SAFETY UNLIMITED, Inc.

Weekly Safety Meeting

Your Safety Is Our Business®

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Overhead Shop Crane Safety

Overhead shop cranes move heavy items in manufacturing and production areas. Although shop cranes are useful, “overhead” can sometimes be “out of sight and out of mind” when it comes to safety. Workers need training on crane hazards and operation, and they should never forget the safety hazards moving overhead. Only trained operators should use overhead shop cranes. They should always be inspected and tested before operation. Shop cranes require audible warning devices when moving unless operated by a floor worker using a suspended controller. Everyone on the worksite should be trained on the crane warning signals.

Operators must know the load capacity of their shop crane. Loads that exceed the limits of the crane should not be moved. The load rigging requirements need special attention. Loads that cannot be safely rigged should not be lifted. Before moving loads, the crane operator should inspect the path of the crane for obstacles and people; the path must be clear before starting any crane movement.

Controls for overhead cranes should be clearly marked with their function. It is ideal if control handles operate in the direction that the crane will be moving. Whether operating a crane from an overhead bridge or the floor, the operator always needs a clear view of the crane pathway.

Crane safety features may include spring-return controllers that return the operating switch to a default off position, momentary contact buttons that cause the crane to stop when it hits an obstacle, or reset buttons in the event of power loss. Operators must be familiar with the shop crane they use and never operate it without the equipped safety features. Emergency response preparedness is a necessity when operating an overhead crane. Operators and site workers should plan for situations such as electrical, mechanical, or power failure. Procedures are required for retrieving a crane operator from the elevated cab in an emergency and a fire extinguisher must be provided in the cab.

While the crane is in operation, operators and other site workers should be aware of the potential pinch and crush points and stay clear of the moving machinery at all times. Operators and rig loaders need fitted clothing and secured hair and jewelry when working around cranes. Workers should never “ride the load” of an overhead crane.

Elements involved in any hoisting task that must be considered:

1. The crane;
2. The operation of the crane; and
3. The rigging of the crane.

A pre-operational inspection is required to verify that:

- Proper condition and configuration;
- Any modification and repair are sound;
- The controls and safety devices are working properly;

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- Wire ropes are in good condition;
- Clutches and brakes are in good condition;
- The rotating systems are working properly; and
- The load blocks and reeving systems are adequate for the intended load.

The operator of the crane must:

- Fully understand the load chart;
- Assure the crane is properly set up;
- Consider his radius, quadrants to operate to minimize shock and dynamic loading;
- Take into consideration hazardous surroundings; and
- Insist on proper signaling.

Riggers attaching the load must:

- Know the weight of the load and its center of gravity;
- Allow for sling angles and D/d ratios;
    - D/d ratios--how much the lifting capacity is affected can be calculated by dividing the diameter of the bend where the rope contacts the load (represented by “D”) by the diameter of the rope or the component rope diameter in a multipart sling (represented by “d”). For example, if the diameter of the bend (“D”) is 10 and the component rope diameter (“d”) is 1/2, the D/d Ratio is 10 ÷ 1/2 or 20.
- Select and inspect all slings and rigging hardware;
- Apply a hitch that will hold and control the load; and
- Assist in maintaining proper load control.

All of this data must be assembled in the minds of the crane operator, the flagger, the spotter, and anyone else on-site having anything to do with the crane operation itself. Once this is resolved, it is “time to go to work.”

Lower the boom on safety…Use cranes safely!!

Safety Meeting Sign-In Sheet

Supervisor:	*Subject:*
Location:	*Date:*
Conducted By:	*Trainer Signature:*

Name (print clearly)	Signature	Comments / Safety Concerns / Training Requests