Overhead and Gantry Crane Safety



Key Takeaways:

– Learning about the safety devices that should be found on overhead and gantry cranes.
– Understanding the required steps for inspecting crane equipment.
– Recognizing the requirements for pre-operation testing for overhead and gantry cranes.
– Acknowledging the requirements for proper load rigging for overhead and gantry cranes.
– Comprehending the required procedures for lifting and moving loads with overhead and gantry cranes.
– Learning the required safety practices for leaving equipment unattended, working around other personnel, and disconnecting power to the equipment.

Course Description

OSHA has stated that around 70 people die each year from crane-related accidents. Most likely, the employees to be killed in crane-related incidents are construction laborers, electricians, and welders.

Industrial cranes’ most common types are overhead and gantry. Overhead cranes have a movable bridge that typically carries a movable trolley supporting the hoisting mechanism, traveling on an overhead fixed runway structure. Gantry cranes are similar, but the bridge for carrying the trolley or trolleys is rigidly supported on two or more legs. Usually on the ground, tt runs on fixed rails or other similar runway. For both types, safety standards and operating procedures are grouped together because they have such similar traveling and hoisting characteristics.

Although there are many steps in controlling the hazards presented by work with cranes, here are the basic inspection and operation safety points:

Control Pendant Inspection – Ensure all wiring is properly connected to the pendant. – Inspect for visible damage (wiring frayed or disconnected). Load Hook and Safety Latch Inspection – Check that the safety latch properly closes across hook throat. – Never use a hook that has been stretched. – Never replace the safety latch of a stretched hook with a longer safety latch. – Investigate for

cracks, weld marks, bent shanks, or other signs of damage. – Notify your immediate supervisor or foreman of any signs of damage. Load Bearing Rope Inspection – Performed prior to any lifting. – Fundamental for safe lifting. – Scan for signs of wear and corrosion. Ladder, Platform, Walkway, Inspection – Ensure the ladder is permanently and securely fastened in place. – Ensure the handrails and walkway or cab platform guardrails are in good repair and firmly attached. – Ensure the climbing and walking surfaces are in safe condition. Despite a thorough inspection and pre-operation testing, overhead crane operation still pose significant hazards unless the load is correctly balanced, rigged and secured. Proper load rigging procedures should require following the rated load capacity of the sling, hook, and lifting devices, selecting the proper gear to rig with, determining correct sling angles where necessary, and protecting the sling against hazards. Operation Safety – Start with performing a below-the-hook device inspection. Scan for damage on spreader bars, shackles, pulleys, and slings. – At first, move the lift slowly to minimize swinging of the load. Ensure the rigging job is properly holding, and there is no slipping. – Lift the load high enough to clear all obstacles in one smooth motion. Try to not perform any abrupt moves. Don’t forget, overhead cranes are designed only for vertical lifts. In the case that the load is pulled sideways, serious damage or catastrophic crane failure could result. – When the load is properly raised, then you can move the load to the desired location. Do not carry a load above someone. Once the crane is in position, slowly lower the load to its set-down point. – Make sure to keep your hands away from pinch points. Cease activity when the load block is low enough to unhook the sling. – In the case that the load is free-swinging and needs to be turned for placement, tag lines should be affixed to at least two corners of the load so that the load can be turned without standing under or close to it while adjusting its position by hand. – During an emergency, shut off the main disconnect switch for the crane. Ensure you know the location of the main disconnect switch. When the type of crane you are operating does not have a disconnect box nearby, use the stop button on the control pendant to cut off all power to the crane. Required Safety Practices – Do not move a load above co-workers. – Never permit co-workers to be underneath the load. – Put the load block back to its designated location after use. – Never leave the load block low enough for someone to run into. – Do not abandon a suspended load. – Never leave unused slings suspended on a crane hook where they could become snagged on passing equipment. – Always store wall-mounted cranes against the wall. – Regularly observe equipment for any sign of problems during operation. You must pay attention to what you are doing; don’t allow yourself to become careless or distracted.