TACKLE BLOCK WARNING, 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.
- Read, understand, and follow these instructions to select, use and maintain tackle block systems.

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!

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.

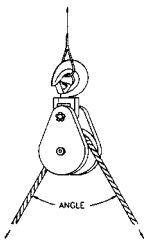
Inspection: As a minimum, the following points should be considered:

1. Wear on pins or axles, rope grooves, side plates, bushing or bearings, and fittings. 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. Deformation or corrosion of hook and nut threads.
6. Surface condition and deformation of hook.
7. Welded side plates for weld corrosion or weld cracking.
8. 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.
Bronze Bushings—(Not Self Lubricated)—Every 8 hours of continuous operation or every 14 days of intermittent operation.

LOADS ON BLOCKS

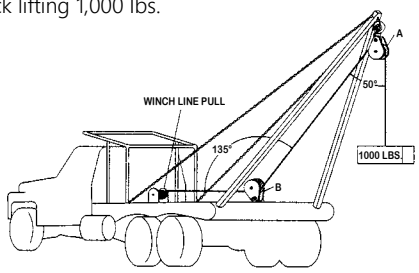
The Working Load Limit (WLL) for blocks indicates the maximum load that should be exerted on the block and its connecting fitting.
This total load value may be different from the weight being lifted or pulled by a hoisting or hauling system. It is necessary to determine the total load being imposed on 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.



EXAMPLE A

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	—	—

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



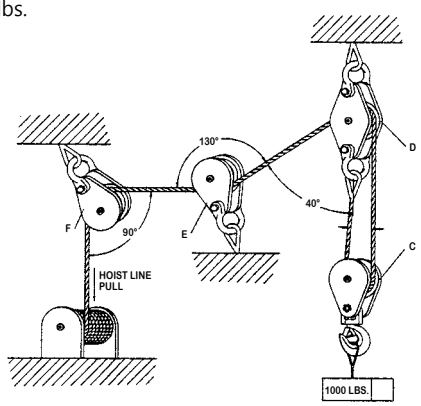
There is no mechanical advantage to a single part load line system, so winch line pull is equal to 1,000 lbs. or the weight being lifted.

To determine total load on snatch block A:
A = 1,000 lbs. x 1.81 = 1,810 lbs.
(line pull) (factor 50° angle)

To determine total load on toggle block B:
B = 1,000 lbs. x .76 = 760 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 Line Pull: Line Pull = 1000 lbs. -. 2.00 = 500 lbs.



To determine total load on traveling block C:
C = 500 1bs. x 2.0 = 1,000 1bs.
(line pull)(Factor 0° angle)

To determine total load on stationary block D:
D = 500 lbs x 1.87 + 500 lbs. = 1,435 lbs.
(line pull) (dead end load)
(Factor 40° angle)

To determine total load on block E:
E = 500 lbs. x .84 = 420 lbs.
(line pull) (Factor 130° angle)

To determine total load on block F:
F = 500 lbs. x 1.41 = 705 lbs.
(line pull) (Factor 90° angle)