



# VORTEX

## Hydraulic crawler excavator training module

[vortex.mimbus.com](http://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



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

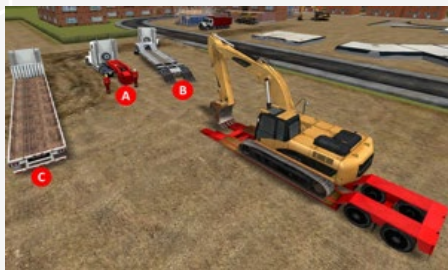
HARDWARE	
Controls	Pedals and Joysticks (ISO and SAE standards)
Multi-trade driving station	2m <sup>2</sup> (21.5 ft <sup>2</sup> ) floor space
Main display	Screen: 1x46" or 1x 65"(curved) or 3 x46"
Secondary display	21" touch screen
SOFTWARE	
Simulated machine	Hydraulic crawler excavator, 36 tons
Engine power	200 KW (268 HP)
Rotation speed	10 revolutions per minute
Bucket	1,33 m <sup>3</sup> (47 ft <sup>3</sup> ), 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*

Developed by



Distributed by



MIMBUS HEAD OFFICE  
BAT III, 1 ROND-POINT DE FLOTIS  
31240 SAINT-JEAN, FRANCE

TEL. +33 (0)5 61 70 71 71  
EMAIL : sales@mimbus.com  
www.mimbus.com

US BRANCH  
100 S STATE ST.  
60603 CHICAGO IL



CONSTRUCTION

# VORTEX

Backhoe loader training module

[vortex.mimbus.com](http://vortex.mimbus.com)

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

Understand the backhoe loader's controls and functioning

Move a stack, load and unload a truck

Dig a trench and load a truck

Change tools, use the quick coupler

Place yourself in the work situation

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 <sup>2</sup> (21.5 ft <sup>2</sup> ) 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.

*Non contractual pictures*

Developed by



Distributed by



MIMBUS HEAD OFFICE  
BAT III, 1 ROND-POINT DE FLOTIS  
31240 SAINT-JEAN, FRANCE

TEL. +33 (0)5 61 70 71 71  
EMAIL : sales@mimbus.com  
www.mimbus.com

US BRANCH  
100 S STATE ST.  
60603 CHICAGO IL



# VORTEX

## Motor Grader training module

[vortex.mimbus.com](http://vortex.mimbus.com)

The motor grader training module teaches your trainees to handle the machine and position the blade. They acquire practical techniques for moving and spreading the soil. Students trained on the VORTEX simulator benefit from the most realist simulation on the market, thanks to many years of research to perfectly simulate the position of the blade, spreading and grading the soil.

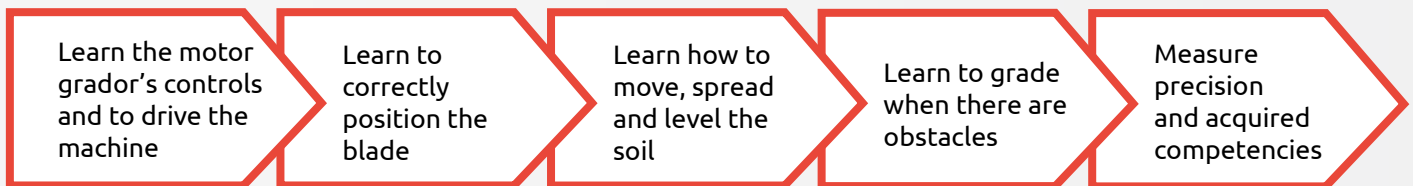


## BENEFITS

- ✓ *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 motor grader 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 position, the inclination and the angle of the blade;
- ✓ The moving, the spreading and the grading of the soil and the materials
- ✓ The cycle time of a completed exercise;
- ✓ The maneuvers' precision and the ability to grade in presence of obstacles.

# TECHNICAL CARD

HARDWARE	
Controls	Steering wheel, pedals and joysticks (ISO and SAE standards)
Multi-trade driving station	2m <sup>2</sup> (21.5 ft <sup>2</sup> ) floor space
Main display	Screen: 1x46" or 1x 65"(curved) or 3 x46"
Secondary display	21" touch screen
SOFTWARE	
Simulated machine	Motor Grader
Engine power	From 157 to 205 KW (from 210 to 275 HP)
Transmission	6 driving wheels
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, motor grader handling, moving and spreading of the soil and facing work scenarios.

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

- ✓ Familiarize with the motor grader's main controls
- ✓ Move the machine considering the vehicle gauge
- ✓ Correctly position the blade
- ✓ Learn to grade when there are obstacles in restricted spaces
- ✓ Spreading the soil unloaded from a truck
- ✓ Create an embankment and work in various situations
- ✓ Manage a motor grader stuck in the mud.



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*

Developed by



Distributed by



MIMBUS HEAD OFFICE  
BAT III, 1 ROND-POINT DE FLOTIS  
31240 SAINT-JEAN, FRANCE

TEL. +33 (0)5 61 70 71 71  
EMAIL : sales@mimbus.com  
www.mimbus.com

US BRANCH  
100 S STATE ST.  
60603 CHICAGO IL



# VORTEX

## Wheel loader module

[vortex.mimbus.com](http://vortex.mimbus.com)

The wheel loader module trains your students to perform practical maneuvers with the loader: excavation, stacks handling, loads handling and truck loading. Vortex is the most realistic solution on the market for construction equipment training. Offer your trainees the most efficient and the safest training existing to date.



## 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 wheel 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.

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, the moved and lost materials percentage
- ✓ The height of the bucket's use
- ✓ The filling rate and the number of loaded trucks per hour, the filling distribution in the truck
- ✓ The amount of contacts with the truck
- ✓ The cycle time of a completed exercise, and the inactivity time
- ✓ The maximum loads on the axles and collected during a rough handling
- ✓ The fuel consumption and the average power used

# TECHNICAL CARD

HARDWARE	
Controls	Steering wheel, 3 pedals and joysticks (ISO and SAE standards)
Multi-trade driving station	2m <sup>2</sup> (21.5 ft <sup>2</sup> ) floor space
Main display	Screen: 1x46" or 1x 65"(curved) or 3 x46"
Secondary display	21" touch screen
SOFTWARE	
Simulated machine	Wheel loader
Engine power	105 KW (140 HP)
Transmission	4-speed and 4-wheel drive
Bucket capacity	2.3m <sup>3</sup> (812 ft <sup>3</sup> ), quick-release fastener to adapt pitchforks or lift arms
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, loading, unloading and work scenarios handling.

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

- ✓ Familiarize with the loader's main controls
- ✓ Perform a pre-inspection, learn how to position the loader according to the template, how to lift or lower different trailers
- ✓ Learn how to load and transport materials
- ✓ Understand the relation between hydraulics and engine power during loading or excavation
- ✓ Learn how to dig a specific surface and how to handle material stack
- ✓ Correctly position a truck, learn to load it in a small space
- ✓ Learn to change tools and to work with complementary tools (pitchforks, lift arms)
- ✓ Handle the maneuvers with precision



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*

Developed by



Distributed by



MIMBUS HEAD OFFICE  
BAT III, 1 ROND-POINT DE FLOTIS  
31240 SAINT-JEAN, FRANCE

TEL. +33 (0)5 61 70 71 71  
EMAIL : sales@mimbus.com  
www.mimbus.com

US BRANCH  
100 S STATE ST.  
60603 CHICAGO IL





CONSTRUCTION

# VORTEX

## Mobile crane training module

[vortex.mimbus.com](http://vortex.mimbus.com)

The mobile crane training module is an extremely realistic simulator to practice safe lifting and productivity optimization. A number of companies already placed their trust in VORTEX: Liebherr, Manitowoc, Mammoet, John Deere, BP, Haliburton and many more chose the most realistic simulator on the market. The movement, cables' and slings' oscillations, the boom's bending. Everything is there, with the extra presence of pedagogy.



## 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*



## STEP BY STEP LEARNING



The mobile crane training module offers a learning path from beginner to expert level, to teach competencies through practice and strengthen the trainees' self-confidence.

Trainees are absorbed in a reality-like environment, where exercises' conditions are adjustable in real-time by the instructor, thus influencing the trainees' performances.

## RESULTS' FOLLOW-UP FOR EACH CLASS AND EACH TRAINEE

The system informs the instructor about:

- ✓ Time and objectives completion
- ✓ Number of swings (main and auxiliary hook)
- ✓ Number of crashes (minor, major, critical)
- ✓ Shocks' strength during crashes and on the hook while lifting
- ✓ Optimal path with the loads
- ✓ Pressure on the track shoes and accelerator use percentage
- ✓ Precision skills during maneuvers

# TECHNICAL CARD

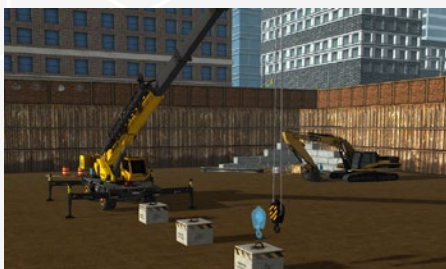
HARDWARE	
Controls	3 pedals and joysticks (ISO and SAE standards)
Multi-trade driving station	2 m <sup>2</sup> (21.5 ft <sup>2</sup> ) floor space
Main display	Screen: 1x46" or 1x 65"(curved) or 3 x46"
Secondary display	21" touch screen
SOFTWARE	
Simulated machine	Mobile crane, 35 tons
Engine power	119 KW (160 HP)
Boom's length	9.8 m to 31 m (32 ft to 102 ft) (available and customizable jib)
Hauling	From 1 to 7 wires
Max. working distance	28 m (92 ft)
Available languages	French, English, Spanish ...
Specific functions	Replay, to re-watch a performed action. Real-time weather conditions' adjustment. Integrated tutorial.
Recommended option	Instructor station, to analyze results in detail. Flagman station, to allow slingers and crane operators to work in team.

## PEDAGOGICAL AIMS

The whole learning develops around 4 main pedagogical axes: controls familiarization, LMI set-up, mobile crane mastering and handling work scenarios.

**By repeating the several modules and exercises, learn how to:**

- ✓ Carry out a pre-inspection, position the loader according to the template, rise or lower
- ✓ Get acquainted with the mobile crane's main controls and learn how to master the balances
- ✓ Carry out a pre-inspection and learn how to set up the mobile crane and its LMI
- ✓ Set up the hauling and use the jib
- ✓ Unload a truck and place the loads at the intended spots
- ✓ Adopt a safe, precise and efficient work practice through continuous repetitive tasks
- ✓ Move loads at different levels in a building
- ✓ Work on long or voluminous loads
- ✓ Master the movements' precision



Your trainees will learn in a completely safe way thanks to high-fidelity simulation, adjustable in real-time and allowing to store all the results.

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

*Non contractual pictures*

Developed by



Distributed by



MIMBUS HEAD OFFICE  
BAT III, 1 ROND-POINT DE FLOTIS  
31240 SAINT-JEAN, FRANCE

TEL. +33 (0)5 61 70 71 71  
EMAIL : sales@mimbus.com  
www.mimbus.com

US BRANCH  
100 S STATE ST.  
60603 CHICAGO IL



CONSTRUCTION

# VORTEX

## Tower crane training module

[vortex.mimbus.com](http://vortex.mimbus.com)

The tower crane training module is an extremely realistic simulator to practice safe lifting and productivity optimization.

Several companies already placed their trust in VORTEX: Liebherr, Manitowoc, Mammoet, John Deere, BP, Haliburton and many more chose the most realistic simulator on the market. The movement, the cables' and slings' oscillations, the boom's bending. Everything is there, with the extra presence of pedagogy.



## 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*



## STEP BY STEP LEARNING



The tower crane training module offers a learning path from beginner to expert level, to teach competencies through practice and to strengthen the trainees' self-confidence.

Trainees are absorbed in a reality-like environment, where exercise conditions are adjustable in real-time by the instructor, thus influencing the trainees' performances.

## RESULTS' FOLLOW-UP FOR EACH CLASS AND TRAINEE

The system informs the instructor about:

- ✓ Time and objectives completion
- ✓ Number of wings and duration
- ✓ Number of crashes (minor, major, critical)
- ✓ The shocks' strength during crashes and on the hook while lifting
- ✓ The optimal path with the loads
- ✓ The precision skills during maneuvers, including adverse circumstances

# TECHNICAL CARD

HARDWARE	
Controls	Joysticks
Multi-trade driving position	2m <sup>2</sup> (21.5 ft <sup>2</sup> ) floor space
Main display	Screen: 1x46" or 1x65"(curved) or 3x46"
Secondary display	21" touch screen
SOFTWARE	
Simulated machine	Tower crane, 12 tons
Engine power	119 KW (160 HP)
Boom's length Different working heights	50 m (164 ft) boom. All exercises are available at a height of 43, 50, 55, 60, 65 et 70 m (141, 164, 180, 197, 213 and 230 ft)
Hauling	2 or 4 wires, with the according capacity of lifting loads
Available languages	French, English, Spanish ...
Specific functions	Replay, to re-watch a performed action. Real-time weather conditions adjustments. Integrated tutorial.
Recommended option	Instructor station, to analyze results in detail. Flagman station, to allow slingers and crane operators to work in team.

## THE PEDAGOGICAL AIMS

The whole learning develops around 4 main pedagogical axes: controls familiarization, LMI set-up and alarm, tower crane handling and work scenarios management.

Through different modules and exercises, practice how to:

- ✓ Use the main tower crane controls
- ✓ Master the balances when empty or loaded
- ✓ Understand the tower crane LMI's set-up and alarms
- ✓ Unload a truck and place the products in the intended places
- ✓ Carry out different exercises' scenarios on a building (placing some objects, pouring concrete, install panels or beams...)
- ✓ Load the hauling and work at different heights
- ✓ Adopt a safe, precise, efficient work practice through continuous repetitive tasks
- ✓ Work on long or voluminous loads
- ✓ Perform the job with harsh weather conditions
- ✓ Master the movements' precision



Your trainees will learn in a completely safe way thanks to high-fidelity simulation, adjustable in real-time and allowing to store all the results.

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

*Non contractual pictures*

Developed by



Distributed by



MIMBUS HEAD OFFICE  
BAT III, 1 ROND-POINT DE FLOTIS  
31240 SAINT-JEAN, FRANCE

TEL. +33 (0)5 61 70 71 71  
EMAIL : sales@mimbus.com  
www.mimbus.com

US BRANCH  
100 S STATE ST.  
60603 CHICAGO IL