

**VOLVO EXCAVATORS**

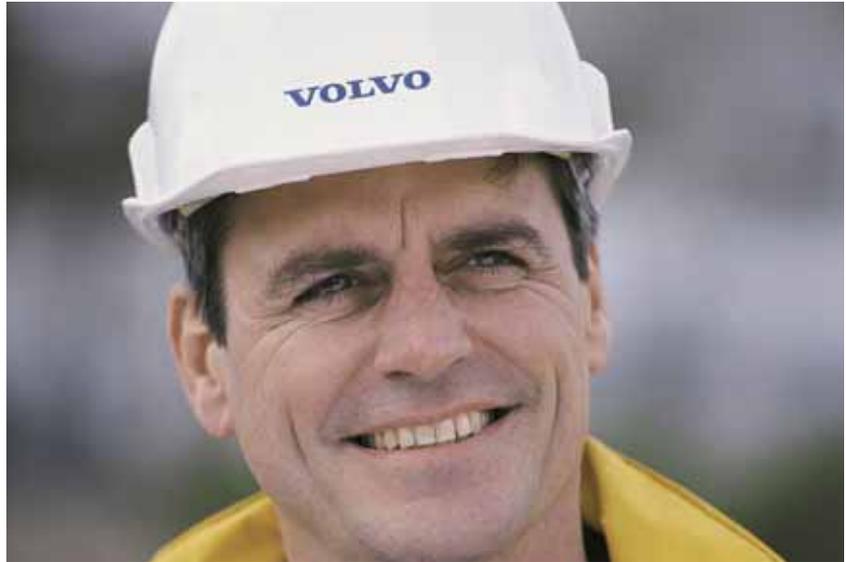
# **EC140B-EC700B**



**VOLVO**

# The new B-series excavators. In performance, comfort and economy, they dig deeper.

To create a class-leading excavator, we started with you. Your opinions and suggestions were designed into these machines. The result is a luxurious cab, a highly reliable engine that is matched to the hydraulics for maximum fuel economy, enhanced hydraulics to improve ease of operation, a focus on serviceability to make your life easier.



## **The Volvo B-Series- innovation at every turn**

When we designed the B-series, we examined every component of our excavators to determine how to maximize comfort, reliability, productivity and serviceability. And we focused on a few key areas to make it happen. The results? A new, Volvo-designed engine that is reliable and performance-driven, built to perfectly match hydraulic output levels for maximum productivity.

A hydraulic system that is both tough and intelligent, designed to respond to the slightest operator command. A cabin with a full range of operator conveniences and comforts to help the work day go smoothly. And features throughout the machine that have been designed to simplify routine maintenance, for more up-time to get the job done.

## **It's all in the details**

Look ahead to see the wide variety of innovations we've added to the

Volvo B-series Excavators, then contact your local Volvo dealer for the details. And remember that every Volvo excavator is backed by complete customer support from the Volvo worldwide network of dealers and their sales, service and parts organizations.

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- This engine has been specifically designed with charged air cooler for excavators giving you good fuel economy, low noise emission levels, and a long service life.
  - Operator-designed cab with industry-leading visibility, improved ergonomic seat, more efficient heating and cooling, and more storage space.
  - State-of-the-art hydraulics are highly responsive for timely work cycles and high efficiency.
  - Booms and arms built to withstand extreme stress and provide long, reliable life.
  - Powerful digging and lifting forces.
  - Long and stable undercarriage is built tougher than ever.
  - Integrated electronic system (Contronics with advanced mode control system) for more efficient balance of available engine power and hydraulic output.



# A cab for every work environment



**Every operator works under different conditions. And differing conditions demand different cab features. Features like temperature control. Top-notch windshield wiping. Even extra cabin room. B-series cabs have the versatility to make your job comfortable and convenient throughout the work day.**

## **Comfortable inside, no matter how tough the job outside**

Through wind, snow, sun or rain, the Volvo easy-access cab has a list of features to help you maintain productivity more comfortably. First and foremost is the machine's industry-leading visibility, which minimizes operator fatigue and

maximizes productivity and safety. The improved visibility is a result of expanded window area, a larger window wiping area with parallel-working wipers, an optional lower wiper, and no interfering cross bar.

The roomy cab has plenty of storage space for personal items, and features an ergonomically-correct environment. The operator's seat is adjustable and includes control consoles that move independently to meet any operator's shape and size. In addition, the B-series include cooling capacity to 6,500 Kcal/h, and heating capacity to 7,200 Kcal/h. Noise and shock are kept to a minimum with shock-reducing mounts and sound-absorbing material. And additional rear-view mirrors with a large viewing area promote safer, more controlled machine operation.

## **Cab comfort**

- Ergonomically-designed cab provides greater operator comfort for higher operator efficiency and productivity.
- Improved visibility for safer and more efficient operation.
- The Instrument Electronic Control Unit (I-ECU) monitors and displays the status of all vital excavator functions.
- Increased cooling and heating capacity, with a four-speed fan and thirteen vents.
- Supported by gas springs, the upper front pane is very easy to slide up.
- Very low cab noise level.
- Flat, spacious cabin floor makes it easy to clean.
- High quality, comfortable seat with nine different adjustments.
- Optional Falling Object Protective Structures (FOPS), and optional cab-mounted Falling Object Guard (FOG) or optional frame-mounted FOG (EC700B).



# It's all Volvo

**If a machine isn't reliable, productivity will suffer. That is why Volvo has made reliability a priority, building a strong foundation of proven systems and components designed to keep the B-series up and running. At the core of B-series' reliability is the new Volvo engine.**

## Command performance

The new Volvo engine is one of the most exciting additions to Volvo's B-series line of excavators. This turbocharged 6-cylinder diesel engine with direct injection and charged air cooler is built to respond to the unique demands of excavation. The EC140B has 4-cylinder diesel engine with direct injection. Among the highest horsepower in its class, the engine is well matched to the hydraulic system's components and design. Combined, the powerful new Volvo engine and high-performance hydraulics provide exceptionally high fuel efficiencies, especially during hard trenching or mass excavation. A number of features keep the engine running smoothly and reliably. A new charged air cooler works with the engine's turbocharger for more efficient combustion and low emissions. Three-stage air cleaning prolongs the engine's life and increases up-time by effectively filtering out particles before they reach the engine.

And an optional oil bath pre-cleaner also provides excellent particle filtration and easier maintenance.



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## Engine

- Volvo Stage II-compliant engines feature a charge-air cooler and turbocharger to give the hydraulic system increased power and control for any job challenge (EC140B has turbocharger only)
- EC700B meets Stage IIIA emission standard.
- A tropical engine-cooling system is standard (EC330B-EC700B) to manage even extreme temperatures.
- For demanding work, all models use three stage air cleaning, and models from EC210B and higher have additional air cleaning capability as standard, giving even greater reliability and durability.
- Auto idling system reduces noise and fuel consumption.
- Optional oil-bath pre-cleaner for additional particle filtration.
- Optional fuel-water separator with fuel pre-heater enhances performance in cold weather.



# Advanced technology



## Hydraulics

- Advanced work mode control system is activated according to joystick control lever movements, for ease of operation and excellent controllability. Machine automatically optimizes the working mode.
- Boom and arm flow regeneration ensures efficient operation and fuel economy.
- Advanced-engineered hydraulic oil cooler built of aluminum to maximize heat dissipation and minimize corrosiveness.
- Electronic, proportional-speed control of cooling fans reduces noise and enhances fuel economy:
  - Hydraulic oil cooling: EC330B/EC360B/EC460B/EC700B
- One-touch power boost for surge increase in digging and lifting forces.

## Electrical system

- The Contronics system balances available engine power with hydraulic output, for maximum productivity and minimum fuel consumption.
- Self-diagnostic system has error codes and status indicators to ease troubleshooting.



A state-of-the-art hydraulic system performs as a direct extension of the operator's thoughts and movements. That's why the B-series hydraulic system is designed with operator controllability and precision as its focus. With four different power modes and a power max mode, B-series hydraulics respond automatically to the operator's joystick movements and pilot pressure. This allows Volvo machines to achieve maximum efficiency on a full range of job sites.

The Volvo hydraulic system is as tough as it is intelligent. Boom, arm and swing priority system, boom and arm flow regeneration, and two axial variable displacement piston pumps enhance hydraulic performance, resulting in high swing torque, powerful digging forces and fast bucket-in and swing speeds in all B-series models. That means faster cycle times and more efficient operation across the board. In addition, the B-series includes an advanced-engineered hydraulic oil cooler. Built of aluminum for maximum heat dissipation and anti-corrosive properties, the new oil cooler minimizes heat build-up, allowing the system to operate at full potential. And when the job requires a change

of bucket or tools, Volvo's hydraulic quick fit makes it relatively easy, promoting the flexibility and versatility modern job sites demand.

#### **An evolved electrical system**

With this new generation of excavators comes a new generation electrical system – Contronics. The new Volvo excavators are equipped with a technologically-advanced electronic system. It consists of an on-board computer (V-ECU), an Instrument Electronic Control Unit (I-ECU) and an Engine Electronic Control Unit (E-ECU). They are all connected through a data link. All machine information is stored in the V-ECU. Information necessary for service can be shown on the external service display. All machine information can be downloaded to a PC using the MATRIS program. This data is an effective resource for diagnostics and service work. The I-ECU monitors and provide information on all vital machine functions. The information is shown on gauges, indicators and Message Center Display (MCD).

The Contronics balances available engine power with hydraulic output for maximum performance.

- Powerful 80 A alternator provides greater capacity for machines that work in 24-hour shifts.
- High-capacity halogen lights – two or four boom lights, and two lights on forward superstructure – provide good visibility under low-light conditions.

#### **Superstructure and digging equipment**

- Digging equipment designed and tested for tough conditions, for proven durability and reliability.
- Excellent digging and lifting capacities.
- Optional 2-piece boom in EC140B, EC160B, EC180B, EC210B, EC240B and EC290B.

- Low fuel consumption, combined with the fuel tank capacity, gives you two full work shifts.
- Reinforced idler frame and track motor protection cover.

# At your service

**A low-maintenance machine is a valuable investment. It means more up-time, greater productivity, and fewer hassles on the job site. That is why the B-series incorporates features to make service and routine maintenance as quick and easy as possible.**



## Low-maintenance design

All areas of the machine have enhanced features to make serviceability easier. These features include a new long-life hydraulic filter; improved air filter efficiency and serviceability; a quick and common oil drain with valve; high filter capacities for longer service intervals; and a hinged-type undercover for easy access to the engine oil filter.

In addition, many of our service parts have been reorganized within the excavator to provide easier service access than ever. The result? Filters that are more easily replaced, centralized lubrication points; a more convenient electric relay box location;

and large, easy-to-open doors and hoods with locks.

But our easy maintenance features don't stop there. Volvo excavators have always had a three-stage air cleaning system to keep dust and dirt out of the intake system. Now it's also available with a high-performance oil-bath precleaner for highly effective particle filtration. Volvo also provides service technician and machine owners with three advanced diagnostic tools designed for assisting with routine maintenance and troubleshooting.

## Taking our responsibility seriously

Safety and Environmental care are among Volvo's core values along with Quality. That's why we also incorporate extra measures to protect our operators, their surroundings and the environment from harm.

The assembly of B-series excavators takes place in our production facility which is environmentally certified according to ISO 14001 Environmental management system.

The total machine is recyclable up to 95% according to our calculations. In addition, our machines have a number of safety features to keep the job site secure. We've designed our superstructure walkway with anti-slip punched-metal and convenient steps and handrails. We've included a hydraulic pressure relief system for safer changing of attachments and safer emergency shutdowns. And we've always incorporated high capacity halogen lights to ensure good visibility under low-lit conditions.



## Serviceability

- Large, easy-to-open doors and hoods with locks.
- Long life hydraulic return filter.
- High air filter efficiency and serviceability.
- Remote engine-oil filter eases maintenance and improves uptime (EC330B-EC700B).

- Remote fuel filter for ease of maintenance (EC330B-EC700B).
- Checkpoints for hydraulic pressure measurements grouped together for easy access.
- New, hinged-type undercover for easy access to the engine oil filter.

## Environment & safety

- Low-emission engines meet Stage II standard (EC140B-EC460B).
- Low-emission engines meet Stage IIIA standard (EC700B).
- Electrical master switch.
- Optional front window safety screens, FOPS (Falling Object Protection Structure) and FOG (Falling Object Guard).
- Superstructure walkway with anti-slip punched-metal.

**Volvo EC140B LC**

<b>Engine</b>		Volvo D4D
<b>Rated output, at</b>	r/s (r/min)	35 (2,100)
ISO 9249/SAE J1349, net	kW (hp)	69 (93)
<b>Track length / track gauge</b>	mm	3,740 / 1,990
<b>Bucket capacity</b>	m <sup>3</sup>	0.60-0.98
<b>Lifting capacity</b>		
along undercarriage	t	3.5
at reach / height	m	6.0 / 1.5
<b>Breakout force, SAE</b>	kN	87.3
<b>Max. digging reach</b>	m	8.3
<b>Max. digging depth</b>	m	5.5
<b>Operating weight</b>	t	13.4-15.2

**Volvo EC140B LCM**

<b>Engine</b>		Volvo D4D
<b>Rated output, at</b>	r/s (r/min)	35 (2,100)
ISO 9249/SAE J1349, net	kW (hp)	69 (93)
<b>Track length / track gauge</b>	mm	3,790 / 1,990
<b>Bucket capacity</b>	m <sup>3</sup>	0.68-1.08
<b>Lifting capacity</b>		
along undercarriage	t	3.8
at reach / height	m	6.0 / 1.5
<b>Breakout force, SAE</b>	kN	87.3
<b>Max. digging reach</b>	m	8.3
<b>Max. digging depth</b>	m	5.4
<b>Operating weight</b>	t	14.6-15.6

**Volvo EC160B LC**

<b>Engine</b>		Volvo D6D
<b>Rated output, at</b>	r/s (r/min)	32 (1,900)
ISO 9249/SAE J1349, net	kW (hp)	81 (109)
<b>Track length / track gauge</b>	mm	3,980 / 2,200
<b>Bucket capacity</b>	m <sup>3</sup>	0.88-1.23
<b>Lifting capacity</b>		
along undercarriage	t	4.7
at reach / height	m	6.0 / 1.5
<b>Breakout force, SAE</b>	kN	105.2
<b>Max. digging reach</b>	m	9.0
<b>Max. digging depth</b>	m	6.0
<b>Operating weight</b>	t	16.6-18.4

**Volvo EC160B NLC**

<b>Engine</b>		Volvo D6D
<b>Rated output, at</b>	r/s (r/min)	32 (1,900)
ISO 9249/SAE J1349, net	kW (hp)	81 (109)
<b>Track length / track gauge</b>	mm	3,980 / 1,990
<b>Bucket capacity</b>	m <sup>3</sup>	0.78-1.08
<b>Lifting capacity</b>		
along undercarriage	t	4.7
at reach / height	m	6.0 / 1.5
<b>Breakout force, SAE</b>	kN	105.2
<b>Max. digging reach</b>	m	9.0
<b>Max. digging depth</b>	m	6.0
<b>Operating weight</b>	t	16.5-18.3

**Volvo EC180B LC**

<b>Engine</b>		Volvo D6D
<b>Rated output, at</b>	r/s (r/min)	32 (1,900)
ISO 9249/SAE J1349, net	kW (hp)	81 (109)
<b>Track length / track gauge</b>	mm	4,166 / 2,200
<b>Bucket capacity</b>	m <sup>3</sup>	1.03-1.43
<b>Lifting capacity</b>		
along undercarriage	t	5.4
at reach / height	m	6.0 / 1.5
<b>Breakout force, SAE</b>	kN	105.2
<b>Max. digging reach</b>	m	9.0
<b>Max. digging depth</b>	m	6.0
<b>Operating weight</b>	t	18.1-19.0

**Volvo EC210B LC**

<b>Engine</b>		Volvo D6D
<b>Rated output, at</b>	r/s (r/min)	32 (1,900)
ISO 9249/SAE J1349, net	kW (hp)	107 (143)
<b>Track length / track gauge</b>	mm	4,460 / 2,390
<b>Bucket capacity</b>	m <sup>3</sup>	0.83-1.55
<b>Lifting capacity</b>		
along undercarriage	t	7.1
at reach / height	m	6.0 / 1.5
<b>Breakout force, SAE</b>	kN	130.4
<b>Max. digging reach</b>	m	9.9
<b>Max. digging depth</b>	m	6.7
<b>Operating weight</b>	t	20.8-22.3

**Volvo EC240B LC**

<b>Engine</b>		Volvo D7D
<b>Rated output, at</b>	r/s (r/min)	33 (2,000)
ISO 9249/SAE J1349, net	kW (hp)	125 (168)
<b>Track length / track gauge</b>	mm	4,650 / 2,590
<b>Bucket capacity</b>	m <sup>3</sup>	1.1-1.98
<b>Lifting capacity</b>		
along undercarriage	t	9.1
at reach / height	m	6.0 / 1.5
<b>Breakout force, SAE</b>	kN	156.9
<b>Max. digging reach</b>	m	10.3
<b>Max. digging depth</b>	m	7.0
<b>Operating weight</b>	t	24.2-25.8

**Volvo EC240B NLC**

<b>Engine</b>		Volvo D7D
<b>Rated output, at</b>	r/s (r/min)	33 (2,000)
ISO 9249/SAE J1349, net	kW (hp)	125 (168)
<b>Track length / track gauge</b>	mm	4,460 / 2,390
<b>Bucket capacity</b>	m <sup>3</sup>	1.1-1.8
<b>Lifting capacity</b>		
along undercarriage	t	8.9
at reach / height	m	6.0 / 1.5
<b>Breakout force, SAE</b>	kN	156.9
<b>Max. digging reach</b>	m	10.3
<b>Max. digging depth</b>	m	7.0
<b>Operating weight</b>	t	24.8-25.7

**Volvo EC290B LC**

<b>Engine</b>		Volvo D7D
<b>Rated output, at</b>	r/s (r/min)	32 (1,900)
ISO 9249/SAE J1349, net	kW (hp)	143 (192)
<b>Track length / track gauge</b>	mm	4,870 / 2,590
<b>Bucket capacity</b>	m <sup>3</sup>	1.03-2.1
<b>Lifting capacity</b>		
along undercarriage	t	10.8
at reach / height	m	6.0 / 1.5
<b>Breakout force, SAE</b>	kN	172.6
<b>Max. digging reach</b>	m	10.7
<b>Max. digging depth</b>	m	7.3
<b>Operating weight</b>	t	28.2-29.9

**Volvo EC290B NLC**

<b>Engine</b>		Volvo D7D
<b>Rated output, at</b>	r/s (r/min)	32 (1,900)
ISO 9249/SAE J1349, net	kW (hp)	143 (192)
<b>Track length / track gauge</b>	mm	4,665 / 2,390
<b>Bucket capacity</b>	m <sup>3</sup>	0.95-1.88
<b>Lifting capacity</b>		
along undercarriage	t	10.2
at reach / height	m	6.0 / 1.5
<b>Breakout force, SAE</b>	kN	172.6
<b>Max. digging reach</b>	m	10.7
<b>Max. digging depth</b>	m	7.3
<b>Operating weight</b>	t	28.4-29.7

**Volvo EC330B LC**

<b>Engine</b>		Volvo D12D
<b>Rated output, at</b>	r/s (r/min)	28 (1,700)
ISO 9249/SAE J1349, net	kW (hp)	184 (247)
<b>Track length / track gauge</b>	mm	4,962 / 2,590
<b>Bucket capacity</b>	m <sup>3</sup>	1.25-2.5
<b>Lifting capacity</b>		
along undercarriage	t	9.4
at reach / height	m	7.5 / 1.5
<b>Breakout force, SAE</b>	kN	209.0
<b>Max. digging reach</b>	m	11.1
<b>Max. digging depth</b>	m	7.4
<b>Operating weight</b>	t	33.7-36.0

**Volvo EC360B LC**

<b>Engine</b>		Volvo D12D
<b>Rated output, at</b>	r/s (r/min)	28 (1,700)
ISO 9249/SAE J1349, net	kW (hp)	184 (247)
<b>Track length / track gauge</b>	mm	5,180 / 2,740
<b>Bucket capacity</b>	m <sup>3</sup>	1.6-3.0
<b>Lifting capacity</b>		
along undercarriage	t	11.3
at reach / height	m	7.5 / 1.5
<b>Breakout force, SAE</b>	kN	209.0
<b>Max. digging reach</b>	m	11.2
<b>Max. digging depth</b>	m	7.5
<b>Operating weight</b>	t	36.8-38.7

**Volvo EC360B NLC**

<b>Engine</b>		Volvo D12D
<b>Rated output, at</b>	r/s (r/min)	28 (1,700)
ISO 9249/SAE J1349, net	kW (hp)	184 (247)
<b>Track length / track gauge</b>	mm	5,180 / 2,390
<b>Bucket capacity</b>	m <sup>3</sup>	1.28-2.45
<b>Lifting capacity</b>		
along undercarriage	t	11.0
at reach / height	m	7.5 / 1.5
<b>Breakout force, SAE</b>	kN	209.0
<b>Max. digging reach</b>	m	11.2
<b>Max. digging depth</b>	m	7.5
<b>Operating weight</b>	t	36.5-38.4

**Volvo EC460B LC**

<b>Engine</b>		Volvo D12D
<b>Rated output, at</b>	r/s (r/min)	30 (1,800)
ISO 9249/SAE J1349, net	kW (hp)	235 (316)
<b>Track length / track gauge</b>	mm	5,370 / 2,740
<b>Bucket capacity</b>	m <sup>3</sup>	1.73-3.78
<b>Lifting capacity</b>		
along undercarriage	t	13.8
at reach / height	m	7.5 / 1.5
<b>Breakout force, SAE</b>	kN	244.2
<b>Max. digging reach</b>	m	12.0
<b>Max. digging depth</b>	m	7.7
<b>Operating weight</b>	t	44.5-47.9

**Volvo EC700B LC**

<b>Engine</b>		Volvo D16E
<b>Rated output, at</b>	r/s (r/min)	30 (1,800)
ISO 9249/SAE J1349, net	kW (hp)	316 (424)
<b>Track length / track gauge</b>	mm	5,990 / 3,350
<b>Bucket capacity</b>	m <sup>3</sup>	2.48-6.6
<b>Lifting capacity</b>		
along undercarriage	t	20.0
at reach / height	m	7.5 / 1.5
<b>Breakout force, SAE</b>	kN	374.0
<b>Max. digging reach</b>	m	11.5
<b>Max. digging depth</b>	m	7.3
<b>Operating weight</b>	t	68.3-70.6

**Volvo EC210B LR**

<b>Engine</b>		Volvo D6D
<b>Rated output, at</b>	r/s (r/min)	32 (1,900)
ISO 9249/SAE J1349, net	kW (hp)	107 (143)
<b>Track length / track gauge</b>	mm	4,460 / 2,390
<b>Bucket capacity</b>	m <sup>3</sup>	0.52
<b>Lifting capacity</b>		
along undercarriage	t	3.0
at reach / height	m	10.5 / 1.5
<b>Breakout force, SAE</b>	kN	68.6
<b>Max. digging reach</b>	m	15.8
<b>Max. digging depth</b>	m	12.1
<b>Operating weight</b>	t	23.2

**Volvo EC240B LR**

<b>Engine</b>		Volvo D7D
<b>Rated output, at</b>	r/s (r/min)	33 (2,000)
ISO 9249/SAE J1349, net	kW (hp)	125 (168)
<b>Track length / track gauge</b>	mm	4,650 / 2,590
<b>Bucket capacity</b>	m <sup>3</sup>	0.52
<b>Lifting capacity</b>		
along undercarriage	t	3.3
at reach / height	m	10.5 / 1.5
<b>Breakout force, SAE</b>	kN	68.6
<b>Max. digging reach</b>	m	18.3
<b>Max. digging depth</b>	m	14.4
<b>Operating weight</b>	t	27.6

**Volvo EC290B LR**

<b>Engine</b>		Volvo D7D
<b>Rated output, at</b>	r/s (r/min)	32 (1,900)
ISO 9249/SAE J1349, net	kW (hp)	143 (192)
<b>Track length / track gauge</b>	mm	4,870 / 2,590
<b>Bucket capacity</b>	m <sup>3</sup>	0.52 / 0.57
<b>Lifting capacity</b>		
along undercarriage	t	3.7
at reach / height	m	10.5 / 1.5
<b>Breakout force, SAE</b>	kN	69.1
<b>Max. digging reach</b>	m	18.6
<b>Max. digging depth</b>	m	14.8
<b>Operating weight</b>	t	31.6



Volvo Construction Equipment is different. It's designed, built and supported in a different way. That difference comes from an engineering heritage of over 170 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. And we're proud of what makes Volvo different – **More care. Built in.**



*All products are not 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**

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

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