

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 and 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. 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. 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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- The turbocharged Volvo engine with charge-air cooling is built specifically for Volvo excavators and easily meets EPA Tier 2 low-emission standards (EC140B-EC210B).
 - The new turbocharged Volvo engine with Volvo Advanced Combustion Technology (V-ACT) is built specifically for Volvo excavators and easily meets EPA Tier 3 low-emission standards (EC240B-EC700B).
 - Integrated electronic system (Contronics with advanced mode control system) for more efficient balance of available engine power and hydraulic output.
 - 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 breakout and lifting forces.
 - Long and stable undercarriage is built tougher than ever.



A cab for every work environment



Every operator works under different conditions. Differing conditions demand different cab features. Features like electronic climate control, top-notch windshield wiping and 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 includes electronic climate control with cooling capacity to 25,790 BTU (6,500 Kcal/h) and heating capacity to 28,570 BTU (7,200 Kcal/h). Noise and shock are kept to a minimum with shock-reducing mounts and sound-absorbing material. Additional rearview mirrors with a large viewing area promote safer, more controlled machine operation.

Cab comfort

- Ergonomic cab provides greater operator comfort for higher operator efficiency and productivity.
- 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 13 vents.
- Gas-spring windows with easily removable panes.
- Flat, spacious cab 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).



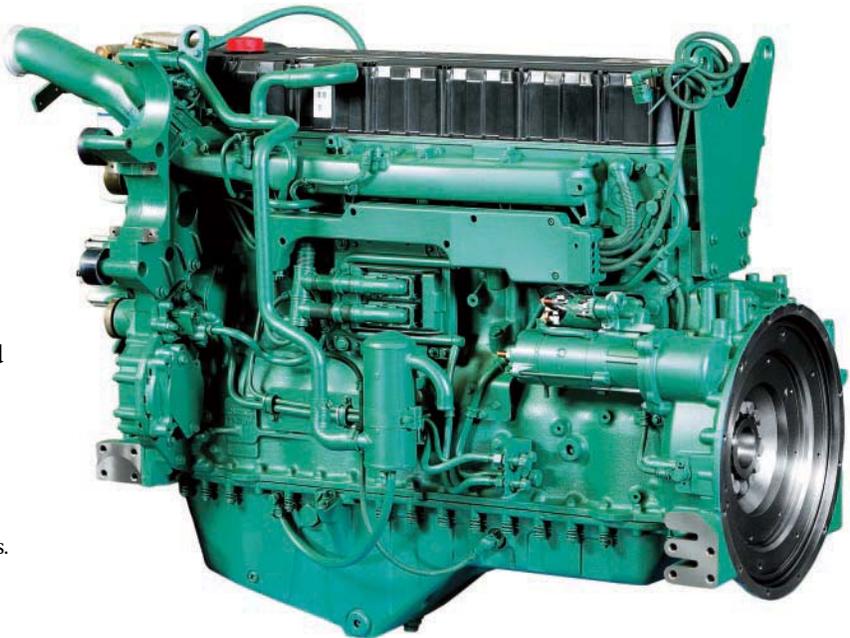
It's all Volvo

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 a 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.

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



Engine

- Volvo Tier-2-compliant engines feature a charge-air cooler (except the EC140B) to give the hydraulic system increased power and control for any job challenge (EC140B-EC210B).
- New Tier-3-compliant Volvo engines feature Volvo Advanced Combustion Technology (V-ACT) and provide optimum power and control to the hydraulic system (EC240B-EC700B).
- A tropical engine-cooling system is standard (EC240B-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.
- Electronic, proportional-speed control of cooling fans reduces noise and enhances fuel economy:
 - Hydraulic oil cooling: EC330B/EC360B/EC460B/EC700B
 - Hydraulic oil, radiator and charge-air cooling: EC240B/EC290B
- Advanced-engineered hydraulic oil cooler built of aluminum to maximize heat dissipation and minimize corrosiveness.
- One-touch power boost for surge increase in breakout forces.



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, 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 jobsites.

The Volvo hydraulic system is as tough as it is intelligent. Boom, arm and swing priority system, boom and arm flow regeneration, and two variable axial displacement piston pumps enhance hydraulic performance, resulting in high swing torque, powerful breakout 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

quickcoupler makes it relatively easy, promoting the flexibility and versatility modern jobsites 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 the Message Center Display (MCD).

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

Electrical system

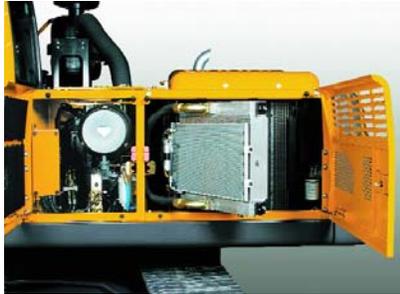
- The Contronics system balances available engine power with hydraulic output, for maximum productivity and minimum fuel consumption.
- Self-diagnostic system has error codes and status indicators to ease troubleshooting.
- Powerful 80 A alternator provides greater capacity for machines that work in 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.
- Fuel tank capacity equals two full work shifts.
- Reinforced idler motor frame track motor protection cover and optional skid rail.

At your service

A low-maintenance machine is a valuable investment. It means more up-time, greater productivity and fewer hassles on the jobsite. 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.

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 technicians 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 jobsite 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-light conditions.



Serviceability

- Large, easy-to-open doors and hoods with locks.
- Long-life hydraulic 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 (EC240B-EC700B).
- Swing-out hydraulic-oil cooler for easy cleaning (EC240B/EC290B).
- Checkpoints for hydraulic pressure measurements grouped together for easy-access.
- New, hinged-type undercover for easy-access to the engine.

Environment & safety

- Low-emission engines meet EPA Tier 2 standard (EC140B-EC210B).
- Low-emission engines meet EPA Tier 3 standard (EC240B-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.

									
Engine		Volvo EC140B LC		Volvo EC160B LC		Volvo EC210B LC		Volvo EC210B LNC	
Rated output, at	r/s	Volvo D4D EAE2		Volvo D6D EBE2		Volvo D6D EAE2		Volvo D6D EAE2	
ISO 9249/SAE J1349, net	kW	35	2,100	32	1,900	32	1,900	32	1,900
	hp	69	93	81	109	107	143	107	143
Track length	m	3,740		3,980		4,460		4,460	
	ft-in	12' 3"		13' 1"		14' 8"		14' 8"	
Track gauge	m	1,990		1,990		2,390		2,040	
	ft-in	6' 6"		6' 6"		7' 10"		6' 8"	
Bucket capacity	m ³	0,6-0,98		0,78-1,18		0,83-1,55		0,75-1,38	
	yd ³	0.78-1.28		1.01-1.54		1.08-2.03		0.98-1.80	
Lifting capacity									
along undercarriage	t	3.3	7,170	5.0	10,800	7.1	15,430	7.1	15,430
at reach/height	m	6.0/1.5	20'/5'	6.0/1.5	20'/5'	6.0/1.5	20'/5'	6.0/1.5	20'/5'
Breakout force, SAE	kN	87.3		105.2		130.4		130.4	
	lb	19,620		23,660		29,330		29,330	
Max. digging reach	m	8.3		9.0		9.9		9.9	
	ft-in	27' 4"		29' 5"		32' 7"		32' 7"	
Max. digging depth	m	5.5		6.0		6.7		6.7	
	ft-in	18' 2"		19' 10"		22' 1"		22' 1"	
Operating weight	t	13,4-15,2		16,5-19,2		20,8-22,3		21,5-22,2	
	lb	29,529-33,450		36,340-42,340		45,950-49,260		47,460-48,900	

									
Engine		Volvo EC240B LC		Volvo EC290B LC		Volvo EC330B LC		Volvo EC360B LC	
Rated output, at	r/s	Volvo D7E EBE3		Volvo D7E EAE3		Volvo D12D EBE3		Volvo D12D EBE3	
ISO 9249/SAE J1349, net	kW	30	1,800	30	1,800	28	1,700	28	1,700
	hp	125	168	143	192	184	247	184	247
Track length	m	4,650		4,870		4,962		5,180	
	ft-in	15' 3"		16' 0"		16' 3"		17' 0"	
Track gauge	m	2,590		2,590		2,590		2,740	
	ft-in	8' 6"		8' 6"		8' 6"		9' 0"	
Bucket capacity	m ³	1,05-1,98		1,03-2,1		1,25-2,5		1,6-3,0	
	yd ³	1.37-2.58		1.34-2.75		1.64-3.27		2.09-3.92	
Lifting capacity									
along undercarriage	t	9.1	19,690	10.8	23,370	10.4	22,470	12.0	25,840
at reach/height	m	6.0/1.5	20'/5'	6.0/1.5	20'/5'	7.5/1.5	25'/5'	7.5/1.5	25'/5'
Breakout force, SAE	kN	156.9		172.6		209.0		209.0	
	lb	35,280		38,810		47,190		47,190	
Max. digging reach	m	10.3		10.7		11.1		11.2	
	ft-in	33' 8"		35' 1"		36' 3"		36' 8"	
Max. digging depth	m	7.0		7.3		7.4		7.5	
	ft-in	22' 11"		24' 0"		24' 2"		24' 7"	
Operating weight	t	24.5-26.1		28.3-30.0		33.7-36.6		36.8-39.2	
	lb	54,000-57,460		62,340-66,080		74,310-80,640		81,140-86,440	

					
Engine		Volvo EC460B LC		Volvo EC700B LC	
Rated output, at	r/s	Volvo D12D EAE3		Volvo D16E EAE3	
ISO 9249/SAE J1349, net	kW	30	1,800	30	1,800
	hp	235	316	316	424
Track length	m	5,370		5,990	
	ft-in	17' 7"		19' 8"	
Track gauge	m	2,740		3,350	
	ft-in	9' 0"		11' 0"	
Bucket capacity	m ³	1,73-3,78		2,48-6,6	
	yd ³	2.26-4.94		3.24-8.63	
Lifting capacity					
along undercarriage	t	13.8	29,820	19.2	41,510
at reach/height	m	7.5/1.5	25'/5'	7.5/1.5	25'/5'
Breakout force, SAE	kN	244.2		356.0	
	lb	54,900		80,030	
Max. digging reach	m	12.0		13.2	
	ft-in	39' 4"		43' 3"	
Max. digging depth	m	7.7		8.4	
	ft-in	25' 3"		27' 7"	
Operating weight	t	44.3-48.6		68.3-70.6	
	lb	97,570-107,120		150,600-155,670	

							
Engine		Volvo EC210B LR		Volvo EC240B LR		Volvo EC290B LR	
Rated output, at	r/s	Volvo D6D EAE2		Volvo D7E EBE3		Volvo D7E EAE3	
ISO 9249/SAE J1349, net	kW	32	1,900	30	1,800	30	1,800
	hp	107	143	125	168	143	192
Track length	m	4,460		4,650		4,870	
	ft-in	14' 8"		15' 3"		16' 0"	
Track gauge	m	2,390		2,590		2,590	
	ft-in	7' 10"		8' 6"		8' 6"	
Bucket capacity	m ³	0,52	0,68	0,52	0,68	0,52/0,57	
	yd ³	0,68	0,88	0,68	0,88	0,68/0,75	
Lifting capacity							
along undercarriage	t	3.0	6,410	3.9	8,450	4.7	10,160
at reach/height	m	10.5/1.5	35'/5'	10.5/1.5	35'/5'	10.5/1.5	35'/5'
Breakout force, SAE	kN	68.6		68.6		69.1	
	lb	15,430		15,440		15,550	
Max. digging reach	m	15.8		18.3		18.6	
	ft-in	51' 10"		60' 1"		61' 0"	
Max. digging depth	m	12.1		14.4		14.8	
	ft-in	39' 8"		47' 1"		48' 6"	
Operating weight	t	23.2		27.9		31.7	
	lb	51,200		61,520		69,900	



Volvo Construction Equipment is different. It's designed, built and supported in a different way. That difference comes from our 170-year engineering heritage. 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

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