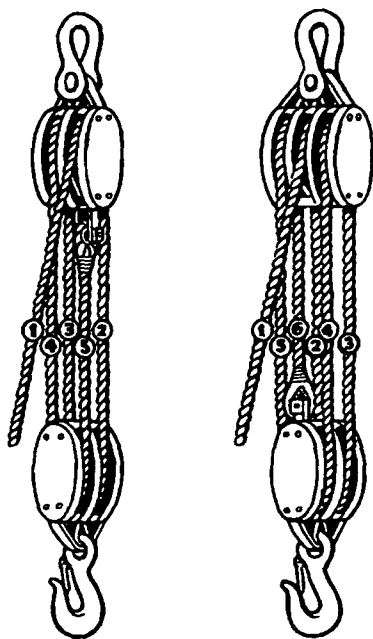




Double and Double

Triple and Double

FIG 25-23 —Reeving tackle blocks. Lead line and becket line should come off a middle sheave when blocks contain more than two sheaves. The upper and lower blocks then will be at right angles to each other. This eliminates tipping and the accompanying losses in efficiency.

the required breaking strength of the rope. New manila rope of $\frac{3}{8}$ -inch diameter has a breaking strength of 7700 pounds and, therefore, is the proper size for the load. (Synthetic fibers would have greater tensile strength. See Table 26-A.)

The safe working load for two double blocks made for rope of $\frac{3}{8}$ -inch diameter, as given by a prominent manufacturer for one series of its standard blocks (regular mortise, inside iron strapped blocks, with loose side hooks, intended for use with manila rope), is 2000 pounds—the equivalent of the total load in the example.

The rope should be attached to the block with a thimble and a proper eye splice.

A mousing of yarn or small rope should be placed on the upper hook of a set of falls as a precaution against its accidental detachment.

Blocks should be inspected thoroughly and frequently, with particular attention to all parts subject to wear.

Fig 25-23 shows how tackle blocks should be reeved.

If the sheave holes in blocks are too small to permit sufficient clearance, excessive surface wear of the rope will occur. Likewise, excessive internal frictional wear on the fibers will occur if the diameter of the sheave is too small for the rope.

When men are using block and tackle in confined spaces, the pulley block must be guarded so that their hands cannot be caught between the pulley and the rope.

When blocks and falls are used to lift heavy materials or to hold heavy loads in suspension, as on heavy duty scaffolds, wire rope is more serviceable than fiber rope.

Portable floor cranes or hoists

Portable floor cranes or hoists are hoists mounted on wheels. They can be moved from place to place, either by hand power or under their own power. They can raise and lower loads in a vertical line, but cannot rotate around a fixed point.

Portable floor hoists are useful where overhead construction, belting, or shafting prevents the use of overhead hoists or cranes and where more expensive equipment is not justified because of infrequent use. These hoists are handy for placing work on machines, loading heavy material on trucks, and transporting material from one location in the shop to another.

Portable floor hoists usually are operated by hand or by electric power. The lifting mechanism ordinarily is either a winch with wire rope and block or a chain hoist.

Hoists operated by electric power should be effectively grounded to prevent shock in case of short circuit. A special ground wire can be used. One end is fixed permanently to the frame of the hoist, and the other end is equipped with a device that can be attached to a grounded building column, water line, or other direct-to-ground connection.

Where conditions permit, it may be advisable to install sweep guards on the truck wheels to prevent foot injuries when the hoist is moved.

Truck handles on hoists should be designed