

VOLVO WHEEL LOADER

**L50F**



# HIGH PERFORMANCE COMES AS STANDARD

Purpose developed for intensive non-stop productivity, Volvo L50F wheeled loaders are built for demanding production applications. Powered 115 hp Volvo D5D engine, the Volvo L50F has a high power to weight ratio for effortless productivity, all day and every day.

## Intercooled efficiency

Developing high levels of torque, the 4.8 litre Volvo D5D engine is intercooled to optimise fuel efficiency and performance. Fully compliant with Tier III emission standards, this outstanding power unit is ideally suited to the Volvo L50F. Matched to a smooth hydrostatic transmission and highly responsive hydraulic system, the engine has ample power for the most demanding of tasks. The result? Effortless performance.

Where high levels of productivity have to be maintained over extended working periods, this is a critical Volvo L50F advantage.

## TP linkage delivers more

Developed by Volvo to increase loader productivity, the patented TP torque parallel linkage system keeps loads level throughout the lifting range. Added benefits including a wide roll back angle for bucket attachments and superior lifting power. Visibility over pallet loads is excellent, helping to make the L50F one of the most versatile loaders in its class.

## Clean, quiet and economical

By transversely mounting the engine, its weight is used to counterbalance the front loader. Transverse mounting makes service access straightforward, reducing the time it takes to carry out daily checks and routine maintenance.

## Stability over tough terrain

Designed to operate in difficult terrain, Volvo wheeled loaders have good ground clearance and oscillating rear axles for sure-footed stability. 100% operator selectable differential-locks are fitted in both axles to optimise traction.

## Advanced cooling package

Designed to ensure optimum efficiency in all environments, the cooling package is cooled by a thermostatically controlled hydraulic fan. Linked to the engine ECU, the speed of the fan is automatically adjusted to ensure a consistent cooling temperature is maintained in extreme heat or cold.



- Economical Tier III Volvo D5D engine.



- TP linkage optimises breakout force.



- High tip bucket for added truck loading versatility.



- Parallel lift through full lift range.
- All the advantages of traditional Z-bar and parallel linkage in one design.



# DESIGNED TO BE DRIVEN

It is the detail design features that make Volvo L50F the operator's choice. Smooth hydrostatic drive and load sensing hydraulics deliver a perfect balance of power and productivity. 100% operator selectable differential-locks ensure traction is optimised in the toughest of conditions.

## Dedicated pumps optimise output

A load-sensing hydraulic pump lies at the heart of the L50F. Unlike a fixed gear pump, which delivers the same volume of oil regardless of load, the load-sensing pump only delivers the volume of oil to do the job. This helps conserve fuel, saves unnecessary pump wear and reduces hydraulic oil temperatures.

A separate pump takes care of the power steering. This ensures full steering power is retained when working at full capacity.

## Increased productivity through higher speed and faster transport

The optional equipment "High travel speed" allows vehicle speeds up to 40 km/h. This is a distinct advantage when the machine is constantly driven between work sites, used for delivery of materials on the site and when operated in relatively long load-and-carry applications.

## Genuine four-wheel drive

In extreme conditions, optimum performance can only be guaranteed when full power is available to all four wheels. To achieve this, positive locking differentials are fitted to both the front and rear axles. When the operator selects differential lock, all four wheels get equal power and can generate equal traction at the same rotational speed.

## Hydrostatic efficiency

Volvo has invested a great deal of design effort in the hydrostatic transmission of the L50F. Priorities include smooth speed progression for delicate work such as pallet work through to high power transfer in demanding conditions.

Fitted with a two-speed selector to allow a high transport speed to be achieved, the transmission has overload protection to prevent overheating and overloading the engine.

The combined brake and inching pedal adds a further level of control. Light pressure on the brake pedal slows the loader using the transmission.

Additional pedal pressure applies the rear axle brakes. This can be used to hold the loader when operating on an incline.



- Locking differentials deliver 100% traction.



- Open attachment brackets for high visibility.



- Tough design suits every application.



- Volvo style quick attach bracket fit existing and new attachments.



- Wide attachment choice to suit specific needs.
- Full steering power, regardless of load.
- High travel speed (option) provides faster machine for higher productivity.



# COMFORT-CARE CAB THE NAME SAYS IT ALL

Operator safety and comfort are taken care-of in the Volvo care cab. Designed to offer extremely high levels of operator protection, the cab matches this to high levels of comfort and brilliant all-round visibility.

## Comfort and productivity

Settle into the cab of the Volvo L50F, and it is clear that a great deal of effort has gone into its design. From the range of seating and steering adjustments through to the ergonomic layout of the controls, it shows that the operator has been put high on the priority list.

All-round visibility is excellent, the fully glazed doors and slim cab pillars making it easy to see to the sides. The view over the loader is excellent too, with an industry leading view of pallet loads.

Mounted on damped viscous mounts, the cab offers low noise and vibration levels. This helps ensure comfort on the longest of working days.

The heating and ventilation system is designed to provide rapid de-misting, with vents for directing filtered heating or cooled air directly where it is needed.

A fully automatic air conditioning system is standard.

## Multi-function joystick

Light and easy to operate, the multi-function joystick offers straightforward control of the loader. A separate lever is used to operate hydraulic functions and a locking position allows continuous hydraulic flow for attachments that can include a sweeper.

The joystick also has buttons to select various functions and also allow for fast shuttle between forward and reverse. Differential locks and gear speed are also selected from this single control.

## All the information you need

The main dashboard provides clear and easy to understand information. The main LCD display will list main running information, such as engine speed, with submenus to list service data.

Fuel level plus hydraulic oil and engine temperatures are shown on easy to read analogue gauges.

The programmable Volvo Contronic keypad can be used to display service data.



- Deluxe high back seat for optimum comfort.



- Single lever control with integrated 3rd function (option).



- Excellent all-round visibility.



- Dashboard shows all the information you need.
- 4- lever control (option) enables easy, comfortable, fingertip control, thanks to the low lever force, and also provides the possibility to use an hydraulic attachment that needs two hydraulic functions.
- Ergonomic control layout.



- Spacious cab offers comfort and visibility.



# VOLVO FEATURES THAT PUT YOU AHEAD

## See more, do more

- Extra bright cab work lights provide extra illumination on low light.

## Transverse engine

- Mounted behind the rear axle to optimise balance, the engine has excellent service access.

## Full cab filtration

- With the windows closed, the operator can breathe filtered air. Allows safe operation in dusty conditions.

## 100% locking differentials

- Both front and rear axles have fully locking differentials.

## Lubricated-for-life rear axle bearings

- Promote higher uptime and longer service life

## Brilliant stability

- Oscillating rear axle and robust central pivot deliver brilliant stability.





#### **Volvo care cab**

- Safe, quiet and comfortable, the cab offers excellent all-round visibility.

#### **High roll back angle**

- TP linkage delivers a high roll back angle for reduced cycle times.

#### **New or existing attachments**

- A choice of either "Z" or Volvo style attachment brackets allows the fitting of new or existing attachments.

#### **Faster machine**

- High travel speed (option) increases productivity and reduces cycle times.



#### **TP Torque Parallel linkage**

- Excellent breakout force from ground level to the top of the lifting range, and everywhere in between; plus the benefit of parallel movements.

# HARD WORK MADE EASY

Making it easy to carry out routine maintenance checks is a key design feature of the Volvo L50F. Raise the rear engine hood and see just how easy it is to reach all routine service items. Note how the air conditioning condenser can be folded out for easy cleaning. Even refuelling is simple, thanks to the large filler neck. No need for funnels and spouts when filling from a can either.

## Safety first

Access to the cab or canopy is via wide steps with easy to reach grab handles for added security.

## Long service intervals

Service intervals are established following extensive field testing. In normal operating conditions, key engine service intervals are 500 hours, axles 1000 hours and hydraulic oil and filters 1500 hours.

All grease points are clearly marked and easy to access. Within a few minutes, the loader can be checked and ready for a hard day's work.

## Built to last

All Volvo Construction Equipment has to pass stringent durability tests. Wear and tear is also considered including all electrics and wiring that exceed standards.

## Protection from theft and vandalism

Locks are fitted to the engine hood, fuel cap, battery box, cab doors, inside storage compartment and filter cover. Optional anti-theft protection is available.

## Reversible cooling fan

A fully automatic reversible cooling fan can be specified. This is recommended in applications where air drawn into the radiator is liable to debris contamination. In action, the reversible fan will slow to a stop and then reverse. This will cause debris caught on the main engine hood screen to be blown clear, the system also clears debris drawn into the cooling pack.

## Volvo cares about the environment

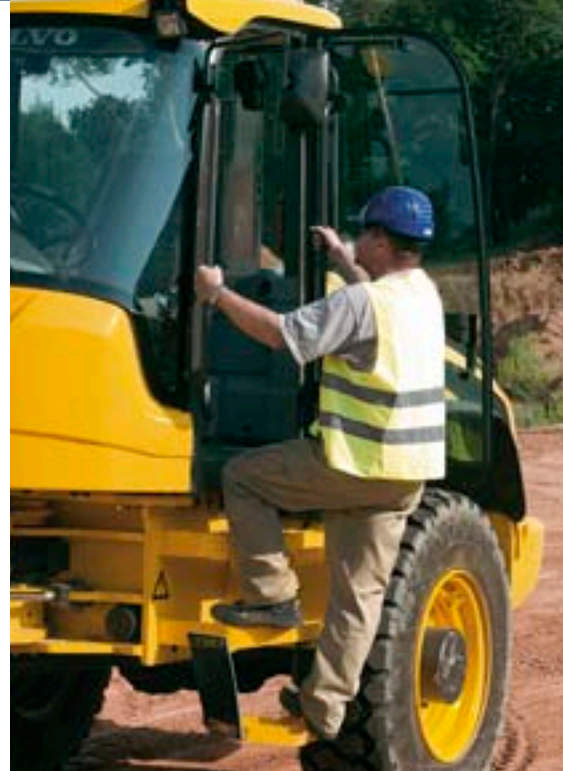
More than 95% of the machine's weight can be recycled.

The fuel tank cap seals tightly to prevent fuel leakage in the event of the machine tipping over.

To facilitate draining and to reduce the risk of spilling engine and hydraulic oils, there are special hoses supplied with each machine.

The hydraulic tank, as well as the front and rear axles, has a protective valve in the breather filter, minimizing leakage in the event of the machine tipping over.

An environmental declaration is supplied with each machine from the factory.



- Safe and easy cab access.



- Reversible fan for adverse conditions.



- Dual element filters offer full protection.



- Volvo genuine parts protect your investment.
- Easy service access.



# SPECIFICATIONS

## Engine

Volvo in-line 4-cylinder, 4 stroke, direct injection water cooled, turbocharged diesel engine. EPA Tier 3 / EU Stage IIIA compliant. Air cleaning: 1. Paper filter with indicator in cab / 2. Safety filter.

<b>Engine</b>	D5DCBE3
<b>Gross power @</b>	2200 r/min
<b>SAEJ1995</b>	87 kW - 117 hp
<b>Net power @</b>	2200 r/min
<b>SAEJ1349 - DIN ISO 1585</b>	85 kW - 115 hp
<b>Max. torque @</b>	1600 r/min
<b>SAEJ1349 net - DIN ISO 1585</b>	478 Nm
<b>Cubic capacity</b>	4.76 l
<b>Bore</b>	108 mm
<b>Stroke</b>	130 mm

## Electrical system

<b>Rated voltage</b>	24 V
<b>Battery voltage</b>	2 x 12 V
<b>Battery capacity</b>	2 x 90 Ah
<b>Alternator rating</b>	1540/55 W/A
<b>Starter motor output</b>	4.0 kW

## Drivetrain

Hydrostatic driveline for full power shift under load, both when changing direction (forward and reverse) and between ranges. Maximum drawbar force can be achieved in all ranges. Inch/brake pedal for variable machine speed control and power. Multi-function joystick for change of direction (FWD-REV.), differential lock and use of the hydraulic functions.

<b>Oscillation at wheel, max.</b>	360 mm
<b>Track</b>	1730 mm
<b>Angle of oscillation</b>	±12°

## Tyres

<b>Size</b>	17.5-25
<b>Rim</b>	14 x 25 ET25

Differential: hydraulically actuated 100% differential locks in both axles.

Frame: solid front and rear frame, robot-welded. Articulating joint for optimum manoeuvrability and oscillating rear axle for optimum traction.

<b>Speed, max.:</b>	Standard	High travel speed*
<b>1st range forward/reverse</b>	0-5 km/h	0-5 km/h
<b>2nd range forward/reverse</b>	0-20 km/h	0-17 km/h
<b>3rd range forward/reverse</b>	0-40 km/h	

\* Optional equipment

## Service fill capacities

<b>Engine</b>	14 l
<b>Fuel tank</b>	160 l
<b>Front axle, total</b>	18 l
<b>Rear axle, incl. drop-box</b>	18,7 l
<b>Hydraulic tank, incl.</b>	90 l

\*\*NOTE! Uncertainties in given noise values (e.g. uncertainty in production and measuring instruments) are calculated in accordance with ISO 6395:2008 for the sound power level around the machine and ISO 6396:2008 for the sound pressure level at the operator position.

## Braking system

Service brake: reliable, dual braking system, wet disc brakes (low speed : in rear axle, high-speed : in both axles), hydraulically actuated via pump accumulator.

1. Wear-free, hydrostatic inching brake / 2. Service brake, actuated via «inch/brake pedal». First stage of pedal application actuates the inching function, the last third of pedal application applies the service brake.

Parking brake: Central disc brake

## Hydraulic system

Load sensing hydraulic system with self-controlling power distribution. Thermostatically controlled oil circuit with integrated cooling system. Hydraulic control valve: Servo-controlled, double acting control valve three spool system, with primary and secondary pressure valves.

1. Lifting function / 2. Tilting function / 3. Additional function for hydraulic QC, Unlock, neutral, lock.

Hydraulic oil filter: Combined suction and return-filtration cartridge with a 10 µm filter. The filter can be replaced without emptying the hydraulic oil tank.

Axial piston pump

<b>Flow</b>	132 l/min
<b>@ engine rpm</b>	2200 r/min
<b>Relief valve pressure</b>	26 MPa

## Steering

Load sensing hydrostatic steering. Steering pump: gear-type pump. Steering cylinder: 2 double-acting steering cylinders.

Steering:

<b>Angle of articulation</b>	±40°
------------------------------	------

Steering pump:

<b>Flow</b>	64 l/min
<b>@ engine rpm</b>	2200 r/min
<b>Relief valve pressure</b>	22 MPa

## Linkage

<b>Linkage system</b>	TP
<b>Lift cylinders</b>	2
<b>Tilt cylinders</b>	1
<b>Lift time (loaded)</b>	6.4 s
<b>Lowering time (empty)</b>	3.9 s
<b>Dump time</b>	1.6 s

## Noise levels\*\*

<b>Sound pressure level (LpA) at operator position</b>	70 dB(A)
--	----------

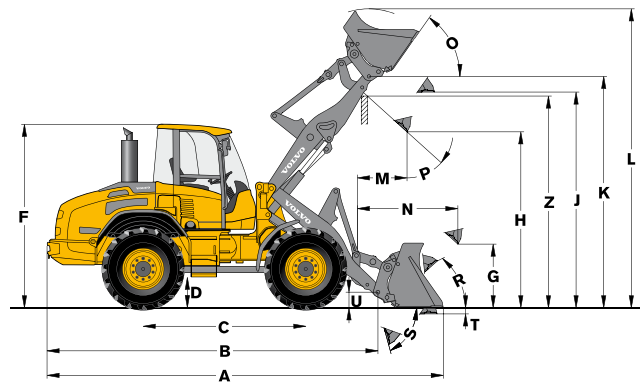
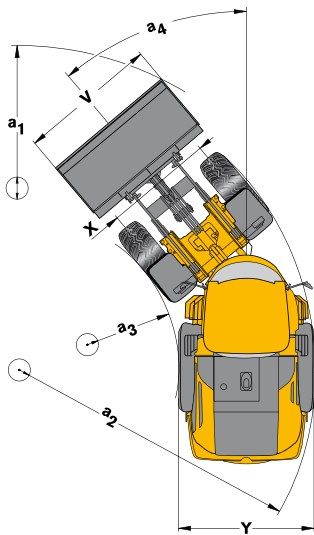
(Measurement according to ISO 6396)







**Sound power level (LWA) around the machine** 102 dB(A)

(Measurement according to 2000/14/EC with applicable appendices and measuring method according to ISO 6395)







## Whole body vibrations

Emission of whole-body vibration values and its uncertainties during operating conditions in different applications, when the machine is used as intended, is according to information in ISO/CEN Technical Report ISO/TR25398.





Data according to bucket type		Gen. Purpose		Light material		4-in-1	High-Tip
							
L50F with TP-linkage, TPV attachment bracket (cast version) and 17.5-25 tires							
Capacity heaped	m <sup>3</sup>	1.5	1.6	1.8	2.0	1.4	2.3
Material density	kg/m <sup>3</sup>	1900	1700	1500	1300	1900	1000
Static tipping load, straight (ISO 14397)	kg	6560	6510	6400	6290	6080	5550
Static tipping load, full turn 40° (ISO14397)	kg	5810	5750	5670	5570	5390	4910
Hydraulic lifting capacity, max.	kN	86.5	86	84.5	83	81.5	73
Breakout force	kN	72	69	64	58	65	-
A Total length	mm	6460	6495	6580	6690	6560	7030
L Lift height, max.	mm	4880	4900	4980	5235	4905	5915
V Bucket width	mm	2250	2250	2250	2250	2250	2250
a <sub>1</sub> Clearance circle	mm	10360	10385	10435	10505	10475	10740
T Digging depth	mm	95	95	95	95	130	105
H Dump height, 45°	mm	2865	2845	2775	2695	2745	4330
M Reach at max. height	mm	965	1000	1040	1115	965	1505
N Reach, max.	mm	1810	1830	1890	1970	1810	2710
Operating weight	kg	9410	9430	9420	9450	9670	9890

L50F with TP-linkage, TPV attachment bracket and 17.5-25 tires	
B	5380 mm
C	2650 mm
D	435 mm
F	2980 mm
G	1000 mm
J	3525 mm
K	3780 mm
O	54 °
P	45 °
R	44 °
S	76 °
U	255 mm
X	1730 mm
Y	2190 mm
Z	3535 mm
a <sub>2</sub>	4760 mm
a <sub>3</sub>	2540 mm
a <sub>4</sub>	40 °

Data according to bucket type		Gen. Purpose		Light material		4-in-1	High-Tip
							
L50F with TP-linkage, TPZ attachment bracket and 17.5-25 tires							
Capacity heaped	m <sup>3</sup>	1.6	1.8	2	2.5	1.4	2.3
Material density	kg/m <sup>3</sup>	1800	1600	1400	1100	1900	1100
Static tipping load, straight (ISO 14397)	kg	6840	6730	6600	6540	6770	5960
Static tipping load, full turn 40° (ISO 14397)	kg	6050	5960	5840	5790	6000	5280
Hydraulic lifting capacity, max.	kN	90	88.5	86.5	85	88.5	78
Breakout force	kN	74	68	61	53	71	-
A Total length	mm	6400	6480	6590	6740	6430	6890
L Lift height, max.	mm	4840	4900	4915	5170	4825	6200
V Bucket width	mm	2250	2250	2250	2250	2250	2250
a <sub>1</sub> Clearance circle	mm	10325	10370	10440	10530	10355	10635
T Digging depth	mm	100	100	100	95	60	95
H Dump height, 45°	mm	2900	2845	2770	2660	2890	4230
M Reach at max. height	mm	880	930	1005	1100	890	1350
N Reach, max.	mm	1725	1775	1850	1950	1740	2540
Operating weight	kg	9330	9370	9350	9400	9570	9780

L50F with TP-linkage, TPZ attachment bracket and 17.5-25 tires	
B	5385 mm
C	2650 mm
D	435 mm
F	2980 mm
G	1000 mm
J	3525 mm
K	3780 mm
O	55 °
P	45 °
R	45 °
S	75 °
U	255 mm
X	1730 mm
Y	2190 mm
Z	3455 mm
a <sub>2</sub>	4760 mm
a <sub>3</sub>	2540 mm
a <sub>4</sub>	40 °

Data with Loading Fork		TPV attachment bracket	TPZ attachment bracket
Center of gravity 500 mm			
Tipping load, full turn (ISO 14397)	kg	4810	5100
Payload according to EN 474-3, 60/80%	kg	2880 / 3640	3060 / 4000
Payload 80%, transport position, 40° full turn	kg	4000	4000

# SPECIFICATIONS

## STANDARD EQUIPMENT

### Engine

Diesel engine, direct fuel injection  
Extra fuel filter  
Cold start aid  
Dry-type air filter  
Preparation for pre-cleaner  
Filtration screens on air inlets

### Electrical system

Alternator 55 A

### Lighting

Main head lights (halogen) upper/dipped/asymmetrical  
Working lights (2 front/2 rear)  
Parking lights  
Rear lights  
Brake lights  
Direction indicators  
Hazard warning lights  
Reversing lights  
Cab lighting

### Instrumentation & controls

Multi-function joystick  
24 Volt accessories socket  
Forward horn  
Hazard warning switch  
Safety start

### Electronic Information System

Analog information for:  
Fuel level  
Engine temperature  
Drive system oil temperature  
LED-illuminated symbols (colour-coded) for:  
Direction (forward/reverse)  
Indicators (left/right)  
Pre-heater (option)  
Main beam head lamp  
Differential locks  
Boom suspension system (option)  
Loading fork operation (option)

LED-illuminated symbols (red) with acoustic signal for:  
Parking brake  
Air filter restriction  
Drive system oil temperature  
Engine temperature  
Engine oil pressure  
Battery charging  
Return filter  
Touch pad with symbols and integrated LEDs for:  
Parking lights  
Working lights (front/rear)  
Windscreen wiper (rear)  
Rotating beacon (option)  
Boom suspension system on/off (option)  
Locking and activation of Volvo-attachment bracket  
Activation of multi-function joystick for directional change  
Digital LED display activated by dual function keys for:  
Entry and retrieval of operating information  
Optional anti-theft function control

### Drivetrain

Hydrostatic drive  
Operator-selected 100% differential locks in both axles.  
Tyres 17.5-25

### Hydraulic system

Load-Sensing Hydraulics  
Axial piston pump  
Control valve three-spool system  
3rd hydraulic circuit and couplings

### Cab, Exterior

ROPS/FOPS-cab with flexible mountings  
Lockable door  
All-round tinted safety glass  
Windscreen wiper (front/rear)  
Windscreen washer (front/rear)  
Door stops  
External rear view mirrors (right/left)

Cab filtration system

### Cab, Interior

4-way adjustable operator's seat  
Left arm rest  
Air conditioner  
Heater with air-filter and defroster (front/rear)  
Adjustable steering column  
Seat belt  
Sunvisor  
Cab filtration  
Hook for coat  
Cup holder  
Emergency hammer  
Storage box in the cab  
Rear view mirrors (left/right)

### Working Equipment

Automatic bucket leveller  
Hydraulic quick-change attachment bracket

### Carriage Body

Fenders (front/rear)  
Fender extensions (optional)  
Lockable engine hood  
Lockable fuel-tank cap  
Vertical exhaust  
Towing device  
Lifting eyes  
Tying down eyes

### International Standards for Machines and Production

Quality: DIN/ISO 9001  
Safety: CE - Criteron  
Machine guide-lines 2006/42/EC  
ROPS ISO 3471  
FOPS ISO 3449  
Operating weight ISO 7131  
Tipping load / Payload: ISO 14397-1  
EMC (Electromagnetic Compatibility) 89/336/EEC plus supplement  
Environment: DIN/ISO 14001  
Sound regulation: 2000/14/EC

## OPTIONAL EQUIPMENT

### Engine Equipment

Pre-heater  
Pre cleaner air filter (Turbo II)  
High travel speed  
Alternator 80 A  
Tropical kit  
Air pre-cleaner, oil-bath type  
Reversible fan (three mode selectable)

### Hydraulics

Hydraulic couplings for  
4th hydraulic circuit  
Single lever with integrated 3rd function  
3-lever control  
4-lever control

### Cab

Handthrottle  
Hand control inch valve  
Radio  
Radio CD  
Additional transport lights  
Air suspension operator's seat  
Heated air suspension operator's seat  
Noise insulation  
Sliding window in cab door

### Working Equipment

Boom suspension system  
Long boom

### Environment

Biodegradable hydraulic oil

### Safety

Anti-theft system  
Headlights protection  
Rear lights protection  
Rotating beacon  
Audible reverse alarm  
Engine hood protection  
Windshield guard, front  
Windshield guard, rear  
Belly guards, front/rear  
Working light guards, front/rear  
Xenon working lights, front/rear  
Xenon working lights, front



# VOLVO CONSTRUCTION EQUIPMENT

Volvo Construction Equipment is different. Our machines are designed, built and supported in a different way. That difference comes from an engineering heritage of over 180 years. A heritage of thinking first about the people who actually use the machines. About how to help them be safer, more comfortable, more productive. About the environment we all share. The result of that thinking is a growing range of machines and a global support network dedicated to helping you do more. People around the world are proud to use Volvo.

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.

# **VOLVO**

**Volvo Construction Equipment**  
[www.volvoce.com](http://www.volvoce.com)

Ref. No 20000750-C  
2012.07  
Volvo, Global Marketing

English-21  
CWL