

V O L V O



Volvo Compact Excavators 3.6-4.4 t / 7,937-9,700 lb 24.5 hp

ECR40

Volvo Construction Equipment

ECR40

Experience superior stability, outstanding comfort
and increased productivity



Versatile and stable performer

Boasting smooth operation and easy servicing, as well as spaciousness and comfort thanks to a new modern cab, this short swing radius compact excavator is set to deliver high breakout force and lifting capabilities across a multitude of tasks. With an intuitive navigation system and proportional fingertip controls, these compact machines are the perfect choice even for newly trained operators who can quickly get to work with a variety of attachments.



Comfortable new cab

- USB charging
- ROPS cab
- Improved HVAC- reduces dust and heat
- Reduced noise levels
- Modern style HMI



Easy and smooth operation

- Hydraulics for smoother operation
- Easily changeable hydraulic attachments
- Pre-program hydraulic settings
- Well suited for newly trained operators



Serviceability

- Less time on maintenance
- 50-hour greasing interval
- Easily accessed service points
- Wide-opening engine hood
- Auto engine shutdown
- Patented multifunction hydraulic oil filter



Strong and stable

- Superior stability due to longer track lines
- High breakout force, tear out force and lifting capacity
- Fast cycle times even with heavy loads
- Great tractive force

Volvo ECR40 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)
Max. torque	Nm (ft lbf)	97 (71.5)
at engine speed	r/min	1 500
No. of cylinders		3
Displacement	cm ³ (in ³)	1,647 (101)
Bore	mm (in)	87 (3.43)
Stroke	mm (in)	92.4 (3.64)
Compression ratio		20.0 / 1
Electrical system		
Voltage	V	12
Battery capacity	Ah	74
Alternator	V/Ah	12 / 70
Undercarriage equipment		
Rubber track width	mm (in)	300 (12)
Steel track width	mm (in)	300 (12)
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		
Bucket rotation	°	198
Bucket breakout force (ISO)	daN (lbf)	3,553 (7,987)
Short arm tearout force (ISO)	daN (lbf)	2,259 (5,078)
With short arm	mm (ft in)	1,400 (4'7")
Long arm tearout force (ISO)	daN (lbf)	1,962 (4,411)
With long arm	mm (ft in)	1,700 (5'7")

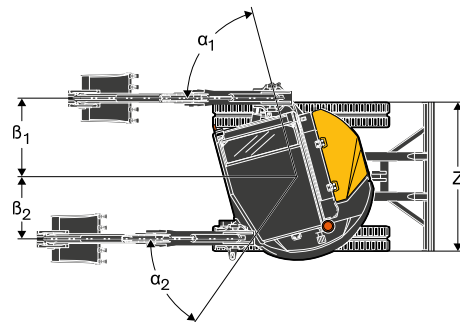
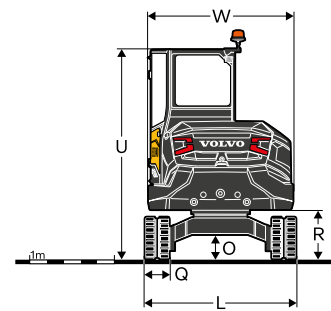
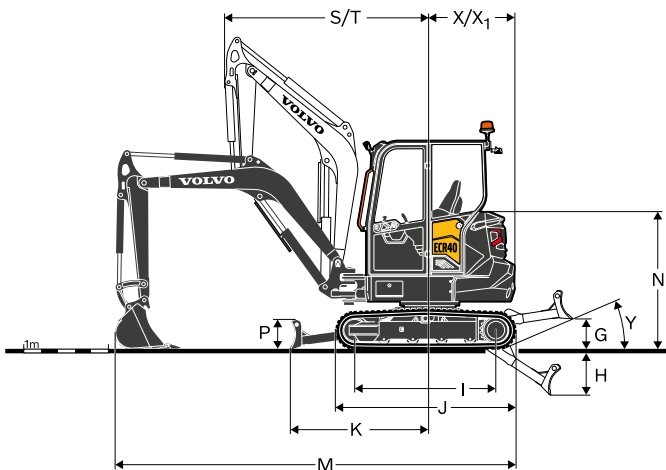
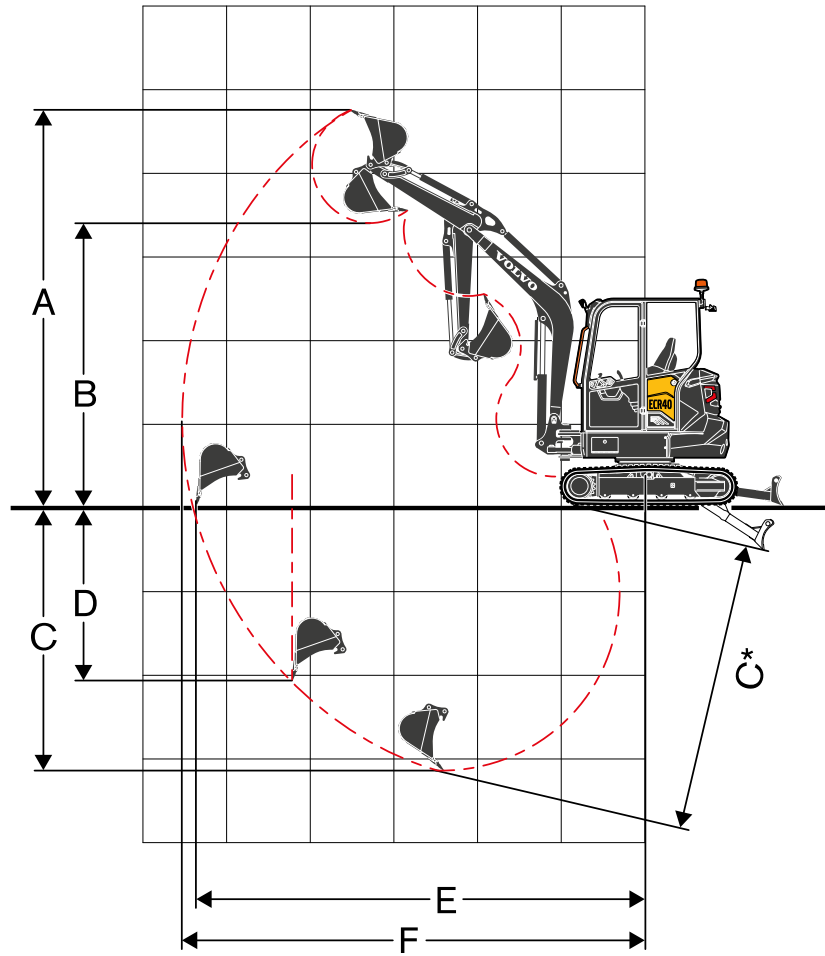
Travel System		
Max. drawbar pull	daN (lbf)	3,364 (7,563)
Max. travel speed low	km/h (mi/h)	2.6 (1.62)
Max. travel speed high	km/h (mi/h)	4.6 (2.86)
Swing system		
Max. slew speed	r/min	9
Service Refill		
Fuel tank	l (gal)	70 (18.5)
Hydraulic tank	l (gal)	47 (12.4)
Engine oil	l (gal)	7 (1.85)
Engine coolant	l (gal)	7 (1.85)
Travel reduction unit	l (gal)	2 x 0.7 (2 x 0.19)
Sound Level		
Interior sound level according to ISO 6396		
L _{pA}	dB	78
External sound level according to ISO 6395 and EU Noise Directive (2000/14/EC) and 474-1:2006 +A1:2009		
L _{WA}	dB	94

Hydraulic system		
Pump type		Variable displacement piston pump
Maximum system flow	l/min (gal/min)	110 (29.1)
Maximum flow for accessories	l/min (gal/min)	65 (17.1)
Maximum pressure for accessories	MPa (psi)	22 (3,191)
Maximum flow for 2nd accessory circuit (option)	l/min (gal/min)	40 (10.6)
Maximum operating pressure	MPa (psi)	26 (3,771)

Weight and Ground Pressure		
Operating weight according to ISO 6016	kg (lb)	3,985 (8,785)
Ground pressure (cab)	kPa (psi)	36.3 (5.26)
Ground pressure (canopy)	kPa (psi)	35.3 (5.12)
Transport weight	kg (lb)	3,910 (8,620)
With heated cab		
With direct-fit bucket		600 mm / 95 kg
With rubber tracks	mm (in)	300 (12)
With short arm	mm (in)	1,400 (55.1)
With fuel tank capacity	%	100
With thumb	+kg (+lb)	64 (141)
With canopy	-kg (-lb)	110 (243)
With extra counterweight	+kg (+lb)	170 (375)
With long arm and additional counterweight	+kg (+lb)	185 (408)



Specifications



			ECR40F				
Dimensions		Unit		short arm		long arm	
Arm length		mm	ft in	1,400	4'7"	1,700	5'7"
A	Maximum cutting height	mm	ft in	4,684	15'4"	4,849	15'11"
B	Maximum dumping height	mm	ft in	3,468	11'5"	3,634	11'11"
C	Maximum digging depth (blade up)	mm	ft in	3,133	10'3"	3,433	11'3"
C*	Maximum digging depth (blade down)	mm	ft in	3,436	11'3"	3,727	12'3"
D	Maximum vertical wall digging depth	mm	ft in	2,064	6'9"	2,342	7'8"
E	Maximum digging reach at ground level	mm	ft in	5,311	17'5"	5,597	18'4"
F	Maximum digging reach	mm	ft in	5,473	17'11"	5,755	18'11"
G	Highest position dozer blade	mm	in	368	14.5	368	14.5
H	Lowest position dozer blade	mm	in	522	20.6	522	20.6
I	Tumbler length	mm	ft in	1,654	5'5"	1,654	5'5"
J	Track length	mm	ft in	2,116	6'11"	2,116	6'11"
K	Short blade	mm	ft in	1,648	5'5"	1,648	5'5"
L	Overall width	mm	ft in	1,780	5'10"	1,780	5'10"
M	Overall length	mm	ft in	4,680	15'4"	5,497	18'0"
N	Overall height of engine hood	mm	ft in	1,617	5'4"	1,617	5'4"
O	Minimum ground clearance	mm	in	285	11.2	285	11.2
P	Dozer blade height	mm	in	366	14.4	366	14.4
Q	Shoe width	mm	in	300	11.8	300	11.8
R	Ground clearance to superstructure	mm	in	572	22.5	572	22.5
S	Front slew radius	mm	ft in	2,398	7'10"	2,416	7'11"
T	Front slew radius with maximum offset	mm	ft in	1,892	6'2"	1,906	6'3"
V	Overall height	mm	ft in	2,458	8'1"	2,458	8'1"
W	Overall width of superstructure	mm	ft in	1,710	5'7"	1,710	5'7"
X	Tail slew radius	mm	in	990	39	990	39
X ₁	Additional counterweight overhang (option)	mm	in	80	3.1	80	3.1
Y	Angle of approach					25°	
Z	Dozer blade width	mm	ft in	1,780	5'10"	1,780	5'10"
a ₁	Maximum boom swing angle to the left					75°	
a ₂	Maximum boom swing angle to the right					55°	
b ₁	Maximum boom offset to the right	mm	in	934	36.8	934	36.8
b ₂	Maximum boom offset to the left	mm	in	726	28.6	726	28.6



Equipment

STANDARD EQUIPMENT

Engine

Low emission, direct injection, water-cooled, Volvo 3-cylinder diesel engine, meeting T4f environmental regulations.
 Engine restart prevention system: starter motor is protected against ignition when the engine is already running.
 Safe engine start function: the left console must be raised to operate the starter.
 Auto-idling system.
 Eco mode.
 Fuel fuel tank with drain plug.
 Fuel filter with water separator.

Drivetrain

Axial piston hydraulic motors equipped with an epicyclic reduction gears.
 Automatic two speed travel
 Multi-disc track brakes, spring-applied and hydraulic released.
 4 bottom flanged rollers lubricated for life.
 Grease tensioning wheel lubricated for life.

Electric / Electronic control system

Maintenance free battery.
 IP67 protected electrical system and high quality connectors.
 Battery cut-off switch protected in engine compartment.
 In-cab 12V and USB 5V power sockets.
 In-cab diagnostic port.
 In-cab fuse box.
 One LED working light on top front left of the cab.

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.

Undercarriage

"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 removeable protecting covers for track motors and slew system.
 400HB weld-on edge on dozer blade

Hydraulic system

Variable displacement, load-sensing piston pump.
 Closed centre flow-sharing main control valve.
 Single and double acting hydraulic circuit for auxiliaries.
 Proportional controls with digital flow and direction adjustment for all auxiliary circuits.
 Cylinder cushioning on boom up and arm out.
 Large hinged and key-locked access panel.
 Patented filtering and filling element.
 Single layer cooling system.
 Hydraulic tank with drain plug.

STANDARD EQUIPMENT

Cab

FOPS on top level 1 (Falling Object Protective Structure).
 TOPS (Tip-Over Protective Structure).
 ROPS (Roll-Over Protective Structure).
 Cushioned operator station.
 Height adjustable seat, consoles and joysticks; all suspended together.
 Retractable 50mm / 2.0in orange seat belt with warning indicator.
 Large door access.
 Highly visible orange handrail and cab entry step.
 Large and roomy uncluttered floor with easy to clean floor mat.
 Gas-strutt assisted front window opening.
 Full opening and front bay with in-cab storage for the removable front lower window.
 Front windscreen wiper and washer nozzle.
 Right hand side sliding window.
 Heating system.
 Multiple adjustable air vents.
 Filtered air inlet with large size and easy to replace element.
 Cab inside light.
 Large capacity key-locked toolbox.

Digging equipment

Monobloc box welded boom.
 Boom cylinder rod protection.
 In-track swing frame: the boom offset cylinder is below the cab.
 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.

Machine controls

Finger tip control for boom offset.
 Finger tip control for auxiliary circuit(s).
 Breaker toggle switch on right joystick.
 Jogwheel for easy navigation and engine speed adjustment.
 Automatic locking device for the controls when the left console is raised.
 Pressure accumulator to lower the equipment on the ground when the engine is switched off.
 Two speed change button on the dozer lever.
 Large travel pedals.

Instrumentation and monitoring

High contrast 5" LCD color display with day and night modes
 Gauges for fuel level, coolant temperature, engine speed, auxiliary and boom offset flows.
 Icons & graphics for engine and adjustable work modes.
 Various preset adjustable hydraulic adjustment for a large range of attachments.
 Colour coded messages and help menu.
 Hourmeter.
 Self-acting emergency engine shutdown in case of coolant overheating or too low engine oil pressure.
 Warning lights for hydraulic filter and air filter restriction.
 Warning lights and audible signal in case of 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 2014/30/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 12117-2 and EN 13531 standards.
 ROPS conforming to ISO 12117-2

STANDARD AND OPTIONAL EQUIPMENT	
• = Standard / o = Optional	
Engine	
ECO mode	•
Engine auto idling with time adjustment	•
Engine auto shutdown with time adjustment	o
Machine exterior	
Right rearview mirror	o
Left rearview mirror	o
Front left LED worklight on cab roof	•
Front right LED worklight on cab roof ⁽¹⁾	o
Rear right LED worklight on cab roof ⁽¹⁾	o
Protected LED worklight on the boom ⁽¹⁾	o
Full LED worklights pack - Includes lights marked ⁽¹⁾ above	o
2 x cab mounted LED worklights illuminating left & right sides of the machine	o
Amber flashing LED beacon	o
Green flashing LED beacon (lights-up when to operator has buckled the seat belt)	o
Additional counterweight (170 kg)	o
Several level of paint customisation (RAL specifications) to match with your corporate identity	o
Undercarriage equipment	
300mm rubber tracks	•
300mm steel tracks	o
Standard dozer blade	•
Floating dozer blade with finger tip control switch on the blade lever	o
Angle and floating dozer blade	o
Hydraulic equipment	
Proportional finger tip roller control for boom offset	•
Proportional finger tip roller control for accessories	•
Double acting main accessory circuit	•
"Detent" mode for main accessory circuit	•
Adjustable preset work modes to match machine settings to accessories in use	•
Second double acting accessory circuit with fingertip roller control	o
Third double acting accessory circuit with fingertip roller control (for side tilting quick coupler)	o
Secondary relief valves for auxiliaries (22 MPa)	•
Hydraulic drain including flat face coupling for accessories	o
Flat face hydraulic quick couplings for main and second accessories circuits	o
Single acting circuit for quick couplers	o
Double acting circuit for quick couplers	o
Boom and arm safety lifting valves with overload indicator	o
Boom, arm and dozer blade safety lifting valves with overload indicator	o
Safety valve certification	o
Mineral hydraulic oil VG46	o
Bio hydraulic oil VG46 (PANOLIN®)	o
Mineral hydraulic oil VG68	o
Mineral hydraulic oil VG32	o
Bio hydraulic oil VG32 (PANOLIN®)	o

STANDARD AND OPTIONAL EQUIPMENT	
Canopy	
Vinyl high back seat	o
Textile high back seat	o
Head rest	o
3" Seat belt	o
Height adjustable arm rest	•
Large size monoblock travel pedals	•
Bottle holder	•
Lockable backrest storage box	o
1 x 12V power socket	•
Control pattern change	o
Travel alarm	o
Codelocked anti-theft device	o
Additional mechanical hour meter visible from outside the cab	o
Large capacity, key-lockable toolbox	•
Cab	
Heater	•
Air conditioning	o
Vinyl high back seat	o
Textile high back seat	o
Head rest	o
3" Seat belt	o
Height adjustable arm rest	•
Large size monoblock travel pedals	•
Bottle holder	•
Large capacity storage box	•
Lockable backrest storage box	o
Storage net	•
Coat hook	•
Ceiling light	•
Radio preparation	•
Radio (AUX, USB, SD, Bluetooth, DAB)	o
1 x 12V power socket	•
2 x USB charging ports	•
Control pattern change (ISO / SAE)	o
Travel alarm	o
Codelocked anti-theft device	o
Additional mechanical hour meter	o
Large capacity, key-lockable toolbox	•
Digging equipment	
Short arm	•
Long arm + additional counterweight	o
Service and maintenance	
In-cab diagnostick socket	•
Service reminder	•
Tool kit	o
Attachments	
Volvo quick coupler mechanical or hydraulic (pin-on)	o
Extra pin kit for attachments used with pin-on quick coupler	o
A choice of 30cm (12in) / 52L (14gal) up to 130cm (51in) / 150L (40gal) general purpose and ditch buckets	o
Bolt-on side cutters for general purpose buckets	o
Hydraulic thumb	o
Telematics	
Volvo Care Track	o

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.

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