

TACKLE BLOCK WARNING, USE & MAINTENANCE INFORMATION

The Crosby Group, Inc.

Important

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!

KEEP INSTRUCTIONS FOR FUTURE USE — DO NOT THROW AWAY!

General Cautions or Warnings

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

Working Load Limit 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determine whether use can be continued at the catalog assigned WLL, a reduced WLL, a reduced Design (Safety) Factor, or withdrawn from service.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 — 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.

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Grinding is the recommended procedure to restore smooth surfaces. A reduction of the products original dimension of 10 percent from wear and repair is allowable in the load bearing areas. 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.")
8. If the block is to be a traveling block, what weight is required to overhaul the line? (See "How to Determine Overhaul Weights.")
9. What is the fleet angle of the wire line? Line entrance and exit angles should be no more than 1 1/2°.
10. How will the block be maintained? Do conditions in your application require special maintenance considerations? (See "Tackle Block Maintenance," and "Fitting Maintenance.")

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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:

1. 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.
2. 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.
3. Misalignment or wobble in sheaves.
4. 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.
5. Pins retained by snap rings should be checked for missing or loose rings.
6. 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.
7. 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.
8. Deformation or corrosion of hook and nut threads.
9. Surface condition and deformation of hook (See Fitting Maintenance and ANSI B30.10.)
10. Welded side plates for weld corrosion or weld cracking.
11. 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 lithum-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.)

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Formula for Calculating Bearing Pressure:

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

Formula for Calculating Bearing Velocity:

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

Formula for Calculating Line Speed:

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

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 Crosby's General Catalog for dimensions) with a 4600 lb. line pull and an 80° angle between lines determine maximum allowable line speed.

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

LINE PULL ANGLE FACTOR SHAFT SIZE HUB WIDTH

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

PV FACTOR BP

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

BV TREAD DIA. ROPE SIZE SHAFT DIA.

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:

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

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

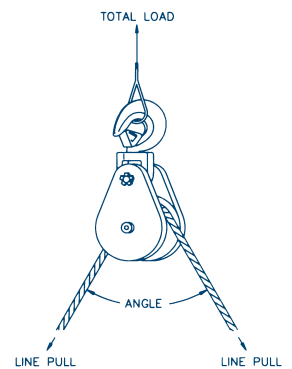
$$\text{Line Speed} = \frac{50 \times (12.25 + .75)}{2.75} = 236 \text{ FPM ALLOWABLE}$$

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.

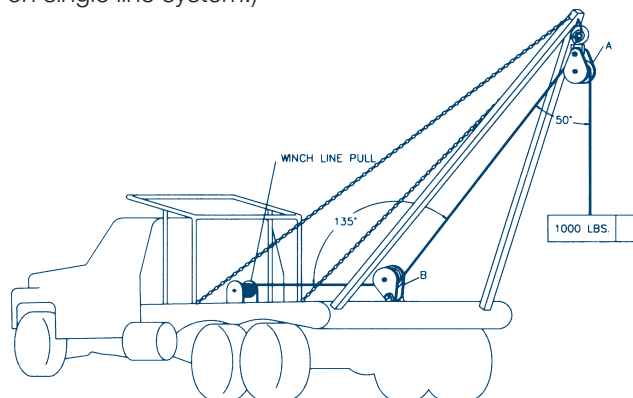
Angle Factor Multipliers			
Angle	Factor	Angle	Factor
0°	2.00	100°	1.29
10°	1.99	110°	1.15
20°	1.97	120°	1.00
30°	1.93	130°	.84
40°	1.87	135°	.76
45°	1.84	140°	.68
50°	1.81	150°	.52
60°	1.73	160°	.35
70°	1.64	170°	.17
80°	1.53	180°	.00
90°	1.41	—	—

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Example A:

(Calculations for determining total load 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
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To determine total load on toggle block B:

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

LINE PULL	FACTOR 135° ANGLE
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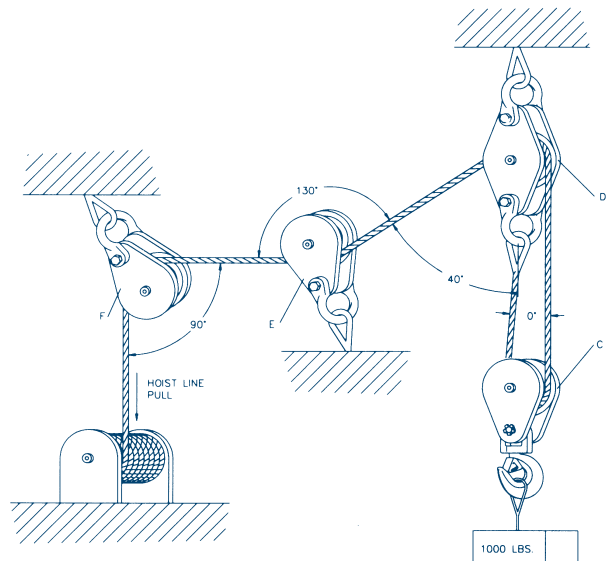
Example B:

(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:

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



To determine total load on traveling block C:

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

LINE PULL	FACTOR 0° ANGLE
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To determine total load on stationary block D:

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

LINE PULL	FACTOR 40° ANGLE	DEAD END LOAD
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To determine total load on block E:

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

LINE PULL	FACTOR 130° ANGLE
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To determine total load on block F:

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

LINE PULL	FACTOR 90° ANGLE
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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.

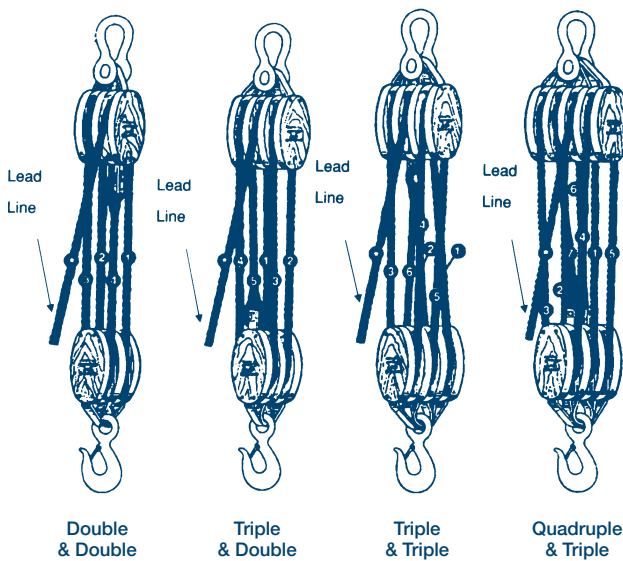
Right Angle Reeving

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 as seen below.

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 below:

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

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

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.

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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 below:

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.

$$\text{Relative Fatigue Bending Life} = \frac{10}{2.1} = 30$$

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 pounds, unless other information is available).

Wire Rope Size	Factor A - Wire Rope Weight	
	Lbs. Per Ft., 6 x 19 IWRC	
3/8	.26	
7/16	.35	
1/2	.46	
9/16	.59	
5/8	.72	
3/4	1.04	
7/8	1.42	
1	1.85	
1 1/8	2.34	
1 1/4	2.89	

Number of Line Parts	Factor B - Overhaul Factors	
	Roller Bearing Sheaves	Bronze Bushed Sheaves
1	1.03	1.05
2	2.07	2.14
3	3.15	3.28
4	4.25	4.48
5	5.38	5.72
6	6.54	7.03
7	7.73	8.39
8	8.94	9.80
9	10.20	11.30
10	11.50	12.80

The Formula is:

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

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:

$$\text{Required Block Weight} = \left[\underbrace{(50 \text{ ft.} \times 1.42)}_{\text{BOOM LENGTH} \times \text{FACTOR A}} + \underbrace{50 \text{ lbs.}}_{\text{DRUM FRICTION}} \right] \times \underbrace{5.38}_{\text{FACTOR B}} = 651 \text{ lbs.}$$

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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, the following ratio table is provided with examples of how to use it.

Ratio A Bronze Brushed Sheaves	Ratio B Anti-Friction Bearing Sheaves	Number of Line Parts
.96	.98	1
1.87	1.94	2
2.75	2.88	3
3.59	3.81	4
4.39	4.71	5
5.16	5.60	6
5.90	6.47	7
6.60	7.32	8
7.27	8.16	9
7.91	8.98	10
8.52	9.79	11
9.11	10.60	12
9.68	11.40	13
10.20	12.10	14
10.70	12.90	15
11.20	13.60	16
11.70	14.30	17
12.20	15.00	18
12.60	15.70	19
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.

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

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 of parts of line are known, and using anti-friction bearing sheaves.

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

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.

$$\begin{array}{ccc} 10,000 \text{ lbs.} & \times & 4.71 = 47,100 \\ \text{SINGLE} & & \text{RATIO B} & & \text{LIFT} \\ \text{LINE PULL} & & \text{OF 5 PARTS} & & \text{CAPACITY} \\ & & \text{OF LINE} & & \end{array}$$

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

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.

SNATCH BLOCKS

The Crosby Group, Inc.

Light Champion



418
With Hook



419
With Shackle



404
Tail Board

- 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.

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Sheave Diameter (in.)	Bearing Code	418 with Hook		419 with Shackle		404 Tail Board		Wire Rope Size (in.) ††	Working Load Limit * (metric tons)	Weight Each (lbs.)			Replacement Sheave	
		CERTEX Cat. Ref. No.	Crosby Stock No.	CERTEX Cat. Ref. No.	Crosby Stock No.	CERTEX Cat. Ref. No.	Crosby Stock No.			418 with Hook	419 with Shackle	404 Tail Board	CERTEX Cat. Ref. No.	Crosby Stock No.
*3	BB	—	—	CX13-0025	109091	—	—	5/16-3/8	2	—	4	—	CX13-0062	46014
**3	BB	CX13-0001	108038	CX13-0026	†109037	CX13-0050	102016	5/16-3/8	2	4.5	4	2.7	CX13-0063	460147
**4 1/2	BB	CX13-0002	108065	CX13-0027	109064	CX13-0051	102025	3/8-1/2	4	11.7	12	6.6	CX13-0064	2000232
6	BB	CX13-0003	108127	CX13-0028	109126	CX13-0052	102098	5/8-3/4	8	26.9	27.8	15	CX13-0065	460815
	RB	CX13-0004	108154	CX13-0029	109153	CX13-0053	102114						CX13-0066	472688
8	BB	CX13-0005	108225	CX13-0030	109224	CX13-0054	102169	5/8-3/4	8	33	34	21	CX13-0067	461164
	RB	CX13-0006	108252	CX13-0031	109251	CX13-0055	102187						CX13-0068	473277
10	BB	CX13-0007	108323	CX13-0032	109322	CX13-0056	102230	5/8-3/4	8	41	42	29	CX13-0069	461805
	RB	CX13-0008	108350	CX13-0033	109359	CX13-0057	102258						CX13-0070	473776
12	BB	CX13-0009	169169	CX13-0034	202961	CX13-0058	178890	5/8	8	48	49	36	CX13-0071	462270
	RB	CX13-0010	199911	CX13-0035	169347	CX13-0059	178934						CX13-0072	474141
12	BB	CX13-0011	108421	CX13-0036	109420	CX13-0060	102301	3/4	8	48	49	36	CX13-0073	462284
	RB	CX13-0012	108458	CX13-0037	109457	CX13-0061	102329						CX13-0074	474150
14	BB	CX13-0013	194920	CX13-0038	169356	—	—	5/8	8	55	56	—	CX13-0075	463625
	RB	CX13-0014	199948	CX13-0039	167857	—	—						CX13-0076	474150
14	BB	CX13-0015	108528	CX13-0040	109527	—	—	3/4	8	55	56	—	CX13-0077	463634
	RB	CX13-0016	108546	CX13-0041	109545	—	—						CX13-0078	474775
16	BB	CX13-0017	199975	CX13-0042	203041	—	—	3/4	15	130	135	—	CX13-0079	4100056
	RB	CX13-0018	200008	CX13-0043	203087	—	—						CX13-0080	4200028
16	BB	CX13-0019	108608	CX13-0044	109607	—	—	7/8	15	130	135	—	CX13-0081	4100065
	RB	CX13-0020	108626	CX13-0045	109625	—	—						CX13-0082	4200037
18	BB	CX13-0021	200099	CX13-0046	203130	—	—	7/8	15	150	155	—	CX13-0083	464571
	RB	CX13-0022	200151	CX13-0047	203176	—	—						CX13-0084	475792
18	BB	CX13-0023	108644	CX13-0048	109643	—	—	1	15	150	155	—	CX13-0085	4104640
	RB	CX13-0024	108662	CX13-0049	109661	—	—						CX13-0086	6000000

* Ultimate Load is 4 times the Working Load Limit.

** Available in Bronze Bushed only. 3" and 4 1/2" have self lubricating Bronze Bushing.

† Fitted with 1 1/4" I D 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.

SEE APPLICATION AND WARNING INFORMATION

SNATCH BLOCKS

The Crosby Group, Inc.

Super Champion



430
With Hook



431
With Shackle



407
Tail Board

- 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.
- Pressure lube fittings.
- 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.

Sheave Diameter (in.)	Bearing Code	430 with Hook		431 with Shackle		407 Tail Board		Wire Rope Size† (in.)	Working Load Limit* (metric tons)	Weight Each (lbs.)		
		CERTEX Cat. Ref. No.	Crosby Stock No.	CERTEX Cat. Ref. No.	Crosby Stock No.	CERTEX Cat. Ref. No.	Crosby Stock No.			430 with Hook	431 with Shackle	407 Tail Board
8	BB	CX13-0087	208448	CX13-0114	169891	CX13-0142	184286	1	20	75	87	42
	RB	CX13-0088	169882	CX13-0115	209214	CX13-0143	168017					
8	BB	CX13-0089	120023	CX13-0116	121022	CX13-0144	103523	1 1/8	20	75	87	42
	RB	CX13-0090	120041	CX13-0117	121040	CX13-0145	103541					
10	BB	CX13-0091	208475	CX13-0118	209232	CX13-0146	184311	1	20	89	101	55
	RB	CX13-0092	208509	CX13-0119	209269	CX13-0147	184348					
10	BB	CX13-0093	120096	CX13-0120	121095	CX13-0148	103603	1 1/8	20	89	101	55
	RB	CX13-0094	120112	CX13-0121	121111	CX13-0149	103621					
12	BB	CX13-0095	208536	CX13-0122	169917	CX13-0150	184375	1	20	103	115	70
	RB	CX13-0096	208554	CX13-0123	209303	CX13-0151	184393					
12	BB	CX13-0097	120176	CX13-0124	121175	CX13-0152	103685	1 1/8	20	103	115	70
	RB	CX13-0098	120194	CX13-0125	121193	CX13-0153	103701					
14	BB	CX13-0099	208537	CX13-0126	209321	CX13-0154	184419	1	20	1123	135	90
	RB	CX13-0100	208590	CX13-0127	170424	CX13-0155	184437					
14	BB	CX13-0101	120256	CX13-0128	121255	CX13-0156	133765	1 1/8	20	123	135	90
	RB	CX13-0102	120274	CX13-0129	121273	CX13-0157	133783					
18	BB	CX13-0103	508689	CX13-0130	209410	CX13-0158	184552	1	25	240	260	165
	RB	CX13-0104	208732	CX13-0131	209465	CX13-0159	184605					
18	BB	CX13-0105	119482	CX13-0132	119561	CX13-0160	119641	1 1/8	25	240	260	165
	RB	CX13-0106	119491	CX13-0133	119570	CX13-0161	119650					
20	BB	—	—	CX13-0134	209483	CX13-0162	184623	1 1/8	30	375	400	215
	RB	CX13-0107	208787	CX13-0135	169864	CX13-0163	184650					
20	BB	CX13-0108	119507	CX13-0136	119589	CX13-0164	119669	1 1/4	30	375	400	215
	RB	CX13-0109	119516	CX13-0137	119598	CX13-0165	119678					
24	BB	CX13-0110	208812	CX13-0138	209506	CX13-0166	184687	1 1/8	30	450	475	290
	RB	CX13-0111	508858	CX13-0139	209553	CX13-0167	184721					
24	BB	CX13-0112	119525	CX13-0140	119605	CX13-0168	119687	1 1/4	30	450	475	290
	RB	CX13-0113	119534	CX13-0141	119614	CX13-0169	119696					

* Ultimate Load is 4 times the Working Load Limit.

† May be furnished in other Wire Rope sizes.

**SEE APPLICATION AND
WARNING INFORMATION**

SNATCH BLOCKS

The Crosby Group, Inc.

All Alloy



416
With Hook



417
With Shackle



402
Tail Board

- 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 sheave in the 416, 417, 402 models; 434, 435, 401 models available in bronze bushed sheave only.
- Easy opening feature of “Champion” blocks retained.
- Hook and shackle assemblies can be interchanged.
- Pressure lube fittings.
- Can be furnished with SS-4055 hook latch.
- Fatigue rated.

Sheaving Diameter (in.)	Bearing Code	416 Alloy Hook		417 Alloy with Shackle		402 Alloy with Tail Board		Wire Rope Size† (in.)	Working Load Limit* (metric tons)	Weight Each (lbs.)		
		CERTEX Cat. Ref. No.	Crosby Stock No.	CERTEX Cat. Ref. No.	Crosby Stock No.	CERTEX Cat. Ref. No.	Crosby Stock No.			416 Alloy with Hook	417 Alloy with Shackle	402 Alloy Tail Board
6	BB	CX13-0170	07020	CX13-0182	107262	CX13-0194	302461	3/4	12	26	2	15
	RB	CX13-0171	107048	CX13-0183	107280	CX13-0195	302470					
6	BB	CX13-0172	193427	CX13-0184	168972	CX13-0196	179238	7/8	12	26	27	15
	RB	CX13-0173	193472	CX13-0185	193757	CX13-0197	17928					
8	BB	CX13-0174	107100	CX13-0186	107342	CX13-0198	302489	3/4	12	33	34	21
	RB	CX13-0175	107128	CX13-0187	107360	CX13-0199	302498					
8	BB	CX13-0176	193490	CX13-0188	168990	CX13-0200	179318	7/8	12	33	34	21
	RB	CX13-0177	193542	CX13-0189	193819	CX13-0201	179363					
10	BB	CX13-0178	107182	CX13-0190	107388	CX13-0202	302504	3/4	12	41	42	29
	RB	CX13-0179	107208	CX13-0191	107404	CX13-0203	302513					
10	BB	CX13-0180	193613	CX13-0192	193882	CX13-0204	179434	7/8	12	41	42	29
	RB	CX13-0181	193677	CX13-0193	193935	CX13-0205	179498					

* Ultimate Load is 4 times the Working Load Limit.

† May be furnished in other wire rope sizes.

**SEE APPLICATION AND
WARNING INFORMATION**

SNATCH BLOCKS

The Crosby Group, Inc.



408
Double With Hook



409
Double With Shackle

- 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.

Sheave Diameter (in.)	Bearing Code	408 with Hook		409 with Shackle		Wire Rope Size† (in.)	Working Load Limit* (metric tons)	Weight Each (lbs.)	
		CERTEX Cat. Ref. No.	Crosby Stock No.	CERTEX Cat. Ref. No.	Crosby Stock No.			408 with Hook	409 with Shackle
† 4 1/2	BB	CX13-0206	168026	CX13-0228	194809	3/8	4	18	18
† 4 1/2	BB	CX13-0207	104023	CX13-0229	105022	1/2	4	18	18
6	BB	CX13-0208	194266	CX13-0230	194863	5/8	12	45	50
	RB	CX13-0209	194319	CX13-0231	173831				
6	BB	CX13-0210	104103	CX13-0232	105102	3/4	12	45	50
	RB	CX13-0211	104121	CX13-0233	105120				
8	BB	CX13-0212	194355	CX13-0234	194916	5/8	12	53	58
	BR	CX13-0213	168035	CX13-0235	195014				
8	BB	CX13-0214	104185	CX13-0236	105184	3/4	12	53	58
	RB	CX13-0215	104201	CX13-0237	105200				
10	BB	CX13-0216	194471	CX13-0238	19508	5/8	12	70	75
	RB	CX13-0217	194532	CX13-0239	195149				
10	BB	CX13-0218	104265	CX13-0240	105264	3/4	12	70	75
	RB	CX13-0219	104283	CX13-0241	105282				
12	BB	CX13-0220	194578	CX13-0242	195185	5/8	12	90	95
	RB	CX13-0221	168044	CX13-0243	195229				
12	BB	CX13-0222	104345	CX13-0244	105344	3/4	12	90	95
	RB	CX13-0223	104363	CX13-0245	105362				
14	BB	CX13-0224	194621	CX13-0246	195247	5/8	12	100	105
	RB	CX13-0225	194649	CX13-0247	195265				
14	BB	CX13-0226	104425	CX13-0248	105424	3/4	12	100	105
	RB	CX13-0227	104443	CX13-0249	105442				

* Ultimate Load is 4 times the Working Load Limit.

† Available in Bronze Bushed Only.

†† May be furnished in other Wire Rope sizes.

SEE APPLICATION AND WARNING INFORMATION

SNATCH BLOCKS

The Crosby Group, Inc.



420
With Hook



421
With Shackle



406
Tail Board

- 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.

NOTE: When ordering, please specify: Size, block number, hook or shackle, bronze bushed or roller bearing, and wire rope size.

Sheave Diameter (In.)	Bearing Code	420 with Hook		421 with Shackle		406 Tail Board		Wire Rope Size† (in.)	Working Load Limit (metric tons)	Weight Each (lbs.)		
		CERTEX Cat. Ref. No.	Crosby Stock No.	CERTEX Cat. Ref. No.	Crosby Stock No.	CERTEX Cat. Ref. No.	Crosby Stock No.			420 with Hook	421 with Shackle	406 Tail Board
6	BB	CX13-0250	110025	CX13-0262	110524	CX13-0274	103024	3/4	12	40	48	24
	RB	CX13-0251	110052	CX13-0263	110551	CX13-0275	103042					
6	BB	CX13-0252	169374	CX13-0264	169481	CX13-0276	167973	7/8	12	40	48	24
	RB	CX13-0253	169392	CX13-0265	204120	CX13-0277	167982					
8	BB	CX13-0254	110123	CX13-0268	110622	CX13-0278	103104	3/4	15	51	57	30
	RB	CX13-0255	110150	CX13-0267	110659	CX13-0279	103122					
8	BB	CX13-0256	169418	CX13-0268	169515	CX13-0280	167991	7/8	15	51	57	30
	RB	CX13-0257	169445	CX13-0269	204193	CX13-0281	168008					
10	BB	CX13-0258	204415	CX13-0270	169524	CX13-0282	184179	3/4	15	63	69	42
	RB	CX13-0259	204442	CX13-0271	169542	CX13-0283	184213					
10	BB	CX13-0260	110221	CX13-0272	110720	CX13-0284	103186	7/8	15	63	69	42
	RB	CX13-0261	110258	CX13-0273	110757	CX13-0285	103202					

* Ultimate Load is 4 times the Working Load Limit.
† May be furnished in other wire rope sizes.

**SEE APPLICATION AND
WARNING INFORMATION**

SNATCH BLOCKS

The Crosby Group, Inc.



C-700

C-700 Snatch Blocks

- Unique locking device permits disengagement by simply folding hook.
- Formed steel side plates with capacity stamped permanently in place.
- Oil impregnated bronze bushings.
- Can be furnished with SS-4055 hook latch.

Sheave Diameter & Block No.	CERTEX Cat. Ref. No.	Crosby Stock No.	Working Load Limit* (tons)	Wire Rope Size (in.)	Weight Each (lbs.)	Fitting
6" 10611	CX13-0286	260014	2	1/2	12.00	Swivel Hook
8" 10811	CX13-0287	261013	3	5/8	18.60	Swivel Hook

* Ultimate Load is 3.5 times the Working Load Limit.



C-720

C-720 Heavy Duty Utility Snatch Block

- Forged steel sheaves, bronze bushings.
- Pressure lube fitting.
- Drop forged steel hook.
- Self-locking style. Locks with hook load.
- Can be furnished with SS-4055 hook latch.

Sheave Diameter & Block No.	CERTEX Cat. Ref. No.	Crosby Stock No.	Working Load Limit* (tons)	Wire Rope Size (in.)	Weight Each (lbs.)	Fitting
6" 60611	CX13-0288	280010	7	7/8	28.00	Swivel Hook
8" 60811	CX13-0289	280038	7	7/8	36.25	Swivel Hook

* Ultimate Load is 3.5 times the Working Load Limit.



C-720

C-720 Toggle Block (Tail Board)

- Forged Steel Sheaves, bronze bushing.
- Pressure lube fitting.

Sheave Diameter & Block No.	CERTEX Cat. Ref. No.	Crosby Stock No.	Working Load Limit* (tons)	Wire Rope Size (in.)	Weight Each (lbs.)
6" 70610	CX13-0290	290018	7	7/8	21.0

* Ultimate Load is 3.5 times the Working Load Limit.

**SEE APPLICATION AND
WARNING INFORMATION**

The Crosby Group, Inc.

Hay Fork Pulleys



**161
HF-1
With Swivel Hook**



**161
HF-2
With Swivel Eye**

- One piece pressed steel shells.
- Edges well rounded to prevent chaffing of rope.
- Forged steel eyes and hooks.
- Can be furnished with SS-4055 hook latch.
- Furnished with roller bearings.
- Pressure lube fittings.
- Available Painted or Zinc Plated.

Sheave Diameter & Block No.	Painted		Zinc Plated		Working Load Limit* (tons)	Standard Rope Size (in.)	End Fitting	Weight Each (in.)
	CERTEX Cat. Ref. No.	Crosby Stock No.	CERTEX Cat. Ref. No.	Crosby Stock No.				
4 1/2" HF-1	CX13-0291	170022	CX13-0300	170594	1	1 1/4 MR	Swivel Hook	6
4 1/2" HF-2	CX13-0292	170086	CX13-0301	170629	1	1 1/4 MR	Swivel Eye	6
4 1/2" HF-3	CX13-0293	170148	CX13-0302	170656	1	1/2 WL	Swivel Hook	6
4 1/2" HF-4	CX13-0294	170200	CX13-0303	170683	1	1/2 WL	Swivel Eye	6
8" HF-5	CX13-0295	170264	CX13-0304	170718	2	1/2 WL	Swivel Eye	11
6" HF-11	CX13-0296	170380	CX13-0305	170745	2	1 1/2 MR	Swivel Hook	11
6" HF-12	CX13-0297	170442	CX13-0306	170763	2	1 1/2 MR	Swivel Eye	11
6" HF-13	CX13-0298	170503	CX13-0307	170781	2	5/B WL	Swivel Hook	11
6" HF-14	CX13-0299	170567	CX13-0308	170807	2	5/B WL	Swivel Eye	11"

* Ultimate Load is 4 times the Working Load Limit.
Rope Code: MR - Manila Rope, WL - Wire Line

**SEE APPLICATION AND
WARNING INFORMATION**

BLOCKS

The Crosby Group, Inc.

Tong Blocks



171

- Steel sheaves with roller bearings and pressure lubrication.
- Forged steel eyes and hooks.
- Easy opening feature shown available in 8" size only.

Sheave Diameter & Block No.	CERTEX Cat. Ref. No.	Crosby Stock No.	Working Load Limit* (tons)	Wire Rope Size (in.)	Weight Each (lbs.)	Connection
6" TB-1	CX13-0309	171012	1/2	3/4	11	Swivel Eye
8" TB-1	CX13-0310	171058	1	3/4	12	Swivel Eye
10" TB-1	CX13-0311	171101	2 1/2	3/4	30	Swivel Eye
12" TB-1	CX13-0312	171156	2 1/2	3/4	35	Swivel Eye

* Ultimate Load is 4 times the Working Load Limit.

Lay Down Blocks



443

- Used to lay down drill pipe.
- All steel construction, steel sheaves mounted on antifriction bearings, grooved for maximum of 3/4" wire line.
- Hook made to fit into end of drill pipe, handy dead end bucket for returning block — hooks have handle for disengagement.

Sheave Diameter & Block No.	CERTEX Cat. Ref. No.	Crosby Stock No.	Working Load Limit* (tons)	Wire Rope Size (in.)	Weight Each (lbs.)	Type Block
4 1/2" 443	CX13-0313	171414	1/4	1/2	12	Regular
6" 443	CX13-0314	171432	1/4	3/4	17	Regular

* Ultimate Load is 4 times the Working Load Limit.

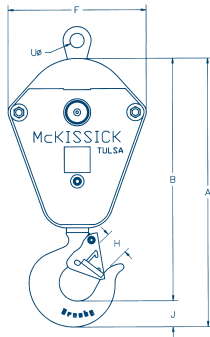
SEE APPLICATION AND
WARNING INFORMATION

The Crosby Group, Inc.

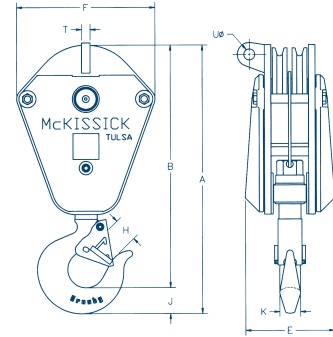
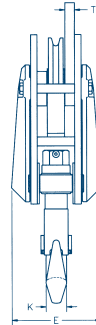
380 Series Hook Blocks



380
Series Hook Block



381
Single



382
Double

- Wide range of product available.
 - Capacity: 5 to 300 Tons - Larger Models Available.
 - Sheave Sizes: 10" to 30".
 - Wireline Sizes: 7/16" to 1-3/8".
- 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 **QUICCHECK®** markings (Duplex hooks are available on all sizes).
- All 380 Blocks are furnished standard with Roller Bearings.
- Reeving Guide Standard – All Models.
- Blocks thru 25 tons use 319N style hooks with S-4320 latches.
- Sheaves lubrication through center pin – separate lube channel to each bearing.
- Sheave fully protected by side plates.
- Dual action hook (swings and rotates).
- Repair parts available through worldwide distribution network.
- Design Factor of 4 to 1 (unless otherwise noted).
- All 380 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".

Options Available

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

Dead End Chart

(Double, Triple, & Quad Sheave Blocks*)

Wireline Size (in.)	Dimensions (in.)		Recommended Wedge Socket	
	T Thickness	U Hole Diameter	McKissick® US-422 / US-422T Utility Socket	
			Stock No.	Size
7/16	1.00	1.28	1044309+	US4 7/16
1/2	1.00	1.28	1044318+	US4 1/2
9/16	1.00	1.28	1044336+	US5 9/16
5/8	1.00	1.28	1044345+	US5 5/8
3/4	1.25	1.66	1044363+	US6 3/4
7/8	1.25	1.66	1038580	US7 7/8
1	1.25	1.66	1044417+	US8 1
1-1/8	1.75	2.56	1044426+	US10 1-1/8
1-1/4	1.75	2.56	1044435+	US10 1-1/4

+ US-422T Terminator Style.

The patented McKissick Split-Nut® is the standard retention system for standard crane blocks up to 100 Tons.

SEE APPLICATION AND WARNING INFORMATION

MCKISSICK® EASY REEVE® CRANE BLOCKS

The Crosby Group, Inc.

380 Series Easy Reeve® Hook Blocks

- Wide range of products available.
 - Capacity: 5 to 80 Tons - Larger Models Available.
 - Sheave Sizes: 10" to 20".
 - Wireline Sizes: 7/16" to 1-1/4".
- All single point shank hooks are genuine Crosby®, forged alloy steel, Quenched and Tempered, and have the patented QUICCHECK® markings (Duplex hooks are available on most sizes).
- Design factor of 4 to 1 (unless otherwise noted).
- All Easy Reeve® Blocks are furnished standard with Roller Bearings.
- Reeving Guides Standard – All Models.
- Blocks thru 25 Tons use 319N hooks with S-4320 latches.
- Heavy Duty Positive Locking (PL) Latch – Models: 30 Tons and larger.
- 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 worldwide distribution network.
- All Easy Reeve® blocks 16" and larger are furnished with McKissick® Roll-Forged sheaves with flame hardened grooves.
- Manufactured by an ISO 9001 and API Q1 certified facility.
- "Look for the Orange Hook ... the mark of genuine McKissick® quality".



**380 Series
Easy Reeve®
Hook Block**

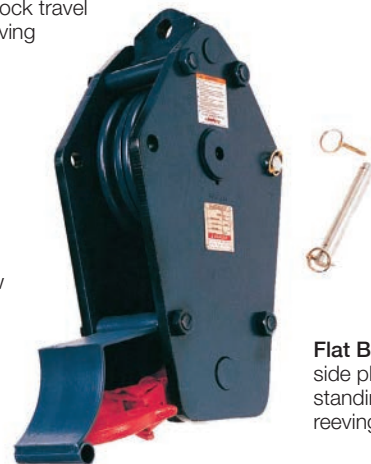
The patented McKissick Split-Nut® is the standard retention system for standard crane blocks up to 100 Tons.

Options Available

- Duplex Hooks
- Swivel Tee and Shackle Assemblies
- Sheave Shrouds
- Anti-Rotation Hook-Locking Device
- Plate Steel Cheek Weights
- Third party testing with Certification available upon request.

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 plate for self standing during reeving process.

SEE APPLICATION AND WARNING INFORMATION

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

The Crosby Group, Inc.

McKissick Series 680 Construction Blocks

- Wide Range of product available:
 - Capacity: 5 to 65 tons - Larger models available.
 - Sheave sizes: 6" to 24" O.D.
 - Wire Line Sizes: 3/8" to 1-1/4"
- Equipped with genuine Crosby® forged steel, Quenched and Tempered shackles that contain the patented QUIC-CHECK® markings.
- Design Factor of 4 to 1.
- Manufactured by an ISO 9001 and API Q1 Certified facility.
- All 680 Series Blocks are furnished standard with Bronze Bushings.
- All 680 blocks 16" and larger, are furnished with McKissick® Roll Forged® sheaves with flame hardened grooves.
- Sheaves are lubricated through center pin, with a separate lube channel to each sheave.

Options Available

- Roller bearing sheaves
- Hanger & Bolt only models available
- Third party testing with certification
- Galvanized finish - Most models



With Shackle



With Hanger



Bolt Only

BLOCKS

The Crosby Group, Inc.

McKissick Series 680 Construction Blocks

“P” FITTING — Blocks with Bolt Only
5 Tons Section Only

CERTEX Cat. Ref. No.	McKissick Model No.	Inquiry Stock No.	Working Load Limit (tons)	No. of Sheaves	Sheave Diameter (in.)	Blocks with Bolt Only Dimensions												Weight Each (lbs.)
						A	B	C	D	E	F	G	H	I	J	K	X	
CX13-0800	C5S6BP	2101000	5	1	6	12.12	1.62	1.78	—	2.28	6.12	—	—	—	2.00	1.25	—	19
CX13-0801	C5S8BP	2101002	5	1	8	14.00	1.62	1.78	—	2.28	8.12	—	—	—	2.00	1.25	—	31
CX13-0802	C5D6BP	2101010	5	2	6	14.75	1.62	3.81	1.06	4.31	6.12	.63	.69	.84	1.79	1.25	2.03	33
CX13-0803	C5D8BP	2101012	5	2	8	16.62	1.62	3.81	1.06	4.31	6.12	.63	.69	.84	1.79	1.25	2.03	54
CX13-0804	C5T6BP	2101020	5	3	6	14.75	1.62	5.84	1.06	6.34	6.12	.63	.69	.84	1.79	1.25	2.03	45
CX13-0805	C5T8BP	2101022	5	3	8	16.62	1.62	5.84	1.06	6.34	8.12	.63	.69	.84	1.79	1.25	2.03	75

Other Sizes Available by Request.

“H” FITTING — Blocks with Hangers
5 Tons Section Only

CERTEX Cat. Ref. No.	McKissick Model No.	Inquiry Stock No.	Working Load Limit (tons)	No. of Sheaves	Sheave Diam. (in.)	Blocks with Hangers - Dimensions												Weight Each (lbs.)	
						A	E	F	G	H	I	L	M	N	O	P	Q		X
CX13-0806	C5S6BH	2102000	5	1	6	15.00	2.28	6.12	—	—	—	1.63	1.25	1.06	1.16	3.25	1.86	—	22
CX13-0807	C5S8BH	2102002	5	1	8	16.88	2.28	8.12	—	—	—	1.63	1.25	1.06	1.16	3.25	1.86	—	34
CX13-0808	C5D6BH	2102010	5	2	6	17.62	4.31	6.12	.63	.69	.84	1.63	1.25	1.06	1.16	3.25	2.25	2.03	37
CX13-0809	C5D8BH	2102012	5	2	8	19.50	4.31	8.12	.63	.69	.84	1.63	1.25	1.06	1.16	3.25	2.25	2.03	58
CX13-0810	C5T6BH	2102020	5	3	6	17.62	6.34	6.12	.63	.69	.84	1.63	1.25	1.06	1.16	3.25	2.25	2.03	51
CX13-0811	C5T8BH	2102022	5	3	8	19.50	6.34	8.12	.63	.69	.84	1.63	1.25	1.06	1.16	3.25	2.25	2.03	81

Other Sizes Available by Request.

“S” FITTING — Blocks with Hanger and Shackle
5 Tons Section Only

CERTEX Cat. Ref. No.	McKisset Model No.	Inquiry Stock No.	Working Load Limit (tons)	No. of Sheaves	Sheave Diam. (in.)	Blocks with Hangers and Shackle - Dimensions											Weight Each (lbs.)	
						A	E	F	G	H	I	S	T	U	V	W		X
CX13-0812	C5S6BS	2103000	5	1	6	18.56	2.28	6.12	—	—	—	3.81	2.56	1.14	.88	.97	—	25
CX13-0813	C5S8BS	2103002	5	1	8	20.44	2.28	8.12	—	—	—	3.81	2.56	1.14	.88	.97	—	37
CX13-0814	C5D6BS	2103010	5	2	6	21.19	4.31	6.12	.63	.69	.84	3.81	2.56	1.14	.88	.97	2.03	40
CX13-0815	C5D8BS	2103012	5	2	8	23.06	4.31	8.12	.63	.69	.84	3.81	2.56	1.14	.88	.97	2.03	61
CX13-0816	C5T6BS	2103020	5	3	6	21.19	6.34	6.12	.63	.69	.84	3.81	2.56	1.14	.88	.97	2.03	54
CX13-0817	C5T8BS	2103022	5	3	8	23.06	6.34	8.12	.63	.69	.84	3.81	2.56	1.14	.88	.97	2.03	84

Other Sizes Available by Request.

The Crosby Group, Inc.

Gin Blocks for Manila Rope



T-350-C

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.)	Fitting	T-350-C Painted		T-350-R Painted		T-350-B Painted		Sheave Size (in.)			Manila Rope Size (in.)	Working Load Limit * (lbs.)	Weight Each (lbs.)
		CERTEX Cat. Ref. No.	Crosby Stock No.	CERTEX Cat. Ref. No.	Crosby Stock No.	CERTEX Cat. Ref. No.	Crosby Stock No.	Outside Diameter	Rim Thickness	Bearing Diameter			
8	T	CX13-0359	710001	CX13-0363	710207	CX13-0367	710403	8.00	1.25	.75	7/8	1000	9.0
10	T	CX13-0360	710029	CX13-0364	710225	CX13-0368	710421	10.00	1.25	.88	1	1000	9.8
12	T	CX13-0361	710047	CX13-0365	710243	CX13-0369	710449	12.00	1.38	.88	1	1000	12.7

* Ultimate Load is 3 times the Working Load Limit.

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

Wood Blocks for Manila Rope



HS-21-B
Single

(available in N & S)

Block Size (in.)	Fitting	Single Sheave		Double Sheave		Triple Sheave	
		21 B Galv.		22 B Galv.		23 B Galv.	
		CERTEX Cat. Ref. No.	Crosby Stock No.	CERTEX Cat. Ref. No.	Crosby Stock No.	CERTEX Cat. Ref. No.	Crosby Stock No.
3	HS	CX13-0376	603813	CX13-0402	604616	CX13-0426	605410
4	HS	CX13-0377	603831	CX13-0403	604634	CX13-0427	605438
5	HS	CX13-0378	603859	CX13-0404	604652	CX13-0428	605456
6	HS	CX13-0379	603877	CX13-0405	604670	CX13-0429	605474
8	HS	CX13-0380	603911	CX13-0406	604714	CX13-0430	605517
3	N	CX13-0381	606419	CX13-0407	606810	CX13-0431	607212
4	N	CX13-0382	606437	CX13-0408	606838	CX13-0432	607230
5	N	CX13-0383	606455	CX13-0409	606856	CX13-0433	607258
6	N	CX13-0384	606473	CX13-0410	606874	CX13-0434	607276
8	N	CX13-0385	606516	CX13-0411	606918	CX13-0435	607310
3	S	CX13-0386	610011	CX13-0412	611617	CX13-0436	613214
4	S	CX13-0387	610039	CX13-0413	611635	CX13-0437	613232
5	S	CX13-0388	610057	CX13-0414	611653	CX13-0438	613250
6	S	CX13-0389	610075	CX13-0415	611671	CX13-0439	613278
8	S	CX13-0390	610119	CX13-0416	611715	CX13-0440	613312

Block Size (in.)	Sheave Diameter (in.)			Manila Rope Size (in.)	Working Load Limit* (lbs.)			Weight Each (lbs.)		
	Outside Diam.	Rim Thickness	Center Pin Diam.		21 Single	22 Double	23 Triple	21 Single	22 Double	23 Triple
3	1.75	.50	.38	3/8	500	800	1200	1.00	1.75	2.50
4	2.25	.63	.38	1/2	1000	1400	1800	1.75	3.00	4.00
5	3.00	.75	.38	5/8	1200	1800	2400	3.25	5.60	6.50
6	3.50	1.00	.50	3/4	1800	2500	3200	5.00	8.50	11.50
8	4.75	1.13	.63	7/8-1	2800	3800	4800	9.00	14.00	21.50

*Ultimate Load is 4 times the Working Load Limit.

Note: We furnish becketts on all blocks.

**SEE APPLICATION AND
WARNING INFORMATION**

OVERHAUL BALLS

The Crosby Group, Inc.

UB500 Series Top Swiveling Overhaul Balls



S320 or S320N
Eye Hook



S316A
SHUR-LOC® Eye Hook

- The top swivel design on the UB500 assures the ball remains stationary if the wire line spins.
- The swivel incorporates a sealed roller thrust bearing together with a grease fitting for easy lubrication.
- Each ball can be equipped with the new McKissick US422 Wedge & Socket which can be easily adjusted to fit various sizes of wire rope by changing the wedge (Ensure that correct wedge is used for selected wire rope size).

Key to McKissick® UB500 Utility Overhaul Ball Model Numbers				
MB	4	T	35	E
McKissick® Utility Overhaul Ball	Working Load Limit (Tons)	Swivel Style	Ball only Weight	Hook Style
		T = Top		E = 320 or 320N Eye Hook
		NS = Non		S = SHUR-LOC® Eye Hook

- Design Factor 4:1
- All hooks used on UB500 Overhaul Balls (S320, S320N & S316A) are forged from alloy steel. The S320 and S320N hooks come complete with latches.
- Sizes 4 tons through 10 tons available with Crosby's S316A "Positive Locking" SHUR-LOC® hook which may be used for lifting personnel. Meets OSHA Rule 1926.550 (g).
- The S320 hook (PL latch) and the S320N hook (S4320 latch), with the proper latch attached, may be used for personnel lifting when secured with proper device (Bolt, nut and pin for the PL latch; Cotter pin for the S4320 latch). Meets OSHA Rule 1926.550 (g).

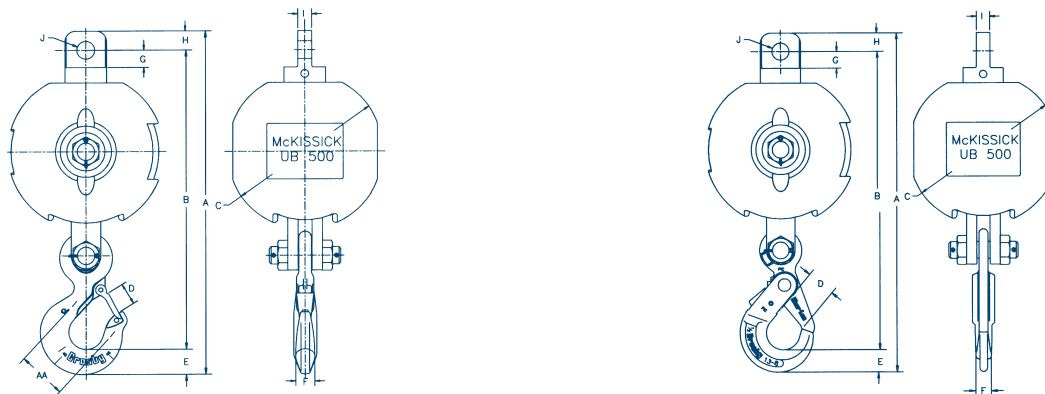
Overhaul Ball Assembly							Optional US-422 Wedge & Socket Assembly					
McKissick UB500		UB500 "E" Eye Hook		UB500 "S" SHUR-LOC®		Working Load Limit (tons)	Weight Each (lbs.)	Wire Rope Size (in.)	US-422			Weight Each (lbs.)
CERTEX Cat. Ref. No.	McKissick Model No.	CERTEX Cat. Ref. No.	Crosby Stock No.	CERTEX Cat. Ref. No.	Crosby Stock No.				Model No.	CERTEX Cat. Ref. No.	Crosby Stock No.	
CX13-0500	MB4T35	CX13-0531	1036000*	CX13-0562	1036005	4	58	3/8	US4	CX13-0575	1038499	4.6
CX13-0501	MB4T85	CX13-0532	1036009*	CX13-0563	1036018	4	102	7/16	US4	CX13-0576	1038503	4.6
CX13-0502	MB4T150	CX13-0533	1036027*	CX13-0564	1036032	4	162	1/2	US4	CX13-0577	1038508	4.6
CX13-0503	MB4T200	CX13-0534	1036036*	CX13-0565	1036041	4	201	1/2	US5	CX13-0578	1038517	8.5
CX13-0504	MB7T85	CX13-0535	1036045*	CX13-0566	1036050	7	109	9/16	US5	CX13-0579	1038526	8.5
CX13-0505	MB7T150	CX13-0536	1036054*	CX13-0567	1036063	7	170	5/8	US5	CX13-0580	1038535	8.5
CX13-0506	MB7T200	CX13-0537	1036072*	CX13-0568	1036077	7	210	5/8	US6	CX13-0581	1038544	9.4
CX13-0507	MB7T285	CX13-0538	1036081*	CX13-0569	1036086	7	321	3/4	US6	CX13-0582	1038533	9.4
CX13-0508	MB10T150	CX13-0539	1036090*	CX13-0570	1036095	10	216					
CX13-0509	MB10T200	CX13-0540	1036099*	CX13-0571	1036108	10	260					
CX13-0510	MB10T285	CX13-0541	1036117*	CX13-0572	1036122	10	365	5/8	US6	CX13-0583	1038544	9.4
CX13-0511	MB10T350	CX13-0542	1036126*	CX13-0573	1036131	10	403	3/4	US6	CX13-0584	1038553	9.4
CX13-0512	MB10T650	CX13-0543	1036135*	CX13-0574	1036140	10	718	7/8	US8	CX13-0585	1038598	20.8
CX13-0513	MB12T150	CX13-0544	1036144*	—	—	12	216	1	US8	CX13-0586	1038607	20.8
CX13-0514	MB12T200	CX13-0545	1036153*	—	—	12	258	1 1/8	US10	CX13-0587	1038616	46.5
CX13-0515	MB12T285	CX13-0546	1036171*	—	—	12	365	1 1/4	US10	CX13-0588	1038625	46.5
CX13-0516	MB12T350	CX13-0547	1036180*	—	—	12	403					
CX13-0517	MB12T650	CX13-0548	1036189*	—	—	12	718					
CX13-0518	MB15T200	CX13-0549	1036198*	—	—	15	298					
CX13-0519	MB15T350	CX13-0550	1036207*	—	—	15	456					
CX13-0520	MB15T650	CX13-0551	1036216*	—	—	15	753					
CX13-0521	MB15T1150	CX13-0552	1036225*	—	—	15	1311	5/8	US8A	CX13-0589	1038562	17.5
CX13-0522	MB30T200	CX13-0553	1036234*	—	—	20	298	3/4	US8A	CX13-0590	1038571	17.5
CX13-0523	MB20T350	CX13-0554	1036243*	—	—	20	456	7/8	US8	CX13-0591	1038598	20.8
CX13-0524	MB20T650	CX13-0555	1036252*	—	—	20	753	1	US8	CX13-0592	1038607	20.8
CX13-0525	MB20T1150	CX13-0556	1036261*	—	—	20	1311	1 1/8	US10	CX13-0593	1038616	46.5
CX13-0526	MB25T350	CX13-0557	1036270	—	—	25	533	1 1/4	US10	CX13-0594	1038625	46.5
CX13-0527	MB25T650	CX13-0558	1036279	—	—	25	865					
CX13-0528	MB25T1150	CX13-0559	1036288	—	—	25	1421					
CX13-0529	MB30T650	CX13-0560	1036297	—	—	30	865					
CX13-0530	MB30T1150	CX13-0561	1036306	—	—	30	1421					

* Hook is New S-320N style. Replacement latch kit is S-4320. PL latch and S-4055 latch will not fit.

OVERHAUL BALLS

The Crosby Group, Inc.

UB500 Series Top Swiveling Overhaul Balls



- 4 ton through 20 ton models are New 320-N Eye Hooks

Standard Crosby S-5 Thrust Bearing style swivels can not be used with UB500 Overhaul balls.



Putting Certainty Into Everything We Make.

CERTEX provides the rope slings, rope terminations and other tailor-made assemblies that allow our customers to tackle their lifting challenges with confidence. At CERTEX, every custom operation from cutting rope to applying hooks and shackles to making the most demanding sling, carries out the same assurance of safety.

Safety is built into our products at every stage of our fabricating process. A CERTEX-made product can be trusted because it starts with components that meet

the highest possible standards of safety and reliability. Using these quality components, the CERTEX expertise in lifting is applied in our own rigging shops: the result is customized lifting equipment that will perform in the most critical applications where lives and property depend on it.

With experienced people and machinery to produce the lifting equipment that our customers specify, CERTEX companies everywhere are committed to the complete reliability of every product that we make.

CERTEX
Lifting Products and Services

OVERHAUL BALLS

The Crosby Group, Inc.

UB500 Series Top Swiveling Overhaul Balls

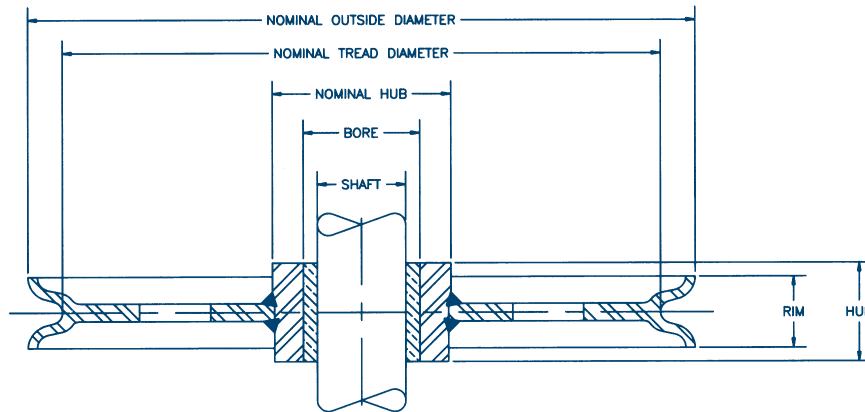
UB500 Top Swivel Overhaul Balls with 320 Eye Hooks

CERTEX Cat. Ref. No.	UB500 McKissick Model No.	CERTEX Cat. Ref. No.	UB500 "E" Eye Hook Crosby Stock No.	Deformation Indicator AA	Dimensions (in.)									
					A	B	C	D	E	F	G	H	I	J
CX13-0500	MB4T35	CX13-0531	1036000	2.5	20.09	17.27	7.50	1.36	1.44	1.12	1.88	1.38	.88	1.31
CX13-0501	MB4T85	CX13-0532	1036009	2.5	20.98	18.16	9.25	1.36	1.44	1.12	1.88	1.38	.88	1.31
CX13-0502	MB4T150	CX13-0533	1036027	2.5	21.98	19.16	11.25	1.36	1.44	1.12	1.88	1.38	.88	1.31
CX13-0503	MB4T200	CX13-0534	1036036	2.5	22.35	19.53	12.50	1.36	1.44	1.12	1.88	1.38	.88	1.31
CX13-0504	MB7T85	CX13-0535	1036045	3.0	23.18	20.36	9.25	1.61	1.81	1.38	1.88	1.38	.88	1.31
CX13-0505	MB7T150	CX13-0536	1036054	3.0	24.56	21.36	11.25	1.61	1.81	1.38	1.88	1.38	.88	1.31
CX13-0506	MB7T200	CX13-0537	1036072	3.0	24.89	21.71	12.50	1.61	1.81	1.38	1.88	1.38	.88	1.31
CX13-0507	MB7T285	CX13-0538	1036081	3.0	25.86	22.67	13.88	1.61	1.81	1.38	1.88	1.38	.88	1.31
CX13-0508	MB10T150	CX13-0539	1036090	4.0	31.44	27.19	11.25	2.08	2.25	1.62	2.75	2.00	1.25	1.78
CX13-0509	MB10T200	CX13-0540	1036099	4.0	31.81	27.56	12.50	2.08	2.25	1.62	2.75	2.00	1.25	1.78
CX13-0510	MB10T285	CX13-0541	1036117	4.0	32.75	28.50	13.88	2.08	2.25	1.62	2.75	2.00	1.25	1.78
CX13-0511	MB10T350	CX13-0542	1036126	4.0	33.31	29.06	15.00	2.08	2.25	1.62	2.75	2.00	1.25	1.78
CX13-0512	MB10T650	CX13-0543	1036135	4.0	34.79	30.54	17.94	2.08	2.25	1.62	2.75	2.00	1.25	1.78
CX13-0513	MB12T150	CX13-0544	1036144	4.0	31.44	27.19	11.25	2.08	2.25	1.62	2.75	2.00	1.25	1.78
CX13-0514	MB12T200	CX13-0545	1036153	4.0	31.81	27.56	12.50	2.08	2.25	1.62	2.75	2.00	1.25	1.78
CX13-0515	MB12T285	CX13-0546	1036171	4.0	32.75	28.50	13.88	2.08	2.25	1.62	2.75	2.00	1.25	1.78
CX13-0516	MB12T350	CX13-0547	1036180	4.0	33.31	29.06	15.00	2.08	2.25	1.62	2.75	2.00	1.25	1.78
CX13-0517	MB12T650	CX13-0548	1036189	4.0	35.79	30.54	17.94	2.08	2.25	1.62	2.75	2.00	1.25	1.78
CX13-0518	MB15T200	CX13-0549	1036198	5.0	37.59	32.59	12.50	3.02	3.00	2.38	2.38	2.00	1.25	1.78
CX13-0519	MB15T350	CX13-0550	1036207	5.0	38.81	33.81	15.00	3.02	3.00	2.38	2.38	2.00	1.25	1.78
CX13-0520	MB15T850	CX13-0551	1036216	5.0	40.22	35.22	17.94	3.02	3.00	2.38	2.38	2.00	1.25	1.78
CX13-0521	MB15T1150	CX13-0552	1036225	5.0	42.22	37.22	21.62	3.02	3.00	2.38	2.38	2.00	1.25	1.78
CX13-0522	MB20T200	CX13-0553	1036234	5.0	37.59	32.59	12.50	3.02	3.00	2.38	2.38	2.00	1.25	1.78
CX13-0523	MB20T350	CX13-0554	1036243	5.0	38.81	33.81	15.00	3.02	3.00	2.38	2.38	2.00	1.25	1.78
CX13-0524	MB20T650	CX13-0555	1036252	5.0	40.22	35.22	17.94	3.02	3.00	2.38	2.38	2.00	1.25	1.78
CX13-0525	MB20T1150	CX13-0556	1036261	5.0	42.22	37.22	21.62	3.02	3.00	2.38	2.38	2.00	1.25	1.78
CX13-0526	MB25T350	CX13-0557	1036270	6.5	47.18	40.18	15.00	3.00	3.62	3.00	3.31	2.75	1.75	1.78
CX13-0527	MB25T650	CX13-0558	1036279	6.5	49.12	42.75	17.94	3.00	3.62	3.00	3.31	2.75	1.75	1.78
CX13-0528	MB25T1150	CX13-0559	1036288	6.5	51.06	44.69	21.62	3.00	3.62	3.00	3.31	2.75	1.75	1.78
CX13-0529	MB30T850	CX13-0560	1036297	6.5	49.12	42.75	17.94	3.00	3.62	3.00	3.31	2.75	1.75	1.78
CX13-0530	MB30T1150	CX13-0561	1036306	6.5	51.06	44.69	21.62	3.00	3.62	3.00	3.31	2.75	1.75	1.78

UB500 Top Swivel Overhaul Balls with SHUR-LOC® Positive Locking Hooks

CERTEX Cat. Ref. No.	UB500 McKissick Model No.	CERTEX Cat. Ref. No.	UB500 "S" SHUR-LOC® Crosby Stock No.	Dimensions (in.)									
				A	B	C	D	E	F	G	H	I	J
CX13-0500	MB4T35	CX13-0562	1036005	20.66	18.18	7.50	1.87	1.15	.94	1.88	1.38	.88	1.31
CX13-0501	MB4T85	CX13-0563	1036018	21.55	19.05	9.25	1.87	1.15	.94	1.88	1.38	.88	1.31
CX13-0502	MB4T150	CX13-0564	1036032	22.55	20.05	11.25	1.87	1.15	.94	1.88	1.38	.88	1.31
CX13-0503	MB4T200	CX13-0565	1036041	22.92	20.42	12.50	1.87	1.15	.94	1.88	1.38	.88	1.31
CX13-0504	MB7T85	CX13-0566	1036050	23.90	21.30	9.25	2.11	1.66	1.16	1.88	1.38	.88	1.31
CX13-0505	MB7T150	CX13-0567	1036063	25.28	22.30	11.25	2.11	1.66	1.16	1.88	1.38	.88	1.31
CX13-0506	MB7T200	CX13-0568	1036077	25.61	22.65	12.50	2.11	1.66	1.16	1.88	1.38	.88	1.31
CX13-0507	MB7T285	CX13-0569	1036086	26.58	23.61	13.88	2.11	1.66	1.16	1.88	1.38	.88	1.31
CX13-0508	MB10T150	CX13-0570	1036095	31.24	27.19	11.25	2.49	2.06	1.50	2.75	2.00	1.25	1.78
CX13-0509	MB10T200	CX13-0571	1036108	31.61	27.56	12.50	2.49	2.06	1.50	2.75	2.00	1.25	1.78
CX13-0510	MB10T285	CX13-0572	1036122	32.55	28.50	13.88	2.49	2.06	1.50	2.75	2.00	1.25	1.78
CX13-0511	MB10T350	CX13-0573	1036131	33.11	29.06	15.00	2.49	2.06	1.50	2.75	2.00	1.25	1.78
CX13-0512	MB10T650	CX13-0574	1036140	34.59	30.54	17.94	2.49	2.06	1.50	2.75	2.00	1.25	1.78

The Crosby Group, Inc.



Ordering Information

McKissick sheaves come in a variety of sizes to suit your specific applications. Check the tables for the size, bearing style and price that best fits your application. For applications that require unique specifications Crosby can make minor modifications to many of the sheaves listed at a reasonable charge. We can also custom design and manufacture sheaves to your exact requirements. For special requirements or custom designed sheaves, furnish the following important information:

- Wireline Size
- Shaft Diameter
- Weight Requirements
- Hub Diameter
- Bore Finished
- Nominal Outside Diameter
- Hub Width
- Rim Width
- Nominal Tread Diameter
- Other Special Requirements

Roll Forged Sheave Features

- Unique upset roll forging process provides a thicker groove section for extra strength.
- Stepped Hubs are precisely centered and mechanically locked in place.
- Wireline grooves on sheave diameters of 14" and larger are flamed hardened for extra wear resistance.
- All sheaves have solid steel webs with holes for easy handling.
- Sheave weights can be made heavier or lighter than shown to fit your specific application.
- For more information ask for our special brochure describing the complete roll forging process.