

Worksite: _____ Instructor: _____ Date/Time: _____

Topic C274: Rigging for Safe Lifts

Introduction: Only qualified persons should ever perform hoisting and lifting operations. Riggers work with a variety of hoisting tackle and gear such as:

hooks	slings	synthetic ropes	fittings
hook blocks and balls	cradles	shackles	assorted attachments
eye-rings	chains	couplers	
webbed netting	wire rope cable	other fasteners	

Before starting any lifting operations, hold a meeting of all involved personnel to review the "LIFT PLAN". This plan should include a detailed sketch of the process that will provide a visual guide for what is expected to happen.

The plan defines:

Lifting and drop points	Load vectors	Weight determinations
Methods of attachments	Boom and swing angles	Rated load capacities
Sling angles	Crane orientation	

Careful review of the plan explains step-by-step operating procedures, including all rigging precautions and safety measures.

Required safety measures for rigging and hoisting operations include:

- The crane operator is responsible for his rig and must have the hand signals posted on the outside of the machine, up-to-date maintenance logs, a copy of the load charts, and the current annual equipment inspection document.
- Complete daily pre-operational walk-around inspection of the crane by company competent person.
- Be sure all other personnel in the vicinity are aware of planned hoisting activities
- When initially brought to the job-site, or after repairs or modification, before use, platform and rigging must be proof tested to 125% of rated capacity.
- Avoid operations that expose workers to overhead loads.
- Keep clear of loads about to be lifted, or are already suspended.
- Use slow, cautious motions without sudden, jerking movements.
- When possible, use tag-lines (ground lines) to steady the lift, especially when traveling the load.
- Operator shall not hoist, lower, swing, or travel with anyone on the load or hook.
- Hoisting tackle and gear must be inspected daily, and after each lift. Slings and attachments with damaged or defective hardware must be removed from service immediately. Document daily inspections to ensure they occur regularly.

The following rigging gear checks should be made prior to beginning any lifting operations:

- **Hooks:** Remove from service any hooks that are cracked, show excessive wear, or are deformed. (Stretch of throat opening exceeding 15%, or more than 10 degrees of hook twist.) Use hooks with positive lock safety latches.
- **Chains:** Check chains for deformed, worn, stretched, or twisted links. Chains should never be repaired, joined together, or shortened by tying knots or using bolts. Alloy chains must not be annealed.
- **Wire Rope Cables:** Check wire rope for kinks, stretched or crushed sections, broken or frayed strands, or corrosion. Never shorten or join cables by tying knots. Use only properly formed swaged eye splices with an insert, in the approved banner. Never use monkey fists or U-bolts to make lifting eyes. Never weld wire rope; keep it well-greased or oiled.
- **Synthetic Webbing:** When using synthetic (nylon, polyester, and polypropylene) web slings look for tears, holes, fraying, stitching that is worn, torn, or pulled, chemical damaged, or powdered fibers between strands. A manufacturer's label with capacity listed must be affixed to the sling. Slings must be padded at contact points to protect against damage from sharp loads. Slings must not be overloaded and sling legs must not be kinked or knotted.

Conclusion: Qualified riggers are the first and last line of defense against hazard potential during hoisting operations, Clear line-of-sight signals are important. When doing obstructed view, or out-of-sight hoisting movements, two-way voice activated radio headsets are your safest option. Avoid dangerous situations by carefully following these processes and procedures. Never use faulty or defective rigging equipment, even for "just one more lift". Follow these guidelines for safe rigging and hoisting.

Employee Attendance: (Names or signatures of personnel who are attending this meeting)

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

These guidelines do not supersede local, state, or federal regulations and must not be construed as a substitute for, or legal interpretation of, any OSHA regulations.