Tower Cranes

Tower Crane Rentals and Sales Santa Clarita - Cranes are a globally recognized form of industrial equipment that is commonly used in the materials handling industry. These machines may be outfitted with sheaves, a hoist rope, wire ropes or chains. These items allow cranes to lower and lift items vertically while transporting them 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. Cranes offer a great job site support and the mechanical advantage of an extended lifting capacity. Cranes are popular in a variety of industries and found in many locations. 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 are numerous cranes suited for many different jobs. 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 The type of crane that is fixed on a concrete slab is a tower crane. 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. 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 long horizontal jib is the main crane component responsible for carrying the load. 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. 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 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. 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 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. Typically, modern hydraulic truck cranes feature single engines. The engine supplies power to both 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. Original, older hydraulic crane truck models commonly featured dual 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. Transportation falls under local laws. Generally, bigger cranes have trailers to help the load become distributed over many axles. Certain cranes can be taken apart to meet certain requirements. Typically, another truck with the disassembled counterweights will follow the crane. 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. Certain truck crane models have the capacity to travel slowly while maintaining 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. Safeguards are in place electronically to monitor the maximum safe loads for traveling speeds and stationary

work. Overhead and Bridge Cranes A bridge crane is a type of overhead crane. This mechanism features a crane with a hook-and-line mechanism and horizontal beam that is designed to run along rails that are spaced widely. This type of crane resembles a gantry crane. They are common within factory buildings and attach to rails that run down two walls. Overhead cranes may feature single or double beam construction and may use regular steel or complex box girder beams. Some overhead cranes have the capacity to be operated with a control pendant. Locations requiring heavy lifting from ten tons and higher may use a double girder bridge. The box girder design creates a system featuring higher system integrity with a lower deadweight. 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. Steel is typically handled by an overhead crane until it is transformed into a finished piece and leaves the factory. From raw materials to pouring hot steel and moving finished product, overhead cranes handle steel at every stage. Steel items are moved onto trucks via overhead cranes. Metal fabricators and stampers and the automobile industry rely on these machines. Pulp & Paper Mills Bridge cranes are often relied on for regular pulp mill maintenance including removing equipment such as heavy press rolls. Bridge cranes utilized in paper machine construction help to install large apparatus' and equipment including huge components such as cast-iron paper drying drums and similar items. 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. These telescoping abilities are useful. Some models can even load or stow themselves on their own without any operator intervention. The operator can move around the machine in order to view the load. Current models often feature a portable cabled control system or radio-linked system that works beside hydraulic controls that are mounted on the crane. 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 crane frame is supported on a gantry system with equalized beams and wheels that run on the gantry rail, usually perpendicular to the trolley travel direction. The gantry cranes are available in numerous sizes. Some models can move extremely heavy loads for industrial and shipyard applications.