Mobile Crane Safety Meeting Kit



Mobile cranes are responsible for the most accidents, injuries, and fatalities of all of the crane types. Be aware of the hazards if you operate or work around mobile cranes. Get proper training on crane operation and load preparation and securing. Wear hard hats, safety boots, and high visibility clothing when operating or working around cranes.

Common types of crane accidents

With employees working from heights, using heavy machinery, and being exposed to toxic materials, it should be no surprise that construction work is dangerous. One of the biggest dangers construction workers face is being injured in a crane accident. Workers can suffer long-term injuries that can take a huge financial toll on their lives from lost wages and expensive medical treatments.

RISK CONTROL MEASURES, AND GENERAL PRECAUTIONS OF MOBILE CRANES

1. The Engine Start-Up

- Carbon monoxide poisoning from the exhaust fumes when the engine is running indoors.
- If the engine must be started indoors, open all doors and windows to ensure good ventilation. If necessary, connect an additional pipe to the exhaust pipe and expel the exhaust gases to the outside.
- Fire from spills.
- Keep the engine and surroundings clean. Do not leave tools, rags, or anything else in the engine compartment. After inspection and maintenance wipe off any spilled oil or fuel. Check that flammable material is not scattered about or piled up near the engine.
- Accidental movement of the crane.
- Only start the engine when seated in the operator’s seat.
- Operating the crane when it is being serviced or repaired.
- Always attach warning tags on control levers of the machine when it is being serviced or repaired. Isolate the machine where possible.
- Do not operate the crane if you are tired or cannot concentrate on the job.
- Always be alert and watch that the boom or the suspended load does not collide with people or buildings and the load does not collide with the

boom.
- Operating the crane by reaching in through the door or window. (The operator is not in full control of the crane and could cause the crane to collide with people, buildings, and other objects).
- Dropping off the load from an unattended crane.
- Never leave a suspended load on an unattended crane.

2. Mobile Crane Lifting Hazards Risk Control and Measures

- Structural failure or tip-over of the crane during operation.
- Do not exceed the lifting capacity of the crane.
- If unsure of the lifting capacity, always check the rated lifting capacity chart. Lifting capacity varies with the boom length and working radius.
- Always check that all safety devices and warning systems are functioning properly.
- Do not operate a crane if any of the safety devices or warning systems are faulty.
- Collision from swinging load or reduced stability of the crane.
- Avoid sudden movement or violent operation of the crane.
- Operate the levers and pedals smoothly. Start, accelerate, decelerate, articulate, and stop the crane smoothly and securely.
- When lifting long loads tie a guide rope to each end of the load. This will prevent the load from swinging whilst it is being lifted.
- Compound operations, such as combining winch hoisting or lowering, articulating, luffing, and telescoping will be slower than the individual operations.
- When switching from compound to single operation, work the controls slowly and smoothly with no sudden change in speed or direction.
- Crane damage and tip over from using counterweights that are not specified.
- Only use counterweights supplied by the manufacturer.
- Incorrect counterweights may subject the crane to unreasonable strain and damage it or decrease the stability of the crane.

3. Crane Safety Devices Risk Control Measures

- Mobile crane safety devices comprise load moment limiter, turntable lock pin, boom backstop, hoist limit switch, anemometer, level gauge, hydraulic overflow valve, counterbalance valve, two-way hydraulic lock, stewing warning lamp and travel warning lamp, etc.
- Damage to the crane or reduced stability when working with a heavy load and long boom.
- When lifting a load, the boom flexes and increases the working radius.
- This is more noticeable with a very heavy load or long boom.
- Allow an extra margin below the rated lifting capacity to compensate for the increased working radius.
- Overload due to the increased flexure of the boom when the load is lifted suddenly.
- Lift the load off the ground carefully.
- Hoist the load vertically and pause briefly when the load is just off the ground to confirm the sling and that there is no overload.
- Then resume hoisting.
- Damage to the crane or reduced stability if the load is lifted off the ground by luffing or extending the boom.
- Never lift the load off the ground by luffing or extending the boom.

- Wait until the load is just off the ground before luffing or extending the boom.
- Damage or injury caused by personnel under the load when articulating.
- Before moving the load sideways check that it is safe to do so.
- The path of the load or crane should be clear of people or obstructions.
- Collision or dropping of load on people.
- Do not move the suspended load above people’s heads.

FINAL WORD

Cranes are commonly used on construction and industrial sites to lift and move heavy objects. While cranes are an invaluable tool, they are also extremely dangerous if not operated safely. Because of their size and purpose, cranes present a clear danger to the crane operator and other workers and visitors to the site.