



# Hoists Overhead and Chain Pull

## Overhead Hoist Basics

There are many aspects to safe hoist operation, but the most important is knowledge about the hoist, the load, and about safe operating practices and the training and communication that support that knowledge.

### Choose the Proper Hoist

The hoist must be matched to the application, and hoist capacity is of primary importance. It is critical that the hoist selected has a capacity that exceeds the weight of the load. Make sure the hoist's load chain is long enough to reach the load. Consider a powered hoist if the load has to be lifted a long distance or lifted repeatedly.

### Operators

Operator qualification is very important. Operators need good hand/eye coordination, depth perception and spatial orientation. A good operator should be willing to perform maintenance operations and demonstrate safe work habits.

Operator should be trained specifically to the type of hoist the operator will be using, including information about lift capacity as well as inspections and maintenance, slip clutches, load limit devices, braking

mechanisms and wear limits. Training should also include a discussion of balanced lift points and safe rigging practices. Slings or other attachments should be seated in the saddle of the hook, and hook latches should be present and functioning properly.

### The Hoist Use

- Do not use the chain as a sling.
- Chain must be properly seated in the load sleeve.
- Use specifically designed hooks for point loads.
- Lift load slowly, check seating.
- Lift vertically, no side pull.
- Avoid uncontrolled load swing.
- Use proper stopping technique, avoid using the hoist's travel limits to stop operation.

When the hoist is coupled to a trolley, care should be exercised to prevent crashing the trolley into the end stops on the beam. Jogging the hoist's motor should be minimized as this will generate heat in the motor's windings, which could lead to motor failure.

### Communication

Communication is imperative, particularly in noisy environments where lifting operations require

a hoist operator and a signal person to use hand signals or voice communication.

- Hand signals should be documented and posted by the hoist owner and agreed upon by the hoist operator and the signal person.
- The operator should only respond to hand signals from the designated signal person, except to obey a stop signal.
- Effective voice communication requires that the operator and the signal person must be able to hear each other to ensure that the signals for hoist operation are clearly communicated, understood and executed.

Before giving the signal to lift a load the operator must:

- be aware of their surroundings,
- make sure they have a solid foundation for executing a manual lift,
- be sure all workers are clear of the load area,
- communicate their intention to begin lifting to employees in the immediate vicinity,
- pay close attention to the task at hand,
- never leaving a load unattended or suspended.



Overhead chain hoists are standard pieces of equipment in most industrial settings. Large chain hoists have a capacity of 5 to 10 tons, or more. These hoists typically employ electric- or air-powered motors. Smaller chain hoists can be manually powered, with operators grasping and pulling continuous hand chains to operate them.

Fatalities or injuries can occur if overhead manual chain hoists are not inspected and properly used.

Fatalities or injuries may occur when workers use an overhead manual chain hoist:

- a. in a way for which it was not intended,
- b. that is damaged or malfunctioning, and
- c. to lift more than the hoist's rated capacity.

The following are some general safety guidance for operators of overhead manual chain hoists:

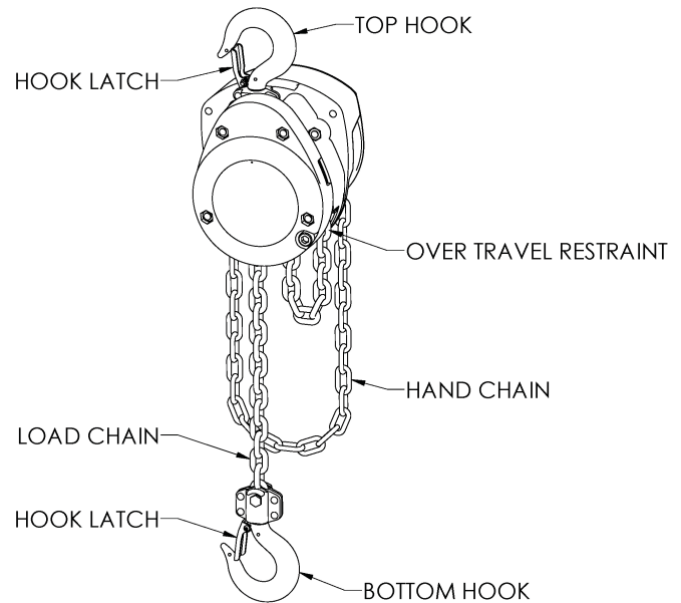
- Use your experience, knowledge, and training to assess risks and follow procedures.
- Before operating an overhead manual chain hoist, **read the manual** and understand how to safely and properly use the overhead manual chain hoist.
- Inspect the overhead manual chain hoist before use.
- Do not operate an overhead manual chain hoist that is damaged or has any actual or suspected malfunction.
- Do not attempt to lengthen or repair the lifting chain.
- Do not wrap the lifting chain around the load.

- Do not use an overhead manual chain hoist to lift or support people.

- Do not operate if the overhead manual chain hoist, its lifting chain, and its hooks are restricted from forming a straight line from hook to hook in the direction of loading.

- Do not use an overhead manual chain hoist in a way that causes its hooks to be side loaded.
- Do not use the lifting chain, or the hooks, or any other part of the overhead manual chain hoist as a ground for welding.
- Do not remove or obscure any warning labels on the overhead manual chain hoist.

- Do not allow a welding electrode to be touched to the lifting chain, or the hooks, or any other part of the overhead manual chain hoist.
- Do not allow anyone under a suspended load.



## SAFETY TRAINING SIGN-IN

Company Name: \_\_\_\_\_ Date: \_\_\_\_\_

Subject: Hoists Overhead and Chain Pull

The following employees participated in this training.

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