Crane Safety

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All overhead cranes are required to promote safe use. The OSHA overhead crane safety regulation specifies design requirements on the construction of the cab and its controls; foot-walks, ladders and stairways; bridge and trolley bumpers; hoist, holding, trolley and bridge brakes; electrical components; hoisting equipment; and warning devices. It is imperative that all operators are trained to use the crane according to manufacturer's specifications.

Operators and employees attaching the load are responsible to fully understand the capabilities fo the crane.

A pre-operational inspection is required:

- To verify proper condition and configuration;
- That any modification and repairs are sound;
- That the controls and safety devices are working properly;
- That wire ropes are in good condition;
- That 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;
- Must properly utilize outriggers when fitted;
- Consider his radius, quadrants to operate to minimize shock and dynamic loading;
- Take into consideration weather conditions and hazardous surroundings; and
- Insist on proper signaling.

The employee attaching the load must know:

- The weight of the load and its center of gravity;
- Allow for sling angles, and D/d ratios;
- 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.

Best Practices

1. Know the weight of the load.
2. Know the center of gravity of the load.
3. Make load attachments above center of gravity.
4. Select hitch that will hold and control load.
5. Know rated capacities of slings and rigging hardware.
6. Select sling best suited for load.

7. Inspect all rigging gear prior to use.
8. Protect sling from sharp surfaces.
9. Protect load from rigging if necessary.
10. Do not use hand-tucked slings on single leg or with swivel In system.
11. Be aware of increased tension caused by sling angles.
12. Allow for low D/d ratios on wire rope.
13. Equalize loading on multiple leg slings.
14. Allow for reductions when using choker hitches.
15. Allow for sling angles when forcing choker.
16. Only use alloy chains when chain Is used-grade 8 (T) chain.
17. Attach tag lines prior to lift if required .
18. Keep personnel clear of lift area.
19. Lift load a few inches and check rigging.
20. Know limitations of hoisting device.
21. Start and stop slowly.
22. Watch for obstructions and power lines.
23. Use proper hand signals.
24. Do not forget the law of gravity.

Audible Warnings

1 BLAST = STOP

2 BLASTS = GO AHEAD

3 BLASTS = BACK UP

Be a Second Set of Eyes

- Check the crane to see if it is working normally.
- Check to see if safety devices are in place.
- Inspect crane hooks – Deformation & Cracks.
- 15 degree excess normal throat opening,
- 10 degree twist from normal,
- Check for cracked or worn sheaves or drums,
- Check for hydraulic leaks,

Rigging

One of the prime considerations in rigging is to know the rated capacity of the slings and other rigging hardware being utilized.

All rigging equipment should have rated capacity tags or other means to identify its rated capacity under different hitch configurations. However, many times this identification is either obliterated or lost during its use.

The result being that many times the field personnel utilizing rigging equipment is without any idea of the approximate capacity of the equipment.

All of this data is a pretty tall order for the crane operator, the rigger, the spotter, the flagger, and the ground crew to muster.

Crane operation, and rigging, is a specialty in the construction industry, and common place in manufacturing. All workers need to give crane operations wide berth. In other words, avoid the radius of the crane, don't stand under the overhead loads, and keep all personnel away from all crane operations.

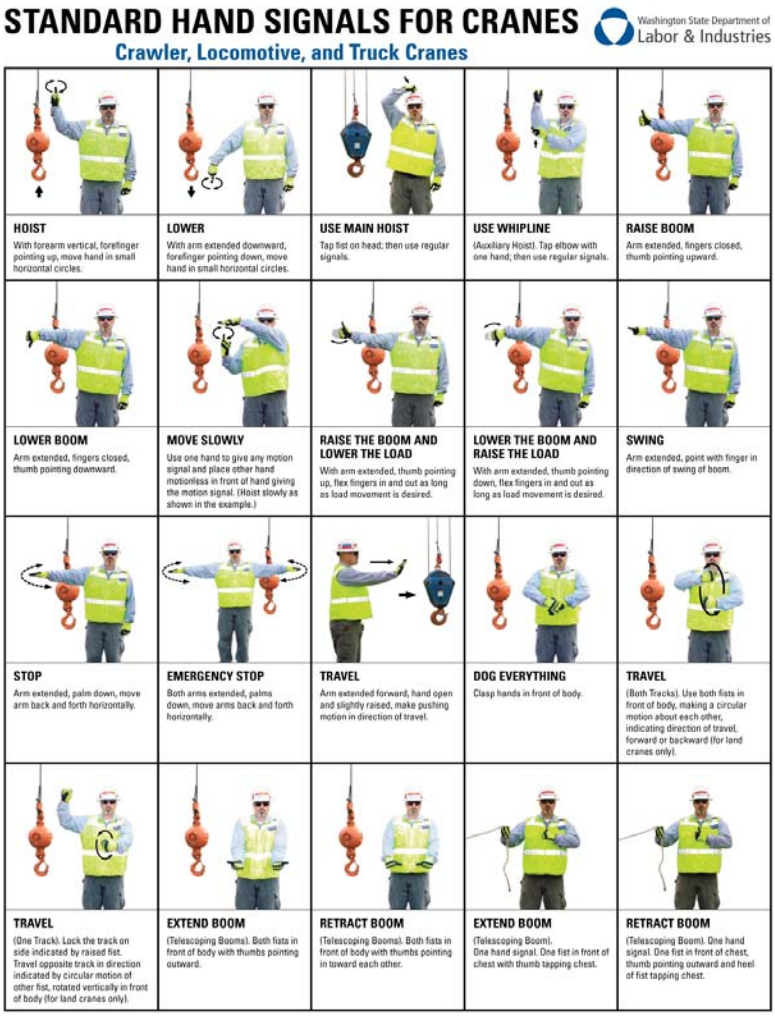
SAFETY TRAINING SIGN-IN SHEET

Company Name: _____ Date: _____

Subject:Crane Safety

The following employees participated in this training. Sign and print your name.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____



Standard hand signals are developed to be used for crawlers, locomotives and cranes.

This chart is from the Washington Department of Labor and Industries.