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

Hoisting system lifting 1,000 lb. using a traveling block.

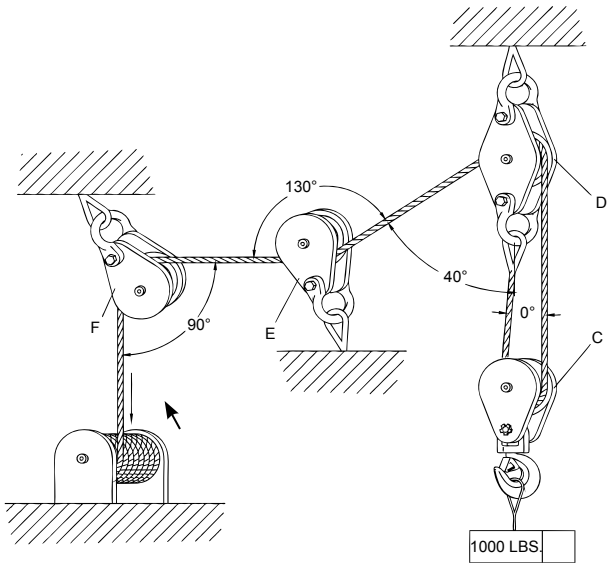
The mechanical advantage of traveling block C is 2.00 because two (2) parts of load line support the 1,000 lbs weight. (Note that this example is simplified or determination of resultant load on blocks. Lead line pull will be greater than shown due to efficiency losse .) (To determine single line pull for various bearing efficiency see “How to Figure Line Parts”.)
To Determine Line Pull:
Line Pull = 1,000 lbs. ÷ 2.00 = 500 lbs.

To determine total load on traveling block C:
C = 500 lbs. x 2.0 = 1,000 lbs.
(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)



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

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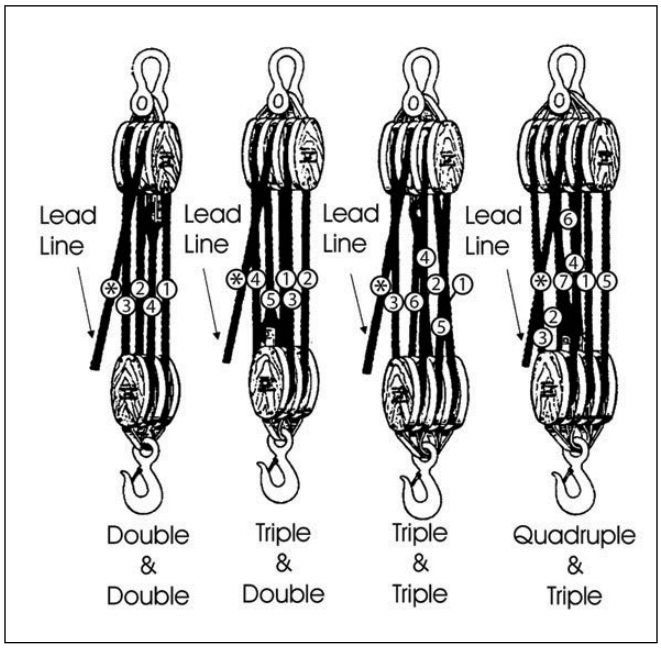
RIGHT ANGLE REEVING

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.

Reeving Diagram



⚠ CAUTION

- **Exercise care when block is standing in vertical position, as the potential for tipping exists. Potential causes of tipping are unstable work area, boom movement and the reeving process.**
- **If work area is unstable, lay block flat on side plate.**