

Tower Cranes

Tower Crane Rentals and Sales Montana - Cranes are a globally recognized form of industrial equipment that is commonly used in the materials handling industry. Depending on the application, cranes may have wire ropes, sheaves, chains or a hoist rope. These products allow cranes to hoist materials vertically and transport them horizontally. Cranes make transporting cumbersome loads including machinery, shipping containers and crates much easier. Freight Transportation Cranes are utilized to move items in terms of making loading and unloading easier and safer. Different models have various lifting capacities. They provide a huge mechanical advantage and enable people to lift thousands of pounds of freight. Cranes are found in many industries and often seen on construction sites. Specified Use Jib cranes can be tiny and are suited for cramped and smaller environments including workshops while giant tower cranes can be employed to construct high-rises. There are numerous cranes suited for many different jobs. They can help provide access to tight spaces. Floating crane models may be employed to salvage sunken marine items including ships or used in oil rigs.

Tower Cranes A tower crane is a model that is fixed on a concrete slab to the ground. It is often seen attached to sides of structures as it provides excellent lifting and height capacity. These cranes are used in residential and commercial construction. The base is mounted to the mast which can create further reach by extension. The crane is capable of rotating thanks to the mast that connects to the slewing unit. On top of the slewing portion are three parts known as the operator's cab, the shorter counter-jib and the long horizontal jib. The majority of the load is carried via the long horizontal jib. The counterweight is created by the counter-jib that may utilize concrete blocks. The jib handles the load to and from the center of the crane. Usually, the operator of the crane resides in a cab situated on top of the tower, attached to the turntable; however, it may be capable of being mounted on the jib. There is a radio remote control feature that operators can access from the ground. The crane operator uses electric motors to operate the lifting hook and control wire rope cables within a system of sheaves. The sizeable horizontal arm contains the cargo hook along with its' motor. Often, the operator works alongside a rigger to accurately coordinate unhooking and hooking loads. Daily safety requires many important hand signals. The rigger determines the crane's lifting schedule and is responsible to make sure everything load and rigging wise is reliable and safe.

Truck-Mounted Cranes Truck mounted cranes consist of two parts including the boom and the carrier. The carrier and the boom have an attached turntable to enable the upper component to swing from side to side. Updated hydraulic truck cranes are typically single-engine units. This engine has the responsibility of providing power to the undercarriage and the crane. Hydraulics are necessary for delivering power to the upper portion of the crane through the turntable located from the pump attached to the bottom portion. Earlier hydraulic crane trucks commonly had two engines. One engine allowed the crane to be pulled down the road while the other engine controlled the hydraulic pump for the jacks and outriggers. Certain operators prefer the two-engine models due to the turntable leaks that commonly occur in newer design models. You may have witnessed cranes traveling on roads to travel from site to site. This can eliminate the need for industrial transportation requirements unless the crane is of sizeable weight with size restrictions. Transportation falls under local laws. Generally, bigger cranes have trailers to help the load become distributed over many axles. Some models can be disassembled to meet specific requirements. Often an additional truck will follow the crane. The truck has the counterweights that have been disassembled for travel. Outriggers & Stability Outriggers horizontally extend from the cranes' chassis to provide stability. Vertical stability is achieved by the outriggers to keep the machine level while completing hoisting and stationary applications. Some truck crane units can travel at slow speeds even while carrying a suspended load. Care is given to ensure the load doesn't swing during travel. The stiffness of the chassis suspension delivers most of the anti-tipping aspect. Moving counterweights are included in a variety of models to amplify stabilization further than what the outriggers offer. Suspended loads are among the most stable due

to the majority of the crane's weight acting as a counterweight. There are electronic safeguards in place to regulate the maximum safe loads for traveling speeds and stationary work.

Overhead and Bridge Cranes

An overhead crane is often referred to as a bridge crane. This apparatus consists of a crane with a horizontal beam and a hook-and-line mechanism that is designed to run along widely spaced rails. These cranes are similar to a gantry crane and are often found in long factory buildings and attach to rails that run down two long walls. Cranes can be made with single or double beam construction and may rely on complex box girders or regular steel beams. A control pendant may be used to operate the crane. Areas that need heavy lifting around ten tons or more can rely on a double girder bridge. The box girder style produces a system with a lower deadweight but offers higher system integrity. The hoist is another item that is utilized to lift the cargo, the bridge spanning the portion covered by the crane and a trolley to move along the bridge. The steel industry relies on overhead cranes for much of the manufacturing. An overhead crane typically handles steel until it exits the factory as a completed item. All steel is handled by an overhead crane from raw materials being poured to storing hot steel for cooling and transporting finished coils. Steel items are moved onto trucks via overhead cranes. Metal fabricators and stampers and the automobile industry rely on these machines. Pulp & Paper Mills Pulp mill maintenance commonly relies on bridge cranes. They are responsible for removing items including heavy press rolls. Paper machines rely on bridge cranes during construction to install massive equipment including cast iron paper drying drums and other heavy apparatus.

Loader Crane

Powered with an electric articulated arm attached to a trailer or truck for loading and unloading, the loader crane is complete with many joints to facilitate folding the machine into a small space between jobs. Telescopic sections are common. Certain models are equipped to stow themselves or load themselves without any instruction from the operator. To complete viewing access of the load, the operator must move around the vehicle. Modern models may rely on a radio-linked system or a portable cabled control system that works alongside hydraulic controls that are mounted on the crane.

Gantry Crane

There is a hoist on the gantry crane found in a fixed machinery house or a horizontal trolley that runs along rails often fitted between two beams or a single beam. The crane frame is supported via beams and wheels on a gantry system and runs on the gantry rail which is generally perpendicular to the trolley direction of travel. These cranes are available in many sizes and capable of moving heavy and cumbersome loads for industrial applications and in shipyards.