

## Construction Equipment

Used Construction Equipment Irvine - Industrial equipment including heavy-duty vehicles designed for specific construction tasks make up the majority of construction equipment. Common earthmoving operations rely on engineering equipment, oversized trucks and heavy hydraulics among other things. Five main types of construction equipment systems include powertrain, implement, structure, control and information and traction. There is a variety of industrial equipment that is classified under the heavy equipment umbrella. Tractors Tractors are specially designed to deliver high tractive movements at slower speeds to accommodate hauling items such as trailers or construction equipment commonly for agricultural purposes. Tractors are commonly used to describe farm equipment that offers traction and power to mechanize farming tasks. A variety of agricultural attachments may be mounted on or behind the tractor to make certain tasks more efficient. The tractor can provide power to the mechanized attachment to facilitate heavy lifting or digging etc. Excavators Excavators are one of the most popular types of heavy construction equipment. They often feature a cab located on a rotating platform, a boom and a stick. Depending on the particular model, the house is located on top of an undercarriage that has either tracks or wheels. Excavators rely on hydraulic motors, hydraulic fluid and hydraulic cylinders to facilitate all movements and functions. The hydraulic cylinders provide linear actuation to provide a different operation mode in comparison to other excavator models that use winches, steel ropes and cables. Backhoe Loaders Similar to a tractor, a backhoe loader is essentially a machine that has a front loader on one end and a backhoe on the other end. A swiveling seat design enables the operator to face either direction as needed, preventing operator fatigue. These machines can be purchased as is or may be constructed from a farm tractor pairing with a rear backhoe and a front-end loader. Manufactured backhoe loaders are specific for farm applications and are not suitable for heavy work. However, the farm unit requires the operator to change seats from sitting in front of the backhoe controls to then sitting in the tractor seat and vice versa. This constant movement to reposition the machine during digging often slows down the process. The hydraulically powered attachments include the grapppler, tiltrotator, auger, breaker and other items. The backhoe can be used in a variety of industries including agricultural, engineering and construction. A popular attachment for transporting tools is the tiltrotator. Many backhoes provide different quick coupler mounting systems. The quick coupler offers better attachment efficiency for switching different equipment out on the machine. Backhoes commonly work beside loaders and bulldozers. In the industrial equipment industry, backhoe loaders are very popular. Backhoes are commonly being replaced by different front-end loaders and excavators. The advent of the mini-excavator has proven useful in a variety of industries. A mini-excavator and a skid steer can work together to complete work that was formally reserved for a backhoe. A power shovel can be created when the backhoe bucket is used in reverse. This design is helpful for extended-reach applications, working around pipes, loading and filling stockpiled materials, etc. Skidder A skidder is a kind of heavy equipment that is used in logging for hauling freshly cut trees from the forest in a forestry practice known as skidding. Newly cut logs are dragged out of the forest and taken from the cutting area to a landing where they can be safely loaded and taken to the sawmill on logging trucks. Dredging Dredging refers to underwater excavation. Dredging can be completed in shallow or deep waters. This excavation method is used to keep waterways and ports navigable for ships and free of debris. It is commonly done for land reclamation, coastal development and coastline protection. Bottom sediments can be sucked up and relocated elsewhere. On occasion, dredging can be done to recover things lost in the water. The construction industry may collect high-value sediments and minerals via dredging. There are four parts to the dredging process including loosening items, bringing the material topside to the surface, transporting and disposing of the material. Dredging materials can be transported by barge, removed as a liquid suspension through pipelines or locally disposed of. Bulldozers Bulldozers are powerful heavy equipment with great tracks to provide superior mobility on rough terrain. Their superior

design prevents this heavy equipment from sinking on soft terrain or muddy areas as their weight is evenly distributed. The extra-wide tracks are called swamp tracks and these work well in difficult terrain. The transmission system delivers extensive tractive force and allows the machine to make the most of the unique tracks. Mobile and powerful, bulldozers are commonly used in developing infrastructure, road building, construction, mining, land clearing and other projects that require earth-moving equipment. Wheeled bulldozers have four wheels and are operated with a 4WD with an articulated, hydraulic system. In front of the articulation joint, the hydraulically actuated blade is mounted. The blade and the ripper are the main tools associated with this bulldozer. Grader Graders are a kind of construction equipment that uses a long blade. A grading operation creates a flat surface. Many models have an engine and a cab situated at one end of the machine above the rear axles. There are three axles and the third one is found at the front end of the machine. The blade is balanced in between. Many graders ride with their rear axles in tandem. Some models offer front-wheel drive to provide more maneuverability for grading purposes. There are optional attachments for the rear including the scarifier, compactor, ripper or blade. Dirt grading and snowplowing jobs commonly use a mounted side blade. Certain grader models can use many attachments. The underground mining industry can use some specially engineered graders. Graders are used in the civil engineering industry to finish grade with precision with the proper height, pitch and blade angle. Rough grading processes are completed with bulldozers or scrapers. Graders achieve accuracy while building gravel and dirt roads. Graders are used to achieving the proper base for construction and road paving. Graders are essential for setting gravel or native soil foundation pads to make the grade before construction begins. These giant machines create inclined surfaces to facilitate side slopes needed for drainage and road building beside highways. Grader steering can be completed via a joystick or steering wheel to control the angle of the front wheels. A smaller turning radius is possible by many models due to the frame articulation design between the rear and front axles. This design allows operators to change the angle of articulation to move material more efficiently. Other functions are usually powered with hydraulics and can be directly controlled by joystick inputs, levers or electronic switches powering electro-hydraulic servo valves.