

## Construction Equipment

Used Construction Equipment Virginia - 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. There are five equipment systems including traction, information and control, structure, implement and powertrain. Many kinds of industrial machines are categorized under the heavy equipment category. Tractors Specifically designed tractors offer extreme tractive capabilities at slower speeds to facilitate hauling equipment including construction items, trailers and items for agriculture. Tractors are often utilized as farm equipment to mechanize farming tasks that require power and traction. A variety of agricultural attachments may be mounted on or behind the tractor to make certain tasks more efficient. The tractor is a useful farming machine used to mechanize loading, heavy lifting and digging among other things. 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. 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 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 Backhoe loaders resemble a tractor and these machines feature a backhoe found at one end of the equipment and a front loader found at the opposite end. There is a swiveling seat option to position the operator facing whichever direction is required at the time. 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. The backhoe loaders that have been manufactured that way are extremely strong; models specified for farm variation are not as suited 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. Thanks to the invention of hydraulically powered attachments including an auger, tiltrotator, a grapppler, breaker, etc., the backhoe can be outfitted to use in a variety of applications including construction, engineering and agricultural sectors. A popular attachment for transporting tools is the tiltrotator. Quick coupler mounting systems are commonly found on numerous backhoes. This enables easier attachment mounting and can dramatically increase the capabilities of the equipment 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 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. A backhoe bucket can be reversed and utilized in a power shovel application. This design is helpful for extended-reach applications, working around pipes, loading and filling stockpiled materials, etc. Skidder A type of forestry equipment for transporting freshly cut trees is the skidder. This hauling practice is referred to 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 take place in the ocean or in shallow waters. Dredging helps to keep waterways and ports easy to navigate and open. It is used for coastal redevelopment, land reclamation and assists in protecting the coastline. Bottom sediments can be sucked up and relocated elsewhere. Dredging can be utilized to recover items at times. The construction industry may collect high-value sediments and minerals via dredging. Four specific components comprise the dredging process including loosening items, transporting the materials to the surface, transporting materials and disposing of them. Dredging materials can be transported by barge, removed as a liquid suspension through pipelines or locally disposed of. Bulldozers Bulldozers are heavy equipment that uses large tracks to deliver

excellent mobility on difficult 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. 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. Wheeled bulldozers have four wheels and are operated with a 4WD with an articulated, hydraulic system. The hydraulically actuated blade is situated in front of the articulation joint. The two primary tools on a bulldozer are the blade and the ripper. Grader Graders are a kind of construction equipment that uses a long blade. Graders make surfaces flat during grading. Numerous models feature a cab and engine found above the rear axles located at one end of the equipment with three axles. The third axle is found at the front portion of the machine and the blade balances nicely in between. Most graders drive while their rear axles are in a tandem position. Some models feature front-wheel drive to provide better grading maneuverability. There are optional attachments for the rear including the scarifier, compactor, ripper or blade. Snowplowing and dirt grading operations often use a side blade that can be mounted. A variety of attachments can be used on certain grader models. 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. Scrapers and bulldozers complete rough grading processes. Maintaining and constructing dirt and gravel roads requires work by graders to ensure accuracy. Graders are used to achieving the proper base for construction and road paving. These machines are used to set native soil foundation pads or gravel to complete the grade prior to large-scale construction commences. These large machines can designate inclined surfaces to establish slopes for drainage ditches or roads beside 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. Additional functions may be completed with hydraulics that are controlled directly by levers, joystick input or electronic switches that deliver power to electro-hydraulic servo valves.