Tower Cranes

Tower Crane Rentals and Sales Glendale - A popular machine within the materials handling family is the crane. Oftentimes, they are equipped with chains, wire ropes, a hoist rope or sheaves. These components enable cranes to lift and lower items vertically as well as transporting items horizontally. Heavy crates, shipping containers, machinery and similar items can be efficiently moved thanks to a variety of crane models. Freight Transportation Cranes are utilized to move items in terms of making loading and unloading easier and safer. The lifting capacity depends on the model. Cranes deliver a major mechanical advantage, allowing people to lift tremendous amounts of freight. Cranes are commonly found on construction sites and a variety of industries. Specified Use Small jib cranes are ideal for cramped environments such as workshops. Giant tower cranes are a different breed that is useful for high-rise construction. There is a crane perfectly suited for a variety of applications. Tight spaces may be more accessible with the use of cranes. 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. This model is commonly attached to the sides of structures. It offers precise height and lifting reliability. Popular for building tall commercial buildings and residential structures, the base is mounted to the mast to create even further reach once extended. The crane is capable of rotating thanks to the mast that connects to the slewing unit. Above the slewing component, the operator cab is situated, along with the long horizontal jib and the counter jib. 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 handles the load to and from the center of the crane. 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. The operator may rely on a radio remote control apparatus from the ground. Electric motors are used to operate the lifting hook and control wire rope cables located within a sheaves system. The cargo hook, along with its motor is found in the long horizontal arm. The operator often works with a rigger to coordinate hooking and unhooking loads. Hand signals are a huge safety component used daily. The rigger has an important job dictating the crane’s lifting schedule. They are responsible for making sure all rigging is reliable and safe. Truck-Mounted Cranes The boom and the carrier are two parts found on truck-mounted cranes. These two pieces rely on a turntable to attach them and allow the upper portion 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 responsible for providing power to the upper via the turntable from the pump mounted on the lower portion. Earlier hydraulic crane trucks commonly had two engines. One engine controlled the hydraulic pump for the outriggers and the jacks while the other engine was responsible for the crane’s travel. Some operators prefer the older dual-engine models since there are often turntable leaks many newer units. Cranes commonly have to travel via roads to get to different jobs. This can eliminate industrial transportation requirements unless the crane is sizeable with certain weight restrictions. Local laws may be in place regarding transportation. Typically, larger cranes are outfitted with trailers to help distribute the load over numerous axles. There are some crane models that can be taken apart to accommodate particular requirements. Typically, another truck with the disassembled counterweights will follow the crane. Outriggers & Stability Stability is achieved by horizontal outriggers extending from the chassis of the crane. These are used vertically to stabilize the machine and keep it level during hoisting and stationary activities. Certain truck crane models have the capacity to travel slowly while maintaining a suspended load. Extra care is taken to make sure the load does not swing side to side from the travel direction. The stiffness of the chassis suspension delivers most of the anti-tipping aspect. Counterweights can be moved and adjusted on certain models to enhance stabilization even more than what the outriggers deliver. Suspended loads are some of the most stable with most of the crane’s weight functioning like a counterweight. There are

electronic safeguards in place to regulate the maximum safe loads for traveling speeds and stationary work. Overhead and Bridge Cranes A bridge crane is a type of overhead 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. 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. Locations requiring heavy lifting from ten tons and higher may use a double girder bridge. Higher system integrity and a lower deadweight may be delivered via the box girder style. The hoist can lift the cargo along with the bridge portion covered by the crane and the trolley that can travel along the bridge. The steel industry relies on overhead cranes for much of the manufacturing. Steel is typically handled by an overhead crane until it leaves the factory as a finished piece. 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 electrically with an articulated arm attached to a truck or trailer, specific for loading and unloading, the loader crane has numerous joints to allow the machine to be folded into a small space between uses. 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 features a hoist located on a trolley running horizontally along rails, often fitted on two beams or a single beam or in a fixed machinery house. The gantry system supports the crane frame with equalized beams. Wheels are running along the gantry rail, typically perpendicular to the direction the trolley travels. These cranes are available in many sizes and capable of moving heavy and cumbersome loads for industrial applications and in shipyards.