

## Construction Equipment

Used Construction Equipment Oakland - Construction equipment includes industrial machines designed to conduct certain building and demolition tasks. Earthmoving operations are often accompanied by heavy trucks, engineering machines, heavy hydraulics and more. There are five equipment systems including traction, information and control, structure, implement and powertrain. Numerous types of industrial machines fall under the classification of heavy equipment. Tractors Specifically designed tractors offer extreme tractive capabilities at slower speeds to facilitate hauling equipment including construction items, trailers and items for agriculture. One of the most popular farming machines is tractors that mechanize heavy lifting and loading tasks that need traction and power. Numerous agricultural additions can be mounted behind or onto the tractor to make certain jobs easier. Tractors can mechanize attachments to enable digging, heavy lifting and loading, etc. Excavators Heavy construction equipment includes excavators that feature a bucket, stick, boom and cab situated on a rotating platform. The house sits on top of an undercarriage outfitted with wheels or tracks depending on the model. Excavators rely on hydraulic motors, hydraulic fluid and hydraulic cylinders to facilitate all movements and functions. The linear actuation of the hydraulic cylinders offers a different operation mode compared to excavators operated with cables, steel ropes and winches to accomplish tasks. Backhoe Loaders A backhoe loader is similar to a tractor with a backhoe situated at one end and a front loader on the other. A swiveling seat design enables the operator to face either direction as needed, preventing operator fatigue. Backhoe loaders can be built by pairing a front-end loader with a rear backhoe or the machines can be purchased ready to go. 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. Obviously, switching seats repeatedly to reposition the machine for digging applications slows productivity down. Common hydraulically powered attachments include the auger, a grappler, breaker and a tiltrotator to complete a variety of jobs in the engineering, agricultural and construction industries. A popular attachment for transporting tools is the tiltrotator. Quick coupler mounting systems are commonly found on numerous backhoes. The quick coupler offers better attachment efficiency for switching different equipment out on the machine. Backhoes often work alongside bulldozers and loaders. In the industrial equipment industry, backhoe loaders are very popular. Certain types of special equipment including excavators and front-end loaders are replacing backhoes. The invention of the mini-excavator has drastically improved a variety of industrial jobs. Previous job sites that would have employed a backhoe may now feature a mini excavator and skid steer used in conjunction. It is possible to reverse a backhoe bucket and use it as a power shovel. This design is helpful for extended-reach applications, working around pipes, loading and filling stockpiled materials, etc. Skidder The skidder is a type of heavy equipment utilized in the forestry industry and logging for taking freshly cut trees out of the forest. 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 occur in shallow lakes or the deep ocean. This excavation method is used to keep waterways and ports navigable for ships and free of debris. Dredging is often done to improve the coastline, for coastal development purposes and land reclamation. This process allows sediments to be suctioned up and relocated. Sometimes, dredging is completed to recover materials. High-value sediments or minerals may be collected via dredging and utilized by the construction industry. 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 A popular type of heavy equipment is the bulldozer. It relies on large tracks to manage mobility on rough surfaces and tricky terrain. Excellent design features evenly distribute the weight over a wide area to prevent

this heavy machine from sinking in sandy or muddy locations. Swamp tracks, as the extra wide tracks are known, are useful in poor terrain. The transmission system delivers extensive tractive force and allows the machine to make the most of the unique tracks. Bulldozers are often used in road building, infrastructure development, road building applications, mining, land clearing, construction and other projects that rely on earth-moving machinery. There are 4WD models on the market of wheeled bulldozers that utilize a hydraulic, articulated system. The hydraulically actuated blade is situated in front of the articulation joint. The ripper and the blade are the primary tools with this model. 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 cab located above the rear axles at one end of the machine, three axles with the third axle situated at the front end and the blade balanced in between. The majority of graders drive with the rear axles in tandem; however, certain models add front wheel drive to offer better grading maneuverability. Extra attachments may be used on the rear of the machine such as a blade, ripper, compactor or scarifier. Snowplowing maneuvers and dirt grading jobs rely on a mounted side blade. A variety of attachments can be used on certain grader models. Other graders have been designed for specific industries including underground mining. Graders are used in the civil engineering industry to finish grade with precision with the proper height, pitch and blade angle. Scrapers and bulldozers complete rough grading processes. Dirt and gravel roads rely on graders to provide accuracy. These machines prepare the base for paved roads and construction. Graders are essential for setting gravel or native soil foundation pads to make the grade before construction begins. These impressive machines can create inclined surfaces in order to generate side slopes for roads or drainage ditches along sides of the highways. A joystick or steering wheel is used to control the front wheel angle of the grader. 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.