Tower Cranes

Tower Crane Rentals and Sales Mississippi - A popular machine within the materials handling family is the crane. Depending on the application, cranes may have wire ropes, sheaves, chains or a hoist rope. 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 simplify loading and unloading and moving items. Different models have various lifting capacities. Cranes deliver a major mechanical advantage, allowing people to lift tremendous amounts of freight. Cranes are found in many industries and often seen on construction sites. Specified Use There are different cranes for many applications. Jib cranes can be used for tighter environments including workshops. Extensive tower cranes can be seen in construction. There is a crane perfectly suited for a variety of applications. 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 The type of crane that is fixed on a concrete slab is a tower crane. This model is commonly attached to the sides of structures. It offers precise height and lifting reliability. Commonly used for building residential and commercial tall buildings, the base is attached to the mast which may extend for further reach. The mast is connected to the slewing unit of the crane that enables it to rotate. The long horizontal jib, the shorter counter-jib and the operator's cab are all found above the slewing portion. The majority of the load is carried via the long horizontal jib. The counter-jib creates the counterweight and it may rely on concrete blocks. The jib houses the crane's load to and from the center. Typically, the operator is found inside of a cab located on top of the tower that is attached to the turntable; however, it can be mounted on the jib alternatively. Operators can use a radio remote control unit from the ground. Electric motors are used to operate the lifting hook and control wire rope cables located within a sheaves system. 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. Hand signals are an important part of daily safety. 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 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. Modern hydraulic truck cranes are generally single-engine machines. 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. Back in the day, older models of hydraulic crane trucks often had two engines. The first engine enabled the crane to travel down the road while the second engine controlled the hydraulic pump for the outriggers and jacks. Some operators prefer the older dual-engine models since there are often turntable leaks many newer units. Cranes often need to travel on roads to different locations, eliminating the need for industrial transportation unless there are size and weight restrictions. Local transportation laws are in place. Larger machines may have trailers to distribute the load over a variety of axles. Some models can be disassembled to meet specific requirements. A crane will often be followed by another truck containing the counterweights that are disassembled for travel. 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. 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 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. Some of the most stable loads are suspended loads since the weight of the crane serves as a counterweight. Safeguards are in place electronically to monitor the maximum safe loads for traveling speeds and stationary work. Overhead and

Bridge Cranes An overhead crane is a kind of crane commonly called 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. An overhead crane typically handles steel until it exits the factory as a completed item. 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 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. Telescoping sections are popular. There are models that have the ability to stow or load themselves without any operator instruction. The operator needs to move around the vehicle for viewing access to the load. 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 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. These cranes come in all sizes, and some can move very heavy loads, particularly the extremely large examples used in shipyards or industrial installations.