

ECR40D in detail

Engine

Engine	Volvo D1.7A	
Max. power at	r/min (r/s)	2,200 (36.7)
Gross	kW (hp)	18.5 (24.8)
Gross power according to ISO 2534		
Max. torque	Nm (ft lbf)	97 (71.5)
at engine speed	r/min	1,600
No. of cylinders		3
Displacement	cm ³ (in ³)	1,647 (100.5)
Bore	mm (in)	87 (3.4)
Stroke	mm (in)	92.4 (3.6)
Compression ratio		20.5

Electrical System

Voltage	V	12
Battery	V	1 x 12
Battery capacity	Ah	74
Alternator	V/Ah	12/60

Swing System

Max. slew speed	r/min	9
Max. slew torque	daNm (ft lbf)	710 (5,235)

Undercarriage

Rubber track width	mm (in)	300 (11.8)
Steel track width	mm (in)	300 (11.8)
Bottom/top rollers per side		4/1
Track tension	by grease piston	
Blade (width x height)	mm (in)	1 780 x 368 (70.1 x 14.5)

Digging Performances

Standard bucket width (blade, W/O side cutter)	mm (in)	600 (23.6)
Standard bucket mass	kg (lb)	90 (198)
Standard bucket rated capacity	l (ft ³)	114 (4)
Bucket rotation	°	199
Bucket breakout force (ISO)	daN (lbf)	3,289 (7,394)
Short arm tearout force (ISO)	daN (lbf)	2,371 (5,330)
With short arm	mm (ft in)	1 400 (4' 7")
Long arm tearout force (ISO)	daN (lbf)	2,060 (4,631)
With long arm	mm (ft in)	1 700 (5' 7")

Weight and Ground Pressure

Operating weight according to ISO 6016	kg (lb)	3,880 (8,554)
Ground pressure (cab)	kPa (psi)	35.7 (5.2)
Ground pressure (canopy)	kPa (psi)	34.5 (6)
Transport weight	kg (lb)	3,805 (8,389)
With heated cab		
With direct-fit bucket		
With rubber tracks	mm (in)	300 (11.8)
With short arm	mm (in)	1 400 (55.1)
With fuel tank capacity	%	100
With thumb	+kg (+lb)	64 (141)
With canopy	-kg (-lb)	135 (298)
With extra counterweight	+kg (+lb)	80 (176)
With long arm and additional counterweight	+kg (+lb)	95 (210)
With steel tracks	+kg (+lb)	66 (146)

Hydraulic System

Maximum system flow	l/min (gal/min)	103 (27.2)
Maximum flow for accessories	l/min (gal/min)	65 (17.2)
Maximum pressure for accessories	MPa (psi)	22 (3,191)
Maximum flow for 2nd accessory circuit (option)	l/min (gal/min)	23 (6.1)
Maximum operating pressure	MPa (psi)	24 (3,481)

Travel system

Max. drawbar pull	daN (lbf)	3,100 (6,969)
Max. travel speed low	km/h (mi/h)	2.7 (1.7)
Max. travel speed high	km/h (mi/h)	4.5 (2.8)
Gradeability	°	20

Service Refill

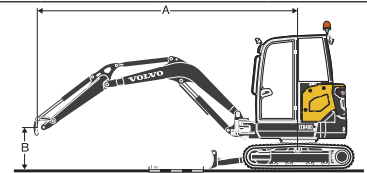
Fuel tank	l (gal)	64 (16.9)
Hydraulic system, total	l (gal)	62 (16.3)
Hydraulic tank	l (gal)	32 (8.5)
Engine oil	l (gal)	7 (1.8)
Engine coolant	l (gal)	7 (1.8)
Travel reduction unit	l (gal)	2 x 0.7 (2 x 0.185)

Sound Level

Interior sound level according to ISO 6396		
LpA	dB(A)	78
External sound level according to ISO 6395 and EU Noise Directive (2000/14/EC) and 474-1:2006 +A1:2009		
LwA	dB(A)	93

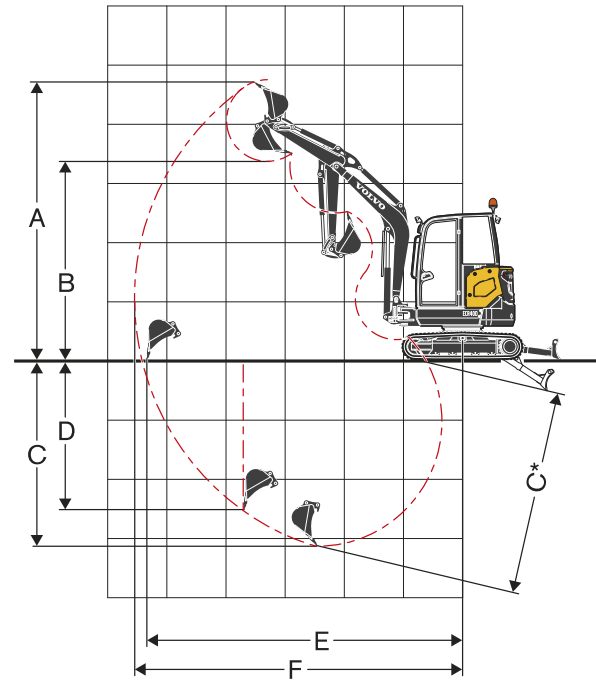
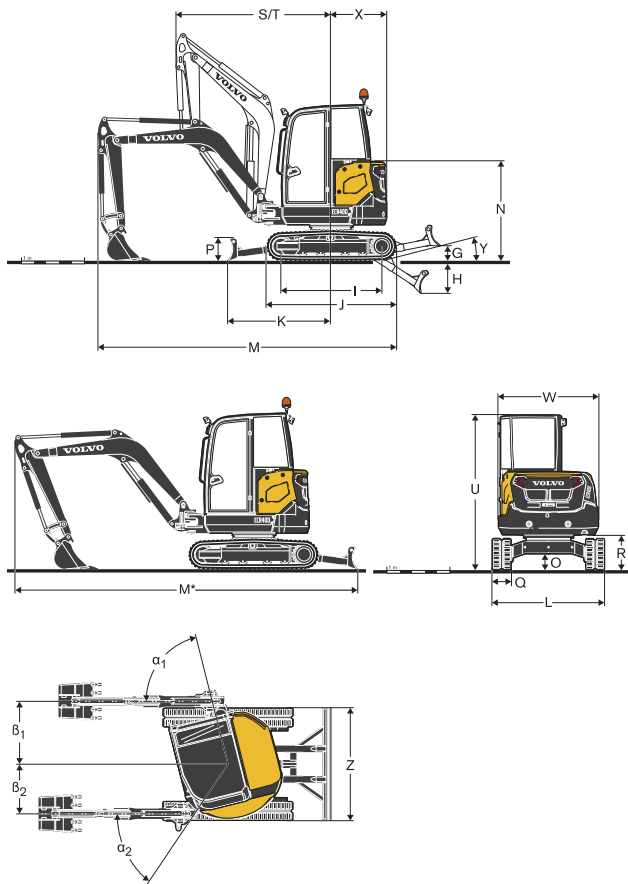
LIFTING CAPACITY ECR40D

These capacities are given for a machine equipped with a cabin, 300 mm (1' 0") rubber tracks and without a bucket or quick-coupler.
The below values are in compliance with ISO standard 10567. They do not exceed 75% of the tipping load or 87% of the hydraulic limit with the machine on firm level ground.
Loads marked with an asterisk (*) are limited by machine's hydraulic lifting capacity rather than tipping load.
Caution: In accordance with standard EN 474-5, the machine must be equipped to carry out handling operations. It is the operator's obligation to know and follow the applicable national and local safety regulations.



		Lifting point radius (A)									
		2.0 m (6.5 ft)		3.0 m (9.8 ft)		4.0 m (13.1 ft)		Max. reach		Max.	
										m	
Arm: 1 400 mm (4' 7") + Dozer blade up	3 (9.8) kg (lb)	-	-	-	-	575 (1,268)	598 (1,318)	513 (1,131)	534 (1,177)	4.3 (14' 1")	
	2 (6.5) kg (lb)	-	-	876 (1,931)	908 (2,002)	561 (1,237)	583 (1,285)	430 (948)	449 (990)	4.7 (15' 5")	
	1 (3.3) kg (lb)	-	-	808 (1,781)	840 (1,852)	535 (1,179)	558 (1,230)	402 (886)	421 (928)	4.8 (15' 9")	
	0 (0) kg (lb)	-	-	769 (1,695)	802 (1,768)	515 (1,135)	538 (1,186)	412 (908)	432 (952)	4.7 (15' 5")	
Arm: 1 700 mm (5' 7") + Additional counterweight + Dozer blade up	-1 (-3.3) kg (lb)	1,461 (3,221)	1,516 (3,342)	764 (1,684)	797 (1,757)	511 (1,127)	534 (1,177)	475 (1,047)	496 (1,093)	4.2 (13' 9")	
	-2 (-6.5) kg (lb)	1,501 (3,309)	1,556 (3,430)	787 (1,735)	819 (1,806)	-	-	698 (1,539)	727 (1,603)	3.3 (10' 10")	
	3 (9.8) kg (lb)	-	-	-	-	614 (1,354)	*616 (1,358)	483 (1,065)	489 (1,078)	4.6 (15' 1")	
	2 (6.5) kg (lb)	-	-	-	-	596 (1,314)	602 (1,327)	414 (913)	420 (926)	5.0 (16' 5")	
Arm: 1 400 mm (4' 7") + Dozer blade down	1 (3.3) kg (lb)	-	-	859 (1,894)	865 (1,907)	566 (1,248)	572 (1,261)	390 (860)	395 (871)	5.1 (16' 9")	
	0 (0) kg (lb)	*1,117 (2,463)	*1,117 (2,463)	806 (1,777)	812 (1,790)	540 (1,190)	547 (1,206)	397 (875)	403 (888)	5.0 (16' 5")	
	-1 (-3.3) kg (lb)	1,499 (3,305)	1,499 (3,305)	791 (1,744)	799 (1,761)	530 (1,168)	537 (1,184)	446 (983)	452 (996)	4.6 (15' 1")	
	-2 (-6.5) kg (lb)	1,535 (3,384)	1,535 (3,384)	806 (1,777)	813 (1,792)	-	-	598 (1,318)	604 (1,332)	3.7 (12' 2")	
Arm: 1 700 mm (5' 7") + Additional counterweight + Dozer blade down	3 (9.8) kg (lb)	-	-	-	-	*738 (1,627)	598 (1,318)	*784 (1,728)	534 (1,177)	4.3 (14' 1")	
	2 (6.5) kg (lb)	-	-	*955 (2,105)	908 (2,002)	*837 (1,845)	583 (1,285)	*835 (1,841)	449 (990)	4.7 (15' 5")	
	1 (3.3) kg (lb)	-	-	*1,539 (3,393)	840 (1,852)	*1,036 (2,284)	558 (1,230)	*899 (1,982)	421 (928)	4.8 (15' 9")	
	0 (0) kg (lb)	-	-	*1,880 (4,145)	802 (1,768)	*1,198 (2,641)	538 (1,186)	*980 (2,161)	432 (952)	4.7 (15' 5")	
Arm: 1 400 mm (4' 7") + Dozer blade down	-1 (-3.3) kg (lb)	2,539 (5,598)	1,516 (3,342)	*1,880 (4,145)	797 (1,757)	*1,202 (2,650)	534 (1,177)	*1,086 (2,394)	496 (1,093)	4.2 (13' 9")	
	-2 (-6.5) kg (lb)	2,751 (6,065)	1,556 (3,430)	*1,462 (3,223)	819 (1,806)	-	-	*1,237 (2,727)	727 (1,603)	3.3 (10' 10")	
	3 (9.8) kg (lb)	-	-	-	-	*616 (1,358)	*616 (1,358)	*711 (1,567)	489 (1,078)	4.6 (15' 1")	
	2 (6.5) kg (lb)	-	-	-	-	*735 (1,620)	602 (1,327)	*760 (1,676)	420 (926)	5.0 (16' 5")	
Arm: 1 700 mm (5' 7") + Additional counterweight + Dozer blade down	1 (3.3) kg (lb)	-	-	*1,358 (2,994)	865 (1,907)	*953 (2,101)	572 (1,261)	*819 (1,806)	395 (871)	5.1 (16' 9")	
	0 (0) kg (lb)	*1,117 (2,463)	*1,117 (2,463)	*1,796 (3,959)	812 (1,790)	*1,149 (2,533)	547 (1,206)	*892 (1,967)	403 (888)	5.0 (16' 5")	
	-1 (-3.3) kg (lb)	*2,184 (4,815)	1,499 (3,305)	*1,898 (4,184)	799 (1,761)	*1,217 (2,683)	537 (1,184)	*989 (2,180)	452 (996)	4.6 (15' 1")	
	-2 (-6.5) kg (lb)	*3,193 (7,039)	1,535 (3,384)	*1,650 (3,638)	813 (1,792)	-	-	*1,125 (2,480)	604 (1,332)	3.7 (12' 2")	

Specifications



DIMENSIONS

Description	Unit	EC40D	
Arm	mm (ft in)	1 400 (4' 7")	1 700 (5' 7")
A Maximum cutting height	mm (ft in)	4 690 (15' 5")	4 853 (15' 11")
B Maximum dump height	mm (ft in)	3 347 (11' 0")	3 514 (11' 6")
C Digging depth	mm (ft in)	3 131 (10' 3")	3 431 (11' 3")
C* Maximum digging depth	mm (ft in)	3 428 (11' 3")	3 722 (12' 3")
D Maximum vertical wall digging depth	mm (ft in)	2 521 (8' 3")	2 811 (9' 3")
E Maximum digging reach at ground level	mm (ft in)	5 411 (17' 9")	5 699 (18' 8")
F Maximum digging reach	mm (ft in)	5 533 (18' 2")	5 813 (19' 1")
G Highest position dozer blade	mm (ft in)		370 (1' 3")
H Lowest position dozer blade	mm (ft in)		525 (1' 9")
I Tumbler length	mm (ft in)		1 604 (5' 3")
J Track length	mm (ft in)		2 055 (6' 9")
K Dozer blade, maximum reach at ground level	mm (ft in)		1 648 (5' 5")
L Overall width with 300 mm (1' 0") rubber tracks	mm (ft in)		1 780 (5' 10")
M Overall length	mm (ft in)	4 780 (15' 8")	4 640 (15' 3")
M* Transport length	mm (ft in)	5 650 (18' 6")	5,580 (18' 4")
N Overall height of engine hood	mm (ft in)		1 573 (5' 2")
O Minimum ground clearance	mm (ft in)		285 (0' 11")
P Dozer blade height	mm (ft in)		368 (1' 2")
Q Shoe width (rubber)	mm (ft in)		300 (0' 12")
R Ground clearance to superstructure	mm (ft in)	557 (1' 10")	
S Front slew radius	mm (ft in)	2 459 (8' 1")	2 474 (8' 1")
T Front slew radius with maximum offset	mm (ft in)	1 923 (6' 4")	1 936 (6' 4")
U Overall height	mm (ft in)		2 481 (8' 2")
W Overall width of superstructure	mm (ft in)		1 575 (5' 2")
X Tail slew radius	mm (ft in)	1 035 (3' 5")	1 035 (3' 5")
X' Additional counterweight overhang	mm (ft in)	(incl.)	
Y Angle of approach	°		24
Z Dozer blade width	mm (ft in)		1 780 (5' 10")
α_1 Maximum boom swing angle to the left	°		76 (0' 3")
β_1 Maximum boom offset to the right	mm (ft in)		995 (3' 3")
α_2 Maximum boom swing angle to the right	°		56 (56)
β_2 Maximum boom offset to the left	mm (ft in)		787 (2' 7")

!: Option

Equipment

STANDARD EQUIPMENT

Engine

Low emission, direct injection, water-cooled, Volvo 4-cylinder diesel engine.
Engine restart prevention system. Starter motor is protected against ignition when engine is already running.
Dry-type single element air filter.
Plastic fuel tank with drain plug.
Protective strainer on the fuel suction pipe inside the tank
Water separator.
Translucent fuel filter.

Electric/Electronic control system

Maintenance free battery.
IP67 protected electrical system and high quality connectors.
Removable battery cut-off switch.
In-cab 12V power socket.

Hydraulic system

Large hinged and key-locked access panel.
Variable displacement, load-sensing piston pump.
Closed centre flow-sharing main control valve.
Cushoning on cylinders:
Boom up
Arm out
Patented filtering and filling element.
Single layer cooling system.
Double-acting hydraulic circuit for accessories.
Hammer / shear valve.
Plastic tank with drain plug.

Swing system

Radial piston hydraulic motor with direct engagement on the ball internal crown wheel (no reduction gears).
Integrated shockless valve.
Automatic multi-disc slew brake.
Centralized and remote lubrication of crown wheel & ball bearing.

Drivetrain

Axial piston hydraulic motors equipped with an epicyclic reduction gears.
Automatic two speed travel
Bottom flanged rollers lubricated for life.
Grease tensioning wheel lubricated for life.

Undercarriage and dozer blade

"X" shape, box welded fabricated frame with sloping side members.
2 Tie-down points on the dozer blade.
2 Tie-down points on the frame.
2 Integrated lifting points.
Sturdy removable protecting covers for track motors and slew system.
400HB weld-on edge on dozer blade

Digging Equipment

Monobloc box welded boom.
Boom cylinder rod protection.
Integrated lifting point on the boom.
Monobloc box welded arm.
Long-life steel bushings.
Hardened, pre-lubricated and corrosion resistant pins.
50 hours greasing intervals.

Canopy

FOPS level 1 on top (Falling Objects Protective Structure)
TOPS (Tip-Over Protective Structure)
ROPS (Roll-Over Protective Structure)
Cushioned operator station
Large and roomy uncluttered floor
Left hand-rail access
Seat-belt with warning indicator
Right rear-view mirror

Cab

FOPS on top level 1 (Falling Object Protective Structure).
TOPS (Tip-Over Protective Structure).
ROPS (Roll-Over Protective Structure).
Cushioned operator station.
Large door access.
Large and roomy uncluttered floor.
Gas-strut assisted front window opening.
Full opening front bay with in-cab storage for the front lower window.
Front windscreen wiper and washer nozzle.
Right hand side sliding window.
Heating systems.
Multiple adjustable air vents.
Filtered air inlet.
Cab inside light.
Seat-belt with warning indicator.
Right rear-view mirror.

STANDARD EQUIPMENT

Two working lights on top front of the cab.

Machine controls

Finger tip control for boom offset.
Finger tip control for auxiliary circuit.
Breaker toggle switch on right joystick
Automatic locking device for pilot controls and travel levers when the left console is raised.
Engine starting safety device: the left console must be raised to operate the starter.
Pressure accumulator to lower the equipment on the ground when the engine is switched off.
High torque / automatic two speed change over button on the keypad.
High speed toggle switch on the dozer blade lever.
Large travel pedals.

Instrumentation and monitoring

Water temperature and fuel level gauges.
Warning lights for hydraulic filter and air filter restriction.
Self-acting emergency engine shutdown. Prevents failures in case of coolant overheating or too low engine oil pressure.
Several warning lights, coupled to an audible signal, in the event of malfunction (overheating, drop in oil pressure, low battery voltage...)

Official approval

Machine conforming to European directive 2006/42/EC.
Noise emissions in the environment conforming to directive 2000/14/EC.
Hand Arm Vibrations - Whole Body Vibrations compliant with directive 2002/44/EC.
Electromagnetic compatibility (EMC) conforming to European directive 2004/108/EC and its amendments.
Object handling device conforming to EN 474-1 and EN 474-5 standards.
FOPS on top level 1 conforming to ISO 10262 standard.
TOPS conforming to ISO 12117 and EN 13531 standards.
ROPS conforming to ISO 3471-1 and / SAE J1040 standards.

EQUIPMENT

- = Standard
- = Option

	Basic	Standard
Operator environment		
Canopy	○	○
Cab with heater	○	○
Cab with heater and air conditioning		○
Vinyl or textile seat, with mechanical suspension, low-back seat and 2" seat belt	○	○
Vinyl or textile seat, height adjustable, with mechanical suspension, high back and 2" or 3" retractable seat belt	○	○
Storage box		•
Cab roof		○
ISO / SAE control pattern change (in-cab electric switch)	○	○
Travel alarm	○	○
Radio preparation (cab)	•	•
Radio, AUX, USB, Bluetooth		○
Anti-theft device	○	○
Digital hour meter	•	•
Extra hour meter (mechanical,)	○	○
Cup holder.		○
Machine exterior		
Right rearview mirror	•	•
Left rearview mirror	○	○
Protected work light on the boom	○	○
Rear work light	○	○
Rotating beacon	○	○
Additional counterweight	○	○
Front canopy guard (OPG1)	○	○
Severe-duty guards for cab or canopy (OPG2, front & top)	○	○
Several level of paint customization (RAL specifications) to match with your corporate identity	○	○
Digging equipment		
Short arm	○	○
Short arm + thumb bracket	○	○
Long arm + additional counterweight	○	○
Long arm + thumb bracket + additional counterweight	○	○

EQUIPMENT		
<ul style="list-style-type: none"> • = Standard ○ = Option 		
	Basic	Standard
Undercarriage equipment		
300 mm (1' 0") rubber tracks	○	○
300 mm (1' 0") steel tracks	○	○
Standard dozer blade	•	○
Hydraulic angle blade		○
Hydraulic equipment		
Proportional finger tip control for boom offset		•
On / Off finger tip control for boom offset	•	
Proportional finger tip control for accessories		•
On / off finger tip control for accessories	•	
Accessory flow adjustment with 3 function oriented button and user-defined settings.		•
Secondary relief valves for auxiliaries	•	•
Hydraulic drain for accessories		○
Breaker and clamshell auxiliaries		○
Second accessory circuit		○
Flat face hydraulic quick couplings	○	○
Single acting circuit for quick couplers	○	○
Double acting circuit for quick couplers	○	○
Boom & arm safety lifting valves with overload indicator	○	○
Boom, arm and dozer blade safety lifting valves with overload indicator	○	○
Float blade	•	•
Safety valve certification	○	○
Mineral hydraulic oil VG46	○	○
Bio hydraulic oil VG46 (PANOLIN®)	○	○
Mineral hydraulic oil VG68	○	○
Mineral hydraulic oil VG32	○	○
Bio hydraulic oil VG32 (PANOLIN®)	○	○

EQUIPMENT		
<ul style="list-style-type: none"> • = Standard ○ = Option 		
	Basic	Standard
Engine		
Manual engine control	•	
Digital engine control with two preset engine speed buttons (user adjustable)		•
Engine auto idling with time adjustment		○
ECO mode	•	
Engine auto shut-down with time adjustment		○
Dual stage air filter	○	○
Service and maintenance		
In-cab air filter clog warning lamp	•	•
In-cab engine overheating warning indicator	•	•
Tool kit	○	○
Electronic service reminder		•
V-CADS pro		•
Telematics		
Care Track		○
Attachments		
Volvo quick coupler mechanical (pin-on)	○	○
Volvo hydraulic quick coupler (pin-on)	○	○
Extra pin kit	○	○
Lehnhoff® Quick Coupler Mechanical (MS03)	○	○
S-type hydraulic quick coupler (S40)	○	○
Thumb with short clamp (for direct fit bucket)	○	○
Thumb with long clamp (when using quick coupler)	○	○
General purpose buckets (300 mm (1' 0") / 52 l (14 gal) up to 750 mm (2' 6") / 148 L (39 gal))	○	○
Bolt-on side cutters	○	○
Fix ditching buckets (1,300 mm (4' 3") / 150 l (40 gal))	○	○
Tiltable ditching buckets (1,200 mm (3' 11") / 125 l (33 gal))	○	○
Hydraulic breaker HB03LN	○	○

SELECTION OF VOLVO OPTIONAL EQUIPMENT

Anti theft



Auto engine shutdown



OPG



Air conditioning



Angle blade



Safety valves



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.