Tower Cranes

Tower Crane Rentals and Sales Glendale - Cranes are a popular kind of industrial equipment commonly used in the materials handling industry. These machines may be outfitted with sheaves, a hoist rope, wire ropes or chains. These components enable cranes to lift and lower items vertically as well as transporting items horizontally. Cranes make transporting cumbersome loads including machinery, shipping containers and crates much easier. Freight Transportation Cranes can lift difficult loads to make unloading and loading safer and more efficient. Different models have various lifting capacities. They provide a huge mechanical advantage and enable people to lift thousands of pounds of freight. Cranes are commonly found on construction sites and a variety of industries. 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 is a crane perfectly suited for a variety of applications. Tight spaces may be more accessible with the use of cranes. Floating cranes can be utilized for maritime applications such as salvaging sunken items or on oil rigs. Tower Cranes This type of crane is fixed on a concrete slab to the ground. This unit is often seen mounted to sides of structures to provide superior lifting and height. Commonly used for building residential and commercial tall buildings, the base is attached to the mast which may extend for further reach. The crane is capable of rotating thanks to the mast that connects to the slewing unit. The long horizontal jib, the shorter counter-jib and the operator's cab are all found above the slewing portion. The main component responsible for carrying the load is the long horizontal jib. The counterweight is created by the counter-jib that may utilize concrete blocks. The jib houses the crane's load to and from the center. Normally the crane operator stays inside of a cab found on top of the tower attached to the turntable; although, it may be mounted on the jib instead. Operators can use a radio remote control unit from the ground. The operator relies on electric motors to control wire rope cables in a system of sheaves and control the lifting hook. The long horizontal arm houses the cargo hook and its' motor. Often, the operator works alongside a rigger to accurately coordinate unhooking and hooking loads. Hand signals are an important part of daily safety. 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. These two items have a turntable to attach them, allowing the higher portion the ability to swing from side-to-side. Updated hydraulic truck cranes are typically single-engine units. The same engine is responsible for providing power to the crane and the undercarriage. Hydraulics are responsible for providing power to the upper via the turntable from the pump mounted on the lower portion. Original, older hydraulic crane truck models commonly featured dual 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. Cranes often need to travel on roads to different locations, eliminating the need for industrial transportation unless there are size and weight restrictions. Transportation falls under local laws. Generally, bigger cranes have trailers to help the load become distributed over many axles. There are some crane models that can be taken apart to accommodate particular 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. These are used vertically to stabilize the machine and keep it level during hoisting and stationary activities. Some truck crane units can travel at slow speeds even while carrying a suspended load. Extra care is taken to make sure the load does not swing side to side from the travel direction. The majority of the anti-tipping aspect is related to the stiffness of the chassis suspension. Counterweights can be moved and adjusted on certain models to enhance stabilization even more than what the outriggers deliver. Suspended loads are among the most stable due to the majority of the crane's weight acting as a counterweight. Electronic safeguards are in

place to monitor the maximum safe loads for stationary work and traveling speeds. Overhead and Bridge Cranes An overhead crane is often referred to as a bridge crane. This concept features a hook-and-line mechanism and a crane with a horizontal beam that is made to run along rails. This type of crane resembles a gantry crane. They are common within factory buildings and attach to rails that run down two walls. Double beam or single beam construction model crane designs are available for overhead cranes, which may rely on complex box girder beam or regular steel beams. A control pendant may be used to operate the crane. A double girder bridge can be used in places that require heavy lifting such as 10 tons or more. The box girder design creates a system featuring higher system integrity with a lower deadweight. Cargo can be lifted with a hoist and the trolley that can travel along the bridge along with the bridge component covered by the crane. The steel industry relies on overhead cranes for much of the manufacturing. Steel is typically handled by an overhead crane until it is transformed into a finished piece and leaves the factory. An overhead crane handles all kinds of steel including raw materials being pored to transporting finished oils and storing hot steel. Overhead cranes lift steel components onto trucks. Metal fabricators and stampers use this equipment every day including the auto industry to transport raw materials. Pulp & Paper Mills Bridge cranes are commonly used in pulp mill maintenance. They are responsible for removing equipment 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 The operator can move around the machine in order to view the load. Hydraulic controls that are mounted on the crane may work with a portable cabled control system and a radio-linked system. Gantry Crane A gantry crane has a hoist in a fixed machinery house or on a trolley that runs horizontally along rails, usually fitted on a single beam or two beams. 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. The gantry cranes are available in numerous sizes. Some models can move extremely heavy loads for industrial and shipyard applications.