Volvo Construction Equipment

# L350F

Volvo Wheel Loaders

# A passion for performance

At Volvo Construction Equipment, we're not just coming along for the ride. Developing products and services that raise productivity – we are confident we can lower costs and increase profits for industry experts. Part of the Volvo Group, we are passionate about innovative solutions to help you work smarter – not harder.

**Helping you to do more.**

Doing more with less is a trademark of Volvo Construction Equipment. High productivity has long been married to low energy consumption, ease of use and durability. When it comes to lowering life-cycle costs, Volvo is in a class of its own.

**Designed to fit your needs.**

There is a lot riding on creating solutions that are suited to the particular needs of different industry applications. Innovation often involves high technology – but it doesn't always have to. Some of our best ideas have been simple, based on a clear and deep understanding of our customers' working lives.

**You learn a lot in 180 years.**

Over the years, Volvo has advanced solutions that have revolutionized the use of construction equipment. No other name speaks Safety louder than Volvo. Protecting operators, those around them and minimizing our environmental impact are traditional values that continue to shape our product design philosophy.

**We're on your side.**

We back the Volvo brand with the best people. Volvo is truly a global enterprise, one that is on standby to support customers quickly and efficiently – wherever they are.

**We have a passion for performance.**

Volvo Trucks

Renault Trucks



Mack Trucks

UD Trucks

Volvo Buses

Volvo Construction Equipment

Volvo Penta

Volvo Financial Services

# L350F leads the Total Cost of Ownership challenge

The Volvo L350F is built to deliver reliability and performance that are second to none. This wheel loader is purpose-built to provide outstanding results in a range of applications.


**The Volvo L350F is designed to provide the lowest possible total cost of ownership.**

This machine combines outstanding productivity, durability and reduced fuel consumption to lower the cost of production per ton. Low repair and maintenance costs further ensure a high return on investment when working in all applications.


**First launched in 2007, the L350F has been designed and built with Volvo Construction Equipment's outstanding experience and expertise.**

More than 700 of these durable machines are working in 50 countries across the globe. The L350F is a trusted partner in a range of tough applications, from mining and quarrying to building and heavy infrastructure work.

# Move it and move more

The Volvo L350F can produce up to 14% more than competitor machines in its size class. Higher productivity means less time is required to reach the production target leading to lower costs per hour.

**Machine concept**

The L350F is the pinnacle of Volvo's wheel loader concept. It's the perfect combination of power and balance that enables it to move quickly, carry more and deliver a strong performance. It is ideally sized for a range of applications.

**Drive train**

The Volvo L350F powertrain, specially developed by Volvo, is perfectly matched to work in harmony and deliver unrivalled performance. The lock-up converter decreases cycle times in load and carry productions resulting in higher productivity.

**Boom Suspension System (BSS)**

With the optional Volvo Boom Suspension System (BSS), you can negotiate the load and carry distance with faster speed and less spillage, with the BSS effectively dampening the shock from the ground. Our testing shows the BSS can boost productivity by up to 13%.

**Comfortable cab**

Cab comfort affects productivity on a daily basis. Volvo is dedicated to developing a productive working environment, creating the Volvo care cab to ensure operator comfort. A comfortable operator is a productive one.


At a large quarry in Germany, an L350F was instrumental in producing and transporting 1.2 million tonnes of limestone a year. The L350F loaded a 60 ton hauler in only five passes, ensuring a highly profitable rate of production.

## L350F in action


A quarry in the UK used a Volvo L350F to load more than 500,000 tons of blasted limestone a year. The L350F replaced two older machines and was chosen for its excellent fuel economy and an outstanding performance.

## L350F in action

# Fuelling down your costs

Fuel consumption accounts for up to 30% of the total owning and operating cost of wheel loader in this size class. By using the Volvo L350F, you can ensure your operating costs go down. This machine offers at least 10% lower fuel consumption than it size class competitors.

**Load sensing hydraulics**

The intelligent electro-hydraulic load-sensing system delivers power to suit every load for optimal fuel efficiency. The system gives you as much power as you need depending on the load size and works together with the lifting arm, transmission, engine and steering system.

**Volvo engine and intelligent hot shutdown**

The turbocharged Volvo engine provides optimal power and high torque at low engine speeds, supplying power to both the hydraulic system and the drivetrain for enhanced production and uptime. The engine is equipped with a hot shut down function to advise the operator when it is suitable to shut off the engine, increasing the service life of the turbocharger.

**EcoOperator**

Volvo's EcoOperator training is an easy way to save money and the environment. It teaches operators correct machine operation and maneuvering as well as how to plan their work in the smartest way. It helps to save on fuel, increase production and spend less money on maintenance and reduces operator stress.

ECOOPERATOR

**APS and Lock Up converter**

The fully automatic power shifted transmission is designed by Volvo to fit perfectly with the rest of the drivetrain for high efficiency. In addition, the automatic lock-up torque converter combines with the Volvo engine to deliver high torque at low rpm, significantly reducing fuel consumption.

# Made for the toughest working conditions

The Volvo L350F is designed to withstand even the toughest operating conditions such as face loading freshly blasted rock. All components, including engine, transmission, axles, frame and lifting arm mechanism, feature a robust design to make them last longer, keeping your uptime high and repair and maintenance costs low.

**Frame and central hinge**

The high quality frame and central hinge is strong and reliable, providing stress resistance and operational stability. The upper and lower joints are designed to resist large forces and heavy loads for maximum durability and longevity.

**Transmission**

The heavy-duty planetary transmission has generous contact points between meshing gears and is able to carry heavy loads and transmit large forces to move the L350F in all directions.

**Lifting arm system**

The robust design on the Z-bar lifting arm can ensure a long machine life. All pins on the lift arm system are double-sealed to further extend the service life of the pins. Volvo offers one standard lift arm system that can be used for all applications such as lifting 50-ton blocks and working in tunelling with a side-dump bucket.

**Axles**

Fully floating heavy-duty axles carry the L350F. The cooling of the axle oil is achieved by circulating oil in each axle in two separated circuits. The oil is constantly circulated from the differential carrier assembly to each brake at the hub reduction when the engine is running. The oil from the axle passes through a hydraulic filter, leading to a long component service life.


An L350F worked on a quarry in Italy, transporting blocks of marble weighing up to 30 tons. Working 1300m (4265ft) above sea level, this machine ensured smooth and uninterrupted operations in challenging conditions.

## L350F in action

# Drive down your Total Cost of Ownership

## REPAIR AND MAINTENANCE

The L350F offers safe and effective maintenance access, including anti-slip plates, handrails and swing out mudguards.

## PRODUCTIVITY

Built to produce up to 14% more than its competitors, the L350F offers the perfect combination of power and balance for outstanding productivity.

## VOLVO ATTACHMENTS

A full range of Volvo attachments is available, designed to work in harmony with the machine and ensure the highest performance in every application.

## AVAILABILITY

The L350F has been built to maximize uptime, with a service and support network designed to enhance productivity.

## FUEL EFFICIENCY

The L350F powertrain delivers unrivalled fuel efficiency and performance, offering 10% lower fuel consumption than competitors.

## SAFETY

The L350F is equipped with outstanding safety features to ensure safe and comfortable operation in all applications.


## DURABILITY

Designed to perform in even the toughest applications, the L350F features robust components to keep uptime high and maintenance costs low.


# CARE TRACK

CareTrack is the state-of-the-art telematics system designed to work with a Volvo machine's own diagnostic system combined with GPS and mobile network or data via satellite. When CareTrack is activated on your machine, it allows you to remotely follow up machine utilization, productivity, get alarms and warnings, error codes, performance data download and also anti-theft functionality. CareTrack greatly increases your uptime.

# Adding value to your business

The L350F has been designed and tested to maximize your uptime. In addition to the availability achieved by the machine's innovative design, the L350F comes with a complete set of customer solutions to ensure this wheel loader is always ready to deliver. High availability means more productive uptime and a lower total cost of ownership.

**Service network**

In order to respond to your needs faster, a Volvo expert is always available to visit your job site from one of our Volvo facilities. With our extensive infrastructure of technicians, workshops and dealers, Volvo has a comprehensive network to fully support you using local knowledge and global experience.

**Customer Support Agreement**

Volvo Construction Equipment's range of Customer Support Agreements offers preventive maintenance, total repairs and a number of uptime services. Volvo uses the latest technology to monitor machine operation and status, giving you advice to increase your profitability. By having a Customer Support Agreement you are in control of your service costs.


"The L350F proved to be a valuable asset at a landfill site in the USA. The L350F was monitored remotely as it carried out its daily duties – using CareTrack the machine owner was able to monitor his machine, reduce fuel consumption and increase productivity even when he was not at the site.

## L350F in action

**SiteSim**

Volvo SiteSim is a unique tool that answers a variety of questions related to the equipment fleet and jobsite. It determines the optimal fleet for a new site, evaluates the performance of the current fleet or a combination of the two. It also considers various fleet options to determine the fleet addition required to maximize the output while keeping lowest total cost of ownership.

# Access more uptime

Repair and maintenance costs can form up to 10% of the cost of owning and operating a wheel loader of this size class. With the Volvo L350F, you can enjoy significantly lower costs as the result of the durable components, long service intervals and service-centered design.

**Durable components**

With genuine Volvo ground engaging tools, you can achieve up to 20% longer service life than competition, saving cost on wear parts and labor.

**Auto-lube (option)**

All points on the machine which require greasing are automatically taken care of. This ensures proper maintenance for long pin and bearing lives and cuts down time spent on manual greasing.

**Easy coolant level check**

An engine coolant inspection door forms part of the top engine access door. This can be opened without the need to swing out the fender for simplified access.

# SERVICEABILITY

Grouped service points combined with safe and easy access is in the core of the L350F design. In addition, the long service intervals offer more time for productive work. The outboard mounted wet disc service brakes are equipped with forced circulating oil cooling and a brake disc inspection pin on all brake housings increases safety and simplifies maintenance planning.


As part of a fleet of 34 Volvo machines working at a marble mine in Turkey, an L350F proved that its durable components and easy serviceability made it the perfect addition to the team. The owner relied on the L350F to operate under high stress levels and in tough conditions, producing 170,000 tons of marble a year.

## L350F in action

# VOLVO CARE CAB

The Volvo Care Cab is as good as it gets – space, outstanding visibility, ergonomics, a sophisticated heating and ventilation system with industry leading air filtration, low noise level, dampening to reduce whole body vibration and outstanding machine stability.

At a busy wharf in New Zealand, a team of two L350F machines worked round the clock to load and unload timber transported to and from the area. Operators at the site commented that the all-round visibility and ergonomic controls guaranteed a safe, comfortable ride at all times – even during a 12 hour shift.

## L350F in action

# More comfort, more hours, more value

Safety is a core value at Volvo. Constantly improving safety is an integral part of the company's product development work, with the aim of reducing the risk of accidents and providing an outstanding working environment.

**Heavy-duty operator seat**

A Volvo branded, heavy-duty, heated seat with air-suspension and high back (head rest) is available as standard. The new heavy duty seat offers high stability due to its sliding mechanism, offering more adjustment possibilities and improved body support.

**Remote door opener (option)**

A new remote door opener is standard on the L350F. In addition to this, an electrical switch is located on the rear left cab post, allowing the operator to easily open the cab door.

**Increased fender-wheel clearance**

The clearance between the rear fenders and tires is increased to allow the use of chains without potential interference of the chain with the fenders.


**Easy cab access**

The entrance to the cab has been redesigned to cover the rear tire fenders. The steps are wide and ergonomically spaced for easy ingress and egress to and from the cab. New sturdy and well routed handrails further increase ease of access and safety


**LED lights (option)**

LED working lights offer a "daylight" type light spectrum for excellent visibility. Intensity doesn't fade over time.


**Cab entrance light (option)**

LED light illuminates the cab entrance steps and areas around it for safe entry and exit to/from the operator station. The operator can activate the light by pressing the green button by the main switch. Better visibility in dark working conditions increases operator safety while climbing up to or down from the operator station.

# For extreme production environments

Wheel loaders of this size work around the clock loading trucks, rehandling, lifting blocks, stacking logs, and in other demanding applications. The L350F can be fitted with a range of Volvo attachments that ensure high reliability and a low total cost of ownership.

**L350F in rehandling**

The Volvo Rehandling bucket and Boom Suspension System enhance productivity and comfort.

**L350F in block handling**

The Volvo L350F can be equipped with a wide range of Volvo Block Handling attachments to ensure high lifting forces. Increased hydraulic pressure and robust rims ensure this machine gives a strong performance in all block handling applications.

**L350F in tunneling**

Equipped with a Volvo Rock bucket or Side Dump bucket, the L350F is designed to ensure a durable, reliable performance and a high material extraction rate.

**L350F in logging**

Logging demands heavy lifting and high breakout forces. The L350F logger comes with larger lift cylinders for increased lifting and breakout capacity. The logging counterweights and heavy-duty rims ensure machine stability. The electrohydraulic system, with third hydraulic function, allows for precise load control.

# L350F IN FACE LOADING

When fitted with a Volvo Rock bucket, the L350F is ideally sized to load trucks up to 64t (70t) in hard rock quarries. It is built to deliver outstanding maneuverability for enhanced productivity. When equipped with long boom configuration, this machine can load a 64t (70t) truck in under six passes.


Working at one of the biggest wood production sites in Finland, L350F wheel loaders were used to help process over 100 trailers of timber a day. Featuring grab and grapple attachments for quick and easy log handling, these machines worked 24 hours a day in temperatures that often fell to -30°c.

## L350F in action

# Volvo L350F in detail

## Engine

**Engine**: V-ACT Stage III A/Tier 3, 16 liter, 6-cylinder in-line turbo-charged, air-to-air intercooler diesel engine with double rockers and Internal Exhaust Gas Recirculation (I-EGR). One-piece cylinder head with four valves per cylinder and one overhead camshaft. The engine has wet replaceable cylinder liners and replaceable valve guides and valve seats. Mechanically actuated electronically controlled unit injectors. The throttle application is transmitted electrically from the throttle pedal. **Air cleaning**: Three stage cyclone pre-cleaner - primary filter - secondary filter. **Cooling system**: Hydrostatic, electronically controlled fan and intercooler of the air-to-air type.

| | | |
|---|---|---|
| Engine | Volvo | Volvo D16 |
| Max power at | r/s / r/min | 28.3-30.0 / 1 700-1 800 |
| SAE J1995 gross | kW / hp | 397 / 540 |
| ISO 9249, SAE J1349 net | kW / hp | 394 / 535 |
| Max torque at | r/s / r/min | 23.3 / 1 400 |
| SAE J1995 gross | Nm | 2 550 |
| ISO 9249, SAE J1349 net | Nm | 2 532 |
| Economic working range | r/min | 1 000-1 500 |
| Displacement | l | 16.1 |


## Drivetrain

**Torque converter**: 3-element ,1-stage, 1-phase torque converter with Lock-Up function and free-wheel stator. **Transmission**: Planetary Power Shift transmission with full modulated electronically controlled shifting of 4 gears forward and reverse. Volvo Automatic Power Shift (APS) gear shifting system with fully automatic shifting 1-4 (Lock-Up in 3-4) and mode selector with 4 different gear shifting programs, including AUTO mode. **Axles**: Fully floating axle shafts with planetary-type heavy-duty hub reductions. Fixed front axle and oscillating rear axle. **Optional**: Limited Slip differentials in front and rear axle

| | | |
|---|---|---|
| Transmission | | Volvo HTE 400 |
| Torque multiplication, stall ratio | | 2.65 |
| Maximum speed, forward/reverse | | |
| 1st gear | km/h | 6.8 / 7.5 |
| 2nd gear | km/h | 12.1 / 13.2 |
| 3rd gear | km/h | 21.0 / 22.9 |
| 4th gear | km/h | 35.7 / 38.2 |
| Measured with tires | | 35/65 R33 L4 |
| Front axle/rear axle | | Volvo AHW 90/AHW 90 |
| Rear axle oscillation | | ±12° |
| Ground clearance at 12° osc. | mm | 550 |

## Electrical system

**Central warning system:** Contronic electrical system with central warning light and buzzer for following functions: - Serious engine malfunction - Low steering system pressure - Overspeed warning engine - Interruption in communication (computer error) Central warning light and buzzer with gear engaged for the following functions: - Low engine oil pressure - High engine oil temperature - High charge-air temperature - Low coolant level - High coolant temperature - High crankcase pressure - Low transmission oil pressure - High transmission oil temperature - Low brake pressure - Engaged parking brake - Brake charging failure - Low hydraulic oil level - High hydraulic oil temperature - Overspeeding in engaged gear - High brake cooling oil temperature front and rear axles.

| | | |
|---|---|---|
| Voltage | V | 24 |
| Batteries | V | 2x12 |
| Battery capacity | Ah | 2x170 |
| Cold cranking capacity, approx. | A | 1 000 |
| Reserve capacity | min | 330 |
| Alternator rating | W/A | 2 280/80 |
| Starter motor output | kW | 7.0 |

## Brake system

**Service brake**: Service brakes are dual circuit all-hydraulic multi-disc brakes with nitrogen-charged accumulators and automatic slack adjusters. Outboard-mounted oil-cooled, wet disc brakes at each wheel. Transmission disengagement during braking can be preselected in Contronic. **Parking brake**: Wet multi-disc type in transmisson housing. Spring-applied, electro-hydraulically released with a switch on instrument panel. Applies automatically when the key is turned off. **Secondary brake**: Dual circuit axle-by-axle system. Actuated by service brake pedal. Low pressure alarm. Dead engine braking capability provided by three nitrogen-charged accumulators. **Standard**: The brake system complies with the requirements of ISO 3450:1996.

| | | |
|---|---|---|
| Number of brake discs per wheel | | 11 |
| Accumulators | l | 6 x 1.0 |
| Accumulators for parking brake | l | 1 x 0.5 |

## Cab

**Instrumentation**: All important information is centrally located in the operator's field of vision. Display for Contronic monitoring system. Heater and defroster: Heater coil with filtered fresh air, fan with auto function and 11 manually selectable steps, defroster vents for all window areas. **Operator's seat**: Operator's seat with adjustable suspension and retractable seatbelt. The seat is mounted on a bracket on the rear wall and floor. The forces from the retractable seatbelt are absorbed by the seat rails. **Standard**: The cab is tested and approved according to ROPS (ISO 3471, SAE J1040), FOPS (ISO 3449). The cab meets with requirements according to ISO 6055 ("Operator overhead protection - Industrial trucks") and SAE J386 ("Operator Restraint System").

| | | |
|---|---|---|
| Sound level in cab according to ISO 6396 - LpA | dB(A) | 72 |
| External sound level according to ISO 6395 - LwA | dB(A) | 111 |
| Ventilation | $m^3$/min | 9 |
| Heating capacity | kW | 13 |
| Air conditioning | kW | 8 |

## Lift arm system

Z-bar linkage system with high breakout forces. The lift arms are single plate construction with a high-strength steel cast cross tube. The single bell crank and bucket link are nodular iron castings.

| | | |
|---|---|---|
| Lift cylinders | | 2 |
| Cylinder bore | mm | 200 |
| Piston rod diameter | mm | 110 |
| Stroke | mm | 1 264 |
| Tilt cylinder | | 1 |
| Cylinder bore | mm | 260 |
| Piston rod diameter | mm | 120 |
| Stroke | mm | 728 |

## Hydraulic system

**System supply**: Two load-sensing axial piston pumps with variable displacement. The steering function always has priority from one of the pumps. **Valves**: Double-acting 2-spool valve. The main valve is controlled by an electric pilot. **Lift function**: The valve has four positions; lift, hold, lower, and float position. Inductive/magnetic automatic boom kickout can be switched on and off and is adjustable to any position between maximum reach and full liftning height. **Tilt function**: The valve has three functions; rollback, hold, and dump. Inductive/magnetic automatic bucket positioner can be switched on and off. **Cylinders**: Double-acting cylinders for all functions. **Filter**: Full-flow filtration through 20 micron (absolute) filter cartridge. Hydraulic oil cooler: Air-cooled oil cooler mounted on radiator.

| | | |
|---|---|---|
| Working pressure maximum, pump 1 | MPa | 25 |
| Flow | l/min | 256 |
| at | MPa | 10 |
| engine speed | r/s / r/min | 30 / 1 800 |
| Working pressure maximum, pump 2 | MPa | 26 |
| Flow | l/min | 354 |
| at | MPa | 10 |
| engine speed | r/s / r/min | 30 / 1 800 |
| Working pressure maximum, pump 3 | MPa | 26 |
| Flow | l/min | 84 |
| at | MPa | 10 |
| engine speed | r/s / r/min | 30 / 1 800 |
| **Cycle times** | | |
| Raise* | s | 8.0 |
| Tilt* | s | 1.9 |
| Lower, empty | s | 4.7 |
| Total cycle time | s | 14.6 |

* with load according to ISO 14397 and SAE J818

## Steering system

**Steering system**: Load-sensing hydrostatic articulated steering with an accumulator system and a non-pressurized tank. **System supply**: The steering system has priority feed from a load-sensing axial pump with variable displacement. **CDC**: Speed-dependent electro-hydraulic power steering system with closed center hydrostatic back-up and end-stroke damping.

| | | |
|---|---|---|
| Steering cylinders | | 2 |
| Cylinder bore | mm | 110 |
| Rod diameter | mm | 70 |
| Stroke | mm | 586 |
| Working pressure | Mpa | 26 |
| Maximum flow | l/min | 354 |
| Maximum articulation | ° | ±37 |

## Service

**Service accessibility**: Large, easy-to-open service doors with gas struts. Swing-out radiator grill. Fluid filters and component breather filters promote long service intervals. Possibility to monitor, log, and analyze data to facilitate troubleshooting

## Refill capacities

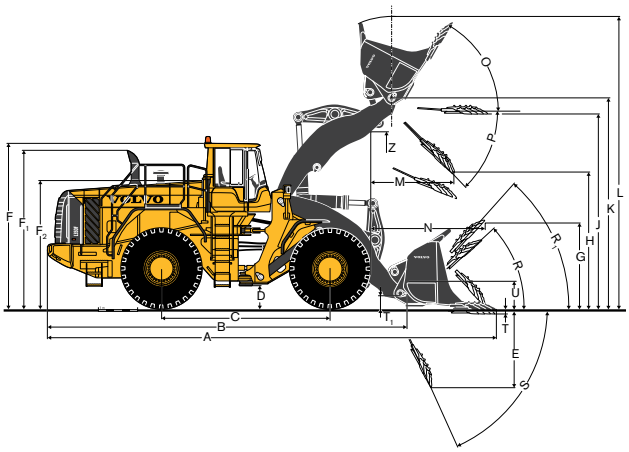
| | | |
|---|---|---|
| Fuel tank (total) | l | 660 |
| Fuel, usable | l | 620 |
| Engine oil | l | 40 |
| Engine coolant | l | 68 |
| Transmission oil | l | 79 |
| Axle oil front/rear | l | 155 |
| Hydraulic oil tank | l | 365 |

# Specifications

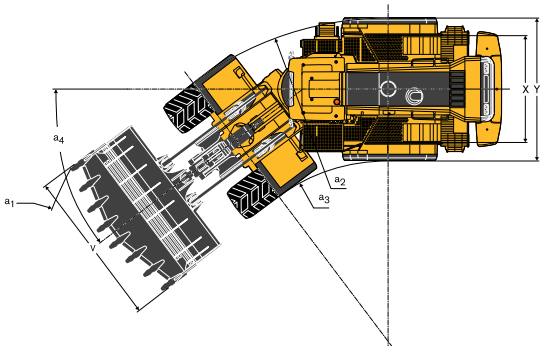
**Tires: 35/65 R33 RL5K L5 Goodyear**

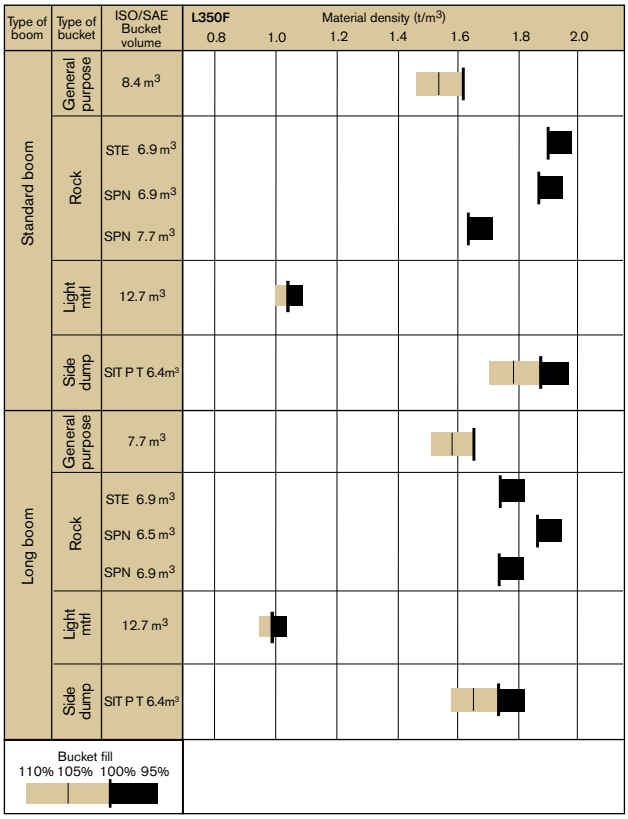
| | | Standard boom | Long boom |
|---|---|---|---|
| B | mm | 9 130 | 9 560 |
| C | mm | 4 300 | – |
| D | mm | 550 | – |
| F | mm | 4 180 | – |
| $F_1$ | mm | 3 980 | – |
| $F_2$ | mm | 3 220 | – |
| G | mm | 2 130 | – |
| J | mm | 4 920 | 5 400 |
| K | mm | 5 340 | 5 810 |
| O | ° | 60 | 58 |
| $P_{max}$ | ° | 46 | – |
| R | ° | 43 | 45 |
| R1* | ° | 49 | 50 |
| S | ° | 66 | 72 |
| T | mm | 120 | 130 |
| U | mm | 660 | 770 |
| V | mm | 3 970 | – |
| X | mm | 2 720 | – |
| Y | mm | 3 630 | – |
| Z | mm | 4 230 | 4 650 |
| $a_2$ | mm | 8 240 | – |
| $a_3$ | mm | 4 610 | – |
| $a_4$ | ±° | ±37 | – |

* Carry position SAE




Where applicable, specifications and dimensions are according to ISO 7131, SAE J732, ISO 7546, SAE J742, ISO 14397, SAE J818.




How to read bucket fill factor

**Bucket Selection Chart**

The volume handled varies with the bucket fill and is often greater than indicated by the bucket's ISO/SAE volume. The table shows optimum bucket choice with regard to the material density.

| Material | Bucket fill, % | Material density, t/m³ |
|---|---|---|
| Earth | 110-115 | 1.4-1.6 |
| Clay | 110-120 | 1.4-1.6 |
| Sand | 100-110 | 1.6-1.9 |
| Gravel | 100-110 | 1.7-1.9 |
| Rock | 75-100 | 1.5-1.9 |

The size of rock buckets is optimized for optimal penetration and filling capability rather than the density of the material.

**Supplemental Operating Data**

| | Width over tires | Ground clearance | Operating weight | Static tipping load, full turn | |
|---|---|---|---|---|---|
| | | | | Standard boom | Long boom |
| | mm | mm | kg | kg | kg |
| 35/65 R33 XLD D1 L4 Michelin | 10 | -20 | -1 140 | -1 030 | -910 |
| 35/65 R33 XLD D2 L5 Michelin | 10 | -20 | -440 | -580 | -510 |
| 35/65 R33 X-Mine D2 L5 Michelin | 20 | -20 | 260 | -50 | -40 |

| STANDARD BOOM | | ROCK | | | | | | | | GENERAL PURPOSE | LIGHT MATERIAL | SIDE DUMP ROCK |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Tires 875/65 R33 RL5K L5 GY Pin-on buckets** | |  |  |  |  |  |  |  |  |  |  |  |
| | | **Teeth** | **Teeth & Segments** | **Bolt-on edges** | **Teeth** | **Teeth & Segments** | **Bolt-on edges** | **Teeth & Segments** | **Bolt-on edges** | **Bolt-on edges** | **Bolt-on edges** | **Teeth & Segments** |
| Volume, heaped ISO/SAE | $m^3$ | 6.6 | 6.9 | 6.9 | 6.8 | 6.9 | 6.9 | 7.7 | 7.7 | 8.4 | 12.7 | 6.4 |
| Static tipping load, straight | kg | 40 030 | 39 060 | 39 340 | 38 920 | 38 230 | 38 730 | 37 810 | 38 330 | 38 810 | 37 830 | 31 640 |
| at 35° | kg | 35 710 | 34 780 | 35 060 | 34 640 | 33 950 | 34 460 | 33 550 | 34 070 | 34 550 | 33 560 | 27 590 |
| at full turn | kg | 35 220 | 34 290 | 34 580 | 34 150 | 33 470 | 33 980 | 33 060 | 33 590 | 34 070 | 33 080 | 27 130 |
| Breakout force | kN | 504.7 | 472.8 | 474.8 | 392.6 | 372.3 | 373.9 | 356.8 | 358.3 | 419.1 | 376.4 | 348.8 |
| A | mm | 10 990 | 11 070 | 10 740 | 11 430 | 11 500 | 11 180 | 11 600 | 11 270 | 10 970 | 11 160 | 11 750 |
| E | mm | 1 620 | 1 670 | 1 390 | 2 000 | 2 050 | 1 770 | 2 130 | 1 850 | 1 590 | 1 760 | 2 270 |
| H*) | mm | 3 790 | 3 720 | 3 940 | 3 500 | 3 430 | 3 650 | 3 370 | 3 590 | 3 790 | 3 640 | 3 290 |
| L | mm | 7 460 | 7 460 | 7 460 | 7 430 | 7 430 | 7 430 | 7 550 | 7 550 | 7 280 | 7 730 | 7 210 |
| M*) | mm | 1 830 | 1 790 | 1 590 | 2 160 | 2 120 | 1 920 | 2 180 | 1 980 | 1 740 | 1 890 | 2 290 |
| N*) | mm | 2 730 | 2 680 | 2 530 | 2 980 | 2 920 | 2 790 | 2 960 | 2 830 | 2 640 | 2 700 | 3 030 |
| V | mm | 3 970 | 3 970 | 3 970 | 3 970 | 3 970 | 3 970 | 3 970 | 3 970 | 3 970 | 4 500 | 3 970 |
| $a_1$ clearance circle | mm | 18 090 | 18 100 | 17 960 | 18 310 | 18 320 | 18 170 | 18 370 | 18 210 | 18 060 | 18 650 | 18 450 |
| Operating weight | kg | 49 810 | 50 230 | 50 020 | 50 280 | 50 700 | 50 550 | 50 940 | 50 790 | 50 130 | 51 030 | 54 920 |

*) Measured to the tip of the bucket teeth or bolt-on edge. Dump height to bucket edge.

Note: This only applies to genuine Volvo attachments. Measured at 45° dump angle. (Spade nose buckets at 42°.)

| LONG BOOM | | ROCK | | | | | | | | GENERAL PURPOSE | LIGHT MATERIAL | SIDE DUMP ROCK |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Tires 875/65 R33 RL5K L5 GY Pin-on buckets** | |  |  |  |  |  |  |  |  |  |  |  |
| | | **Teeth** | **Teeth & Segments** | **Bolt-on edges** | **Teeth** | **Teeth & Segments** | **Bolt-on edges** | **Teeth & Segments** | **Bolt-on edges** | **Bolt-on edges** | **Bolt-on edges** | **Teeth & Segments** |
| Volume, heaped ISO/SAE | $m^3$ | 6.2 | 6.5 | 6.5 | 6.4 | 6.5 | 6.5 | 6.9 | 6.9 | 7.7 | 12.7 | 6.4 |
| Static tipping load, straight | kg | 37 810 | 36 950 | 37 220 | 36 860 | 36 210 | 36 670 | 35 960 | 36 420 | 36 810 | 35 590 | 27 080 |
| at 35° | kg | 33 620 | 32 800 | 33 070 | 32 700 | 32 050 | 32 520 | 31 810 | 32 280 | 32 660 | 31 450 | 23 440 |
| at full turn | kg | 33 150 | 32 320 | 32 600 | 32 230 | 31 580 | 32 050 | 31 340 | 31 810 | 32 180 | 30 980 | 23 030 |
| Breakout force | kN | 471.7 | 442.4 | 443.6 | 365.9 | 347.6 | 348.5 | 338.1 | 339.1 | 396.8 | 341.2 | 317.9 |
| A | mm | 11 370 | 11 430 | 11 110 | 11 790 | 11 860 | 11 540 | 11 920 | 11 600 | 11 300 | 11 580 | 12 160 |
| E | mm | 1 640 | 1 690 | 1 400 | 2 040 | 2 080 | 1 790 | 2 140 | 1 850 | 1 570 | 1 830 | 2 360 |
| H*) | mm | 4 290 | 4 220 | 4 440 | 4 010 | 3 940 | 4 160 | 3 900 | 4 120 | 4 310 | 4 130 | 3 760 |
| L | mm | 7 870 | 7 870 | 7 870 | 7 850 | 7 840 | 7 840 | 7 900 | 7 900 | 7 650 | 8 200 | 7 690 |
| M*) | mm | 1 800 | 1 770 | 1 560 | 2 120 | 2 090 | 1 890 | 2 130 | 1 930 | 1 690 | 1 910 | 2 300 |
| N*) | mm | 3 060 | 3 010 | 2 850 | 3 310 | 3 250 | 3 110 | 3 280 | 3 140 | 2 950 | 3 050 | 3 390 |
| V | mm | 3 970 | 3 970 | 3 970 | 3 970 | 3 970 | 3 970 | 3 970 | 3 970 | 3 970 | 4 500 | 3 970 |
| $a_1$ clearance circle | mm | 18 380 | 18 390 | 18 240 | 18 600 | 18 610 | 18 450 | 18 640 | 18 480 | 18 330 | 18 960 | 18 770 |
| Operating weight | kg | 51 320 | 51 740 | 51 530 | 51 790 | 52 210 | 52 060 | 52 330 | 52 180 | 51 580 | 52 660 | 55 160 |

*) Measured to the tip of the bucket teeth or bolt-on edge. Dump height to bucket edge.

Note: This only applies to genuine Volvo attachments. Measured at 45° dump angle. (Spade nose buckets at 42°.)

# Equipment

## STANDARD EQUIPMENT

### Service and maintenance

- Engine oil remote drain and fill
- Transmission oil remote drain and fill
- Grouped lubrication points, ground accessible
- Pressure check connections: transmission and hydraulic, quick-connect, grouped on console for easy access
- Tool box, lockable
- Wheel nut wrench kit

### Engine

- Three stage air cleaner, pre-cleaner, primary and secondary filter
- Indicator glass for coolant level
- Preheating of induction air
- Fuel pre-filter with water trap
- Fuel filter
- Crankcase breather oil trap

### Electrical system

- 24 V, pre-wired for optional accessories
- Alternator 24V/ 80A
- Battery disconnect switch with removable key
- Fuel gauge
- Hour meter
- Electric horn
- Instrument cluster:
  - Fuel level
  - Transmission temperature
  - Coolant temperature
  - Instrument lighting
- Reverse alarm
- Lighting:
  - Twin halogen front headlights with high and low beams
  - Parking lights
  - Double brake and tail lights
  - Turn signals with flashing hazard light function
  - Halogen work lights (4 front and 4 rear)

### Contronic monitoring system

- Monitoring and logging of machine data
- Contronic display
- Fuel consumption
- Ambient temperature
- Clock
- Brake test
- Test function for warning and indicator lights
- Warning and indicator lights:
  - Battery charging
  - Parking brake
- Warning and display message:
  - Engine coolant temperature
  - Charge-air temperature
  - Engine oil temperature
  - Engine oil pressure
  - Transmission oil temperature
  - Transmission oil pressure
  - Hydraulic oil temperature
  - Brake pressure
  - Parking brake applied
  - Parking brake NOT applied
  - Brake charging
  - Overspeed at direction change
  - Axle oil temperature
  - Steering pressure
  - Crankcase pressure
  - Attachment lock open
- Level warnings:
  - Fuel level
  - Engine oil level
  - Engine coolant level
  - Transmission oil level
  - Hydraulic oil level
  - Washer fluid level
- Engine torque reduction in case of malfunction indication:
  - High engine coolant temperature
  - High engine oil temperature
  - Low engine oil pressure
  - High crankcase pressure
  - High charge-air temperature
- Engine shutdown to idle in case of malfunction indication:
  - High transmission oil temperature
  - Slip in transmission clutches
- Keypad, background lit
- Start interlock when gear is engaged

### Drivetrain

- Automatic Power Shift (APS) with operator controlled transmission disengagement when braking and mode selector with AUTO mode
- Fully automatic gear shifting, 1-4
- Pulse Width Modulation (PWM) controlled gear shifting
- Torque converter with Lock-Up
- Automatic Lock-Up shifting, 3-4 (gear selector in 4) and 2 (gear selector in 2)
- Forward and reverse switch by hydraulic lever console
- Indicator glass for transmission oil level

### Brake system

- Wet oil circulation-cooled disc brakes on all four wheels
- Dual brake circuits
- Dual brake pedals
- Secondary brake system
- Parking brake, electric-hydraulic
- Brake wear indicators

### Cab

- ROPS (ISO 3471), FOPS (ISO 3449)
- Acoustic inner lining
- Ashtray
- Cigarette lighter, 24 V power outlet
- Lockable door
- Cab heating with fresh air inlet and defroster
- Fresh air inlet with two filters
- Automatic climate control (ACC)
- Floor mat
- Dual interior lights
- Dual interior rear-view mirrors
- Dual exterior rear-view mirrors
- Sliding window, right side
- Tinted safety glass
- Operator's seat, KAB, air-suspended, heavy-duty
- Lap-type retractable seatbelt (SAE J386)
- Ergonomic heavy-duty operator's seat with adjustable position and suspension
- Seat-mounted adjustable lever console, working hydraulics
- Adjustable steering wheel
- Storage compartment
- Document pocket
- Sun visor
- Beverage holder
- Windshield washer front and rear
- Windshield wipers front and rear
- Interval function for front and rear wipers
- Service platforms with slip protected surfaces on front and rear fenders
- Comfort Drive Control (CDC)

### Hydraulic system

- Main valve, double-acting 2-spool with electric pilots
- Variable displacement axial piston pumps (3) for:
  - Steering system, working hydraulics
  - Working hydraulics, brakes
  - Cooling fan, brakes
- Electric-hydraulic servo control
- Electric level lock
- Boom kick-out, automatic, adjustable from cab
- Return-to-dig, automatic, adjustable from cab
- Bucket positioner, automatic, adjustable from cab
- Double-acting hydraulic cylinders with end-damping
- Indicator glass for hydraulic oil level
- Hydraulic oil cooler

### External equipment

- Fenders, front with rubber extensions
- Viscous cab mounts
- Rubber engine and transmission mounts
- Lifting eyes
- Easy-to-open side panels with gas struts
- Frame, joint lock
- Vandalism lock prepared for
  - Batteries
  - Engine compartment
  - Radiator
- Tie-down eyes
- Recovery eyes
- Tow hitch

## OPTIONAL EQUIPMENT

### Service and maintenance

- Tool kit
- Automatic lubrication system
- Automatic lubrication system for long boom
- Refill pump for automatic lubrication system
- Oil sampling valve

### Engine

- Air pre-cleaner, oil-bath type
- Air pre-cleaner, cyclone type
- Cooling package: Radiator and charge air cooler, corrosion-protected
- Engine block heater, 230 V
- Engine auto shutdown
- ESW, increased engine protection
- ESW, disabled engine protection
- Hand throttle control
- Fuel fill strainer
- Fast fill fuel system
- Fuel heater
- Reversible cooling fan
- Max. fan speed, hot climate

| OPTIONAL EQUIPMENT |
|---|
| **Electrical system** |
| Alternator, 80 A with air filter |
| Alternator, 110 A |
| Battery, high capacity |
| Anti-theft device |
| Work lights front, high intensity discharge (HID) |
| Work lights front, on cab, dual |
| Work lights rear, on cab |
| Work lights rear, on cab, dual |
| Warning beacon, rotating |
| **Cab** |
| Radio with CD player |
| Radio installation kit incl. 11 A, 12 V outlet, left side |
| Radio installation kit incl. 11 A, 12 V outlet, right side |
| Rear-view camera incl. monitor, colour |
| Rear-view mirrors, electrically adjustable and heated |
| Asbestos dust protection filter |
| Carbon filter |
| Automatic climate control panel, with Fahrenheit scale |
| Lunchbox holder |
| Seatbelt, 3", (width 75 mm) |
| Steering wheel knob |
| Sun blind, rear window |
| Sun blind, side windows |
| Timer cab heating |
| Window sliding, door |
| Universal door/ignition key |
| Anchorage for Operator's manual |
| **Drivetrain** |
| Limited Slip differential, rear axle |
| Limited Slip differential, front and rear axle |
| Speed limiter, 20 km/h |
| Speed limiter, 30 km/h |
| **Brake system** |
| Oil coolers for front and rear axles |
| **Hydraulic system** |
| Boom suspension system with single-acting lift function |
| Arctic kit, pilot hoses, brake accumulators and hydraulic oil |
| 3rd electro-hydraulic function |
| 3rd electro-hydraulic function for long boom |
| Hydraulic oil cooler, corrosion-protected |
| Hydraulic attachment bracket |
| Separate attachment locking |
| Biodegradable hydraulic fluid |
| Fire-resistant hydraulic fluid |
| Hot climate hydraulic fluid |

| |
|---|
| **External equipment** |
| Long boom |
| **Protective equipment** |
| Guards for front headlights |
| Guards for tail lights |
| Guards for tail lights, heavy-duty |
| Guards for rear work lights |
| Guards for radiator grill |
| Windows, side and rear guards |
| Windshield guard |
| Belly guard, front |
| Belly guard, rear |
| Mudguards fixed front and swing out rear, mudguards wideners incl. |
| **Other equipment** |
| Secondary steering with automatic test function |
| Logger version |
| Block handler kit |
| Block handler kit, heavy-duty |
| CE-marking |
| Sound decal, EU |
| CareTrack, GSM (Europe and North America) |
| CareTrack, GSM/Satellite (Europe and North America) |
| **Tires and Rims** |
| 35/65 R33 (875/65 R33): |
| L4 |
| L5 |
| Rims, 33-28.00/3,5: |
| Five piece |
| Five piece, wood protected |
| Five piece, heavy-duty |
| **Attachments** |
| Buckets (pin-on): |
| Rock, straight edge |
| Rock, spade nose |
| Rock, side-dump, spade nose |
| General purpose, straight edge |
| Light material |
| Wear parts: |
| Adapters for teeth, weld-on |
| Teeth |
| Segments, bolt-on |
| Edge savers, bolt-on |
| Block handling equipment (hook-on): |
| Rock bucket |
| Stone fork |
| Breaker tine |
| Rake |
| Log grapples |

## SELECTION OF VOLVO OPTIONAL EQUIPMENT

### Boom suspension system

### Cab entrance light

### LED lights

### Central lubrication

### Axle oil cooler

### Oil bath pre-cleaner

Not all products are available in all markets. Under our policy of continuous improvement, we reserve the right to change specifications and design without prior notice.
The illustrations do not necessarily show the standard version of the machine.

Ref No 20046743_B / English-21 / 2015.11 / WLO / Volvo, Global Marketing

VOLVO

Volvo Construction Equipment

www.volvoce.com