Self Erect Cranes

Used Self Erect Cranes New Mexico - The tower crane's base is usually bolted to a large concrete pad which provides really crucial support. The base is connected to a tower or a mast and stabilizes the crane that is connected to the inside of the structure of the building. Often, this attachment point is to a concrete lift or to an elevator shaft. Typically, the mast is a triangulated lattice structure measuring 10 feet square or 0.9m2. The slewing unit is connected to the very top of the mast. The slewing unit consists of a gear and a motor which allows the crane to rotate. Tower cranes may have a max unsupported height of eighty meters or 265 feet, while the minimum lifting capacity of a tower crane is sixteen thousand six hundred forty two kilograms or 39,690 lbs. with counter weights of twenty tons. In addition, two limit switches are utilized in order to ensure the driver does not overload the crane. There is also one more safety feature called a load moment switch to make sure that the operator does not surpass the ton meter load rating. Lastly, the tower crane has a maximum reach of 70 meters or two hundred thirty feet. Because of their extreme heights, there is a science involved to erecting a crane. The stationary structure will first need to be transported to the construction site by using a large tractor-trailer rig setup. Then, a mobile crane is used in order to assemble the equipment portion of the crane and the jib. Then, these parts are attached to the mast. The mobile crane next adds counterweights. Forklifts and crawler cranes may be some of the other industrial machines that is commonly used to erect a crane. As the building is erected, mast extensions are added to the crane. This is how the crane's height is able to match the building's height. The crane crew uses what is called a climbing frame or a top climber that fits between the top of the mast and the slewing unit. A weight is hung on the jib by the work crew so as to balance the counterweight. When complete, the slewing unit can detach from the top of the mast. In the top climber, hydraulic rams are used to adjust the slewing unit up an extra 20 feet or 6.1m. Next, the crane operator utilizes the crane to insert and bolt into position one more mast part piece.