



VORTEX

Backhoe loader training module

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The backhoe loader training module forms your trainees in practical techniques for trenching, loading, stacks handling and trucks loading. Students trained on the VORTEX simulator benefit from the most realistic simulation on the market, thanks to many years of research to perfectly simulate the bucket, digging, excavation and loading forces.



BENEFITS

- ✓ *Reproduce realistic working conditions*
- ⌚ *Save time on your initial training and evaluations*
- ⌚ *Rapidly improve your trainees' real competencies*
- 🏠 *Place your trainees in a secured environment for training*
- 💰 *Reduce costs related to equipment wear, consumption and damage*



LEARNING STEP BY STEP



The backhoe loader module offers a progressive training path, from beginner to confirmed level, to acquire competencies step by step, through practice and confidence reinforcement. The simulation accurately reproduces a real machine in a virtual environment.

Your trainees are absorbed in a 100% realistic environment, where training conditions are completely adjustable.

TRAINEES' FOLLOW-UP AND MEASUREMENT

The system informs the instructor about:

- ✓ The time and the objectives completion
- ✓ The number of crashes (minor, major, critical)
- ✓ The bucket's height compared to the ground and the quantity of material lost during transport
- ✓ The buckets' capacity percentage while loading and filling the trucks
- ✓ The cycle time of a completed exercise, the number of loaded trucks per hour and the filling distribution in the truck
- ✓ The fuel consumption and the inactivity time
- ✓ The load on the front and rear axles, the pressure applied on the track shoes and the wheels slide...

TECHNICAL CARD

HARDWARE	
Controls	Steering wheel, pedals and joysticks (ISO and SAE standards)
Multi-trade driving station	2m ² (21.5 ft ²) floor space
Main display	Screen: 1x46 " or 1x 65"(curved) or 3 x46"
Secondary display	21" touch screen
SOFTWARE	
Simulated machine	Backhoe loader
Engine power	81 KW
Transmission	4-speed and 4-wheel drive
Maximum speed	36Km/h. The training system is 4-wheel drive with an option for locking the differential
Others	Hydraulic and telescopic excavator, and quick exchange bucket
Available languages	French, English, Spanish...
Specific functions	Replay, to re-watch a performed action. Real-time breakdowns, real-time weather conditions changes, integrated tutorial
Recommended option	Instructor station, to analyze the results in detail

THE PEDAGOGICAL OBJECTIVES

The whole learning focuses on 4 main pedagogical axes: familiarization with the machine controls and movements, loader handling, excavator handling and facing work scenarios.

Through different modules and exercises, practice several times in order to:

- ✓ Familiarize with the backhoe loader's main controls
- ✓ Learn how to place yourself depending on the template, how to lift or lower a trailer
- ✓ Learn the appropriate technique to fill in the buckets, move materials from one storage point to another, and create a stock
- ✓ Correctly position the dump truck for an optimal loading
- ✓ Learn how to properly position the backhoe without forgetting to use the track shoes
- ✓ Understand the relation between hydraulics and engine power during loading or excavation
- ✓ Learn how to dig a trench defined over a long distance, as well as different shapes, side by side or at 2 different depths
- ✓ Learn to change tools and to work with complementary tools (buckets, slings)



Practiced with different weather conditions (rain, fog...), these modules and exercises only have one objective: mastering the machine.

High-fidelity real-time simulation, to learn in a completely safe way while recording the results.

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