

## Construction Equipment

Used Construction Equipment Pennsylvania - Most heavy-duty construction equipment includes vehicles build to complete specific construction tasks. 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. 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 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. 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 are for sale as is or they can be created by combining a rear backhoe loader with a front-end loader. These machines are very durable and have been manufactured to be strong enough to complete farm work however, they are not suitable for heavy construction jobs. 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. Constantly changing positions to move the machine into place for digging slows everything down. The hydraulically powered attachments include the grappler, tiltrotator, auger, breaker and other items. The backhoe can be used in a variety of industries including agricultural, engineering and construction. A great attachment for carrying tools is the tiltrotator. Numerous backhoes offer 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. 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. A backhoe bucket can be reversed and utilized in a power shovel application. This can be useful for working around pipes and other obstacles, to increase overall reach capability, for loading from a stockpile or for filling material or picking up items next to buildings. 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 a type of underwater excavation or partially underwater. Dredging can occur in shallow lakes or the deep ocean. 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. 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 A popular type of heavy equipment is the bulldozer. It relies on large tracks to

manage mobility on rough surfaces and tricky terrain. Their design features excellent ability to distribute the extensive weight over a large area to prevent the machine from sinking into muddy or sandy environments. Poor terrain can be easily navigated with extra-wide swamp tracks. The bulldozers' transmission system is built to deliver powerful tractive force by enabling the machine to take advantage of its' 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. 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 A grader is a type of construction machine that features a long blade. It creates a flat surface during the grading operation. 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. 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. 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. Bulldozers and scrapers are used to accommodate difficult grading procedures. Dirt and gravel roads rely on graders to provide accuracy. They are also used to prepare the base for the construction of paved roads. These machines are used to set native soil foundation pads or gravel to complete the grade prior to large-scale construction commences. These giant machines create inclined surfaces to facilitates side slopes needed for drainage and road building beside highways. A joystick or steering wheel is used to control the front wheel angle of the grader. Many models can conduct a tinier turning radius due to the way the frame is articulated between the rear and front axles. This enables the operator to change the articulation angle to be more efficient moving material. 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.