

## Attachments for Gradall Forklifts

The Gradall excavator was the creation of two brothers Koop and ray Ferwerda. The excavator was created In the 1940's throughout WWII, when there was a scarcity of labourers. Partners in a Cleveland, Ohio construction company referred to as Ferwerda-Werba-Ferwerda, the brothers faced a huge predicament when so many men left the workforce and signed up in the military, depleting existing laborers for the delicate grading and finishing work on highway projects. The Ferwerda brothers chose to build an equipment which will save their company by making the slope grading work more efficient, less manual and easier.

The first excavator prototype consisted of a device with two industrial beams on a rotating platform fixed to a second-hand truck. There was a telescopic cylinder that was used to move the beams backward and forward. This allowed the fixed blade at the far end of the beams to push or pull the dirt. Soon enhancing the first design, the brothers made a triangular boom to add more strength. Additionally, they added a tilt cylinder which let the boom turn 45 degrees in both directions. A cylinder was placed at the rear of the boom, powering a long push rod to enable the equipment to be outfitted with either a blade or a bucket attachment.

Gradall introduced in 1992, with the introduction of the new XL Series hydraulics, the most ground-breaking adjustment in their machinery since their creation. This new system of top-of-the-line hydraulics enabled the Gradall excavator to deliver high productivity and comparable power to the more conventional excavators. The XL Series put an end to the original Gradall equipment power drawn from low pressure hydraulics and gear pumps. These traditional systems effectively handled grading and finishing work but had a difficult time competing for high productivity jobs.

Gradall's new XL Series excavators showed more ability to dig and lift materials. With this series, the models were made along with a piston pump, high-pressure system of hydraulics that showed marked improvement in boom and bucket breakout forces. The XL Series hydraulics system was even developed together with a load-sensing capability. Conventional excavators make use of an operator to select a working-mode; where the Gradall system can automatically adjust the hydraulic power for the task at hand. This makes the operator's general job easier and even conserves fuel at the same time.

Once their XL Series hydraulics came onto the market, Gradall was essentially thrust into the highly competitive market of machines designed to deal with excavation, demolition, pavement removal and other industrial tasks. Marketability was further enhanced with their telescoping boom because of its exclusive ability to better position attachments and to work in low overhead areas.