

Construction Equipment

Used Construction Equipment Iowa - 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. 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. Tractors can mechanize attachments to enable digging, heavy lifting and loading, etc. Excavators Heavy construction equipment such as excavators have a stick, a boom and a cab situated on a rotating platform. Depending on the particular model, the house is located on top of an undercarriage that has either tracks or wheels. Hydraulic cylinders, motors and hydraulic fluid all help the excavator complete its movement and job capacity. A different operation mode is achieved with excavators that rely on the linear actuation of the hydraulic cylinders as opposed to models that use cables, steel ropes and winches. 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. 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. The backhoe loaders that have been manufactured that way are extremely strong; models specified for farm variation are not as suited for heavy work. Operators using the farm model will have to change seats from the tractor seat to the front of the backhoe controls. This constant movement to reposition the machine during digging often slows down the process. 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. The tiltrotator attachment works well for carrying tools. Many backhoes provide different quick coupler mounting systems. 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 mini-excavator has become popular for many applications. Jobs that would have relied on a backhoe can now combine a skid steer and a mini-excavator. A power shovel can be created when the backhoe bucket is used in reverse. This flexible design is excellent for completing tasks around obstacles such as pipes, for increasing reach potential and for filling items or loading stockpiled materials. 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. Freshly cut logs are dragged out of the forest and transported from where they were cut to a landing where they are loaded onto logging trucks and transported to the sawmill. Dredging Dredging refers to underwater excavation. Dredging can occur in shallow lakes or the deep ocean. This process is used to keep ports and waterways open and navigable. Dredging is often done to improve the coastline, for coastal development purposes and land reclamation. Sediments can be sucked up and redistributed. 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. Four specific components comprise the dredging process including loosening items, transporting the materials to the surface, transporting materials and disposing of them. Extracts may be disposed of in a liquid suspension in pipelines, transported by barge or locally disposed of. Bulldozers Bulldozers are powerful heavy equipment with great tracks to provide superior mobility on rough 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. Transmission systems within bulldozers are designed to offer excellent tractive force by taking advantage 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 mounted 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. 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. Many graders ride with their rear axles in tandem. Some models offer front-wheel drive to provide more maneuverability for grading purposes. Optional rear attachments include the compactor, scarifier, ripper and blade. Snowplowing and dirt grading operations often use a side blade that can be mounted. Some grader models that can employ numerous attachments. The underground mining industry can use some specially engineered graders. Civil engineering relies on graders to complete a precise grade that is a specific pitch, height and blade angle. Bulldozers and scrapers are used to accommodate difficult grading procedures. Graders achieve accuracy while building gravel and dirt roads. These machines prepare the base for paved roads and construction. 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. 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. 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.