Tower Cranes

Tower Crane Rentals and Sales San Jose - 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 products allow cranes to hoist materials vertically and transport them horizontally. Shipping containers, giant crates, heavy machinery and other items can be transported efficiently. 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 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 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. Some cranes can allow access to tight spaces. Floating crane models may be employed to salvage sunken marine items including ships or used in 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. 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 long horizontal jib is the main crane component responsible for carrying the load. The counter-jib creates the counterweight and it may rely on 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. 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 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 a huge safety component used daily. 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. 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. Certain cranes can be taken apart to meet certain 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. Care is taken to ensure the load doesn't swing sideways from the direction of travel. The stiffness of the chassis suspension delivers most of the anti-tipping aspect. Many models include moving counterweights to be adjusted to enhance stabilization farther than what the outriggers provide. Some of the most stable loads are suspended loads since the weight of the crane serves 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 a kind of crane commonly called 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. This type of crane resembles a gantry crane. They are common within factory buildings and attach to rails that run down two 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. 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. 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 is familiar with overhead cranes throughout the manufacturing process. An overhead crane typically handles steel until it exits the factory as a completed item. An overhead crane handles all kinds of steel including raw materials being pored to transporting finished oils and storing hot steel. Steel components are loaded by overhead crane and lifted onto trucks. Metal stampers and fabricators rely on this equipment daily as does the automobile industry to handle raw materials. Pulp & Paper Mills Bridge cranes are commonly used in pulp mill maintenance. They are responsible for removing equipment including 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 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. Telescoping sections are popular. There are models that have the ability to stow or load themselves without any operator instruction. 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 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 on a gantry system with equalized beams and wheels that run on the gantry rail, usually perpendicular to the trolley travel direction. These cranes come in all sizes, and some can move very heavy loads, particularly the extremely large examples used in shipyards or industrial installations.