VORTEX
Hydraulic crawler excavator training module
vortex.mimbus.com

The excavator 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

| Understand the excavator's controls and functioning | Learn how to load a truck | Learn how to dig a trench | Learn how to place tubes in a trench | Measure precision and acquired competencies |

The hydraulic crawler excavator 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.
Trainees are absorbed in a reality-like environment, where exercises conditions can be adjusted in real time by the instructor, thus influencing the trainees' performances.

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 buckets' capacity percentage while loading and filling the trucks
- ✔ The cycle time of a completed exercise, the number of loaded trucks per hour, the filling distribution in the truck
- ✔ The volume of excavated material
- ✔ The maneuvers' precision, the maximum loads collected during a rough handling
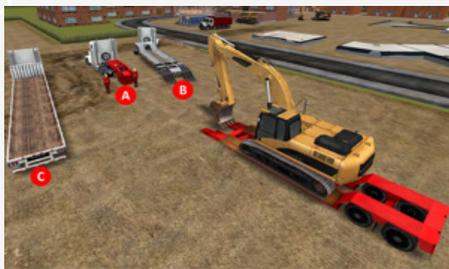
TECHNICAL CARD

HARDWARE	
Controls	Pedals and Joysticks (ISO and SAE standards)
Multi-trade driving station	2m² (21.5 ft²) floor space
Main display	Screen: 1x46 '' or 1x 65''(curved) or 3 x46''
Secondary display	21'' touch screen
SOFTWARE	
Simulated machine	Hydraulic crawler excavator, 36 tons
Engine power	200 KW (268 HP)
Rotation speed	10 revolutions per minute
Bucket	1,33 m³ (47 ft3), with quick-release fastener to change the bucket for a trench bucket, or for slings for lifting
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 3 main pedagogical axes: familiarization with the machine controls and movements, the excavator mastering and the work scenarios handling.

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

✔ Familiarize with the excavator's main controls
✔ Perform a pre-inspection, learn how to position the excavator according to the template, how to lift or lower different trailers (with or without rails)
✔ Master the movements' precision
✔ Learn how to dig a trench defined over a long distance, as well as different shapes, side by side or at 2 different depths
✔ Correctly position a truck and the excavator for an optimal loading and learn how to load it
✔ Understand the relation between hydraulics and engine power during loading or excavation
✔ 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.

Non contractual pictures