114	146	178	216	242
	F	9	13	17	20	27	33
	G	102	140	184	229	279	318
Wt.	lbs	8.3	15	25	66	100	170
	kg	3.8	6.8	11.4	30	45.4	77

*The HB3500 can be supplied with groove for 1/8 of an inch (3 mm) wire rope. Sheave diameters are available up to 28 inches (711 mm). Ask our representatives for details. All specifications are subject to change without notice.

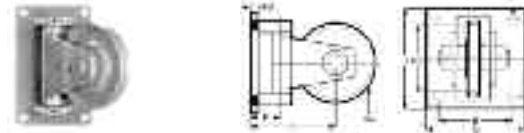
Fairlead Assembly w/Steel Sheaves and Bearings



Model No.	FA3500	FA7000	FA10500	FA16000	FA23000	FA31000	FA41000
WLL	lb 3500 kg 1587	7000 3175	10500 4772	16000 7272	23000 10455	31000 14090	41000 18636
Sheave Dia.	in 4.25 mm 109	6.00 152	8.00 203	10.00 254	12.00 305	14.00 357	16.00 406
Rope Size	in 1/4* mm 6*	3/8 10	1/2 13	5/8 16	3/4 19	7/8 22	1 25
Dim. (mm)	A	109	152	203	254	305	406
	B	272	380	496	625	760	880
	C	296	406	534	676	825	956
	D	95	136	179	222	265	313
	E	76	114	146	178	216	242
	F	9	13	17	20	27	33
	G	102	140	184	229	279	318
Wt.	lbs	14.8	26.5	44	117	177	300
	kg	6.7	12	20	53	80	136

*The FA3500 can be supplied with groove for 1/8 of an inch (3 mm) wire rope. Sheave diameters are available up to 28 inches (711 mm). Ask our representatives for details. Specifications are subject to change without notice.

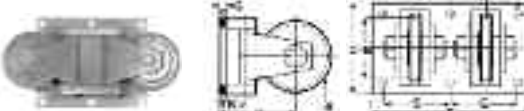
Single Swivel Directional Blocks w/Steel Sheaves and Bearings



Model No.	SS3500	SS7000	SS10500	SS16000	SS23000	SS31000	SS41000
WLL	lb 3500 kg 1587	7000 3175	10500 4772	16000 7272	23000 10455	31000 14090	41000 18636
Sheave Dia.	in 4.25 mm 109	6.00 152	8.00 203	10.00 254	12.00 305	14.00 357	16.00 406
Rope Size	in 1/4* mm 6*	3/8 10	1/2 13	5/8 16	3/4 19	7/8 22	1 25
Dim. (mm)	A	109	152	203	254	305	406
	B	95	136	179	222	265	313
	C	120	180	240	300	360	420
	D	130	195	260	325	390	450
	E	90	135	180	225	270	320
	F	100	150	200	250	300	350
	G	6	9	12	16	18	20
Wt.	lb	10	25	40	121	180	290
	kg	4.5	11.3	18.1	55	82	132

*The SS3500 can be supplied with groove for 1/8 of an inch (3 mm) wire rope. Sheave diameters are available up to 28 inches (711 mm). Ask our representatives for details. Specifications are subject to change without notice.

Double Swivel Directional Blocks w/Steel Sheaves and Bearings



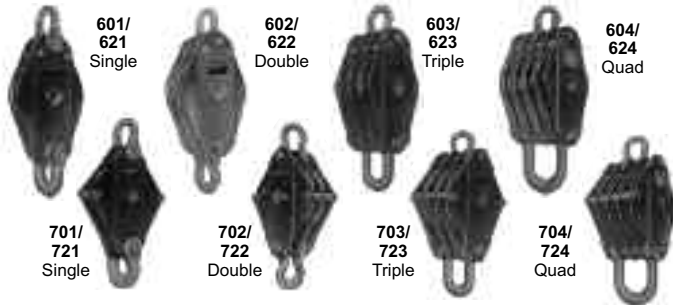
Model No.	DS3500	DS7000	DS10500	DS16000	DS23000	DS31000	DS41000
WLL	lb 3500 kg 1587	7000 3175	10500 4772	16000 7272	23000 10455	31000 14090	41000 18636
Sheave Dia.	in 4.25 mm 109	6.00 152	8.00 203	10.00 254	12.00 305	14.00 357	16.00 406
Rope Size	in 1/4* mm 6*	3/8 10	1/2 13	5/8 16	3/4 19	7/8 22	1 25
Dim. (mm)	A	109	152	203	254	305	406
	B	95	136	179	222	265	313
	C	228	344	455	560	680	800
	D	130	195	260	325	390	450
	E	100	150	200	245	300	350
	F	100	150	200	250	300	350
	G	6	9	12	16	18	20
Wt.	lbs	20	50	80	242	360	580
	kg	9	22.6	36.2	110	164	264

*The DS3500 can be supplied with groove for 1/8 of an inch (3 mm) wire rope. Sheave diameters are available up to 28 inches (711 mm). Ask our representatives for details. Specifications are subject to change without notice.

Blocks/Sheaves/Swivels

Blocks (Crane/Construction)

Construction Blocks/Extra Heavy - McKissick®
Oval Pattern—Series 600/620 &
Diamond Pattern—Series 700/720



Sheave Dia. & Block No.		No. of Sheaves	WLL* (tons)	Std. Wire Rope Size†† (in)	Wt. Each (lbs)
Oval	Diamond				
10" 601	10" 701	1	10	3/4	95
10" 602	10" 702	2	15	3/4	110
10" 603**	10" 703**	3	20	3/4	150
10" 604**	10" 704**	4	25	3/4	190
10" 605**	10" 705**	5	30	3/4	250
12" 601	12" 701	1	10	3/4	120
12" 602	12" 702	2	15	3/4	160
12" 603**	12" 703**	3	20	3/4	200
12" 604**	12" 704**	4	25	3/4	275
12" 605**	12" 705**	5	35	3/4	305
† 14" 621	† 14" 721	1	10	3/4	130
† 14" 622	† 14" 722	2	20	3/4	200
† 14" 623**	† 14" 723**	3	30	3/4	235
† 14" 624**	† 14" 724**	4	40	3/4	350
† 14" 625**	† 14" 725**	5	50	3/4	425
17" 601	17" 701	1	15	7/8	215
17" 602	17" 702	2	25	7/8	325
17" 603	17" 703	3	35	7/8	400
17" 604	17" 704	4	50	7/8	550
† 18" 621	† 18" 721	1	18	1	270
† 18" 622	† 18" 722	2	30	1	400
† 18" 623	† 18" 723	3	45	1	500
† 18" 624	† 18" 724	4	65	1	675
† 20" 621	† 20" 721	1	20	1	415
† 20" 622	† 20" 722	2	35	1	575
† 20" 623	† 20" 723	3	55	1	675
† 20" 624	† 20" 724	4	75	1	750
† 24" 621	† 24" 721	1	25	1-1/8	550
† 24" 622	† 24" 722	2	45	1-1/8	825
† 24" 623	† 24" 723	3	65	1-1/8	1200
† 24" 624	† 24" 724	4	90	1-1/8	1500

- All steel construction, heavy steel plates and bars.
- Can be furnished with bronze bushed roller bearing sheaves or tapered bearing sheaves. For high speed service we recommend tapered bearing sheaves.
- Sheaves 14" and larger flame hardened. Smaller sheaves can be flame hardened on special order.
- Sheave lubrication through center pin. Separate lube channel to each bearing unless noted.

* Ultimate Load is 4x the Working Load Limit.

** Common Lube Channel.

† Fitted with double row sealed tapered bearing sheaves.

†† May be furnished with other wire rope size.

McKissick Construction Blocks are available with all types of special connections, swivels of all types, and hangers to fit any type fitting.

NOTE: When ordering, please specify: size, block number, number of sheaves, proper wire rope size, and bronze bushed or roller bearings.

Construction Blocks/Med. Weight - McKissick®
Oval Pattern—Series 830 & Diamond Pattern—Series 840



Sheave Dia. & Block No.		No. of Sheaves	WLL* (tons)	Std. Wire Rope Size†† (in)	Wt. Each (lbs)
830 Oval	840 Diamond				
8" 831	8" 841	1	4	1/2	29
8" 832	8" 842	2	7	1/2	47
8" 833	8" 843	3	8	1/2	64
8" 834	8" 844	4	9	1/2	78
10" 831	10" 841	1	6	5/8	42
10" 832	10" 842	2	9	5/8	75
10" 833	10" 843	3	10	5/8	83
10" 834	10" 844	4	12	5/8	110
12" 831	12" 841	1	7	3/4	75
12" 832	12" 842	2	12	3/4	117
12" 833	12" 843	3	14	3/4	165
12" 834	12" 844	4	16	3/4	202

- All steel construction.
- Can be furnished with bronze bushed or sealed tapered bearing sheaves. For high speed service we recommend sealed tapered bearing sheaves.
- Sheave lubrication through pressure lube fitting in center pin.

* Ultimate Load is 4x the Working Load Limit.

† May be furnished with other wire rope sizes.

Easy Reeve™ Crane Blocks - McKissick®
380 Series Easy Reeve™ Hook Blocks

- Wide range of product available.
 - Capacity: 5 to 80 tons - Larger Models Available.
 - Sheave Sizes: 10" to 20".
 - Wire Line Sizes: 7/16 to 1-1/4".
- Manufactured by an ISO 9001 and API Q1 certified facility.
- All single point shank hooks are genuine Crosby® forged alloy steel, Quenched and Tempered, and have the patented QUIC-CHECK™ markings (Duplex hooks are available on most sizes).
- All Easy Reeve™ Blocks are furnished standard with Roller Bearings.
- Reeving Guides Standard - All Models.
- Heavy Duty Positive Locking (PL) Latch - All Models.
- Sheave lubrication through center pin - Separate lube channel to each bearing.
- Sheaves fully protected by side plates.
- Dual action hook (Swings and Rotates).
- Repair parts available through world wide distribution network.
- Design Factor of 4 to 1 (unless otherwise noted).
- All Easy Reeve™ blocks, 16" and larger, are furnished with McKissick® Roll-Forged™ sheaves with flame hardened grooves.
- Look for the Orange Hook... the mark of genuine McKissick® quality.

Dead End Chart

Wire Rope Size (in)	Dimensions (in)	
	T Thickness	U Hole Diameter
7/16 - 1/2	1.00	1.28
9/16	1.00	1.28
5/8	1.00	1.28
3/4	1.25	1.66
7/8	1.25	1.66
1	1.25	1.66

OPTIONS AVAILABLE

- Duplex Hooks (75 tons & larger)
- Swivel Tee and Shackle Assemblies
- Anti Rotation - Locking Device (75 tons & larger)
- Plate Steel Cheek Weights
- Third party testing with Certification available upon request.



Step #1 Set EASY REEVE™ Block on work surface and open sheave guard doors. Hook folds out of the way and block stands on new "flat bottom" side plate design.

Step #2 Reeve without removing wedge and socket from wire rope. Sheave guards fold down for unobstructed access.

Step #3 Close sheave guard doors and you're ready to lift. Fast and easy. In a fraction of the time needed for conventional blocks, EASY REEVE™ is ready for the lift.

Center "Dead End" to promote better block travel under various reeving configurations.

Sheave Guards that open to allow block reeving without removing the rope end fitting.

Flat Bottom side plates for self standing during reeving process.

Forged Crosby® alloy steel hooks with patented QUIC-CHECK™ markings and Heavy Duty positive locking hook latch.

Another Value Added feature of the McKissick® EASY REEVE™ Crane Block is the illustrated replacement part list and exploded view diagram that is shipped with every block ordered. This way, even years after purchase, it's easy to buy repair parts for your specific block.

For applications that require EASY, fast & efficient reeving, no crane block offers you the advantages of EASY REEVE™. Designed to meet your needs, the new McKissick® EASY REEVE™ Crane Blocks can be reeved without removing the rope end fitting.

Blocks/Sheaves/Swivels

Blocks (Crane)

**Utility Crane Blocks - McKissick®
380 Series Utility Hook Blocks**

- Wide range of product available.
 - Capacity: 5 to 300 tons - Larger Models Available.
 - Sheave Sizes: 10" to 30"
 - Wire Line Sizes: 7/16 to 1-1/4"
- Manufactured by an ISO 9001 and API Q1 certified facility.
- All single point shank hooks are genuine Crosby® forged alloy steel, Quenched and Tempered, and have the patented QUIC-CHECK™ markings (Duplex hooks are available on most sizes).
- All Easy Reeve™ Blocks are furnished standard with Roller Bearings.
- Reeving Guides Standard - All Models.
- Heavy Duty Positive Locking (PL) Latch - All Models.
- Sheave lubrication through center pin - Separate lube channel to each bearing.
- Sheaves fully protected by side plates.
- Dual action hook (Swings and Rotates).
- Repair parts available through world wide distribution network.
- Design Factor of 4 to 1 (unless otherwise noted).
- All 380 Series blocks, 16" and larger, are furnished with McKissick® Roll-Forged™ sheaves with flame hardened grooves.
- Look for the Orange Hook... the mark of genuine McKissick® quality.



Dead End Chart (Double, Triple & Quad Sheave Blocks)

Wire Rope Size (in)	Dimensions (in)	
	T Thickness	U Hole Dia.
7/16-1/2	1.00	1.28
9/16	1.00	1.28
5/8	1.00	1.28
3/4	1.25	1.66
7/8	1.25	1.66
1	1.25	1.66
1-1/8	1.75	2.56
1-1/4	1.75	2.56

NOTE: Please call us for complete dimensional information on all 380 Series Utility Crane Blocks, and Single Sheave Block Dead End Dimensions.

OPTIONS AVAILABLE

- Bronze Bushed Sheaves
- Duplex Hooks
- Swivel Tee and Shackle Assemblies
- Sheave Shrouds
- Anti Rotation - Locking Device (50 tons & larger)
- Plate Steel Cheek Weights
- Third party testing with Certification available upon request.

Table 1 - Std. Wire Line Sizes for McKissick® 380 Utility Crane Blocks

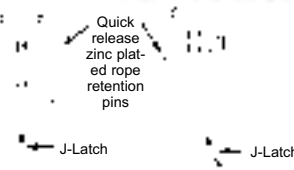
Sheave Dia. (in)	Wire Line Size (in)									
	7/16	1/2	9/16	5/8	3/4	7/8	1	1-1/8	1-1/4	
10	X	X	X	X						
12		X	X	X	X					
14		X	X	X	X					
16			X	X	X	X				
18				X	X	X	X			
20					X	X	X	X		
24						X	X	X	X	

Quick Reeve Crane Blocks - Gunnebo Johnson

- The Johnson J-Latch Provides a Fast Hook Deformation Inspection Point.
- Available tonnage capacities from 5 - 140 tons. Larger capacities available upon request.

Standard Features Include:

- Quick release, zinc plated, rope retention pin meets OSHA requirements for rope retention. Pin cannot be completely removed from block to avoid pin loss.
- Johnson J-Latch™ heavy duty, steel, lockable, spring loaded latch meets OSHA personnel lifting requirements.
- Rope end fitting will pass through block.
- Quick reeving upright design.



Bridge Crane Block - (Custom Design) McKissick®

Furnish the following important information when inquiring:

- A, B and C dimensions
- Diameter of Sheave
- Diameter of Wire Rope
- Type of Bearing in sheaves
- Capacity required
- Total weight requirements

Contact us for more information on Bridge Crane Blocks.



BC-45
45 Ton Bridge Crane Block



BC-15
15 Ton Bridge Crane Block

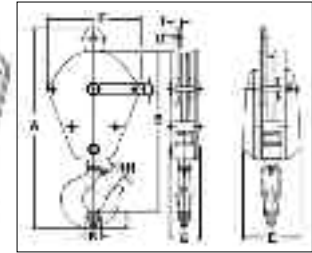
One Sheave Shorty "J" Crane Block - Gunnebo Johnson

STANDARD

- 3 - 350-ton capacities
- 4 to 1 design factor
- 1 through 8 sheave models
- 10 through 30-inch sheave diameters, all forged steel
- Reeving guides, all models
- Heavy duty latch kits - 3 through 165 tons
- Bronze bushed, roller bearing and tapered roller bearing sheaves
- Direct-channel sheave bearing lubrication through center pin
- Flame-hardened grooves on sheave sizes 16 through 30 inch diameters
- Dual-action (swing/swivel) roller thrust bearing hooks
- Forged steel hooks - 3 - 30 tons
- Cast alloy steel hooks - 35 through 325 tons
- Cast allow steel duplex hooks - 350 tons
- Fully protective side plates
- Center plate and tie bolt containment of wire rope
- Total disassembly capability
- Stainless safety precautions plate
- Stainless ton rating name plate
- Individually attached safety, warranty, care and maintenance product information.

OPTIONAL

- Forged steel hooks—35 through 300 tons*



- Cast alloy steel duplex hooks with bar latch—25 through 350 tons
- Forged steel duplex hooks*
- Anti-rotation locking devices, all models
- Swivel safety anchor shackles, all models*
- Sheave shrouds, all models
- Detachable cast iron cheek weights, all models
- Detachable steel plate cheek weights*
- Swivel jaws, all models*
- Pull test and Certification
- Radiograph, magnetic particle, and other nondestructive testing to specification designated by customer (conducted by qualified outside laboratory)*
- Price on application

TO ORDER PLEASE SPECIFY:

- Model Number
- Wire Rope Size
- Options Requested

Contact us for Block Dimensions or with any questions.

SHORTY "J" CRANE BLOCK OPTIONS:

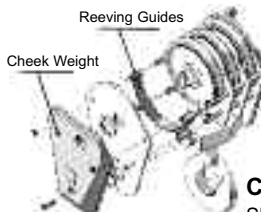
Anti-Rotation Locking Devices

Applicable to both hooks and swivel shackles, the anti-rotation device locks the fitting in the fixed position desired. Two types of these swivel locks are offered: a screw type, which is hand-turned directly into the hook nut (4 position); and a spring-loaded plunger type which snaps into the bottom of the hook housing (8 position). (See chart)



Shorty "J" anti-rotation devices are available on new blocks or on blocks which have been returned to the plant for retrofit.

Anti-Rotation Locking Device			
J-Block Tonnage	No. of Sheaves	Type Locking Device	Wt. (lbs)
25 - 70	1,2	Screw	4
50 - 80	3-up	Plunger	16
90 - 110	3-up	Plunger	19
115 - 140	3-up	Plunger	32
150 - 165	3-up	Plunger	32
200 - 250	3-up	Plunger	64
300 - 350	3-up	Plunger	82



Cheek Weight Kits

Shorty "J" cast iron cheek weights supply the extra downfall weight which block and line often need to overcome the combined friction of sheave bearings, winch, and boom tip. They are offered in the largest variety of sizes available—at least two per each size block—and are specifically contoured to resist hang-up and to provide an extra low center of gravity. Far more economical than plate steel weights, they are completely detachable and can be added or removed as conditions demand.

Kit consists of: 2 each cast iron cheek weights; 2 each tie bolts, with nuts, to size; cap screws and lock washers are required; 1 each ton rating name plate and cautions plate.

Shorty "J" Cheek Wt. Kits*

Block Size (O.D.)	B Kit (lbs.)	C Kit (lbs.)
10"	74	—
12"	125	277
14" AB	109	—
14"	185	349
16"	165	311
18"	237	375
20"	312	656
24"	757	1,179
30"	1,325	2,050

*For high vibration applications specify Plate Steel Cheek Weights to size.

Swivels

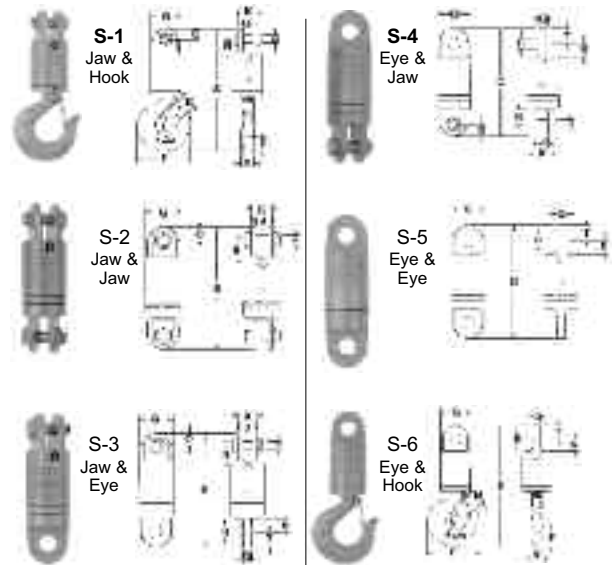
Swivels Equipped w/Tapered Roller Thrust Bearing

- Crosby®

- Designed to swivel under load.
- All swivels individually proof tested with certification.
- All hooks furnished with latches assembled.
- All jaws complete with bolts, nuts and cotter pins.
- Pressure lube fitting provided.
- NOT TO BE USED ON DEMOLITION (WRECKING) BALLS.
- Other types and capacities up to 600 tons, available to meet your requirements.

* Individually Proof tested to 2 times the Working Load Limit. Ultimate Load is 5x the Working Load Limit.

Swivel No. (type)	WLL* (metric tons)	Wire Rope Size (in)	Wt. Each (lbs)	Swivel No. (type)	WLL* (metric tons)	Wire Rope Size (in)	Wt. Each (lbs)
3-S-1	3	1/2	9.81	15-S-1	15	1	73.75
3-S-2	3	1/2	9.63	15-S-2	15	1	62.75
3-S-3	3	1/2	9.12	15-S-3	15	1	61.00
3-S-4	3	1/2	9.00	15-S-4	15	1	61.00
3-S-5	3	1/2	8.50	15-S-5	15	1	49.00
3-S-6	3	1/2	9.32	15-S-6	15	1	63.00
5-S-1	5	5/8	15.51	25-S-1	25	—	140.00
5-S-2	5	5/8	13.69	25-S-2	25	—	140.00
5-S-3	5	5/8	13.50	25-S-3	25	—	135.00
5-S-4	5	5/8	12.33	25-S-4	25	—	135.00
5-S-5	5	5/8	11.30	25-S-5	25	—	130.00
5-S-6	5	5/8	14.24	25-S-6	25	—	135.00
8-1/2-S-1	8-1/2	3/4	29.42	35-S-1	35	—	220.00
8-1/2-S-2	8-1/2	3/4	26.16	35-S-2	35	—	155.00
8-1/2-S-3	8-1/2	3/4	24.90	35-S-3	35	—	150.00
8-1/2-S-4	8-1/2	3/4	29.00	35-S-4	35	—	150.00
8-1/2-S-5	8-1/2	3/4	29.25	35-S-5	35	—	145.00
8-1/2-S-6	8-1/2	3/4	32.00	35-S-6	35	—	215.00
10-S-1	10	7/8	46.75	45-S-1	45	—	251.00
10-S-2	10	7/8	45.75	45-S-2	45	—	235.00
10-S-3	10	7/8	43.50	45-S-3	45	—	225.00
10-S-4	10	7/8	44.00	45-S-4	45	—	225.00
10-S-5	10	7/8	42.00	45-S-5	45	—	215.00
10-S-6	10	7/8	45.50	45-S-6	45	—	270.00



WLL* (metric tons)	Dimensions (in)																			
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	V	Ø
3	11.38	9.28	9.34	9.41	11.44	4.94	2.75	.75	.88	1.62	1.38	1.34	1.31	1.44	.75	1.03	1.12	1.25	1.12	1.00
5	13.31	10.31	10.06	9.81	13.06	6.50	3.00	.88	1.00	2.25	1.78	1.69	1.62	1.81	1.00	1.28	1.25	1.25	1.38	1.12
8-1/2	16.44	12.62	12.25	11.88	16.06	7.56	4.00	1.00	1.56	2.81	2.12	2.06	2.12	2.25	1.25	1.41	1.62	1.50	1.62	1.38
10	19.72	16.75	16.12	15.50	19.09	8.69	4.50	1.50	1.75	3.38	2.56	2.25	3.50	2.59	1.69	1.69	2.75	1.88	1.94	1.75
15	22.00	17.12	16.75	16.38	21.62	11.00	5.00	1.50	1.75	3.38	2.88	3.00	3.50	3.00	1.94	2.03	2.75	2.12	2.38	1.75
25	26.78	20.75	21.50	22.25	27.53	13.62	6.00	2.00	2.00	4.62	3.44	3.62	3.69	3.66	2.25	2.31	3.88	2.38	3.00	2.38
35	29.94	20.75	21.50	22.25	30.69	14.06	6.50	2.00	2.00	4.62	3.88	3.75	3.69	4.56	2.25	2.31	3.88	2.38	3.19	2.38
45	35.06	25.25	25.88	26.50	35.69	15.44	7.00	2.25	2.50	5.00	4.75	4.25	4.00	5.06	2.50	2.53	4.00	3.00	3.25	3.00

Important: Crosby Swivels should only be used with the recommended wire rope. Contact us for the proper wire rope to be used with Crosby Swivels.

* Individually proof tested to 2x the Working Load Limit. Ultimate load is 5x the Working Load Limit.

5
Blocks/
Sheaves/
Swivels

Swivels w/Angular Contact Ball Bearings - Miller

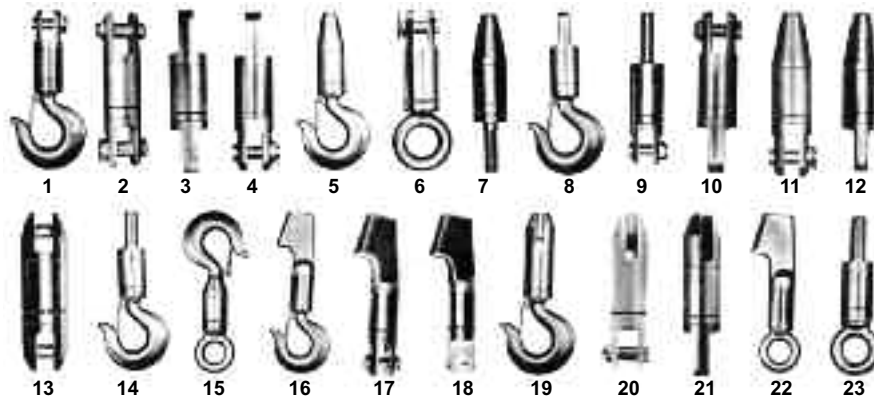
- Miller swivels handle working loads from 1/2 to 250 tons.

Angular contact ball bearings assure longer service life, superior performance, and much longer wire rope life with Miller Swivels. These bearings have much greater load capacity than other types. They are precision-ground, factory-lubricated, and perfectly matched to permit heavy loads to rotate freely, while preventing the load from spinning. Rope life is

extended as much as five times. Miller Swivels are made from the finest, precision-machined alloy steels. Critical parts are heat treated for maximum strength and service life. External surfaces (except forged steel hooks and eye bolts) are zinc-plated to resist corrosion. The Miller line includes virtually every conceivable combination of cap and shank types. Those shown below are only a small sample.



- Built with matched sets of angular contact ball bearings for maximum reliability, efficiency, and service life.
- 17 models for wire rope sizes from 1/8 in. to 1-1/2 in.
- 88 combinations of different cap, swivel, and shank types.



Model	Line Size (in.)	WLL (Tons)
A	1/8	.45
BB	1/4	.75
B	3/8	1.5
C	1/2	3
D	5/8	5
EE	3/4	8.5
G	7/8	10
GG	1	15
H	1-1/4	25
HH	1-1/2	35
I	N/A	45
J	N/A	50
JJ	N/A	60
K	N/A	75
KK	N/A	100
KKK	N/A	150
M	N/A	250

The complete Miller Swivel line includes virtually every conceivable combination of cap and shank types. Even the 23 standard combinations illustrated above do not exhaust the possibilities; special cap/shank combinations for unusual applications are available. Models listed at right designate wire rope sizes and working loads in tons.

Swivels

Hydraulic Load Positioner

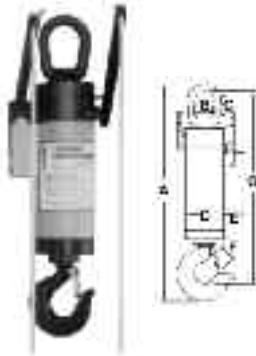
Models LP & LLP

Product Features (Both Models):

- Completely self contained hydraulic link between the hoist and load
- Positioning to within 0.001"
- Lowering speed 0-5 FPM, infinitely variable
- Automatic stop when control rope is released.
- Automatically resets when load is removed
- Eliminates hoist joggling

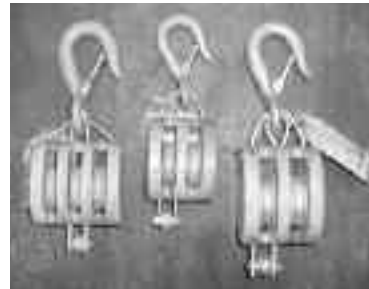
Specific Features (Model LLP):

- Lift increments .005" per stroke
- Overload protection at 110% rated load



Model LP-Load Positioner											
Model No.	Rated Cap. (lbs)		Stroke (in)	Dimensions (in)							Wt. (lbs)
	Max	Min		A	B	C	D	E	F	G	
LP-1/2-3	1000	50	3	18	1-1/2	1-1/2	2	-	1	16-7/8	12
LP-2-1/2-3	5000	150	3	18-3/16	1-3/4	2-3/8	3-1/2	-	1-1/8	16-1/2	28
LP-2-1/2-6	5000	150	6	25	1-3/4	2-3/8	3-1/2	-	1-1/8	23-3/8	45
LP-2-1/2-12	5000	150	12	31-5/8	1-3/4	2-3/8	3-1/2	-	1-1/8	30	60
LP-5-6	10000	250	6	28-1/2	2-1/4	3-1/16	4-1/2	-	1-7/8	26	70
LP-5-12	10000	250	12	35-1/2	2-1/4	3-1/16	4-1/2	-	1-7/8	33	95

Model LLP-Lifting and Lowering Load Positioner											
Model No.	Rated Cap. (lbs)		Stroke (in)	Dimensions (in)							Wt. (lbs)
	Max	Min		A	B	C	D	E	F	G	
LLP-2-1/2-3	5000	150	3	18-3/16	1-3/4	2-3/8	3-1/2	1-1/2	1-1/8	16-1/2	35
LLP-2-1/2-6	5000	150	6	22-5/8	1-3/4	2-3/8	3-1/2	1-1/2	1-1/8	21	50
LLP-2-1/2-12	5000	150	12	31-5/8	1-3/4	2-3/8	3-1/2	1-1/2	1-1/8	30	65
LLP-5-6	10000	250	6	28-1/2	2-1/4	3-1/16	4-1/2	1-1/2	1-7/8	26	75
LLP-5-12	10000	250	12	35-9/16	2-1/4	3-1/16	4-1/2	1-1/2	1-7/8	33	85



Blocks/Sheaves/Swivels

**McKissick® Custom
 Bridge Crane
 Blocks**

Customer Name _____		Date _____
Address _____	City _____	State, Zip _____
Phone _____	Fax _____	E-Mail _____
Customer Contact Name _____		Quantity _____

SHEAVE INFORMATION
 Sheave Diameter: _____ Wire Rope Size: _____ Number of Flanges: _____

BEARING TYPE
 Bronze Bearing Roller Bearing
 Tapered Roller Bearing Other _____

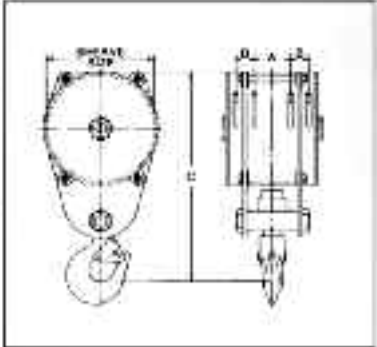
BLOCK INFORMATION
 Dimensions: A _____ B _____ C _____
 Working Load Limit: _____
 CSA Rating: _____

LOWER FITTING TYPE
 Single Head Block Double Head
 Swivel Block Other _____
 Locking Mechanism

Ultimate Weight Requirements: _____

APPLICATION INFORMATION
 Load Line Speed: _____
 Environment: _____

SPECIAL REQUIREMENTS
 Special Testing: _____
 Fields: _____
 Third Party Inspection/Approval: _____



**McKissick® Custom
 Lead Sheaves**

Customer Name _____		Date _____
Address _____	City _____	State, Zip _____
Phone _____	Fax _____	E-Mail _____
Customer Contact Name _____		Quantity _____

SHEAVE INFORMATION
 Sheave Diameter: _____ Wire Rope Size: _____ Number of Flanges: _____


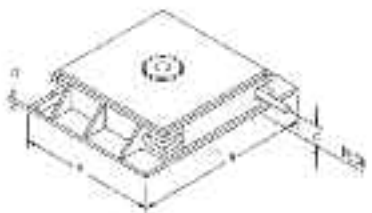
BEARING TYPE
 Bronze Bearing Roller Bearing
 Tapered Roller Bearing Other _____

BLOCK INFORMATION
 Style: Vertical Horizontal
 Dimensions: A _____ B _____ C _____ D _____

APPLICATION INFORMATION
 Line Speed: _____ Single Use Pct: _____ Degree of Wrap: _____
 Environment: _____

FREQUENCY OF USE
 Continuous _____ Intermittent _____ One Time _____

SPECIAL REQUIREMENTS
 Special Testing: _____
 Fields: _____
 Third Party Inspection/Approval: _____

Removable Dust Cover Fixed Deck Flange

5
 Blocks/
 Sheaves/
 Swivels