

Volvo Construction Equipment
Building Tomorrow



LOAD ASSIST

Powered by Volvo Co-Pilot



LIFT UP EFFICIENCY

Optimize your load cycles with Load Assist, powered by Volvo Co-Pilot – the revolutionary in-cab display. Gain access to a set of smart apps and boost the efficiency of your operation.





ON-BOARD WEIGHING

Take control of your productivity

When it comes to loading the optimum amount of material, intuition can only get you so far. Are you moving enough material, or moving too much? Say goodbye to guess-work with the On-Board Weighing app. The dynamic load weighing system provides real-time insights into the bucket's load, so you can eliminate overloading, underloading, reweighing and waiting times.



Lift the pace

Keep it moving with On-Board Weighing, a factory-fit system which allows you to measure your bucket load on-the go, eliminating any disruption to the workflow. Simply use the 10" touchscreen Volvo Co-Pilot to monitor loading progress, track materials and trucks, and change work orders in seconds.

Operate safely

Increase jobsite safety with a customizable alert, notifying the operator if the bucket load exceeds a set limit. When travelling at speeds over 10km/h certain functions are disabled, avoiding operator distractions.



Scan to watch the On-Board-Weighing video!

On-Board Weighing is available for L110H, L120H, L150H, L180H, L220H, L260H and L350H.

LOADING MADE EASY

A simple layout with large font, visible even in bright light, illustrates the current, delivered, and to-be-delivered bucket tonnage. Colored bars which indicate load activity progress and a guided calibration process combine to facilitate the loading process.

Work orders

Select customer name and target tonnage with just a few touches.

Task modes

Choose between four task modes which will adapt the on-screen layout and information displayed according to the task at hand. Optimized layouts are available for Trip Meter, Truck Loading, Stockpiling or Process Loading.

Precision loading

Get it right first time with tonnage measurements accurate to within +/- 1% for every bucket-load. When site conditions or customer requirements make it impossible to lock the load within this margin, simply switch to within an accuracy of +/- 2%.

Partial unloading

Managing the last bucket of the trip is easy with tip off capability.

Buckets, and more

Optimized for standard bucket operations, the system is suitable for high tip buckets and side dump buckets as well, and also compatible with forks and grapples (accuracy +/-2%).

Reporting on demand

Production data is stored in the Volvo Co-Pilot and can be exported over the air to a cloud-based portal, or by using a USB-stick, enabling you to analyze machine usage and productivity. Fully integrated to the machine, the system populates CareTrack – combining productivity data and fuel data into a single report.



Integrated rear-view

Operators benefit from a full view of their surroundings when reversing, thanks to the optional rear-view camera and radar detect system which automatically combine rear-view and load information into a single screen.

Radar detect system is available for L60H, L70H, L90H, L110H, L120H, L150H, L180H, L220H, L260H and L350H.

OPERATOR COACHING

Enhanced operator performance

As machines become more advanced, and with smarter technology, the Operator Coaching app helps to ensure operators are using their Volvo machine to its full potential. The intuitive app provides real-time guidance to operators, helping them understand how their actions influence machine productivity and efficiency, as well as identify areas for improvement or changes in their technique.



Scan to watch the Operator Coaching video!

New levels of efficiency

Understand when and how to use the many smart functions of your Volvo wheel loader to achieve optimum results on site. You can also set targets and objectives to continually develop and improve your operating practices to get the most out of yourself and the machine you are working with.

Lower operating costs

Make better decisions behind the controls thanks to instant feedback on operating behavior, combined with real-time on-screen guidance. With information available at the blink-of-an-eye, operators can ensure they are working in a way which delivers optimum fuel efficiency and reduced machine wear.

WHAT YOU GET

Operating behavior

Monitor operator behavior with key indicators including: idling over active time, braking over distance, throttle position (%) and lock-up over distance.

Score and trend

Real-time score and graphical visualization of operator performance across previous shifts enables follow-up and performance improvements.

User ID

Create individual profiles and easily recall personalized saved data and objectives before each shift.

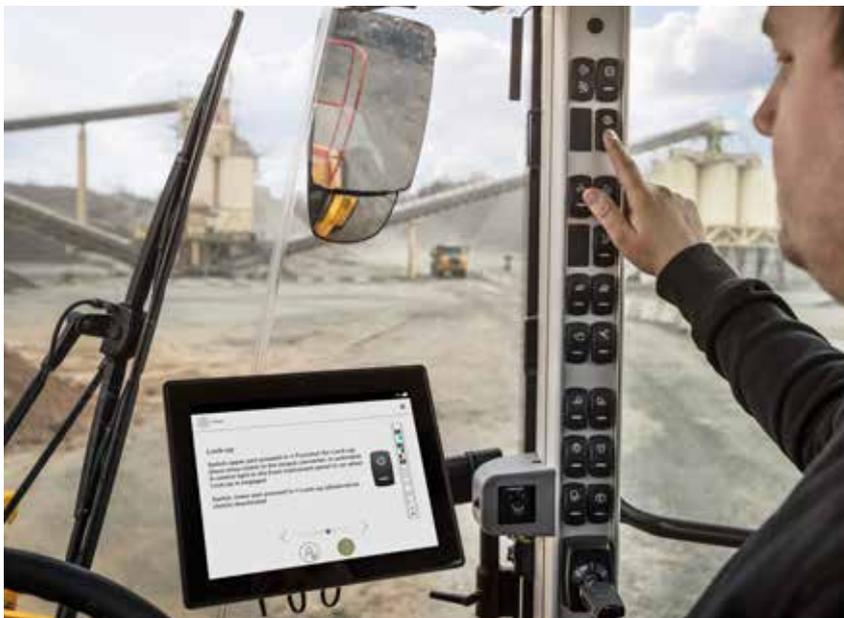
Dashboard

Key information relating to machine utilization (operating time, average speed, fuel consumption, distance traveled) is clearly displayed on the Volvo Co-Pilot, and can be reset separately from the machine display.



Notifications

Operators receive real-time guidance on how to best operate the machine, such as *'Activate Boom Suspension System'* and *'Activate Lock-up'*.



Interactive guidance

Navigate the functions and get tips on how to use them.

Operator Coaching is available for L60H, L70H, L90H, L110H, L120H, L150H, L180H, L220H, L260H and L350H.

TIRE PRESSURE MONITORING SYSTEM

The right amount of pressure

With the tire pressure monitoring app, you can check the condition of your tires from the comfort of the cab. Providing real-time information, the integrated system saves time during machine inspections and can prolong tire lifetime.



Real-time information

The Volvo Co-Pilot monitor will display real-time information on tire pressure and temperature. This gives the operator an instant and safe indication that tires are operating within the correct parameters. If a tire is not at the correct pressure, operators will receive an alert and visual display of which tire needs attention.

Less fuel, less wear

Under-inflated tires can increase fuel consumption and are more prone to wear and damage. The tire pressure monitoring system can increase tire lifetime and improve fuel efficiency by providing an alert if tires are not at optimal pressure.

Tire Pressure Monitoring System is available for L110H, L120H, L150H, L180H, L220H, L260H and L350H.

WHAT IS MONITORED?

The Tire Pressure Monitoring System will measure and report on three criteria in real-time: low pressure, high pressure and high temperature.

A clear indication

Clear visual alerts keep the operator informed of tire condition. A blue message will let the operator know there are inconsistencies in pressure or temperature and that a tire(s) should be kept under observation. An amber message indicates those inconsistencies have worsened and it is time to take action.

Easy to use

Each tire is monitored independently and pressure limits are set per axle. Alarm limits are displayed as nominal values and percentages.



Insight and analysis

Data can be accessed via CareTrack, allowing you to review and analyze historical tire trends.



MAP

Get site visibility

Get accurate machine positioning with Map, a clever app that allows operators to monitor on-site traffic in real-time. Not only does this give operators an improved orientation of the site they are working on, but it allows them to proactively adjust their driving behavior according to traffic conditions.



Armed with knowledge

Knowing the position of other machines on site can help operators avoid potentially dangerous situations, especially when working on jobsites with restricted visibility. Speed limit notifications further remind operators to keep to a safe speed.

Efficient driving

Being able to monitor traffic and follow the transportation flow in a work cycle allows operators to better anticipate driving decisions, resulting in a more efficient performance.

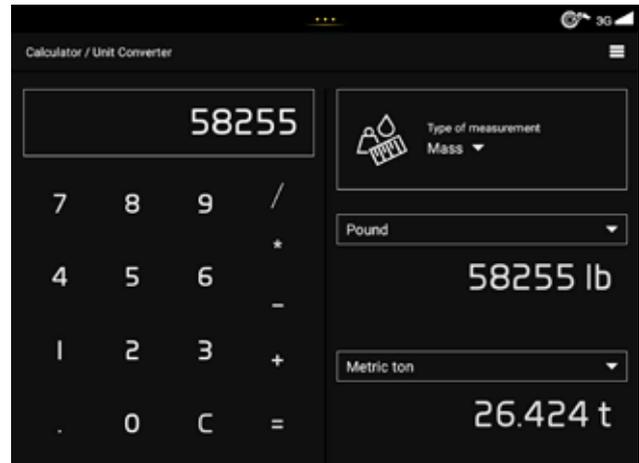
Map is available for L60H, L70H, L90H, L110H, L120H, L150H, L180H, L220H, L260H and L350H.

Get started

Just as you would expect from your smartphone or tablet, Volvo Co-Pilot comes pre-installed with apps designed to make the operator's life easier.

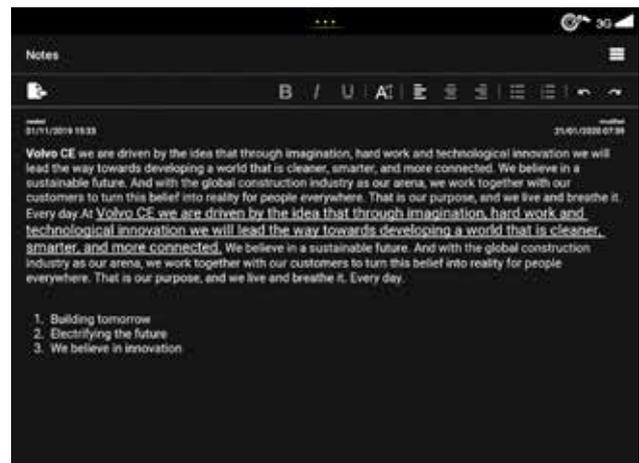
CALCULATOR

Complete basic calculation with addition, subtraction, multiplication and division functions. The calculator can also be used as a unit converter, quickly and easily converting six unit types (length, mass, angle, time, temperature and speed).



NOTES

There's no need for a pad and pen with a digital notepad, which can be used to write and save notes while in the cab.



WEATHER

Being prepared for shifts in the weather helps you plan ahead. Illustrated by an easy-to-understand timeline, Weather informs you of current and upcoming weather conditions. With the most up-to-date information at your fingertips, you can adapt more efficiently and keep operations on track – rain or shine.



Calculator, Notes and Weather are available for L60H, L70H, L90H, L110H, L120H, L150H, L180H, L220H, L260H and L350H.

Load Assist in detail

VOLVO CO-PILOT HARDWARE

Machine availability	Volvo L60H, L70H, L90H, L110H, L120H, L150H, L180H, L220H, L260H, L350H
Pressure sensors	2
Inertial Measurement Units (IMU)	3
Hydraulic temperature sensor	1
Display unit	10 inch touchscreen
• Resolution	1024 x 768
• Display modes	Day mode/Night mode
• Internal memory	16 Gb
• Extended memory	SD-card
• SIM card	Mini SIM, 3G or 4G
• USB connectors	2
• Number of languages	25
Pre-installed Load Assist apps	Calculator, Notes and Weather*

*A SIM-card and mobile connection are needed to enable this app.

ON-BOARD WEIGHING APP

Machine availability	Volvo L110H, L120H, L150H, L180H, L220H, L260H, L350H
Type of system	Fully dynamic*
Typical accuracy	1%*
Load range	Within the range of 5-150% of the machine working load
Certifiable/trade approved	NO
Unit of measure	Tonnes, short tons and lbs
Task modes	Trip, Truck, Pile**, Process**
Loading multiple compartments	YES, up to 3 individual compartments
Tip-off functionality	Tip-off onto pile or tip-off onto truck
Pause functionality	YES
Rear-view camera, Radar detect system**	YES, when reversing only, OR at all times in full screen mode or split screen
Number of work orders	More than 100 000
Number of attachments	More than 100 000
Number of customers	More than 100 000
Number of trucks/targets	More than 100 000
Number of material types	More than 100 000
Data transferred via Cloud service via SIM card	<ul style="list-style-type: none"> Detailed data per bucket Weight, Material name, Target name, Customer name, Work order name
Data transferred via USB	<ul style="list-style-type: none"> Detailed data per work order Start and stop times Work order name, Total material loaded, Material type Customer name
Data transferred in CareTrack	<ul style="list-style-type: none"> Tonnes/tons, Liter/gallon Ton(ne)/hour, Ton(ne)/liter or gallon Liter or gallon of fuel/ton(ne) Number of cycles
Load summary	<ul style="list-style-type: none"> Per time unit / customer / target / work order / material and task mode Export to USB (pdf) and printout
Operator manual	<ul style="list-style-type: none"> Accessible via touchscreen Available in 25 languages
Calibration time	One 15-20 second calibration per day* or after changing attachment
Overload warning	<ul style="list-style-type: none"> Truck/target Bucket
Printer / Type**	Thermal printer. Printouts can also be exported as pdf to USB
Printer / Connectivity	USB
Printer / Information on printout	<ul style="list-style-type: none"> Company name, location, address and phone number, free text field Date and time Customer name Work order name Target Total weight, weight per compartment, weight per material Bucket count

*Depending on working conditions

**Optional equipment

Load Assist in detail

OPERATOR COACHING APP	
Machine availability	Volvo L60H, L70H, L90H, L110H, L120H, L150H, L180H, L220H, L260H, L350H
Unit of measure	Meters, litres, yards and gallons
Rear-view camera	YES, when reversing only
Other app integration	Information messages are displayed from other applications while working in Operator Coaching and vice versa.
Data/results	Linked only to individual operator profiles. Maximum 40 profiles allowed
Data transferred via Cloud service	N/A
Data transferred via USB	N/A
Data transferred via CareTrack	N/A
Printer / Connectivity	None
Screen views	3 views: main, interactive help and historical (graphs)
Measurements (which constitute overall score)	Idling, brake, throttle, lock-up*
• Idling	% of operating time the machine is standing still with neutral gear active. Lower is better
• Brake	The consumed brake energy per travel segment. Lower is better
• Throttle	% of pedal position movement under > 75%. Higher % in the circle is better
• Lock-up	% of distance driven with transmission lock-up engaged. Higher is better
• Consumption	Total consumption measured since last reset
• Operating time	Total operating time measured since last reset
• Distance	Total distance measured since last reset
• Average consumption	Average consumption measured since last reset
Overall score	Provides a summary evaluation based on the overall score "measurements"
Overall score graph	Provides a quick view of the overall score from the previous 2 hours
Resets	Manually performed through the menu OR after 8 hours of machine shutdown
Interactive help	Information on the switches located on the A-pillar
Notifications	Live status of automatic functions, plus basic suggestions for more efficient driving. Live operator feedback.

*The Lock-up dial disappears if the transmission lock-up option is not detected.



Operator Coaching app: put to the test

I think it's a great tool. A new operator might not know where all the controls are for example, but just push a button and all the information you need on machine functions appears on screen.

I think it's fantastic, I probably check my score on the app 10 times a day! I want to see how I can improve and it has almost become a daily competition to get the best out the machine and get the best score possible!

I check my score every day, it's great to see if I have improved since the last check. The system makes me constantly think about those small changes which can have a big impact on my score and help me get the best result possible.

You might think after 30 years doing this job that there was nothing I could be taught, but even I have changed the way I work. I now think about how I can get more out of the machine and be more profitable in the long run.

I find it really useful. The system will tell me when to activate the Boom Suspension System, when to activate Lock-Up and flag up any changes I need to make to my operating style, like not riding the brakes and the throttle at the same time. It's great for me and would be so helpful for new operators too.

Operators from USA, Denmark and Sweden

MAP APP*	
Machine availability	Volvo L60H, L70H, L90H, L110H, L120H, L150H, L180H, L220H, L260H, L350H
Positioning	Machine GPS
Communication	3G SIM or 4G dongle
Number of connected machines	1 to 50
Speed limit warnings	Road speed limit, speed limit zones, site speed limit
Restricted areas warning	When entering a specified no-go zone
Single lane sections warning	When a predefined single lane road is occupied, with no room for machines to pass each other
Point of interest	14 types
Traffic signs	6 types

*A SIM-card and mobile connection are needed to enable this app.

TIRE PRESSURE MONITORING APP

Machine availability	Volvo L110H, L120H, L150H, L180H, L220H, L260H, L350H
Sensors	
• Pressure range	33 to 1296Kpa
• Accuracy	±14 kPa
• Operating frequency	434.10 MHz
• Operating temperature range	-40°C to +125°C
• Storage temperature range	-50°C to +125°C
• Battery	Internal, non-rechargeable, non-replaceable
• Dimensions	Width 2.95cm x Height 3.30cm
• Tire fill	Liquid or air
• Pressure readings	Sensors take pressure and temperature readings every 16 seconds
Exterior signal transceiver	
• Modulation mode	FSK
• Accuracy	±14 kPa
• Operating frequency	434.10 MHz
• Input voltage range	12/24VDC
• Dimensions	Width 12.38cm x Height 17.78cm
Units of measure	Pressure: kPa, bar, psi
	Temperature: °C and °F
Data transferred via Cloud service	N/A
Data transferred via USB	N/A
Data transferred via CareTrack	Matris data can be accessed through CareTrack
Notifications	Alerts for incorrect inflation and high tire temperature

RADAR DETECT APP

Machine availability	Volvo L60H, L70H, L90H, L110H, L120H, L150H, L180H, L220H, L260H, L350H
Supply voltage	8 to 16V (protected against reverse polarity)
Supply current	120mA
Frequency ISM Band	24.000 GHz - 24.250 GHz (USA, EU Member states and EFTA countries)
Sensitivity	Ability to detect a person of average child size
Max. transmit power	20dBm (EIRP) ETSI 300 / 440 compliant with 250MHz bandwidth
Detection area	6m, divided in 5 equally sized segments
Obstacle reaction delay	50ms.
Camera	
• Video signal	PAL = 720(H)x576(V) 50fld/s. 1 Vtt composite video into 75 Ohm
• Sensor element	¼" CMOS digital image sensor. 640 H x 480 V
• Light sensitivity	<0,05 Lux
• Dynamic Range	80dB
• Power input	12 - 24V/DC
• Power consumption	Max. power at 24V 0,15A = 3,6W
• Weight	0,21kg
Operating temperature	-40°C to +85°C
Ingress protection	IP67 according to IEC 60529

APPS AVAILABILITY

		L60H	L70H	L90H	L110H	L120H	L150H	L180H	L180H High-Lift	L220H	L260H	L350H
LOAD ASSIST	On-Board Weighing app				X	X	X	X		X	X	X
	Operator Coaching app	X	X	X	X	X	X	X		X	X	X
	Tire pressure monitoring app				X	X	X	X		X	X	X
	Map app	X	X	X	X	X	X	X		X	X	X
	Calculator, Notes, Weather apps	X	X	X	X	X	X	X		X	X	X
	Integrated Radar detect	X	X	X	X	X	X	X		X	X	X

VOLVO

Volvo Construction Equipment

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