Due to the increased prices in real-estate today, our country is forced to use small sections of land to build high rise buildings or skyscrapers. Because of modern day high rises being built, high technology lift equipment has entered its way into the construction field. Previous to this high technology lift equipment, ropes and planks combined with manual labor were the only way to reach the high areas. Since the 1940’s and 1950’s there has been remarkable changes to lift equipment and scaffolding used today.

From the Home Insurance Building to the Sears Tower in Chicago, workers have put their lives in danger doing the work needed for these high rise buildings. The types of scaffolding these workers used at one time depended solely on the physical strength of the workers. Planks were lifted by ropes and held or secured in place until the job was completed, this was very dangerous as well as time consuming. Still today, this type of scaffolding is being used. With the heights of the high rises continuing to climb, standards and regulations had to be set and followed for the safety of all involved. The Occupational Safety and Health Administration (O.S.H.A.) have set and encouraged these standards for the safety of the workers as well as the equipment being used.

Contractors today have a wide variety of choices and options on the type of lift equipment that can be used. Keeping costs down, one choice may be the Vehicle Mounted Rotating Aerial Device. The two (2) categories being the Scissor Type Vehicle Mounted Aerial Platform and the Telescoping Rotating Vehicle Mounted Aerial Platforms. These trucks are convenient for jobs with a minimum height requirement. The Telescoping Rotating Vehicle Lifts may have some limits on the weight to be lifted, whereas the Scissor Type Aerial Platform has the capacity to lift greater weight but cannot reach the height of the others. The smaller version of these can be towed or hauled from job to job. Even though these lifts have established heights, many can be driven by the built-in controls, this is called Self-propelled. Outriggers can be used for leveling in rough terrain. Contractors should be aware that vehicles of this nature can be very costly, therefore are made available for renting.

Modern day hanging scaffolding or suspended scaffolds are another choice for the contractor. These types of scaffolds are popular sights of today because they are very easy to use and can be moved from job to job. These suspended scaffolds can range from single-point, two-point, or multi-point suspended scaffolding. All moving...
scaffolds require some type of manual or powered scaffold hoist. Two types of powered scaffold hoists on the market today include the Powered Winding Drum Hoist and the Powered Traction Type Hoist. The Winding Drum Hoists have limited heights that the contractor should be aware of prior to the purchase. Whereas the Powered Traction Type Hoists have an unlimited height capacity. These Hoists are commonly referred to as “Climbers” because they do just that, climb the cable or wire rope to the desired height. The rated load for these Climbers would vary per manufacturer, most common is the 1,000 pound rated load per Climber. This gives the workers plenty of load to carry safely. The rate of travel would vary also per manufacturer.

Common types of single-point suspended scaffolding would include a Bridge Work Basket and a Boatswain’s Chair, or Bo’suns Chair. Bridge Work Baskets provide a cage for either one or two workers standing while working on the face of a high rise. Bridge Work Baskets are also equipped with Basket Extensions that extend the work cage for added room for workers and tools. The Bridge Work Basket allows the workers to reach above the work cage or right underneath a bridge. With the Bo’suns Chair the worker is in a padded seat with footrests to keep balance. This type of chair is convenient for small work areas such as ship port holes. A half inch steel tube enclosed the wire rope keeps the worker for exposed cable preventing accidents. Also with the Bo’sun Chair the Powered Scaffold Hoist is mounted underneath the padded seat for plenty on open working room.

When considering multi-level suspended scaffolding, Powered Scaffold Hoists are very popular among contractors. This gives workers the capabilities of working on either two or three levels at one time. This type of system is arranged so that the platforms are supported by a common stirrup, the stirrup holding the platform on to the Hoist. Together, multi-level scaffolds and powered scaffold hoist are widely used among window washers and painters covering a large work area.

Added features of the Traction Type Powered Scaffold Hoists would include the unlimited height option allowing Climbers to be used on any size high rise and from one job to the next. Some manufacturers have combined high technology and advanced engineering giving these Climbers various rates of travel speeds or feet per minute. With a rated load of 1,000 pounds, these Climbers can travel at a constant speed of 18 F.P.M., 22 F.P.M., or 27 F.P.M. Also, a variety of power, whether electric or air power. Standard voltage being 220 volts with the option of dual voltage, 110/220 volts by simply flipping a switch located on the bottom on the switch box. Also, an electric to air motor conversion can be done by simply removing four (4) bolts located on the gear box housing with the added feature of being done directly on the job site. This type of power, either air or electric, can be used in any rigging of single-point, two-point, or multi-point suspended scaffold.

O.S.H.A. has set standards for these types of rigging mentioned, again for the safety of all. No matter what type of rigging is involved, the cable or wire rope used must be able to hold six (6) times the rated load of the lift. Always keeping all cable and lift equipment in good working condition is a standard O.S.H.A. requires all contractors to meet. Various rigging types that are used in conjunction with powered scaffold hoists would include an outrigger bean, a rolling outrigger beam, or a cornice hook or roof hook. Each of these must have some type of tieback equivalent in strength to the supporting wire rope or cable. Bean supporting rigging systems must have sufficient counter weights which can be securely fastened to the outrigger beam. Rigging specifications should always be met whether using single-point, two-point, or multi-point suspended scaffold.

When using any type of lift equipment, safety of the workers must constantly be taken into great consideration. Neglecting any O.S.H.A. safety standards can cause injury to the workers and shut down the job site with heavy fines for the contractor.

Together with high technology and the American made products, every contractor has the option to select the wide variety of lift equipment to get the edge on the growing job market of today.