# VOLVO WHEEL LOADERS





MORE CARE. BUILT IN.

# LOOKING FOR A LIFETIME PARTNERSHIP?

Volvo has refined the wheel loader concept for more than half a century. With the F-series' robust and reliable production loaders, Volvo L150F, L180F, and L220F have taken another big leap ahead when it comes to safety, power, and operator comfort. They are built for highest machine and operator performance during those really long shifts in all types of jobs in rock loading, log handling, and material handling.

#### Volvo makes work easier

It's easier to do a good job in a Volvo wheel loader. The new Care Cab is the safest, most comfortable, and cleanest workplace we've ever built. From here, the operator has precision-control of the attachments with the patented TP-Linkage and load-sensing hydraulics. Volvo's V-ACT environment-friendly engines and fully automatic transmissions give fast response and high maneuverability, even in tough operations and rough environments. For the Volvo L150F, L180F, and L220F, Volvo has developed a wide range of genuine Volvo attachments, perfectly matched to be an integrated part of the machine.

#### Owning a Volvo means peace of mind

With Volvo as your partner, you not only get a tough production machine, you also get outstanding world-class total economy. Our wheel loaders are renowned for their low fuel consumption, fast and easy maintenance, and high resale value. Volvo's global dealer and service network is there to support you. We're at your service with knowledge, genuine parts, and well-trained service personnel.



Engine: Max power at SAE J1995 gross: ISO 9249, SAE J1349 net: Breakout force: Static tipping load at full turn: Buckets: Log grapple: Operating weight: Tires:

L150F Volvo D12D LD E3 23.3-28.3 r/s (1400-1700 rpm) 210 kW (282 hp) 209 kW (280 hp) 184.7 kN\* (41.520 lbf\*) 15 280 kg\* (33,690 lb\*) 3,1-12,0 m<sup>3</sup> (4.1-15.7 yd<sup>3</sup>) 3,7-14,0 m<sup>3</sup> (4.8-18.3 yd<sup>3</sup>) 1,6-3,5 m<sup>2</sup> (17.2-37.7 ft<sup>2</sup>) 1,6-3,7 m<sup>2</sup> (17.2-39.8 ft<sup>2</sup>) 1,7-4,0 m<sup>2</sup> (18.3-43.1 ft<sup>2</sup>) 23.0-26.0 t (50,710-57,320 lb) 26.5 R25

Volvo D12D LA E3 23.3-26.7 r/s (1400-1600 rpm) 235 kW (315 hp) 234 kW (314 hp) 26.0-29.0 t (57,320-63,930 lb) 26.5 R25 775/65 R29

L180F

L220F Volvo D12D LB E3 26.3 r/s (1600 rpm) 261 kW (350 hp) 259 kW (347 hp) 214,7 kN\*\* (48,270 lbf\*\*) 224,5 kN\*\*\* (50,470 lbf\*\*\*) 18 260 kg\*\* (40,260 lb\*\*) 20 750 kg\*\*\* (45,750 lb\*\*\*) 4,5-14,0 m3 (5.9-18.3 yd3) 30.0-35.0 t (66,140-77,160 lb) 29.5 R25 875/65 R29



\* Bucket: 4,0 m<sup>3</sup> (5.2 yd<sup>3</sup>) straight edge with bolt-on edges, tires: 26.5 R25 L3, standard boom.

\*\* Bucket: 4,6 m<sup>3</sup> (6.0 yd<sup>3</sup>) straight edge with bolt-on edges, tires: 26.5 R25 L3, standard boom.

775/65 R29

\*\*\* Bucket: 5,4 m<sup>3</sup> (7.1 yd<sup>3</sup>) straight edge with bolt-on edges, tires: 29.5 R25 L4, standard boom.



# **GROW YOUR BUSINESS. STAY WELL PROTECTED.**

Volvo's in-house manufactured drivetrain, hydraulic system, and TP-Linkage, the rugged frames, and all-cast mountings give L150F, L180F, and L220F the power, the speed, and the toughness needed to boost productivity even in the toughest operating environments. Vital components are well-protected to minimize downtime and repairs. The system's most important feature – the operator – is safest of all. New Care Cab, with improved all-round visibility, improved sound damping, and vibration damping, contributes to better operator comfort and world-class performance.

### L150F - the fast and powerful gravel specialist

Volvo L150F has the latest HTE transmission with smooth shifting Volvo Automatic Power Shift (APS). It is both a highly maneuverable and effective production machine for fast cycles in stockpile loading, with enough power to handle really tough jobs in loading hard bank material.

### L180F - smooth and powerful gravel, rock, and log handler

Volvo L180F has the power and maneuverability needed to take on and quickly handle demanding applications in log handling, hard bank, and rock. The Volvo F-series' new and roomier Care Cab makes production loading safer and more comfortable than ever before.

#### L220F - rugged rock loader

Volvo L220F is an uncompromising production machine for the heaviest jobs in the very toughest conditions. Despite its size and weight, operating is easy and smooth. The harmony in the in-house engineered drivetrain gives optimized productivity and quality.











### SMOOTH SHIFTING AND HARMONIZING LOW-REV POWER. EXACT FORCE WITH LOWER FUEL CONSUMPTION.

The environment-friendly engine's high torque near idle rpm gives the Volvo outstanding rimpull, low fuel consumption, and minimal emissions. The power and the fast response are results of perfect harmony between the in-house manufactured drivetrain, the load-sensing hydraulics, and the patented lift-arm system. They make up a finely tuned unit, helping the operator to get more done with lower fuel consumption, by only using the needed power for every segment of the job.

#### Efficient and reliable low-emission technology

The 12-liter engine with Volvo Advanced Combustion Technology (V-ACT) makes Volvo L150F, L180F, and L220F both powerful and easy to operate. The V-ACT engine uses every drop of fuel, providing full power already at low rpm while meeting all tough standards for reduced emissions.

#### Smoother automatic shifting

Volvo Automatic Power Shift (APS) contributes to fast and effective work cycles. The system is dependent on ground speed and engine rpm. All the operator has to do is select forward or reverse. The automatic shifting adapts to



the operating conditions and saves fuel by always selecting the right gear. The transmission features automatic downshift to 1st gear when there's a need for extra power.

### Volvo's axles keep the machine on the ground

Volvo's in-house manufactured axles and drivetrain are tailored to each other and dimensioned for high operating reliability. The front axle is equipped with a hydraulically operated differential lock with 100 percent locking. The rear axle is mounted in a maintenance-free axle cradle, which means that the operator doesn't have to carry out lubrication and there is no downtime.

#### Smooth and effective braking

Volvo L150F, L180F, and L220F feature Volvo's hydraulically operated, circulation-cooled, wet disc brakes. They have long operating life and provide smooth, effective braking action.

#### Fuel-efficient Volvo V-ACT D12-engines

Turbocharged low-emission, high-performance engine with air-to-air intercooler

Electronic engine control with overspeed protection for optimal performance in all operating situations

Hydrostatically-driven, electronicallycontrolled cooling fan works only when needed, which saves fuel

### Smooth shifting electro-hydraulic HTE-transmission

Fuel-saving APS selects the right gear for the job and current operating conditions

Smooth shifts and high comfort with Pulse Width Modulation (PWM) gear selector valve

Four gears forward, four reverse

The transmission automaticaly downshifts to first gear when needed

#### Rugged in-house developed axles

Volvo's axles are an integrated part of the drivetrain – an effective power pack

100 percent lockable differential lock on the front axle for best traction in difficult conditions

Lubricated-for-life rear axle bearings promote higher uptime and longer service life

#### Wet disc brakes for greater safety

All-hydraulic dual circuit system for greater safety

Contronic performs electronic brake test

Simple checking of brake pads with brake wear indicator on all wheels



# IN PERFECT CONTROL ALL THE WAY

Volvo's unique TP-Linkage maintains its high breakout torque throughout the entire lifting range. The operator has complete control, thanks to precision-steering and pilot-operated fingertip control of the load-sensing hydraulics. The short distance between the load's center of gravity and the front axle improves stability, resulting in greater safety, faster work cycles, and less spill in all types of applications.

### Superior breakout torque throughout the entire lifting range

Volvo's unique, patented, and highly reliable lift-arm system TP-Linkage gives optimal breakout torque and outstanding parallel movement throughout the entire lifting range. The system is operator-friendly and gives the operator good control of heavy loads with plenty of power and complete control.

#### The right power, regardless of engine rpm

Volvo's wheel loaders feature an intelligent load-sensing hydraulic system, providing exact distribution of power when and where it's needed, regardless of engine rpm. The system makes the wheel loader easy to operate, saves fuel, and assists the operator in controlling both machine and load.



#### Easy precision steering

The precision steering is easily operated and exact even at low engine rpm. The hydrostatic, load-sensing steering system only works when you turn the steering wheel to save fuel. End-position stops for better comfort.

#### Faster, without spills

The long wheel base enables Volvo's wheel loaders to ride smoothly and comfortably on rough ground. The Boom Suspension System (BSS)\* increases productivity by up to 20 percent, and is available as an option.

#### Heavy-duty engineered frames

Rugged frame design for secure mounting of components, reduces vibrations and increases the machine's operating life. Volvo's frame joint bearing design is a well-proven concept that's easy to maintain and renowned for its long service life.

### TP-Linkage combines power and precision

Volvo's patented lift-arm system combines the best of parallel and Z-bar linkages

#### Load-sensing hydraulic system

Saves fuel by no unnecessary circulation of hydraulic oil

Operator-friendly, pilot-operated fingertip control of the attachment

3rd\* and 4th\* hydraulic functions enable use of hydraulic attachments

#### Load-sensing steering

Saves fuel by only using power when you steer

Gives increased comfort and operating safety

#### Comfort Drive Control (CDC)\*

Switch between steering with the steering wheel and CDC to avoid static muscle loads

Handle steering and shifting forwardreverse with controls in the left armrest

#### Frames

Rugged frame design with three-point suspension of engine and transmission reduces vibrations and sound level.

\* Optional equipment









# EXTREME ENDURANCE IS A MACHINE THAT JUST KEEPS ON GOING

With big loaders, availability is everything. If the machine stops, work stops. That's why Volvo L150F, L180F, and L220F are designed, down to the smallest detail, to work without downtime, no matter how hard you push it. For us it's only natural and obvious to protect all expensive and vital components to prevent costly downtime and repairs. A Volvo is built to run.

#### Volvo - a quality concept in itself

Before a new machine generation is launched on the market, every vital component and newly designed system has been individually durability and fatiguetested in test rigs. Only after passing that stage are they ready to meet the world's toughest test environment - the customers' reality - for thousands of hours in our prototypes and pre-series machines. The test hosts provide their feedback and comments about every detail directly to Volvo's engineering department. Volvo's Reliability Growth test technology means more test hours, improved measuring precision, and predictability in quality assurance. Volvo is a quality concept in itself. We set our goals a little higher.

#### Get the most out of your Volvo

Your machine should be profitable, not only today but tomorrow, as well. At Volvo, we have an extensive range of different tools, programs, and service agreements, ensuring that your Volvo will give you optimal usage and profitability for a long time ahead. Since different businesses have different needs, we've made it easy for you to select the right level of Customer Support – from a program of regular machine inspections to a comprehensive repair and maintenance program that removes the need for an on-site workshop.

#### High resale value and long service life

Volvo L150F, L180F, and L220F are not just some of the most productive loaders on the market – they are also three of the most cost-effective. There are several reasons for this – Volvo's renowned reliability, our excellent financing packages, the low fuel consumption, the high resale value, and the minimal service requirement. All this makes it the most productive and reliable machine in the business. Shift after shift, year after year.



L150F, L180F, and L220F are equipped with Volvo high-quality hydraulic hoses, to be able to handle extreme stresses and high temperatures.

Volvo's wheel loaders feature rugged, heavy-duty axles

Lubricated-for-life rear axle cradle, which reduces wear and maintenance costs

Since wheel loaders operate in dusty environments, Volvo has a system with replaceable breather filters that shut out dirty air from transmission, axles, fuel tank, and hydraulic tank

High-quality components that can handle tough conditions

Volvo Reliability Growth (RG) tests for high quality during thousands of hours

Volvo's frame joint with ingenious bearing design, renowned for its long service life

All electric cabling is well protected from water, dirt, and wear in solidly fastened, heavy-duty conduits with rubberized connectors and terminal caps



# **PROTECTION TO STAY FOCUSED IN OPERATION**

Volvo has designed wheel loaders since 1954. Right from the beginning, we put safety first, and we have used all the experience and knowledge we have amassed throughout these years to make the L150F, L180F, and L220F as safe as possible. But not at the expense of comfort, operating joy, and power. Quite the opposite. We know that safety as well as productivity are partly the result of a satisfied operator – man and machine in perfect harmony.

#### **Generous space**

You really feel welcome in Volvo's latest cab. It's both wider and deeper than its predecessor. There is lots of space to stretch out your legs, and ample space for storage boxes, boots, and cups. The large, swept windshield gives excellent visibility in every direction, up high as well, making it easy to load even with Long Boom. To facilitate communication with others on the site, there is a sliding window on the right side. All instruments are easy to read, and on the right side all buttons are very easily accessible on a sturdy aluminum pillar. Several seats and adjustment features make it easy to find a comfortable operating position. With lever steering

(Comfort Drive Control, CDC)\*, the operator can handle steering and shifting forward/reverse with controls in the left armrest to avoid static muscle loads.

#### Always a comfortable climate

Volvo's unique and patented two-stage cleaning re-circulates up to 90 percent of the air, and only 10 percent comes from the outside. The air in the cab is cleaned to 98 percent. Automatic Heat Control (AHC) is standard and ensures a comfortable temperature in the cab. And if the operator needs a break, the heat\* can be left on even with the engine off, which saves fuel and protects the environment.



#### Care Cab - a more effective workplace

Comfortable cab climate with the market's best filter system

Adjustable steering wheel, seat, armrest, and lever carrier

Viscous damping of cab mounting reduces vibrations

Improved visibility all around the machine increases safety on the work site

Easy access buttons and controls

Easy-to-clean interior

Several storage compartments

Laminated front windshield protects the operator

Practical sliding window on right side

Service platforms and steps with slip protection as well as well-placed handrails for optimal safety

Powerful halogen work lights front and rear give good visibility of the whole operating area

\* Optional equipment









# **REAL-TIME INTELLIGENCE SUPPORTS MORE UPTIME**

Contronic helps you add more productive time to your working day by minimizing the need for unplanned service. The system monitors the wheel loader's functions in real-time and provides access to valuable operating data and service information. The operator can check fluid levels and service needs from the cab, service technicians can find the problem faster, and the owner can easily optimize the wheel loader to new operating conditions, or remote-monitor the machine with the new optional equipment CareTrack.

#### **Contronic in complete control**

Service-friendliness is important to your productivity. The more you are going to use the wheel loader, the more important it is to be able to perform daily service fast and easy. That's why all filters and service points are easily accessed on a Volvo, and all hatches are large and easy to open. Volvo Contronic handles some of the daily checks by fast and easy electronic level checks of oils and fluids. Contronic is an integrated network that continuously monitors the wheel loader's operation and performance in real-time. The system works at four levels.

Level 1: The system keeps an eye on the machine's functions in real-time. If something abnormal should occur, Contronic automatically generates an immediate warning and brings the situation to the operator's attention. A service technician can log in to the system and troubleshoot the problem directly on-site. Level 2: All operating data about how the machine is operated and what has happened since the last service is stored in Contronic. The information is presented in the MATRIS analysis program, giving valuable information for troubleshooting and service actions.

Level 3: The wheel loader's functions and performance can be updated and adapted to changing operating conditions via Contronic with VCADS Pro analysis and programming tool.

Level 4: The new optional equipment CareTrack\* enables remote monitoring of the wheel loader's geographical position, fuel economy, and function for optimal support. With CareTrack Advanced, it's also possible to detect unauthorized use, analyze error codes, and solve problems over long distances. Operating data needed to increase the wheel loader's productivity is gathered on a passwordprotected website for analysis.

#### **Contronic increases operating reliability**

Contronic monitoring system generates warnings and shows diagnostics for actions

Display shows continuous operating data, warning texts, and error messages

Available in 24 languages

Monitors fuel consumption, cycle times, and service intervals

Electronic checks of oil and fluid levels from the cab

Built-in safety functions automatically limit engine torque and power in case of major malfunctions in order to reduce the risk of subsequent damage

#### Maintenance and availability

Easily accessible hatches and service points make service easier

Pressure check connections and quickcouplings are conveniently grouped for fast and simple inspections

Long lubrication intervals mean more time for productive work

Well-designed steps, handrails, and handles for safe and comfortable service

Breather filters protect the transmission, axles, fuel tank, and hydraulic oil tank

Volvo's oil-bath pre-cleaner\*, in combination with the standard air filter, gives significantly higher effectiveness in extremely dusty operating conditions

#### **CareTrack\*** telematics

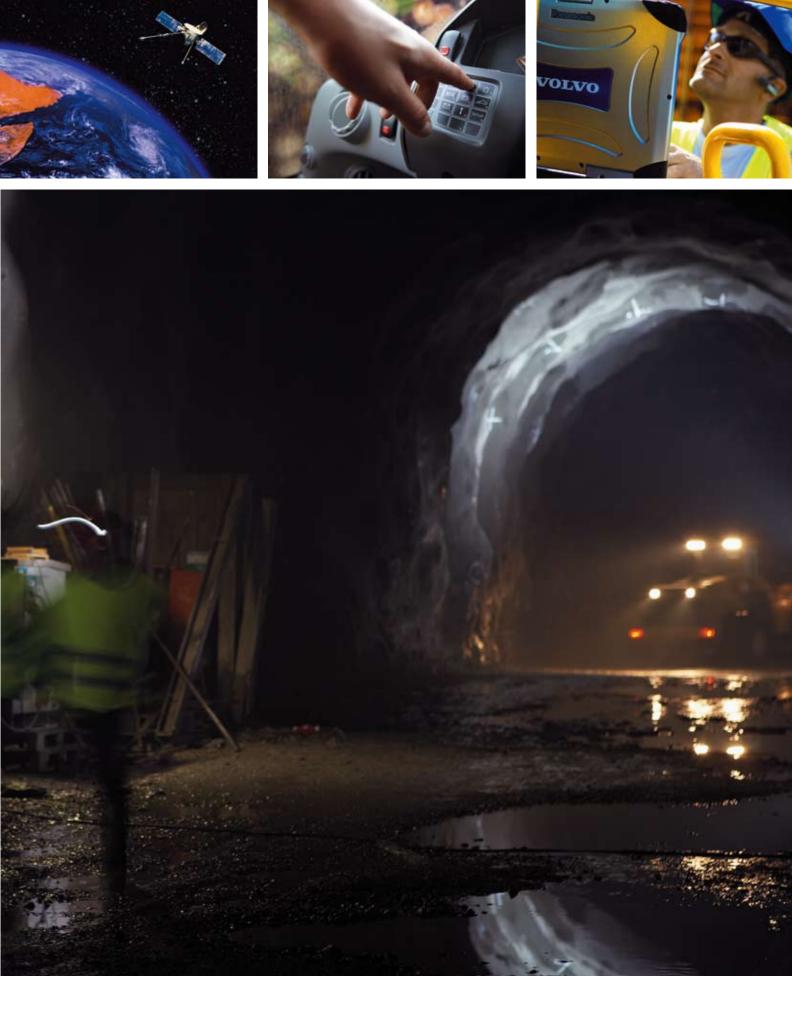
GPS positioning, mapping, Geo- & Time fence functions monitor your machine fleet

GPRS and/or Satellite transfer of operating data, error codes\*\*, and logged machine data\*\*

Service reminders and alarms, including forwarding by E-mail and text message

\* Optional equipment

\*\* Only available with CareTrack Advanced



# **GROWTH IN HARMONY WITH THE ENVIRONMENT**

Volvo's core values are quality, safety, and environmental care. We regard our commitment to the environment as a natural part of our entire operation, the goal of which is to maximize productivity and efficiency at the lowest possible cost and minimal environmental impact. With a Volvo, you get one of the market's cleanest and most reliable wheel loaders.

### Powerful, dependable, and environmentally optimized

With the new generation of turbocharged diesel engines, Volvo has taken yet another giant stride ahead to reduce emissions, without any dramatic changes that reduce engine power. This is possible thanks to the new V-ACT (Volvo Advanced Combustion Technology). The V-ACT system's secret is its advanced fuel injection and electronic engine control, making efficient use of every drop of fuel. The smart system for internal exhaust gas recirculation, I-EGR, reduces Nox-emissions by lowering peak combustion temperatures.

#### More than 95 percent recyclable

Volvo's core values are quality, safety, and environmental care. Today, our wheel loaders are almost completely recyclable. Components such as engine, transmission, and hydraulics are overhauled and re-used in our exchange system.

#### Volvo cares about the environment

Engine D12 meets all governing emission requirements according to step IIIA in Europe and Tier 3 in the USA

Volvo's wheel loaders are manufactured in environmentally certified plants according to ISO 14001

Load-sensing hydraulic and steering systems contribute to lower fuel consumption

More than 95 percent recyclable by weight

Low sound levels, inside and outside

Optional biodegradable hydraulic oil allows environment-friendly operation

#### Volvo means quality

Replaceable breather filters shut out dirty air from transmission, axles, fuel tank, and hydraulic tank

High-quality components that can handle tough conditions and environments

Volvo's frame joint with ingenious bearing design, renowned for its long service life

All electric cabling is well protected from water, dirt, and wear in solidly fastened, heavy-duty conduits with rubberized connectors and terminal caps

Volvo Reliability Growth (RG) tests for thousands of hours

#### Volvo means safety

Dual circuit service brake system meets all requirements for safe and effective brake function according to ISO 3450

Electronic brake test in Contronic

Simple checking with brake wear indicators increases safety

Automatic application of parking brake when the engine stops

Volvo Care Cab is tested and approved according to ROPS ISO 3471 and FOPS ISO 3449

Superb all-round visibility gives effective control of the work site

Sloping engine hood gives better visibility to the rear

New design of steps and platforms, with slip protection and well-placed handrails







# THREE MACHINES YOU CAN ALWAYS TRUST

#### Access and Serviceability

- · Easily accessed hatches and service points
- Centralized, ground level lubrication banks and grouped pressure check connections
- · Lubricated-for-life rear axle bearings
- Slip protected service platforms, handrails, wide and angled cab ladders provide safety
- · Long lubrication intervals allow more time for productive work

#### Volvo Lift-Arm System

- TP-Linkage unique patented lift-arm system
- · Provides superior force throughout the lift cycle
- · Optimized attachment visibility and great rollback angles
- · Dual pin seals prevent contamination of pins

### Commitment to Volvo's Core Values: Quality, Safety, and Care for the Environment

- Roll Over Protection System (ROPS) provides safe operation
- Non-return valves prevent leakage of both hydraulic and fuel tanks in case of roll-over
- · High-quality breather filters on all major components
- · Optional biodegradable hydraulic oil allows environment-friendly operation
- All Volvo wheel loaders are more than 95% recyclable
- · All electrical wiring is routed through high-quality conduits with sealed connectors

#### World-Class, Volvo Care Cab

- · Larger, more spacious cab interior with large storage compartments
- · Care Cab features the market's best cab filtration system
- · Front pillar-mounted switches
- Fully adjustable operator's seat, armrest\*, lever carrier, and steering column
- Improved all-round visibility includes wide, laminated front windshield and floor-to-ceiling glass
- · Viscous damping helps to eliminate unwanted noise and vibrations

#### Volvo Load-Sensing Hydraulics

- Load-sensing hydraulic system provides exact flow and pressure – when and where it's needed
- 3rd\* and 4th\* hydraulic functions for hydraulic attachments

#### Volvo Contronic Monitoring System

- · Network monitors operation and performance in real-time
- The Contronic system warns the operator in time, making it easier for the service technician to troubleshoot, and helps the machine owner tailor the wheel loader to the application
- · Fast and easy electronic level checks of oils and fluids
- · Display shows continuous operating data, warning texts, and error messages
- Monitors fuel consumption, cycle times, and service intervals
- Available in 24 languages

VOLVO

#### Volvo Designed and Manufactured Engine

- Turbocharged Volvo V-ACT D12D, Tier 3/Stage IIIA-approved D12D provides tremendous power and impressive low-end torque
- Combines outstanding fuel economy, high reliability, and durability with low levels of noise and exhaust emissions
- Engine control with overspeed protection for optimal performance in all operating conditions
- Hydrostatically-driven, electronically-controlled fan works only when needed, which saves fuel

#### Volvo HTE Heavy-Duty Transmission

- Automatic Power Shift (APS) with automatic mode selector
- · The transmission automatically downshifts to first gear
- Smooth shifts and high comfort with Pulse Width Modulation (PWM) gear selector valve

#### Volvo AWB Heavy-Duty Axles

- Dual circuit service brakes and automatic parking brake application
- Outboard-mounted wet disc brakes and planetary hub reductions
- Differential lock with 100% locking on the front axle
- Optional axle oil cooling provides maximized cooling capacity\*
- Simple checking of brake pads with brake wear indicator on all wheels

#### Volvo Frames

- High-quality steel provides stress resistance and operational stability
- Low vibrations and incredibly quiet sound levels
- · Well-organized articulation joint provides visual appeal and reliability
- · Upper and lower joints are designed to resist large forces

\* Optional equipment

# **VOLVO GENUINE ATTACHMENTS – FOR A PERFECT MATCH**

Volvo wheel loaders are renowned for their high quality and Volvo's genuine attachments offer exactly the same high quality. This is actually an absolute prerequisite for our machines to deliver what we promise – the highest possible productivity. Machines and attachments that are made for each other work best together.

#### The right tools for the job

Volvo's comprehensive range of attachments and smart options make it possible to tailor the wheel loader exactly right for the jobs and the operating conditions on your work site. Volvo's genuine attachment range includes buckets for all types of applications and materials, log grapples, material handling arms, and a variety of different fork attachments. The perfect connection between tool bracket and attachment is your guarantee for safety on the work site.

#### Perfect partners for every job

Every genuine Volvo attachment is designed as an integrated part of the wheel loader. Their functions and properties are exactly matched to parameters such as link arm geometry and breakout, rimpull and lift force. Simply put, they are made for each other – perfect partners for every job.

### Best penetration capability and long service life

Genuine Volvo attachments are durable and last up to three times as long as some other makes. This high quality stems partly from our long experience and partly from our close cooperation with some of the world's best material manufacturers. The high quality also applies to the bucket's wear parts. Their design and the materials from which they are made give Volvo's edge savers, teeth, and segments the best penetration capability, long service life, and short time for replacement of wear parts. Spade nose rock bucket with teeth and segments

Straight edge rock bucket with teeth and segments

General purpose bucket with teeth and segments



General purpose bucket with bolt-on edges

Light material bucket with bolt-on edges

Block handling fork





 Bucket shell and side plates of up to 400 Brinell to withstand abrasive wear

Reinforced mounting points for attachment installation give less wear

Bucket cutting edges of abrasive-resistant steel of up to 500 Brinell

Replaceable bolt-on wear plates on bucket floor, 500 Brinell

Bolt-on edge savers and segments protect the cutting edge from unnecessary wear, 500 Brinell

 Volvo's Tooth System with bolt-on or weld-on adapters of up to 515 Brinell gives excellent penetration and less bucket wear

Log/Sorting grapples







# BUILT TO RUN. SUPPORTED FOR LIFE.

When you invest in a Volvo wheel loader, you get a construction machine of the very highest quality. But of course, even the best machines need service and maintenance to be as productive tomorrow as they are today. Customer Support will help you to keep an eye on your owning and operating costs.

### We care about your operation – anywhere at anytime

Volvo Construction Equipment and Volvo Wheel Loaders center around a professional Customer Support organization, providing parts supply, after sales services and training. All this gives customer benefits through controlled owning and operating costs. When you invest in a Volvo wheel loader, the availability of good service and access to genuine Volvo parts are just as important as the price. After all, it is the total cost during the machine's entire life that's interesting. With all the products and resources we have at our disposal, we can offer you the best support. Anywhere, anytime.

### Four levels of support, one level of care

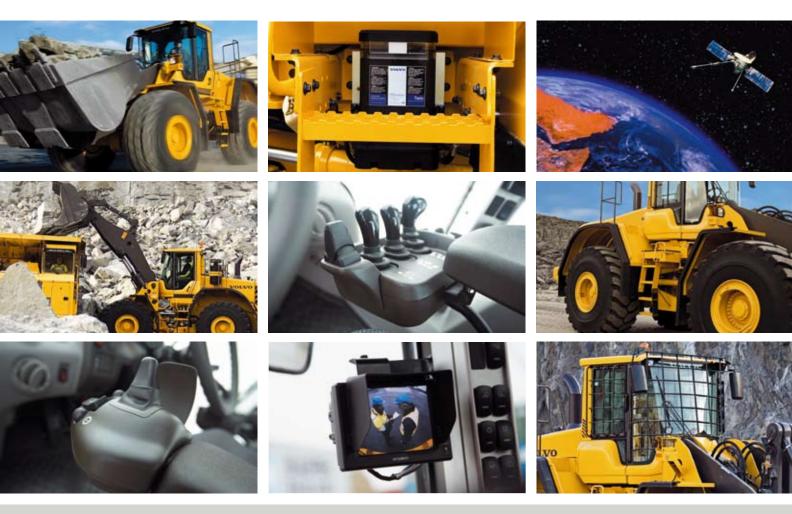
The best way to get the most out of your Volvo wheel loader is to invest in a Volvo Customer Support Agreement. There are four levels of agreements designed to give you total peace of mind; white, blue, silver, and – of course – gold, which includes all service, maintenance and repairs during the whole contract period at a fixed price. From this completely flexible starting point, we can create an agreement uniquely tailored to the needs of your business and the age of your loaders.

### Genuine Volvo parts leave nothing to chance

Each genuine Volvo part is developed to and manufactured together with all other machine components. It's a complete system where each part works in perfect harmony with other parts. Only by using genuine parts can you be sure that your machine retains the qualities and features we gave it from the beginning.



### **OPTIMIZE YOUR WHEEL LOADER**



#### **Selection of Volvo equipment**

Boom Suspension System (BSS) The Boom Suspension System absorbs shocks, eliminates rocking and bouncing, and smoothes out rough roads. BSS contributes to higher productivity, less spill, and better operator comfort.

#### Long Boom

A long boom gives the extra dump height and reaches necessary for loading high trucks or feeders. The additional reach also gives added protection when loading the bucket by keeping the machine further away from the material.

#### **Comfort Drive Control (CDC)**

Lever steering CDC enables the operator to handle steering and

shifting forward-reverse with controls in the left armrest. At any time, the operator can change between steering with steering wheel and CDC to avoid static muscle loads.

#### Automatic Lubrication System

Our factory-installed Automatic Lubrication System takes care of greasing while the machine is in operation. This means less downtime for scheduled maintenance and more time for productive work.

#### Electro-hydraulic control

Pilot-operation with electric-servo hydraulics increases comfort with lighter lever forces and high precision. Adjustable lift and bucket angles, Return-to-dig, and end-position damping are built-in functions. 3rd and 4th hydraulic functions enable use of hydraulic attachments.

#### Rearview camera system

Rearview camera system reduces blind spots and increases site safety when reversing and also improves operator comfort.

#### CareTrack telematics system

Remote monitoring of the machine's position, utilization, and performance. Forwarding of error codes, alarms, and service reminders. Position on map plus Geo- & Time fence functions.

#### Fenders

Front and swing-out rear fenders protect the machine in extreme environments.

#### Limited Slip

Volvo's Limited Slip differentials provide dependable traction in tough ground conditions, which reduces tire slip and simplifies operation.

### Guards protect both operator and machine

Waste handling is tough work. Special pre-cleaners, air intake protection, and multiple guards, such as windshield, belly guards, center hinge guards, and hose guards, keep both operator and wheel loader well protected from dust and debris.

### VOLVO L150F, L180F, L220F IN DETAIL



#### Engine

**Engine:** V-ACT Stage III A/Tier 3, 12 liter, 6-cylinder in-line turbocharged, 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, electronicallycontrolled 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.

#### L150F

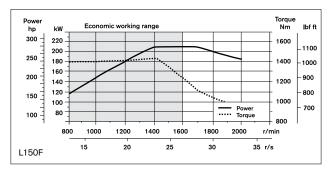
Engine	Volvo D12D LD E3
Max power at	23,3-28,3 r/s (1400-1700 rpm)
SAE J1995 gross	210 kW (282 hp)
ISO 9249, SAE J1349 net	209 kW <b>(280 hp)</b>
Max torque at	23,3 r/s <b>(1400 rpm)</b>
SAE J1995 gross	1432 Nm (1,056 lbf ft)
ISO 9249, SAE J1349 net	1423 Nm (1,050 lbf ft)
Economic working range	800-1600 rpm
Displacement	12   (732 in³)

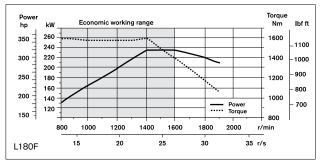
#### L180F

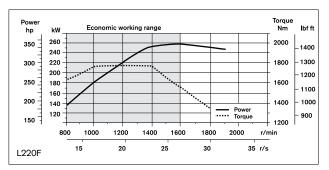
Engine	Volvo D12D LA E3
Max power at	23,3-26,7 r/s (1400-1600 rpm)
SAE J1995 gross	235 kW <b>(315 hp)</b>
ISO 9249, SAE J1349 net	234 kW <b>(314 hp)</b>
Max torque at	23,3 r/s <b>(1400 rpm)</b>
SAE J1995 gross	1603 Nm (1,182 lbf ft)
ISO 9249, SAE J1349 net	1594 Nm (1,176 lbf ft)
Economic working range	800-1600 rpm
Displacement	12   <b>(732 in<sup>3</sup>)</b>

#### L220F

Engine	Volvo D12D LB E3
Max power at	26,7 r/s (1600 rpm)
SAE J1995 gross	261 kW <b>(350 hp)</b>
ISO 9249, SAE J1349 net	259 kW <b>(347 hp)</b>
Max torque at	23,3 r/s <b>(1400 rpm)</b>
SAE J1995 gross	1765 Nm (1,302 lbf ft)
ISO 9249, SAE J1349 net	1756 Nm (1,295 lbf ft)
Economic working range	800-1600 rpm
Displacement	12   (732 in <sup>3</sup> )











#### Drivetrain

**Torque converter:** single-stage. **Transmission:** Volvo countershaft transmission with single lever control. Fast and smooth shifting of gears with Pulse Width Modulation (PWM) valve. **Gearshifting system:** Volvo Automatic Power Shift (APS) with fully automatic shifting 1-4 and mode selector with 4 different gearshifting programs, including AUTO mode. **Axles:** Volvo fully floating axle shafts with planetary hub reductions and cast steel axle housing. Fixed front axle and oscillating rear axle. 100% differential lock on the front axle.

#### L150F

Transmission	Volvo HTE 210
Torque multiplication	2,4:1
Maximum speed, forward/reverse	
1st gear	6,5 km/h <b>(4.0 mph)</b>
2nd gear	12,5 km/h <b>(7.8 mph)</b>
3rd gear	25,1 km/h <b>(15.6 mph)</b>
4th gear	36,1 km/h <b>(22.4 mph)</b>
Measured with tires	26.5 R25 L3
Front axle/rear axle	Volvo/AWB 40B/40C
Rear axle oscillation	±15°
Ground clearance at 15° osc.	610 mm <b>(24.0 in)</b>

#### L180F

Transmission	Volvo HTE 220
Torque multiplication	2,1:1
Maximum speed, forward/reverse	
1st gear	6,5 km/h <b>(4.0 mph)</b>
2nd gear	12,5 km/h <b>(7.8 mph)</b>
3rd gear	25,1 km/h <b>(15.6 mph)</b>
4th gear (limited by ECU)	36,1 km/h <b>(22.4 mph)</b>
Measured with tires	26.5 R25 L3
Front axle/rear axle	Volvo/AWB 40B/40B
Rear axle oscillation	±15°
Ground clearance at 15° osc.	610 mm (24.0 in)

#### L220F

Transmission	Volvo HTE 305
Torque multiplication	2,05:1
Maximum speed, forward/reverse	
1st gear	7,0 km/h <b>(4.3 mph)</b>
2nd gear	12,5 km/h <b>(7.8 mph)</b>
3rd gear	25,0 km/h <b>(15.5 mph)</b>
4th gear (limited by ECU)	36,0 km/h <b>(22.4 mph)</b>
Measured with tires	29.5 R25 L3
Front axle/rear axle	Volvo/AWB 50/41
Rear axle oscillation	±15°
Ground clearance at 15° osc.	600 mm <b>(23.6 in)</b>

Electrical system

Central warning system: Contronic electrical system with central warning light and buzzer for following functions: Serious engine fault - Low steering system pressure - Overspeed warning engine - Interruption in communication (computer failure). Central warning light and buzzer with the 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.

#### L150F, L180F, L220F

Voltage	24 V
Batteries	2x12 V
Battery capacity	2x140 Ah
Cold cranking capacity, approx	1050 A
Reserve capacity, approx	285 min
Alternator rating	2280 W/80 A
Starter motor output	7,0 kW <b>(9,4 hp)</b>

#### Brake system

Service brake: Volvo dual-circuit system with nitrogen-charged accumulators. Outboard-mounted hydraulically operated, fully sealed oil circulation-cooled wet disc brakes. The operator can select automatic disengagement of the transmission when braking using Contronic. **Parking brake:** Fully sealed, wet multi-disc brake built into the transmission. Applied by spring force and electrohydraulically released with a switch on the instrument panel. **Secondary brake:** Dual brake circuits with rechargeable accumulators. Either one circuit or the parking brake fulfills all safety requirements. **Standard:** The brake system complies with the requirements of ISO 3450.

#### L150F, L180F

Number of brake discs per wheel front/rear	1/1
Accumulators	2x1,0   and 1x0,5
Accumulators	(2x0.26, 1x0.13 US gal)
Accumulators for parking brake	1x0,5   (1x0.13 US gal)
L220F	
Number of brake discs per wheel front/rear	2/1
Accumulators	2x1,0 l, 1x0,5 l
Accumulators	(2x0.26, 1x0.13 US gal)

\* local restrictions may apply

# VOLVO L150F, L180F, L220F IN DETAIL





#### 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 and fan with auto and 11 speeds. 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 cab 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").

#### L150F

Emergency exit:	Use emergency h	ammer to break window
Sound level in cab according to	ISO 6396	LpA 69 dB (A)
External sound level according	to ISO 6395	LwA 107 dB (A)
Ventilation		9 m³/min <b>(318 ft³/min)</b>
Heating capacity		15 kW <b>(51,180 Btu/h)</b>
Air-conditioning (optional)		8 kW (27,300 Btu/h)

#### L180F

Emergency exit:	Use emergency	hammer to break window
Sound level in cab according to	ISO 6396	LpA 70 dB (A)
External sound level according	to ISO 6395	LwA 108 dB (A)
Ventilation		9 m³/min <b>(318 ft³/min)</b>
Heating capacity		15 kW <b>(51,180 Btu/h)</b>
Air-conditioning (optional)		8 kW (27,300 Btu/h)

#### L220F

Emergency exit:	Use emergency ha	mmer to break window
Sound level in cab accordin	g to ISO 6396	LpA 72 dB (A)
External sound level accord	ing to ISO 6395	LwA 108 dB (A)
Ventilation		9 m³/min (318 ft³/min)
Heating capacity		15 kW (51,180 Btu/h)
Air-conditioning (standard)		8 kW (27.300 Btu/h)

#### Lift-arm system

Torque Parallel Linkage (TP-Linkage) with high breakout torque and parallel action throughout the entire lifting range.

#### L150F

Lift cylinders	2
Cylinder bore	160 mm <b>(6.3 in)</b>
Piston rod diameter	90 mm <b>(3.5 in)</b>
Stroke	784 mm <b>(30.8 in)</b>
Tilt cylinder	1
Cylinder bore	230 mm <b>(9.1 in)</b>
Piston rod diameter	110 mm <b>(4.3 in)</b>
Stroke	452 mm (17.7 in)

#### L180F

Lift cylinders	2
Cylinder bore	180 mm <b>(7.1 in)</b>
Piston rod diameter	90 mm <b>(3.5 in)</b>
Stroke	788 mm (31.1 in)
Tilt cylinder	1
Cylinder bore	250 mm (9.8 in)
Piston rod diameter	120 mm <b>(4.7 in)</b>
Stroke	480 mm (18.9 in)

#### L220F

Lift cylinders	2
Cylinder bore	190 mm <b>(7.5 in)</b>
Piston rod diameter	90 mm <b>(3.5 in)</b>
Stroke	768 mm <b>(30.3 in)</b>
Tilt cylinder	1
Cylinder bore	260 mm (10.2 in)
Piston rod diameter	120 mm <b>(4.7 in)</b>
Stroke	455 mm <b>(17.9 in)</b>







#### Hydraulic system

System supply: Two load-sensing axial piston pumps with variable displacement. The steering function always has priority. Valves: Double-acting 2-spool valve. The main valve is controlled by a 2-spool pilot valve. Lift function: The valve has four positions; lift, hold, lower, and float position. Inductive/ magnetic automatic boom kick-out can be switched on and off and is adjustable to any position between maximum reach and full lifting height. Tilt function: The valve has three functions: rollback, hold and dump. Inductive/magnetic automatic tilt can be adjusted to the desired bucket angle. Cylinders: Double-acting cylinders for all functions. Filter: Full-flow filtration through 20 micron (absolute) filter cartridge.

#### L150F

Working pressure maximum, pump 1	26,0 MPa <b>(3,771 psi)</b>
Flow	171 I/min <b>(45 US gpm)</b>
at	10 MPa <b>(1,450 psi)</b>
engine speed	32 r/s (1900 rpm)
Working pressure maximum, pump 2	24,0 MPa <b>(3,481 psi)</b>
Flow	190 I/min <b>(50 US gpm)</b>
at	10 MPa <b>(1,450 psi)</b>
engine speed	32 r/s (1900 rpm)
Working pressure maximum, pump 3	21,0 MPa <b>(3,046 psi)</b>
Flow	83 I/min (22 US gpm)
at	10 MPa <b>(1,450 psi)</b>
engine speed	32 r/s (1900 rpm)
Pilot system, working pressure	3,5 MPa <b>(508 psi)</b>
Cycle times	
Raise*	5,9 s
Tilt*	2,0 s
Lower, empty	3,7 s
Total cycle time	11,6 s

#### L180F

Working pressure maximum, pump 1	26,0 MPa <b>(3,771 psi)</b>
Flow	247 l/min <b>(65 US gpm)</b>
at	10 MPa <b>(1,450 psi)</b>
engine speed	32 r/s (1900 rpm)
Working pressure maximum, pump 2	24,0 MPa <b>(3,481 psi)</b>
Flow	190 l/min <b>(50 US gpm)</b>
at	10 MPa <b>(1,450 psi)</b>
engine speed	32 r/s (1900 rpm)
Working pressure maximum, pump 3	21,0 MPa <b>(3,046 psi)</b>
Flow	83 l/min (22 US gpm)
at	10 MPa <b>(1,450 psi)</b>
engine speed	32 r/s (1900 rpm)
Pilot system, working pressure	3,5 MPa <b>(508 psi)</b>
Cycle times	
Raise*	6,4 s
Tilt*	1,8 s
Lower, empty	3,3 s
Total cycle time	11,5 s

#### L220F

Working pressure maximum, pump 1	26,0 MPa <b>(3,771 psi)</b>
Flow	199 l/min <b>(53 US gpm)</b>
at	10 MPa <b>(1,450 psi)</b>
engine speed	32 r/s (1900 rpm)
Working pressure maximum, pump 2	24,0 MPa <b>(3,481 psi)</b>
Flow	190 I/min <b>(50 US gpm)</b>
at	10 MPa <b>(1,450 psi)</b>
engine speed	32 r/s (1900 rpm)
Working pressure maximum, pump 3	21,0 MPa <b>(3,046 psi)</b>
Flow	83 l/min (22 US gpm)
at	10 MPa <b>(1,450 psi)</b>
engine speed	32 r/s (1900 rpm)
Pilot system, working pressure	3,5 MPa <b>(508 psi)</b>
Cycle times	
Raise*	5,8 s
Tilt*	1,6 s
Lower, empty	3,2 s
Total cycle time	10,6 s

\* with load as per ISO 14397 and SAE J818

#### Steering system

Steering system: Load-sensing hydrostatic articulated steering. System supply: The steering system has priority feed from a load-sensing axial piston pump with variable displacement. Steering cylinders: Two double-acting cylinders.

#### L150F

Steering cylinders	2
Cylinder bore	90 mm <b>(3.54 in)</b>
Rod diameter	50 mm <b>(1.97 in)</b>
Stroke	423 mm (16.65 in)
Working pressure	21 MPa <b>(3,046 psi)</b>
Maximum flow	190 I/min (50.20 US gpm)
Maximum articulation	±37°

#### L180F

Steering cylinders	2
Cylinder bore	100 mm <b>(3.94 in)</b>
Rod diameter	50 mm <b>(1.97 in)</b>
Stroke	418 mm (16.46 in)
Working pressure	21 MPa <b>(3,046 psi)</b>
Maximum flow	190 I/min (50.20 US gpm)
Maximum articulation	±37°

L220F	
Steering cylinders	2
Cylinder bore	100 mm <b>(3.94 in)</b>
Rod diameter	60 mm <b>(2.36 in)</b>
Stroke	502 mm (19.76 in)
Working pressure	21 MPa <b>(3,046 psi)</b>
Maximum flow	234 I/min (61.80 US gpm)
Maximum articulation	±37°

### VOLVO L150F, L180F, L220F IN DETAIL







#### 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 log and analyze data to facilitate troubleshooting.

L150F refill capacities	
Fuel tank	335 I (88.5 US gal)
Engine coolant	42   (11.1 US gal)
Hydraulic oil tank	156   <b>(41.2 US gal)</b>
Transmission oil	45   <b>(11.9 US gal)</b>
Engine oil	48   <b>(12.7 US gal)</b>
Axle oil front/rear	45/55   (11.9/14.5 US gal)

#### L180F refill capacities

Fuel tank	335   <b>(88.5 US gal)</b>
Engine coolant	42   <b>(11.1 US gal)</b>
Hydraulic oil tank	156   <b>(41.2 US gal)</b>
Transmission oil	45   <b>(11.9 US gal)</b>
Engine oil	48   <b>(12.7 US gal)</b>
Axle oil front/rear	45/55   (11.9/14.5 US gal)

#### L220F refill capacities

Fuel tank	335   <b>(88.5 US gal)</b>
Engine coolant	42   <b>(11.1 US gal)</b>
Hydraulic oil tank	226   <b>(59.7 US gal)</b>
Transmission oil	45   <b>(11.9 US gal)</b>
Engine oil	48   <b>(12.7 US gal)</b>
Axle oil front/rear	77/71   (20.3/18.8 US gal)

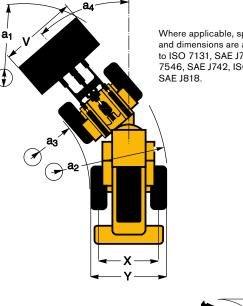




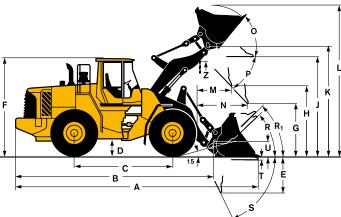
## **SPECIFICATIONS**

#### Tires L150F, L180F: 26.5 R25 L3. Tires L220F: 29.5 R25 L4

	Standard boom		Long boom			
	L150F	L180F	L220F	L150F	L180F	L220F
В	7070 mm 23'2"	7170 mm 23'6"	7470 mm <b>24'6''</b>	7570 mm <b>24'10''</b>	7600 mm <b>24'11"</b>	8890 mm <b>29'2''</b>
С	3550 mm 11'8"	3550 mm 11'8"	3700 mm 12'2"	-	-	-
D	480 mm <b>1'7''</b>	480 mm <b>1'7''</b>	540 mm <b>1'9''</b>	-	-	-
F	3580 mm 11'9"	3580 mm 11'9"	3730 mm 12'3"	-	-	-
G	2130 mm <b>7'0''</b>	2130 mm <b>7'0''</b>	2130 mm <b>7'0''</b>	-	-	-
J	3950 mm 1 <b>3'0''</b>	4070 mm 13'5"	4260 mm <b>14'0''</b>	4500 mm <b>14'9''</b>	4560 mm 15'0"	4620 mm 1 <b>5'2"</b>
К	4340 mm <b>14'3''</b>	4470 mm <b>14'8''</b>	4670 mm 1 <b>5'4"</b>	4900 mm <b>16'1"</b>	4970 mm <b>16'4''</b>	5030 mm <b>16'6''</b>
0	58 °	57 °	56 °	-	-	-
P <sub>max</sub>	50 °	49 °	49 °	-	-	-
R	44 °	44 °	43 °	47 °	48 °	44 °
$R_1^{\star}$	48 °	48 °	47 °	53 °	53 °	49 °
S	66 °	71°	65 °	61 °	63 °	63 °
Т	82 mm <b>0'3''</b>	123 mm <b>0'5''</b>	90 mm <b>0'4''</b>	136 mm <b>0'5''</b>	206 mm <b>0'8''</b>	100 mm <b>0'4"</b>
U	530 mm <b>1'9''</b>	570 mm 1'10"	590 mm 1'11"	640 mm <b>2'1"</b>	670 mm <b>2'2"</b>	670 mm <b>2'2''</b>
Х	2280 mm <b>7'6''</b>	2280 mm <b>7'6''</b>	2400 mm <b>7'10''</b>	-	-	-
Υ	2950 mm <b>9'8''</b>	2950 mm <b>9'8''</b>	3170 mm 10'5"	-	-	-
Z	3510 mm <b>11'6''</b>	3810 mm 12'6"	4060 mm 1 <b>3'4"</b>	3970 mm 1 <b>3'0''</b>	4170 mm <b>13'8''</b>	4390 mm <b>14'5''</b>
a <sub>2</sub>	6780 mm <b>22'3''</b>	6780 mm 22'3"	7110 mm 23'4"	-	-	-
a <sub>3</sub>	3830 mm 12'7"	3830 mm 12'7"	3940 mm 12'11"	-	-	-
a44	±37 °	±37 °	±37 °	-	-	-



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

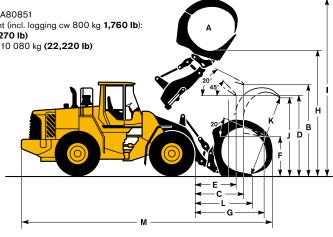


\* Carry position SAE

### Tires L150F, L180F: 775/65 R29 L3 Tires L220F: 875/65 R29 L4

	L150F	L180F	L220F
А	3,1 m <sup>2</sup>	3,5 m <sup>2</sup>	4,0 m <sup>2</sup>
	33.4 ft <sup>2</sup>	37.7 ft <sup>2</sup>	43.1 ft <sup>2</sup>
в	3660 mm	3860 mm	3900 mm
	1 <b>2'0''</b>	1 <b>2'8''</b>	1 <b>2'9</b> "
С	2120 mm	1880 mm	2280 mm
	<b>6'11"</b>	<b>6'2''</b>	<b>7'6''</b>
D	2960 mm	3260 mm	3140 mm
	<b>9'8''</b>	10'9"	<b>10'4''</b>
E	1660 mm	1470 mm	1780 mm
	<b>5'5''</b>	<b>4'10''</b>	<b>5'10''</b>
F	1630 mm	1700 mm	1620 mm
	<b>5'4''</b>	<b>5'7''</b>	<b>5'4''</b>
G	2940 mm	2770 mm	3230 mm
	<b>9'7''</b>	<b>9'1"</b>	10'7"
н	5020 mm	5200 mm	5360 mm
	1 <b>6'6''</b>	1 <b>7'1"</b>	1 <b>7'7''</b>
T	7250 mm	7650 mm	7910 mm
	<b>23'9''</b>	<b>25'1"</b>	<b>25'11"</b>
J	3080 mm	3370 mm	3620 mm
	1 <b>0'1"</b>	<b>11'0''</b>	11'11"
к	3340 mm	3860 mm	3940 mm
	10'11"	12'8"	1 <b>2'11"</b>
L	2300 mm	2140 mm	2650 mm
	<b>7'6''</b>	<b>7'0''</b>	<b>8'8''</b>
М	9960 mm	10 240 mm	10 680 mm
	<b>32'8''</b>	<b>33'7''</b>	<b>35'0''</b>

- L150F Sales code: WLA80927 Operating weight (incl. logging cw 1140 kg **2,510 lb**): 25 230 kg (**56,100 lb**) Operating load: 7700 kg (16,980 lb)
- L180F Sales code: WLA80693 Operating weight (incl. logging cw 1140 kg **2,510 lb**): 28 450 kg **(63,200 lb)** Operating load: 8710 kg (19,210 lb)
- L220F Sales code: WLA80851 Operating weight (incl. logging cw 800 kg **1,760 lb**): 32 320 kg **(71,270 lb)** Operating load: 10 080 kg **(22,220 lb)**



# L150F

				GENERAL	PURPOSE			ROC	CK*	LIGHT MATERIAL	
Tires 26.5 R25 L3		<i>6</i> <b>E</b>								e C	LONG BOOM
		Bolt-on edges	Teeth	Bolt-on edges	Teeth	Teeth	Bolt-on edges	Teeth	Teeth	Bolt-on edges	
Volume, heaped ISO/SAE	m³ <b>yd</b> ³	4,0 <b>5.2</b>	3,8 <b>5.0</b>	4,0 <b>5.2</b>	4,0 <b>5.2</b>	4,2 <b>5.5</b>	4,4 <b>5.8</b>	3,5 <b>4.6</b>	3,8 <b>5.0</b>	6,8 <b>8.9</b>	-
Volume at 110% fill factor	m <sup>3</sup> vd <sup>3</sup>	4,4 <b>5.8</b>	4,2 <b>5.5</b>	4,4 <b>5.8</b>	4,4 <b>5.8</b>	4,4 <b>6.0</b>	4,8 <b>6.3</b>	3,9 <b>5.0</b>	4,2 <b>5.5</b>	7,5 <b>9.8</b>	-
Static tipping load, straight	kg	16 670	17 700	17 380	17 380	17 240	17 010	18 090	17 760	16 470	-3360
	Ib	<b>36,750</b>	<b>39,020</b>	<b>38,320</b>	<b>38,320</b>	<b>38,010</b>	<b>37,500</b>	<b>39,880</b>	<b>39,150</b>	<b>36,310</b>	<b>-7,410</b>
at 35° turn	kg	14 820	15 800	15 500	15 490	15 360	15 120	16 100	15 810	14 620	-3070
	Ib	<b>32,680</b>	<b>34,850</b>	<b>34,170</b>	<b>34,170</b>	33,880	<b>33,340</b>	<b>35,500</b>	<b>34,850</b>	<b>32,230</b>	<b>-6,770</b>
at full turn	kg	14 620	15 590	15 280	15 280	15 150	14 910	15 870	15 580	14 410	-3040
	Ib	<b>32,240</b>	<b>34,370</b>	<b>33,700</b>	33,690	<b>33,410</b>	<b>32,870</b>	<b>35,000</b>	<b>34,360</b>	<b>31,760</b>	-6,700
Breakout force	kN	173,6	189,3	184,7	184,8	174,8	176,2	172,6	188,6	134,4	+9
	Ibf	<b>39,030</b>	<b>42,560</b>	<b>41,520</b>	<b>41,560</b>	<b>39,200</b>	<b>39,610</b>	<b>38,880</b>	<b>42,420</b>	<b>30,210</b>	<b>+2,023</b>
А	mm	8680	8870	8590	8790	8880	8670	8890	8780	9140	+520
	ft in	28'6"	<b>29'1</b> "	<b>28'2"</b>	28'10"	<b>29'2"</b>	<b>28'5''</b>	<b>29'2</b> "	28'10"	<b>30'0''</b>	+1'8"
E	mm	1305	1470	1230	1400	1480	1290	1480	1380	1710	+19
	ft in	<b>4'3''</b>	<b>4'10''</b>	<b>4'0''</b>	<b>4'7''</b>	<b>4'10''</b>	<b>4'3''</b>	<b>4'10"</b>	<b>4'6"</b>	<b>5'7''</b>	<b>+0'1"</b>
H*)	mm	2980	2840	3030	2900	2830	2970	2840	2910	2620	+570
	ft in	<b>9'9''</b>	<b>9'4"</b>	9'11"	<b>9'6"</b>	<b>9'4</b> "	<b>9'9''</b>	<b>9'4"</b>	<b>9'6''</b>	8'7"	+1'10"
L	mm	5930	5930	5880	5880	5960	5990	5980	5940	6090	+570
	ft in	<b>19'5</b> "	<b>19'6</b> "	19'3"	<b>19'3''</b>	<b>19'7''</b>	<b>19'8</b> "	<b>19'7''</b>	<b>19'6</b> "	<b>20'0''</b>	+1'10"
M*)	mm	1290	1410	1210	1360	1420	1260	1410	1310	1560	-15
	ft in	<b>4'3''</b>	<b>4'8''</b>	<b>4'0''</b>	<b>4'5''</b>	<b>4'8''</b>	<b>4'2''</b>	<b>4'8''</b>	<b>4'3</b> "	5'2"	-0'1"
N*)	mm	1840	1910	1800	1880	1910	1830	1910	1840	1940	+440
	ft in	<b>6'1"</b>	<b>6'3''</b>	<b>5'11"</b>	6'2"	<b>6'3"</b>	<b>6'0''</b>	<b>6'3''</b>	<b>6'0"</b>	<b>6'4''</b>	+1'5"
V	mm in	3200 125"	3000 118"	3200 125"	3230 127"	3000 118"	3200 125"	3230 127"	3230 127"	3200 125"	-
a, clearance circle	mm	14 675	14 570	14 640	14 750	14 580	14 670	14 800	14 740	14 890	+245
	ft in	48'2"	47'10"	<b>48'0"</b>	<b>48'5''</b>	47'10"	48'2"	<b>48'7''</b>	<b>48'5"</b>	48'10"	<b>+0'10"</b>
Operating weight	kg	23 615	23 170	23 320	23 330	23 370	23 660	24 810	24 790	23 820	+300
	Ib	52,060	<b>51,100</b>	51,430	51,430	51,540	52,170	54,700	<b>54,660</b>	52,530	+660

 With L5 tires
 \*\*) Measured to the tip of the bucket teeth or bolt-on edge. Dump height to bucket edge. Measured at 45° dump angle. (Spade nose buckets at 42°.)

#### **Bucket Selection Chart**

The chosen bucket is determined by the density of the material and the expected bucket fill factor. The actual bucket volume is often larger than the rated capacity, due to the features of the TP-Linkage, including an open bucket design, good rollback angles in all positions and good bucket filling performance. The example represents a standard boom configuration. **Example:** Sand and gravel. Fill factor ~ 105%. Density 1,6 t/m<sup>3</sup> (2,690 lb/yd<sup>3</sup>). Result: The 4,0 m<sup>3</sup> (5.2 yd<sup>3</sup>) bucket carries 4,2 m<sup>3</sup> (5.5 yd<sup>3</sup>). For optimum stability always consult the bucket selection chart.

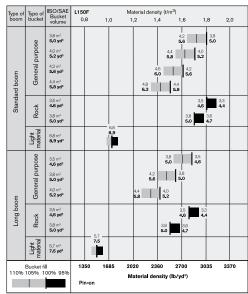
Material	Bucket	t fill, %	Mate dens t/m <sup>3</sup>			/SAE ket volume, yd <sup>3</sup>	Actua m <sup>3</sup>	l volume, yd³
Earth/Clay	~ 110		~ 1,6	~ 2,690	3,8	5.0	~ 4,2	~ 5.5
Earth/Clay	~ 110	$\nabla$	~ 1,6	~ 2,690	4,0	5.2	~ 4,4	~ 5.8
			~ 1,5	~ 2,530	4,2	5.5	~ 4,6	~ 6.0
Sand/Gravel	~ 105		~ 1,7	~ 2,870	3,8	5.0	~ 4,0	~ 5.2
Sanu/ Graver	~ 105	$\sim$	~ 1,6	~ 2,690	4,0	5.2	~ 4,2	~ 5.5
			~ 1,6	~ 2,690	4,2	5.5	~ 4,4	~ 5.8
Anneate	~ 100		~ 1,8	~ 3,030	3,8	5.0	~ 3,8	~ 5.0
Aggregate	~ 100	$\smile$	~ 1,7	~ 2,870	4,0	5.2	~ 4,0	~ 5.2
			~ 1,6	~ 2,690	4,2	5.5	~ 4,2	~ 5.5
Rock	≤100	$\frown$	~ 1,7	~ 2,870	3,5	4.6	~ 3,5	~ 4.6

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

#### Supplemental Operating Data

		Standa	rd boom	Long	boom
Tires 26.5 R25 L3		26.5 R25 L5	775/65 R29 L3	26.5 R25 L5	775/65 R29 L3
Width over tires	mm	+30	+130	+30	+170
	ft in	<b>+0'1"</b>	<b>+0'5"</b>	<b>+0'1"</b>	<b>+0'7"</b>
Ground clearance	mm	+30	+10	+30	+10
	ft in	<b>+0'1"</b>	<b>+0'0,3"</b>	+ <b>0'1"</b>	<b>+0'0,3"</b>
Tipping load, full turn	kg	+760	+620	+640	+330
	<b>Ib</b>	<b>+1,676</b>	<b>+1,367</b>	<b>+1,411</b>	<b>+727</b>
Operating weight	kg	+1060	+920	+970	+920
	<b>Ib</b>	<b>+2,337</b>	<b>+2,028</b>	<b>+2,138</b>	<b>+2,028</b>

Note: This only applies to genuine Volvo attachments.



# **L180F**

			GEN	ERAL PURP	OSE			ROCK*		LIGHT MATERIAL	
Tires 26.5 R25 L3					Ø E	A					LONG BOOM
		Bolt-on edges	Teeth	Bolt-on edges	Bolt-on edges	Bolt-on edges	Teeth	Teeth	Teeth	Bolt-on edges	
Volume, heaped ISO/SAE	m³ yd³	4,0 <b>5.2</b>	4,4 <b>5.8</b>	4,6 <b>6.0</b>	4,8 <b>6.3</b>	4,8 <b>6.3</b>	4,4 <b>5.8</b>	3,8 <b>5.0</b>	4,2 <b>5.5</b>	7,8 <b>10.2</b>	-
Volume at 110% fill factor	m <sup>3</sup> yd <sup>3</sup>	4,4 <b>5.8</b>	4,8 <b>6.3</b>	5,1 <b>6.6</b>	5,3 <b>6.9</b>	5,3 <b>6.9</b>	4,8 <b>6.3</b>	4,2 <b>5.5</b>	4,6 <b>6.0</b>	8,6 <b>11.2</b>	-
Static tipping load, straight	kg	21 260	20 790	20 900	19 930	20 700	21 280	22 160	21 510	19 750	-3660
	Ib	<b>46,870</b>	<b>45,840</b>	<b>46,080</b>	<b>43,940</b>	<b>45,640</b>	<b>46,930</b>	<b>48,850</b>	<b>47,420</b>	<b>43,550</b>	<b>-8,070</b>
at 35° turn	kg	18 900	18 430	18 530	17 620	18 340	18 860	19 690	19 050	17 440	-3330
	<b>Ib</b>	<b>41,670</b>	<b>40,640</b>	<b>40,860</b>	<b>38,850</b>	<b>40,450</b>	<b>41,590</b>	<b>43,400</b>	<b>42,010</b>	<b>38,450</b>	<b>-7,340</b>
at full turn	kg	18 630	18 160	18 260	17 360	18 080	18 590	19 405	18 770	17 170	-3290
	<b>Ib</b>	<b>41,080</b>	<b>40,050</b>	<b>40,270</b>	<b>38,275</b>	<b>39,860</b>	<b>40,990</b>	<b>42,780</b>	<b>41,400</b>	<b>37,870</b>	- <b>7,250</b>
Breakout force	kN	225,1	215,3	214,7	194,7	206,0	215,6	212,3	194,3	157,9	+4,0
	Ibf	<b>50,600</b>	<b>48,410</b>	<b>48,280</b>	<b>43,770</b>	<b>46,320</b>	<b>48,480</b>	<b>47,730</b>	<b>43,680</b>	<b>35,500</b>	<b>+899</b>
А	mm	8710	9030	8790	8950	8860	9000	9070	9160	9340	+470
	ft in	<b>28'7"</b>	<b>29'7"</b>	<b>28'10</b> "	<b>29'4</b> "	<b>29'1</b> "	<b>29'6''</b>	<b>29'9''</b>	<b>30'1"</b>	<b>30'8''</b>	<b>+1'7"</b>
E	mm	1290	1570	1360	1500	1420	1530	1610	1680	1860	+37
	ft in	<b>4'3''</b>	<b>5'2"</b>	<b>4'6"</b>	<b>4'11"</b>	<b>4'8''</b>	<b>5'0''</b>	<b>5'3''</b>	<b>5'6"</b>	<b>6'1"</b>	<b>+0'1"</b>
H*)	mm	3160	2950	3110	3010	3060	2980	2950	2870	2690	+490
	ft in	<b>10'4''</b>	<b>9'8"</b>	<b>10'2"</b>	<b>9'11"</b>	<b>10'1"</b>	<b>9'9''</b>	<b>9'8''</b>	<b>9'5"</b>	<b>8'10"</b>	<b>+1'7"</b>
L	mm	6010	6120	6170	6225	6170	6210	6170	6310	6300	+490
	ft in	<b>19'9"</b>	<b>20'1"</b>	<b>20'3''</b>	<b>20'5''</b>	<b>20'3''</b>	<b>20'4''</b>	<b>20'3''</b>	<b>20'9"</b>	<b>20'8</b> "	<b>+1'7"</b>
M*)	mm	1230	1430	1280	1400	1330	1390	1500	1520	1620	+20
	ft in	<b>4'0''</b>	<b>4'8''</b>	<b>4'2''</b>	<b>4'7''</b>	<b>4'4''</b>	<b>4'7''</b>	<b>4'11"</b>	<b>5'0"</b>	<b>5'4"</b>	<b>+0'1"</b>
N*)	mm	1900	2010	1930	2000	1960	1980	2070	2060	2050	+400
	ft in	<b>6'3''</b>	6'7"	<b>6'4"</b>	<b>6'7''</b>	<b>6'5''</b>	<b>6'6''</b>	6'10"	6'9"	6'9"	+ <b>1'4</b> "
V	mm in	3200 125"	3230 127"	3200 125"	3200 125"	3200 125"	3230 127"	3230 127"	3230 127"	3400 133"	-
a, clearance circle	mm	14 730	14 900	14 760	14 830	14 790	14 890	14 920	14 970	15 220	+245
	ft in	<b>48'4''</b>	<b>48'10"</b>	<b>48'5''</b>	<b>48'8''</b>	<b>48'6''</b>	<b>48'10"</b>	<b>48'11"</b>	<b>49'1"</b>	49'11"	<b>+0'10"</b>
Operating weight	kg	26 160	26 560	26 540	26 875	26 600	27 910	27 645	28 000	26 970	+280
	Ib	<b>57,690</b>	58,570	58,510	<b>59,250</b>	58,640	<b>61,540</b>	<b>60,960</b>	<b>61,730</b>	<b>59,460</b>	+620

 With L5 tires
 \*\*) Measured to the tip of the bucket teeth or bolt-on edge. Dump height to bucket edge. Measured at 45° dump angle. (Spade nose buckets at 42°.)

#### **Bucket Selection Chart**

The chosen bucket is determined by the density of the material and the expected bucket fill factor. The actual bucket volume is often larger than the rated capacity, due to the features of the TP-Linkage, including an open bucket design, good rollback angles in all positions and good bucket filling performance. The example represents a standard boom configuration. **Example:** Sand and gravel. Fill factor ~ 105%. Density 1,6 t/m<sup>3</sup> (2,690 lb/yd<sup>3</sup>). **Result:** The 4,6 m<sup>3</sup> (60 yd<sup>3</sup>) bucket carries 4,8 m<sup>3</sup> (6.3 yd<sup>3</sup>). For optimum stability always consult the bucket selection chart.

Material	Bucket	t fill, %	Mate dens t/m <sup>3</sup>			/SAE ket volume, yd <sup>3</sup>	Actua m <sup>3</sup>	l volume, yd³
Earth/Clay	~ 110		~ 1,6	~ 2,690	4,4	5.8	~ 4,8	~ 6.3
Eartin/ Ciay	~ 110	$\nabla$	~ 1,5	~ 2,530	4,6	6.0	~ 5,1	~ 6.7
			~ 1,4	~ 2,360	4,8	6.3	~ 5,3	~ 6.9
Sand/Gravel	~ 105		~ 1,7	~ 2,870	4,4	5.8	~ 4,6	~ 6.0
Sand/ Graver	~ 105	$\sim$	~ 1,6	~ 2,690	4,6	6.0	~ 4,8	~ 6.3
			~ 1,5	~ 2,530	4,8	6.3	~ 5,1	~ 6.7
Acoreceto	~ 100		~ 1,8	~ 3,030	4,4	5.8	~ 4,4	~ 5.8
Aggregate	~ 100	$\sim$	~ 1,7	~ 2,870	4,6	6.0	~ 4,6	~ 6.0
			~ 1,6	~ 2,690	4,8	6.3	~ 4,8	~ 6.3
Rock	≤100	$\frown$	~ 1,7	~ 2,870	4,3	5.6	~ 4,3	~ 5.6

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

#### **Supplemental Operating Data**

		Standa	rd boom	Long	boom
Tires 26.5 R25 L3		26.5 R25 L5	775/65 R29 L3	26.5 R25 L5	775/65 R29 L3
Width over tires	mm	+30	+130	+30	+130
	ft in	<b>+0'1"</b>	<b>+0'5"</b>	<b>+0'1"</b>	<b>+0'5"</b>
Ground clearance	mm	+40	+10	+40	+10
	ft in	<b>+0'2"</b>	<b>+0'0,3"</b>	+ <b>0'2"</b>	<b>+0'0,3"</b>
Tipping load, full turn	kg	+770	+600	+760	+530
	<b>Ib</b>	<b>+1,698</b>	<b>+1,323</b>	<b>+1,676</b>	<b>+1,168</b>
Operating weight	kg	+1050	+920	+1050	+1120
	<b>Ib</b>	<b>+2,315</b>	<b>+2,028</b>	<b>+2,315</b>	<b>+2,469</b>

Note: This only applies to genuine Volvo attachments.

lype of boom	Type of bucket	ISO/SAE Bucket volume	L180		aterial c ,2	lensity (t 1,4	/m <sup>3</sup> ) 1,	.6	1,8	2,0
Standard boom	General purpose	4,4 m <sup>8</sup> 5.8 yd <sup>3</sup> 4,6 m <sup>8</sup> 6.0 yd <sup>3</sup> 4,8 m <sup>8</sup> 6.3 yd <sup>3</sup>				5,3 6.9	4, 6. 5,1 6.6		4,4 5-8	
Stands	Rock	4,2 m <sup>3</sup> 5.6 yd <sup>3</sup> 4,4 m <sup>3</sup> 5.8 yd <sup>3</sup>		7.8				4,2 5.6 4,4 5.8	4,2 5.6	0 2
	Light material	7,8 m <sup>8</sup> 10.2 yd <sup>3</sup>		10.2						
m	General purpose	3,8 m <sup>8</sup> 5.0 yd <sup>3</sup> 4,0 m <sup>8</sup> 5.2 yd <sup>3</sup> 4,2 m <sup>3</sup> 5.6 yd <sup>3</sup>				4, 6.	4,4 5.8	4,0 5,2 4,2 5,6	3,8 5.0	
Long boom	Rock	4,2 m <sup>8</sup> 5.6 yd <sup>3</sup> 4,4 m <sup>8</sup> 5.8 yd <sup>3</sup>					4,4 5.8	4,2 5.6 4,2 5.6	4,0 5.2	
	Light material	6,8 m <sup>8</sup> <b>8.9 yd</b> 3		6,8 - 8.9						
	Bucket fi 105% 1	00% 95%	135 Pin-		)20 laterial	2360 densit	27 y (lb/y		035	3370

# L220F

			GEN	ERAL PURP	OSE			ROCK*		LIGHT MATERIAL	
Tires 29.5 R25 L4		A									LONG BOOM
		Bolt-on edges	Teeth	Bolt-on edges	Teeth	Bolt-on edges	Teeth	Teeth	Teeth	Bolt-on edges	
Volume, heaped ISO/SAE	m³ <b>yd</b> ³	4,9 <b>6.4</b>	5,2 <b>6.8</b>	5,4 <b>7.1</b>	5,6 <b>7.3</b>	6,0 <b>7.8</b>	4,5 <b>5.9</b>	4,5 <b>5.9</b>	5,0 <b>6.5</b>	8,2 <b>10.7</b>	-
Volume at 110% fill factor	m³ yd³	5,4 <b>7.0</b>	5,7 <b>7.5</b>	5,9 <b>7.8</b>	6,2 <b>8.1</b>	6,6 <b>8.6</b>	5,0 <b>6.5</b>	5,0 <b>6.5</b>	5,5 <b>7.2</b>	9,0 <b>11.8</b>	-
Static tipping load, straight	kg	23 770	23 580	23 680	23 450	23 540	23 840	23 390	22 570	22 530	-2860
	Ib	<b>52,410</b>	<b>52,000</b>	<b>52,220</b>	<b>51,700</b>	<b>51,910</b>	<b>52,560</b>	<b>51,560</b>	<b>49,760</b>	<b>49,670</b>	<b>-6,305</b>
at 35° turn	kg	21 140	20 960	21 050	20 810	20 910	21 180	20 750	19 990	19 950	-2630
	<b>Ib</b>	<b>46,620</b>	<b>46,210</b>	<b>46,410</b>	<b>45,900</b>	<b>46,110</b>	<b>46,700</b>	<b>45,750</b>	<b>44,080</b>	<b>43,990</b>	<b>-5,800</b>
at full turn	kg	20 840	20 660	20 750	20 520	20 610	20 880	20 450	19 700	19 660	-2650
	<b>Ib</b>	<b>45,960</b>	<b>45,550</b>	<b>45,750</b>	<b>45,240</b>	<b>45,450</b>	<b>46,040</b>	<b>45,080</b>	<b>43,430</b>	<b>43,350</b>	- <b>5,740</b>
Breakout force	kN	231,0	224,7	224,5	220,2	212,9	240,9	192,7	178,7	172,6	+3,0
	<b>Ibf</b>	<b>51,930</b>	<b>50,530</b>	<b>50,480</b>	<b>49,500</b>	<b>47,870</b>	<b>54,170</b>	<b>43,330</b>	<b>40,190</b>	<b>38,810</b>	<b>+674</b>
А	mm	9050	9330	9090	9360	9190	9220	9590	9740	9550	+310
	ft in	<b>29'8''</b>	<b>30'7"</b>	<b>29'10</b> "	<b>30'9"</b>	<b>30'2"</b>	<b>30'3''</b>	<b>31'6''</b>	<b>32'0</b> "	<b>31'4</b> "	<b>+1'0"</b>
E	mm	1280	1520	1320	1560	1400	1440	1760	1890	1730	-20
	ft in	<b>4'3</b> "	<b>5'0"</b>	<b>4'4"</b>	<b>5'1"</b>	<b>4'7"</b>	<b>4'9''</b>	<b>5'9''</b>	<b>6'2"</b>	<b>5'8''</b>	<b>-0'1"</b>
H*)	mm	3310	3130	3280	3100	3220	3190	3000	2900	2940	+360
	ft in	<b>10'10"</b>	<b>10'3''</b>	1 <b>0'9</b> "	<b>10'2</b> "	1 <b>0'7</b> "	<b>10'6''</b>	<b>9'10''</b>	<b>9'6</b> "	<b>9'8''</b>	<b>+1'2</b> "
L	mm	6390	6450	6500	6540	6620	6450	6390	6480	6480	+360
	<b>ft in</b>	<b>21'0</b> "	<b>21'2"</b>	<b>21'4</b> "	<b>21'6</b> "	<b>21'8</b> "	<b>21'2"</b>	<b>21'0''</b>	<b>21'3</b> "	<b>21'3</b> "	<b>+1'2</b> "
M*)	mm	1260	1450	1290	1470	1350	1370	1710	1810	1580	-30
	ft in	<b>4'2"</b>	<b>4'9"</b>	<b>4'3</b> "	<b>4'10"</b>	<b>4'5"</b>	<b>4'6''</b>	<b>5'7''</b>	<b>5'11"</b>	<b>5'2''</b>	<b>-0'1"</b>
N*)	mm	2020	2140	2040	2150	2070	2080	2250	2290	2170	+270
	<b>ft in</b>	<b>6'7</b> "	<b>7'0''</b>	<b>6'8''</b>	<b>7'1"</b>	<b>6'10''</b>	<b>6'10''</b>	<b>7'5"</b>	<b>7'6</b> "	<b>7'1"</b>	<b>+0'11"</b>
V	mm in	3400 1 <b>33</b> "	3400 133"	3400 1 <b>33</b> "	3400 <b>133</b> "	3400 133"	3430 1 <b>35</b> "	3430 1 <b>35</b> "	3430 135"	3700 <b>145</b> "	-
a, clearance circle	mm	15 470	15 610	15 500	15 630	15 540	15 580	15 770	15 850	16 010	+370
	ft in	<b>50'9"</b>	51'3"	<b>50'10''</b>	51'3"	<b>51'0''</b>	<b>51'1"</b>	<b>51'9"</b>	<b>52'0</b> "	<b>52'6''</b>	<b>+1'2"</b>
Operating weight	kg	31 190	31 300	31 330	31 520	31 440	31 830	32 000	32 170	31 760	+380
	<b>Ib</b>	<b>68,770</b>	<b>69,020</b>	<b>69,090</b>	<b>69,490</b>	<b>69,320</b>	<b>70,180</b>	<b>70,550</b>	<b>70,930</b>	<b>70,020</b>	<b>+840</b>

\*) With L5 tires

 \*\*) Measured to the tip of the bucket teeth or bolt-on edge. Dump height to bucket edge. Measured at 45° dump angle. (Spade nose buckets at 42°.)

#### **Bucket Selection Chart**

The chosen bucket is determined by the density of the material and the expected bucket fill factor. The actual bucket volume is often larger than the rated capacity, due to the features of the TP-Linkage, including an open bucket design, good rollback angles in all positions and good bucket filling performance. The example represents a standard boom configuration. Example: Sand and gravel. Fill factor ~ 105%. Density 1,6 t/m<sup>3</sup> (2,690 lb/yd<sup>3</sup>). Result: The 5,2 m<sup>3</sup> (6.8 yd<sup>3</sup>) bucket carries 5,5 m<sup>3</sup> (7.2 yd<sup>3</sup>). For optimum stability always consult the bucket selection chart.

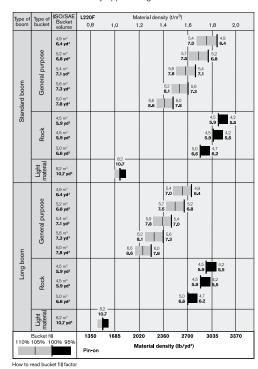
Material	Bucket	t fill, %	Mate dens t/m <sup>3</sup>			/SAE ket volume, yd <sup>3</sup>	Actua m <sup>3</sup>	l volume, yd <sup>3</sup>
Earth/Clay	~ 110		~ 1,6	~ 2,690	4,9	6.4	~ 5,4	~ 7.1
Eartin/Clay	~ 110	$\nabla$	~ 1,5	~ 2,530	5,2	6.8	~ 5,7	~ 7.5
			~ 1,4	~ 2,360	5,4	7.1	~ 5,9	~ 7.7
Sand/Gravel	. 105		~ 1,7	~ 2,870	4,9	6.4	~ 5,1	~ 6.7
Sand/ Graver	~ 105	$\sim$	~ 1,6	~ 2,690	5,2	6.8	~ 5,5	~ 7.2
			~ 1,5	~ 2,530	5,4	7.1	~ 5,7	~ 7.5
Accessorate	~ 100		~ 1,8	~ 3,030	4,9	6.4	~ 4,9	~ 6.4
Aggregate	~ 100	$\bigtriangledown$	~ 1,7	~ 2,870	5,2	6.8	~ 5,2	~ 6.8
			~ 1,6	~ 2,690	5,4	7.1	~ 5,4	~ 7.1
Rock	≤100	$\bigtriangledown$	~ 1,7	~ 2,870	4,5	5.9	~ 4,5	~ 5.9

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

#### Supplemental Operating Data

			Standard boom			Long boom	
Tires 29.5 R25 L4		29.5 R25 L3	29.5 R25 L5	875/65 R29 L4	29.5 R25 L3	29.5 R25 L5	875/65 R29 L4
Width over tires	mm ft in	-20 -0'0.6"	+35 <b>+0'1.1"</b>	+95	-20 -0'0.6"	+35 <b>+0'1.1"</b>	+95 <b>+0'4"</b>
Ground clearance	mm	±0	+40	-10	±0	+40	-20
	ft in	<b>±0</b>	+0'1.2"	<b>-0'0.3''</b>	<b>±0</b>	+0'1.2"	-0'0.6"
Tipping load, full turn	kg	-100	+1010	+180	-90	+930	+180
	<b>Ib</b>	<b>-220</b>	<b>+2,227</b>	<b>+397</b>	<b>-198</b>	<b>+2,050</b>	<b>+397</b>
Operating weight	kg	-80	+1490	+650	-80	+1500	+650
	<b>Ib</b>	<b>-176</b>	<b>+3,285</b>	<b>+1,433</b>	<b>-176</b>	<b>+3,307</b>	<b>+1,433</b>

Note: This only applies to genuine Volvo attachments.



#### STANDARD EQUIPMENT

Service and maintenance	L150F	L180F	L220F
Engine oil remote drain and fill	•	•	•
Transmission oil remote drain and fill	•	•	•
Lubrication manifolds, ground accessible	•	•	•
Pressure check connections: transmission and hydraulic, quick-connects	•	•	•
Toolbox, lockable	•	•	•

Engine	L150F	L180F	L220F
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	•	•	•
Fuel fill strainer	•	•	•
Crankcase breather oil trap	•	•	•
Exhaust heat insulation	•	•	•
Reversible cooling fan	•	•	•

Electrical system	L150F	L180F	L220F
24 V, pre-wired for optional accessories	•	•	•
Alternator 24V/ 80A	•	•	•
Battery disconnect switch with removable key	•	•	•
Battery boxes, steel	•	•	•
Fuel gauge	•	•	•
Hour meter	•	•	•
Electric horn	•	•	•
Instrument cluster:	•	•	•
Fuel level			
Transmission temperature			
Coolant temperature			
Instrument lighting			
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 (2 front and 2 rear)			

Contronic monitoring system	L150F	L180F	L220
Monitoring and logging of machine data	•	•	•
Contronic display	•	•	•
Fuel consumption	•	•	•
Ambient temperature	•	•	•
Clock	•	•	•
Test function for warning and indicator lights	•	•	•
Brake test	•	•	•
Test function, sound level at max fan speed	•	•	•
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			
<ul> <li>Parking brake applied</li> </ul>			
Brake charging			
<ul> <li>Overspeed at direction change</li> </ul>			
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 coolant temperature			
Low engine oil pressure			
High crankcase pressure			
High charge-air temperature     Engine shutdown to idle in case of molfunction indication			6
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	L150F	L180F	L220F
Automatic Power Shift	•	•	•
Fully automatic gearshifting, 1-4	•	•	•
PWM-controlled gearshifting	•	•	•
Forward and reverse switch by hydraulic lever console	•	•	•
Indicator glass for transmission oil level	•	•	•
Differentials: Front, 100% hydraulic diff lock. Rear, conventional.	•	•	•

Brake system	L150F	L180F	L220F
Dual brake circuits	•	•	•
Dual brake pedals	•	•	•
Secondary brake system	•	•	•
Parking brake, electrical-hydraulic	•	•	•
Brake wear indicators	•	•	•

Cab	L150F	L180F	L220F
Air-conditioning with automatic climate control			•
ROPS (ISO 3471), FOPS (ISO 3449)	•	•	•
Operator's seat, ISRI, air susp, heat, high back (CDC and elservo compatible)	•	•	•
Single key kit door/start	•	•	•
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 heat control	•	•	•
Floor mat	•	•	•
Dual interior lights	•	•	•
Dual interior rearview mirrors	•	•	•
Dual exterior rearview mirrors	•	•	•
Window, sliding, door	•	•	•
Sliding window, right side	•	•	•
Tinted safety glass	•	•	•
Retractable seatbelt (SAE J386)	•	•	•
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	•	•	•

Hydraulic system	L150F	L180F	L220F
Main valve, double acting 2-spool with hydraulic pilots	•	•	•
Variable displacement axial piston pumps (3) for:			
1 Working hydraulic system	•	•	•
2 Working hydraulic system, Pilot hydraulic, Steering- and Brake system	•	•	•
3 Cooling fan and Brake system	•	•	•
Hydraulic control levers	•	•	•
Electric level lock	•	•	•
Boom kick-out, automatic	•	•	•
Bucket positioner, automatic	•	•	•
Double-acting hydraulic cylinders	•	•	•
Indicator glass for hydraulic oil level	•	•	•
Hydraulic oil cooler	•	•	•

External equipment	L150F	L180F	L220F
Fenders, front and rear	•	•	•
Viscous cab mounts	•	•	•
Rubber engine and transmission mounts	•	•	•
Easy-to-open side panels	•	•	•
Frame, joint lock	•	•	•
Vandalism lock prepared for	•	•	•
Batteries			
Engine compartment			
Radiator grille			
Lifting eyes	•	•	•
Tie-down eyes	•	•	•
Tow hitch	•	•	•
Guard rails, on rear fenders	•	•	•

Other equipment	L150F	L180F	L220F
CareTrack, GSM/Satellite	•	•	•

Tires	L150F	L180F	L220F
26.5 R25	•	•	
29.5 R25			•

#### OPTIONAL EQUIPMENT

Service and maintenance	L150F	L180F	L220F
Automatic lubrication system	•	•	•
Automatic lubrication system for long boom	•	•	•
Automatic lubrication system, stainless steel	•	•	•
Automatic lubrication system, stainless steel for Long boom	•	•	•
Automatic lubrication system for attachment bracket, welded	•	•	•
Automatic lubrication system, stainless steel for attachment bracket, welded	•	•	•
Oil sampling valve	•	•	•
Refill pump for grease to lube system	•	•	•
Tool kit	•	•	•
Wheel nut wrench kit	•	•	•

Engine	L150F	L180F	L220F
Air pre-cleaner, Sy-Klone type	•	•	•
Air pre-cleaner, Sy-Klone type, two-stage	•	•	•
Air pre-cleaner, oil-bath type	•	•	•
Air pre-cleaner, turbo type	•	•	•
Engine auto shutdown	•	•	•
Engine block heater, 120 V	•	•	•
ESW, Disabled engine protection	•	•	•
ESW, Increased engine protection	•	•	•
Fan air intake protection, extra close-meshed	•	•	•
Fuel heater	•	•	•
Hand throttle control	•	•	•
Max. fan speed, hot climate	•	•	•
Radiator, corrosion-protected	•	•	•
Axle oil cooler for reversible cooling fan	•	•	•

Electrical system	L150F	L180F	L220F
Alternator, 80 A with air filter	•	•	•
Anti-theft device	•	•	•
Battery disconnect switch, additional in cab	•	•	•
License plate holder, lighting	•	•	•
Rearview camera incl. monitor, colour	•	•	•
Rearview mirrors, adjustable, el.heated	•	•	•
Reverse alarm	•	•	•
Shortened headlight support brackets	•	•	•
Rotating beacon	•	•	•
Working lights, attachments	•	•	•
Working lights front, high intensity discharge (HID)	•	•	•
Working lights front, on cab, dual	•	•	•
Working lights front, extra	•	•	•
Working lights rear, on cab	•	•	•
Working lights rear, on cab, dual	•	•	•
Working lights, reverse gear activated	•	•	•

Cab	L150F	L180F	L220F
Automatic Climate Control, ACC	•	•	
Air-conditioning with automatic climate control	•	•	
Asbestos dust protection filter	•	•	•
Cab air pre-cleaner, Sy-Klone type	•	•	•
Carbon filter	•	•	•
Cover plate, under cab	•	•	•
Lunch box holder	•	•	•
Armrest, operator's seat, ISRI, left only	•	•	•
Armrest, operator's seat, KAB, left only	•	•	•
Operator's seat, KAB, air susp, heavy-duty (CDC and elservo compatible)	•	•	•
Operator's seat, ISRI, heated, high back, mechanical	•	•	•
Radio installation kit incl. 11 amp 12 volt outlet, left side	•	•	•
Radio installation kit incl. 11 amp 12 volt outlet, right side	•	•	•
Radio with CD-player	•	•	•
Seatbelt, 3", (width 75 mm)	•	•	•
Steering wheel knob	•	•	•
Sun blinds, rear windows	•	•	•
Sun blinds, side windows	•	•	•
Timer cab heating	•	•	•
Universal door/ignition key	•	•	•

Drivetrain	L150F	L180F	L220F
Diff lock front 100%, Limited Slip rear	•	•	•
Diff.lock, limited slip front and rear in comb. with axle oil cooler			•
Speed limiter, 20 km/h (12.4 mph)	•	•	•
Speed limiter, 30 km/h (18.6 mph)	•	•	•
Speed limiter, 40 km/h (24.9 mph)	•		

Brake system	L150F	L180F	L220F
Oil cooler and filter front & rear axle	•	•	•

Hydraulic system	L150F	L180F	L220F
Attachment bracket, welded	•	•	•
Boom suspension system with single-acting lift function	•	•	•
Separate attachment locking, standard boom	•	•	•
Separate attachment locking, long boom	•	•	•
Arctic kit, attachment locking hoses and 3rd hydr. function	•	•	•
Arctic kit, pilot hoses and brake accum. incl. hydr. oil incl. 3rd and 4th function	•	•	•
Boom cylinder hose and tube guards	•	•	•
Boom cylinder hose and tube guards for long boom	•	•	•
Hydraulic fluid, biodegradable, Panolin	•	•	•
Hydraulic fluid, fire-resistant	•	•	•
Hydraulic fluid, for hot climate	•	•	•
Hydraulic function, 3rd	•	•	•
Hydraulic function, 3rd for long boom	•	•	•
Hydraulic function, 3rd-4th	•	•	•
Electro-hydraulic function, 3rd	•	•	•
Electro-hydraulic function, 3rd for long boom	•	•	•
Electro-hydraulic function, 3rd-4th	•	•	•
Electro-hydraulic function, 3rd-4th for long boom	•	•	•
Electro-hydraulic servo controls	•	•	•
Electro-hydraulic servo controls for long boom	•	•	•
Single acting lifting function	•	•	•
Single lever control	•	•	•
Single lever control for 3rd hydraulic function	•	•	•
Hydraulic oil cooler, extra	•	•	•

External equipment	L150F	L180F	L220F
Cab ladder, rubber-suspended	•	•	•
Deleted front fenders	•	•	•
Fender widener, front/rear for 80-series tires	•	•	•
Fender widener, front/rear for 65-series tires	•	•	•
Fenders, fixed front and swing out rear, fender wideners incl.	•	•	•
Long boom	•	•	•

Protective equipment	L150F	L180F	L220F
Belly guard front	•	•	•
Belly guard rear	•	•	•
Belly guard rear, oil pan	•	•	•
Cover plate, heavy-duty, front frame	•	•	•
Cover plates, rear frame	•	•	•
Guards for front headlights	•	•	•
Guards for radiator grill	•	•	•
Guards for tail lights	•	•	•
Guards for tail lights, heavy-duty	•	•	•
Grease nipple guards	•	•	•
Wheel/axle seal guards	•	•	•
Windows, side and rear guards	•	•	•
Windshield guard	•	•	•
Corrosion protection, painting of machine	•	•	•
Steer cylinder guards	•	•	•

Other equipment	L150F	L180F	L220F
Comfort Drive Control (CDC)	•	•	•
Counterweight, logging	•	•	•
Counter weight, block handling			•
Secondary steering with automatic test function	•	•	•
Sign, slow moving vehicle	•	•	

Tires	L150F	L180F	L220F
775/65 R29	•	•	
875/65 R29			•

Attachments	L150F	L180F	L220F
Buckets:			
Rock straight or spade nose	•	•	•
General purpose	•	•	•
Side-dump			•
Light material	•	•	•
Wear parts:			
Bolt-on and weld-on bucket teeth	•	•	•
Segments	•	•	•
Cutting edge in three sections, bolt-on	•	•	•
Fork equipment	•	•	•
Material handling arm	•	•	•
Log grapples	•	•	•



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