

Volvo WLO 500

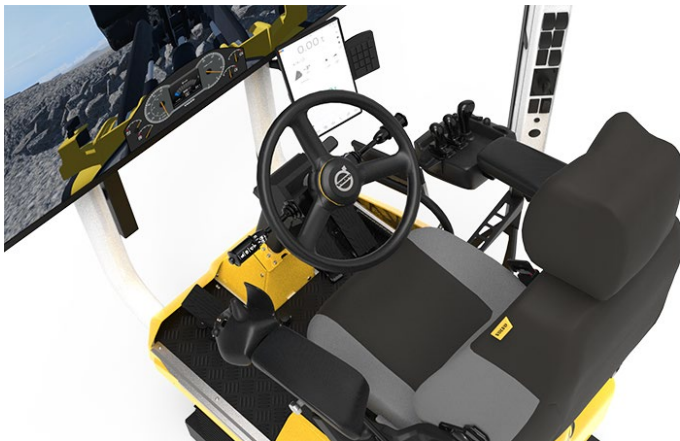
Product Description



Features

The Volvo WLO 500 features an authentic operator environment with original controls, a high performing motion platform and industrial grade visualization system. It is designed for ease of use and to deliver the most realistic and immersive experience possible.

Now available with Co-Pilot 2.0 as an option.



Technical data

Simulator overview

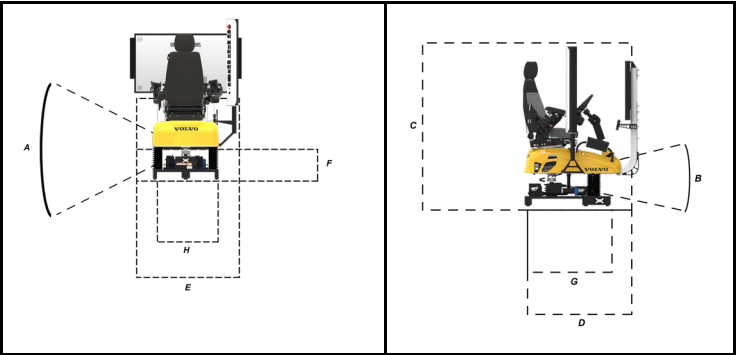


1. Motion system
2. Operator's chair
3. Simulator screen
4. Left hand console
5. Right hand console
6. Simulator numpad
7. External speakers
8. Removable chassis cover
9. External connections and main power switch
10. WLO control box

Power supply

Single-phase power:
115VAC, 50/60Hz, 20A
230VAC, 50/60Hz, 10A

Dimensions and weight



Motions system

The degrees of freedom are pitch and roll.

A	Maximum Roll Angle: Maximum Roll Velocity:	$\pm 23^{\circ}$ $46^{\circ}/s$ (115VAC operation)
B	Maximum Pitch Angle: Maximum Pitch Velocity:	$\pm 15^{\circ}$ $30^{\circ}/s$ (115VAC operation)

Static dimensions

C	Height (simulator)	1930mm
D	Length (simulator)	1470 mm
E	Width (simulator)	1370mm
F	Height (base)	410 mm
G	Length (base)	1050 mm
H	Width (base)	800 mm

Weight

Simulator weight	275 kg
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Simulator assembly


The simulator arrives fully assembled and ready to use.

Volvo Wheel Loader Simulation

Understanding the machine and utilizing it in the correct way will boost your productivity and increase the lifespan of the machine. The Volvo wheel loader simulator allows you to train your operators to perform at the machine's full potential.

The simulator comes with twenty scenarios that cover the basics of how to operate the Volvo L120 and L180 wheel loaders. The operator is guided through starting, stopping and maneuvering the vehicles as well as performing load cycles in diverse real life environments with materials such as rock, earth, trees or goods pallets. The scenarios include both guided lessons and free operation playgrounds. As always the focus is on getting the most out of the operator and maximizing productivity.


In addition to this there is an extension available with five extra scenarios focusing on handling Pipes and Poles with a grapple.



VOLVO ARTICULATED HAULER

Volvo Construction Equipment developed the concept of the articulated hauler. Around the globe, we're still the undisputed leader of articulated haulers in the most demanding conditions, terrain and applications. From quarrying, mining and tunneling to earthmoving, material handling and waste handling, Volvo articulated haulers get your jobs done to the highest standard, every day.

Understanding the machine and utilizing it in the correct way will boost your productivity and increase the lifespan of the machine. The Volvo articulated hauler simulator allows you to train your operators to perform at machines full potential.




VOLVO WHEEL LOADER

Whether you work in quarrying, aggregates, block handling, material handling, oil and building construction, recycling or waste handling, a Volvo wheel loader will be the most versatile machine on your job site. Dig, move and load more profits with our wheel loaders.

The Volvo wheel loader simulator is the ultimate tool to verify that your operator knows how to handle the machine correctly and gets the most out of the machine.

This module covers the basics of wheel loader operation with an extra focus on maximizing productivity and pallet handling.



WHEEL LOADER - PIPE AND POLE

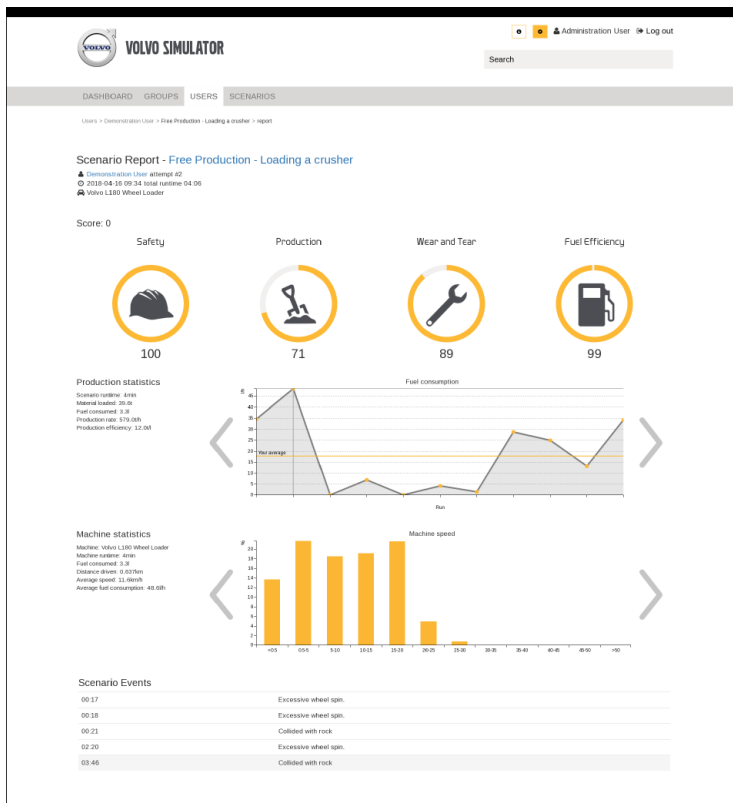
Different jobs require different attachments, and because Volvo is the wheel loader manufacturer with the most comprehensive range of attachments, you can equip your Volvo wheel loader with attachments that not only do your loader full justice, but also precisely meet your needs and operating conditions. This means unmatched flexibility and versatility.

This module focuses on handling pipes in a safe and efficient manner using a pipe and pole grapple. The module allows the operator to handle both large and small pipes in the yard as well as loading to and from a truck.

Press enter to start this application

Scenario report

After the completion of every scenario a performance report is presented to help shed light on what the operator did right and where improvements can be made. Maybe the completion time and production score was great but at the cost of high fuel consumption and unnecessary wear and tear. The report helps highlight issues that when using a real machine could slip by unnoticed, saving on cost and improving safety.



Co-Pilot 2.0

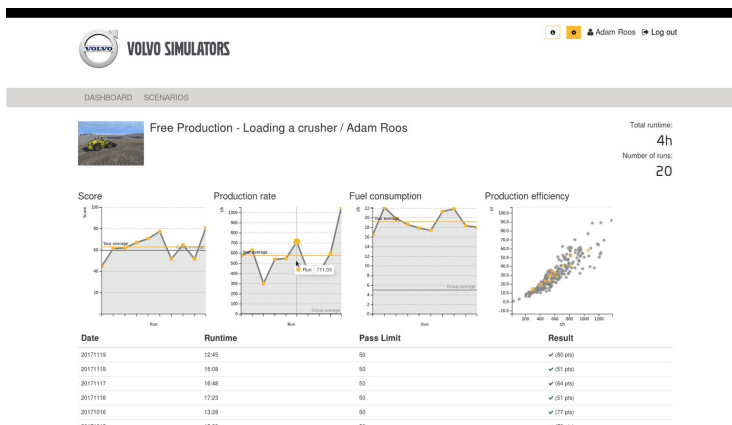
Volvo Co-Pilot 2.0 is an innovative assistance system for heavy equipment operators, now fully integrated into the WLO 500 and available as an option for a highly realistic training experience. With advanced features such as Load Assist with Onboard Weighing and Operator Coaching, operators can practice precision work, load optimization, and efficient material handling in a safe, virtual environment.

By training on the Volvo Co-Pilot 2.0 in the simulator before operating real machinery, operators become safer, more productive, more efficient, and fully prepared to perform at their best from day one.



Operator Performance System (OPS)

The operator performance system (OPS) is a user management system, combined with tools for setting up groups and available scenarios, as well as a system for accessing operator performance records. The OPS is built around a SQL database which logs simulator activity and key metrics for each scenario. The OPS also provides views and reports making this data easy to understand and accessible for instructors when evaluating the progress and skill-set of the operators.



Multiple Configurations

The EXC 500 simulator is available in a range of configurations to suit different training needs and environments—ensuring there’s a solution for everyone:

- **Single Screen with Caster Wheels**
A highly mobile option, ideal for flexible training spaces.
- **Single Screen with Motion Platform (MPF)**
A compact setup enhanced with motion feedback for a realistic training experience.
- **Three Screens with Caster Wheels**
Expansive visuals in a portable, easy-to-relocate format.
- **Three Screens with Motion Platform (MPF)**
An immersive, full-field view combined with motion for advanced simulation realism



Scenarios

The simulator offers over 26 different training and demonstration scenarios, many of them set within a virtual replica of our Eskilstuna Demo Center. This allows operators to practice in realistic environments and prepare for a variety of real-world situations. From foundational skills to complex site operations, each exercise is tracked and evaluated through the integrated Operator Performance System (OPS).

Machine Operations

Build essential skills and develop a deep understanding of machine functionality and controls.

Productivity Training

Start by evaluating your current performance, then progress through guided scenarios designed to improve efficiency and on-site productivity.

Grouped Scenarios

Structured, goal-oriented training modules that streamline learning, boost operator independence, and maximize training outcomes.

Skills Package

The user is introduced to the machine through a set of simple instructions which explain a set of fundamental operations with the vehicle.

Basic Driving

This scenario introduces the operator to the basics around driving and the beginning of digging and dumping.

Follow a track around the Volvo Demo Center in Eskilstuna, Sweden.

Where you are introduced to the pedals and steering as well as the tool levers.



Basic Driving: Function Track

This scenario picks up from where the other basic driving scenario left off. The operator is introduced to some more advanced functions available with the WLO such as CDC lever, Boom and Bucket positioning and BSS.



Open Training Area

In this scenario, no specific tasks or instructions are provided. The area includes piles of rock and sand that the user can load into waiting trucks using the wheel loader.

There are also cones placed throughout the area that the user must navigate through to avoid knocking them over. Additionally, there is a tight area for the user to reverse the wheel loader through, which requires precision and careful manoeuvring.

This scenario is designed to provide either additional machine training or instructor-led machine training, allowing the user to practise operating the wheel loader in a realistic and challenging environment.



Quarry Package

The operator is placed in a quarry environment where focus on different loading processes are trained.

Loading a crusher - Productivity Assessment

Productivity Assessment scenario, where the operator is evaluated depending on the productivity rate.

Scenario is finished once 85% of the material is loaded into the crusher



Loading a crusher - Skills Enhancement

In this time limited scenario, you will load a crusher with as much material as possible. At the end of each run, you will receive an evaluation on your performance, and suggestions on how to improve.

Be careful not to damage the machine while operating. Exposing the machine to excessive wear will reduce your final score. Your score will be based on your productive skills, as well as on your ability to work in a fuel efficient manner.

Fasten your seatbelt, start the machine, set it up in a good working position, and start loading the crusher.



Rock Handling

Divided up into four different scenarios. Where the first three will train the operator on one aspect of handling rocks in each and finally tested all together in the final fourth scenario.

Rock Handling 1: Filling the bucket

In this exercise the operator will receive instructions and guidance on how to properly fill the bucket



Rock Handling 2: Loading the truck

In this exercise the operator will receive instructions and guidance on how to properly load a truck.



Rock Handling 3: Minimising Driving Distance

In this exercise the operator will practise minimising the driving distance between filling a bucket and loading a truck.



Rock Handling 4: Full Load Cycle

In this final rock handling exercise the operator will need to use the skills learned from the previous exercises and perform a number of full load cycles.



Operation around a crushing plant

This scenario is all about task management. Feed the rock crusher with rocks while maintaining a manageable size of the surge piles of fine and coarse material. The latter is done through load and carry operations from the surge piles to the corresponding stockpiles. Load the dump trucks from the stockpiles upon their arrival.



Other Scenarios

Other scenarios contain scenarios that are not applicable to the other packages and mainly consist of scenarios aimed towards Expos or other events.

Expo Scenario - Loading a crusher

This scenario will run for three minutes. Load as much material as possible from the pile into the nearby crusher. You will be evaluated on your production rate as well as on your fuel economy skills. Penalties will be handed out for bad handling, such as collisions, operating over rocks, and other behavior that will have an impact on machine wear.



Slalom Course

Practice maneuvering the wheel loader through a slalom course. To pass this exercise you must navigate through the slalom course without disturbing any obstacles.

Learning Points:

- Precision maneuvering.
- Using rear view mirrors.



Reversing Truck

Practice directing a reversing hauler.

Learning Points:

- Hauler positioning.



Attachment Introduction

Introduction to using attachments on the wheel loader. The exercise will teach how the attachment lock works and how to change attachments.

Learning Points:

- Interactive instructions for using the attachment lock.
- Changing attachments.



Pallet forks intro

This exercise is an introduction to using pallet forks for handling pallet goods.

Learning Points:

- Starts with having the operator attach the pallet forks. Introduction to attachment lock operation, no prerequisite knowledge required.
- Disable FAPS and enable BSS and single acting lifting when working with pallet forks.
- Handling pallets. Correctly placing the pallet against the vertical shank of the lift. Taking care of the fact that the forks lift in a circular motion.
- Detailed interactive help for placing forks. Both a camera view showing the forks from the outside and help on how to use the controls to place the forks correctly.
- Safety precautions while using pallet forks.
- Lifting heavy goods.



Goods Handling

Practice goods handling skills by loading cargo on a trailer. The score is affected by the time it takes to load the trailer, distance driven and how much the lifting arms are used. Any damages to the goods will lower the score.

Learning Points:

- Instructions on lifting goods and loading them on a truck correctly.
- Loading a truck.
- Production / Load cycle training.

Interactive status of distance driven.



Goods Handling Long

An extended version of Goods Handling.

Learning Points:

- Loading 60 pallets on a truck in 60 minutes.
- Production / Load cycle training.



Load cycle driving

In this exercise you will practice performing an efficient load cycle.

Learning Points:

- Learning to drive an efficient load cycle.



Rock Handling – Filling the Bucket

This exercise is an introduction to rock handling. In this exercise you will learn to enter the material and fill the bucket only.

Learning Points:

- Instructions how to enter material with maximal traction.
- Instructions how to fill the bucket completely.
- Practice entering abrasive material.
- Practice filling the bucket.



Rock Handling – Load Truck

This exercise is an introduction to rock handling. In this exercise you will learn how to load a truck only.

Learning Points:

- Instructions how to unload to a hauler.
- Practice unloading to a hauler.



Rock Handling Introduction

This exercise combines Rock Handling – Load Truck, Rock Handling – Filling the Bucket and Load cycle driving into a complete production load cycle.

Learning Points:

- Use BSS in gear dependent mode and gear 2 when handling rocks.
- Performing a load cycle.



Rock Handling Training

Practice rock handling skills by loading rocks onto a hauler. The score is affected by the time it takes to load the hauler and distance driven. Any damage to the wheel loader will lower the score. Points are deducted for colliding with the hauler.

Learning Points:

- Production / Load cycle training.



Rock Handling

Practice rock handling skills by loading rocks on a hauler. The score is affected by the time it takes to load the hauler and distance driven. Any damage to the wheel loader will lower the score. Slamming into the hauler is not allowed.

Learning Points:

- Production / Load cycle training.



Rock Handling – Quarry

Rock Handling production exercise in a quarry environment.

Learning Points:

- Production / Load cycle training.



Earth Moving Training

Practice performing a load cycle loading soil onto a hauler. Points are deducted for colliding with the hauler.

Learning Points:

- Production / Load cycle training.



Earth Moving

Practice performing a load cycle loading soil onto a hauler. Slamming into the hauler is not allowed.

Learning Points:

- Production / Load cycle training.



Volvo Playground

In the Volvo wheel loader playground, it is possible to practice different tasks. This area is intended for free training.

Sections available:

- Lift pallets and stones with pallet forks.
- Load soil onto an articulated hauler.
- Use a material arm to lift and stack objects.
- Load rocks onto a hauler.
- Maneuvering in steep and rough terrain.



Forestry Playground 1 & 2

The forestry playground provides the possibility to practice loading and unloading lumber trucks using log grapples.



Goods Handling Playground

The goods handling playground provides the possibility to practice loading and unloading goods from trucks.



Rock Handling Playground – Small & Big Rocks

The rock handling playgrounds provides the possibility to practice loading rocks of different sizes.



Volvo Simulator Support Agreement

Always included

Simulator Support Agreement is included with all new Volvo Simulators for a period of three years*. At the end of the three year period, it is possible to extend the Support Agreement for a period of one or three years.

Support services

The agreement includes technical support (online and/or e-mail) . Oryx will respond to all support requests within 24 hours during Swedish business hours. Availability may however be delayed in July.

The Simulator Support Agreement does not include on-site support or spare parts. Support issues that require special conditions will be offered separately (e.g. On-site support, spare parts or freight costs for repair in Umeå, Sweden).

A Simulator Support Agreement is required if a Software Upgrade is requested. If a Software Upgrade is requested (ordered seperately), Oryx will install the new software onto the designated simulator and verify the new functionality (Internet connected Simulator).

Internet connected

Simulators connected to the Internet can be supported and/or upgraded on-line. For simulators that don't have access to the Internet, the support services are limited to instructions and file transfers.

* For Simulators sold after 2019-06-01

Contact

When help is required, please use the contact form available at www.oryx.se/support, and our technical team will contact you within 24

hours (Swedish business hours)

Clarification, Support agreement/year/simulator, Extension.

Extension is valid when an agreement is extended, continuously. If you have a simulator without Simulator Support Agreement, they you will have to chose the restart option.