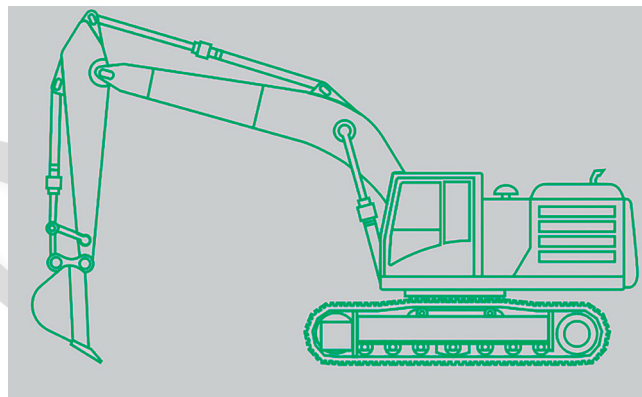


EXCAVATOR TRAINING MODULE

Overview /

The Vortex Excavator Training Module is part of the Vortex Training suite for construction cranes and heavy equipment. Operators who train with Vortex simulators develop the work habits and coordination they need to perform excavating, loading and trenching operations safely and efficiently.



Key features & benefits /

With the Excavator Training Module, operators gain valuable experience in a safe environment, with no wear and tear to excavator equipment, and no risk to themselves or others. Operators build real skills faster than traditional training alone and learning organizations save instructor time and reduce equipment operational costs.



1. **A progressive learning program** covering standard excavator duties such as trenching, bench loading, and load handling in realistic worksites.
2. **Performance metrics and reporting** that show students how to safely handle equipment and perform efficient excavation operations.
3. **Best-of-class excavator and earthmoving simulation** that ensures real skills development and behaves like the real machine.

I. Learning program

The Excavator Training Module features progressive learning exercises - from beginner to advanced - designed to progressively teach skills and build confidence:

- Basic controls familiarization
- Swing, boom and stick control
- Loading and unloading from trailer
- Picking up and handling loads
- Pipe placement in trench
- Travelling and proper positioning
- Bench loading into a haul truck
- Trenching for foundation work

II. Performance measurement

The Excavator Training Module gives trainers objective insight into student performance and abilities. Trainers can measure key student performance metrics such as:

- Completion time
- Movement efficiency and accuracy
- Pendulums and collisions
- Maximum shock loads
- Volume of material excavated per bucket load and in total

The optional student management system allows instructors to generate reports from excavator training sessions, and review current and past performance.



III. Machine and earth-moving simulation

Vortex simulators provide the most realistic simulation-based training on the market today. This ensures that students can transfer their skills directly from the simulator to the real world. There is no risk of negative training as with other game-based simulators.

Simulation of soil digging, piling, erosion and compaction is powered by decades of research into earth-moving simulation. This means bucket forces, trenching and loading are accurately simulated and the soil behaves in a realistic way. Simulation of the excavator is built on proven Vortex dynamics and includes complete simulation of the mechanical and hydraulic systems, travelling on tracks over uneven ground, and interaction with the worksite.

Vortex simulators provide leading worksite visuals; the view from the cab accurately matches the view inside a real excavator. Worksites include hazards and distractions as well as other workers and equipment. The functional in-cab monitor displays key operational information as well as additional controls and machine configuration. It includes a rear-facing camera that helps students acquire the situational awareness required to maneuver in confined locations.