Document Title: **Machine view**	Function Group: **000**	Information Type: **Service Information**	Date: **8/12/2025**
Profile: **EC210B Volvo**			

Machine view

Showing Selected Profile

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
EC210B Volvo			

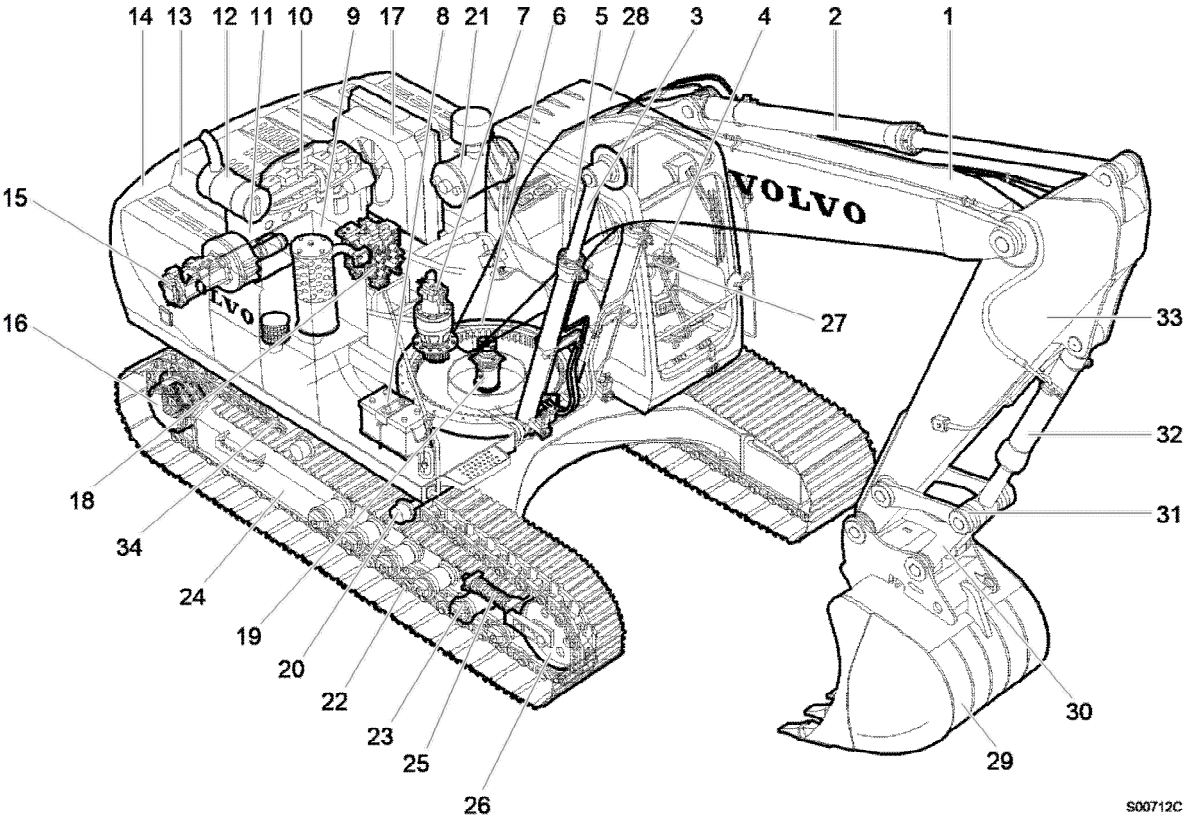


Figure 1
Location of components

1	Boom	13	Cowl	25	Recoil spring
2	Arm cylinder	14	Counterweight	26	Idler
3	Boom cylinder	15	Hydraulic pump	27	Control pedal (travel)
4	Control lever	16	Track motor and gearbox	28	Operator cab
5	Operator's seat	17	Radiator and oil cooler	29	Bucket
6	Slew ring gear	18	Main control valve	30	Connecting rod
7	Slew motor and gearbox	19	Center passage	31	Link
8	Battery	20	Top roller	32	Bucket cylinder
9	Fuel tank	21	Air cleaner	33	Arm
10	Engine	22	Track link	34	Track link

11	Hydraulic tank	23	Bottom roller		
12	Muffler	24	Bottom frame		

VOLVO

Service Information

Document Title: **Volvo standard tightening torques**	Function Group: **030**	Information Type: **Service Information**	Date: **8/12/2025**
Profile: **EC210B Volvo**			

Volvo standard tightening torques

Showing Selected Profile

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
EC210B Volvo			

The tightening torques in the following tables apply to bolts and nuts with tensile strength. The tables should be used as a general instruction for tightening bolts and nuts without specified values. The charts contains values for course thread bolts and nuts.
Torque values should be increased with ≈10%, for flange bolts.
All standard torques for bolts are without surface treatment.
The standard torque for bolts lubricated with oil should be reduced with 20% of the given value.

Standard tightening torque charts

Bolt size Metric Coarse Threads	**Tensile strength 8.8**		**Tensile strength 10.9**	
	(Nm)	**(lbf ft)**	**(Nm)**	**(lbf ft)**
M5	6	4	8	6
M6	10	7	14	11
M8	25	18	35	26
M10	50	37	70	52
M12	87	64	122	90
M14	139	103	195	144
M16	213	157	299	220
M18	293	216	413	305
M20	416	307	585	432
M24	719	530	1010	745
M27	1060	782	1490	1100
M30	1140	840	2025	1493
M36	2500	1844	3600	2653

Bolt size Inch SAE Coarse Threads	**Tensile strength 5**		**Tensile strength 8**	
	(lbf ft)	**(Nm)**	**(lbf ft)**	**(Nm)**
1/4	10	13,6	14	19
5/16	21	28,5	29	39,3
3/8	37	50,2	52	70
7/16	59	80	84	114
1/2	90	122	128	174
9/16	130	176	184	250
5/8	180	244	254	345

3/4	320	434	451	612
7/8	515	700	728	988
1	775	1052	1091	1480
1 1/8	953	1290	1545	2100
1 1/4	1344	1823	2180	2960
1 3/8	1600	2170	2650	3600
1 1/2	2000	2714	3200	4340

Hydraulic connections, general

Before fitting pipe couplings, plugs and hoses:

- Make sure that the sealing surfaces are clean and free from pores or scratches.
- Check elastic seal rings for defects.
- Oil in threads, sealing surfaces and contact surfaces except for ORFS-connections (ORFS = O-Ring Face Seal).

Applying Torque correction factor by tool angle

Correction factor		
Tool angle	**ORFS**	**Stud-end**
Allowable tolerance	±10%	- 0%, +10%
±0˚ ~ ±30˚	5% over torque	
±30˚ ~ ±45˚	20% over torque	
±45˚	NOT allowable	

Tool access angle

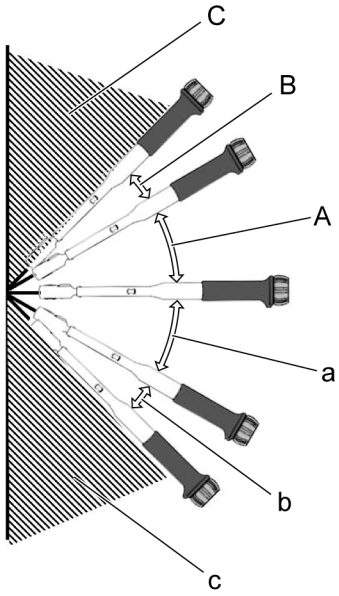


Figure 1
Tool access angle

A: +0˚ ~ +30˚

B: +30˚ ~ +45˚

C: +45˚

a: -0˚ ~ -30˚

b: -30˚ ~ -45˚

c: -45˚

ORFS female swivel fitting

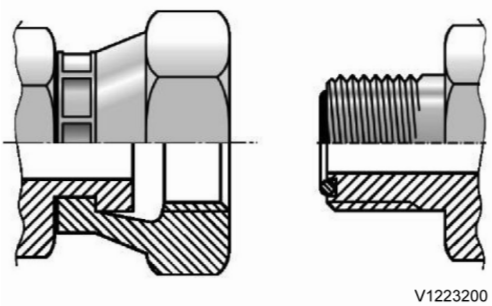


Figure 2

Threads type	Assembly position	Threads	Standard torque		±0˚ ~ ±30˚		±30° ~ ±45°	
			(Nm)	(lbf ft)	(Nm)	(lbf ft)	(Nm)	(lbf ft)
UN-UNF	ORFS	UNF 9/16-18	29 ±3	21.4 ±2.2	30.5 ±3.1	22.1 ±2.2	36.5 ±3.7	26.9 ±2.7
		UN 11/16-16	44 ±4	32.5 ±3.0	46.2 ±4.6	34.1 ±3.4	55.4 ±5.5	40.9 ±4.1
		UN 13/16-16	63 ±6	46.5 ±4.4	66.2 ±6.6	48.8 ±4.9	79.4 ±7.9	58.6 ±5.9
		UNS 1-14	106 ±8	78.2 ±5.9	111.3 ±11.1	82.1 ±8.2	133.6 ±13.4	98.5 ±9.9
		UN 1 3/16-12	140 ±12	103.3 ±8.9	147.0 ±14.7	108.4 ±10.8	176.4 ±17.6	130.1 ±13.0
		UN 1 7/16-12	175 ±15	129.1 ±11.1	183.8 ±18.4	135.6 ±13.6	220.5 ±22.1	162.6 ±16.3
		UN 1 11/16-12	270 ±20	199.1 ±14.8	283.5 ±28.4	209.1 ±20.9	340.2 ±34.0	250.9 ±25.1
	Stud-end	UNF 7/16-20	21 +2.1	15.4 +1.5	22.1 +2.2	16.3 +1.6	26.5 +2.7	19.5 +2.0
		UNF 1/2-20	37 +3.7	27.3 +2.7	38.9 +3.9	28.7 +2.9	46.6 +4.7	34.4 +3.4
		UNF 9/16-18	47 +4.7	34.7 +3.5	49.4 +4.9	36.4 +3.6	59.2 +5.9	43.7 +4.4
		UNF 3/4-16	81 +8.1	59.7 +6.0	85.1 +8.5	62.8 +6.3	102.1 +10.2	75.3 +7.5
		UNF 7/8-14	141 +14.1	104.0 +10.4	148.1 +14.8	109.2 +10.9	177.7 +17.8	131.1 +13.1
		UN 1 1/16-12	189 +18.9	139.4 +13.9	198.5 +19.9	146.4 +14.6	238.1 +23.8	175.6 +17.6
		UN 1 5/16-12	284 +28.4	209.5 +21.0	298.2 +29.8	219.9 +22.0	357.8 +35.8	263.9 +26.4
		UN 1 5/8-12	347 +34.7	255.9 +25.6	364.4 +36.4	268.8 +26.9	437.2 43.7	322.5 +32.3

	UN 1 7/8-12	425 +42.5	313.5 +31.4	446.3 +44.6	329.2 +32.9	535.5 +53.6	395.0 +39.5

G thread 30˚ cone female swivel fitting

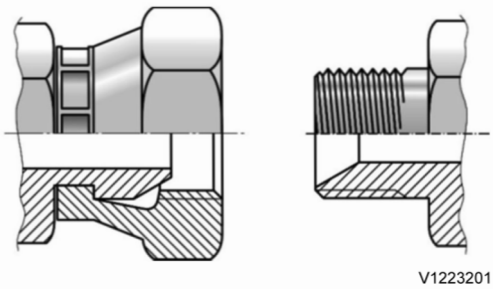


Figure 3

Threads type	Assembly position	Threads	Standard torque		±0˚ ~ ±30˚		±30° ~ ±45°	
			(Nm)	(lbf ft)	(Nm)	(lbf ft)	(Nm)	(lbf ft)
PF	ORFS	G 1/4-19	25 ±2.5	18.4 ±1.8	26.3 ± 2.6	19.4 ±1.9	31.5 ±3.2	23.2 ±2.3
		G 3/8-19	49 ±4.9	36.1 ±3.6	51.5 ± 5.2	38.0 ±3.8	61.7 ±6.2	45.5 ±4.6
		G 1/2-14	59 ±5.9	43.5 ±4.4	62.0 ± 6.2	45.7 ±4.6	74.3 ±7.4	54.8 ±5.5
		G 3/4-11	119 ±11.9	87.8 ±8.8	125.0 ±12.5	92.2 ±9.2	149.9 ±15.0	110.6 ±11.1
		G 1-11	140 ±14	103.3 ±10.3	147.0 ±14.7	108.4 ±10.8	176.4 ±17.6	130.1 ±13.0
		G 1 1/4-11	173 ±17.3	127.6 ±12.8	181.7 ±18.2	134.0 ±13.4	218.0 ±21.8	160.8 ±16.1
		G 1 1/2-11	205 ±20.5	151.2 ±15.1	215.3 ±21.5	158.8 ±15.9	258.3 ±25.8	190.5 ±19.1
	Stud-end	G 1/8-19	22 +2.2	16.2 +1.6	23.1 +2.3	17.0 +1.7	27.7 +2.8	20.4 +2.0
		G 1/4-19	52 +5.2	38.4 +3.8	54.6 +5.5	40.3 +4.0	65.5 +6.6	48.3 +4.8
		G 3/8-19	85 +8.5	62.7 +6.3	89.3 +8.9	65.9 +6.6	107.1 +10.7	79.0 +7.9
		G 1/2-14	105 +10.5	77.4 +7.7	110.3 +11.0	81.4 +8.1	132.3 +13.2	97.6 +9.8
		G 3/4-11	210 +21	154.9 +15.5	220.5 +22.1	162.6 +16.3	264.6 +26.5	195.2 +19.5
		G 1-11	400 +40	295.0 +29.5	420.0 +42.0	309.8 +31.0	504.0 +50.4	371.7 +37.1
		G 1 1/4-11	525 +52.5	387.2 +38.7	551.3 +55.1	406.6 +40.7	661.5 +66.2	487.9 +48.8
		G 1 1/2-11	630 +63.1	464.7 +46.5	661.5 +66.2	487.9 +48.8	793.8 +79.4	585.5 +58.6

Document Title: **Measurement conversion tables**	Function Group: **030**	Information Type: **Service Information**	Date: **8/12/2025**
Profile: **EC210B Volvo**			

Measurement conversion tables

Showing Selected Profile

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
EC210B Volvo			

Length

Unit	**cm**	**m**	**km**	**in**	**ft**	**yd**	**mile**
cm	1	0.01	0.00001	0.3937	0.03281	0.01094	0.000006
m	100	1	0.001	39.37	3.2808	1.0936	0.00062
km	100000	1000	1	39370.7	3280.8	1093.6	0.62137
in	2.54	0.0254	0.000025	1	0.08333	0.02777	0.000015
ft	30.48	0.3048	0.000304	12	1	0.3333	0.000189
yd	91.44	0.9144	0.000914	36	3	1	0.000568
mile	160930	1609.3	1.6093	63360	5280	1760	1
1 mm = 0.1 cm, 1 mm = 0.001 m							

Area

Unit	**cm^2**	**m^2**	**km^2**	**a**	**ft^2**	**yd^2**	**in^2**
cm^2	1	0.0001	-	0.000001	0.001076	0.000012	0.155000
m^2	10000	1	0.000001	0.01	10.764	1.1958	1550.000
km^2	-	1000000	1	10000	1076400	1195800	-
a	0.01	100	0.0001	1	1076.4	119.58	-
ft^2	-	0.092903	-	0.000929	1	0.1111	144.000
yd^2	-	0.83613	-	0.008361	9	1	1296.00
in^2	6.4516	0.000645	-	-	0.006943	0.000771	1
1 ha = 100 a, 1 $mile^2$ = 259 ha = 2.59 km^2							

Volume

Unit	**cm^3 = cc**	**m^3**	**Liter**	**in^3**	**ft^3**	**yd^3**
cm^3 = m liter	1	0.000001	0.001	0.061024	0.000035	0.000001
m^3	1000000	1	1000	61024	35.315	1.30796
Liter	1000	0.001	1	61.024	0.035315	0.001308
in^3	16.387	0.000016	0.01638	1	0.000578	0.000021
ft^3	28316.8	0.028317	28.317	1728	1	0.03704
yd^3	764529.8	0.76453	764.53	46656	27	1
1 gal(US) = 3785.41 cm^3 = 231 in^3 = 0.83267 gal(UK)						

Weight

Unit	**g**	**kg**	**t**	**oz**	**lb**
g	1	0.001	0.000001	0.03527	0.0022
kg	1000	1	0.001	35.273	2.20459
t	1000000	1000	1	35273	2204.59
oz	28.3495	0.02835	0.000028	1	0.0625
lb	453.592	0.45359	0.000454	16	1
1 tonne(metric) = 1.1023 ton(US) = 0.9842 ton(UK)					

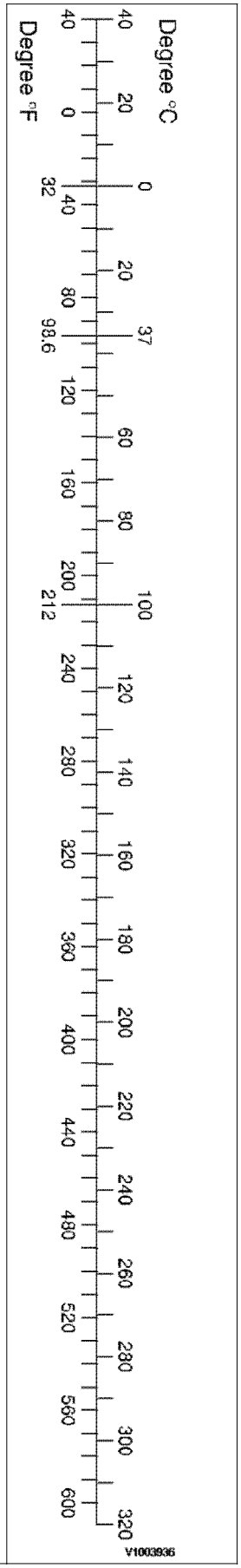
Pressure

Unit	**kgf/cm²**	**bar**	**Pa=N/m²**	**kPa**	**lbf/in²**	**lbf/ft²**
kgf/cm²	1	0.98067	98066.5	98.0665	14.2233	2048.16
bar	1.01972	1	100000	100	14.5037	2088.6
Pa=N/m²	0.00001	0.001	1	0.001	0.00015	0.02086
kPa	0.01020	0.01	1000	1	0.14504	20.886
lbf/in²	0.07032	0.0689	6894.76	6.89476	1	144
lbf/ft²	0.00047	0.00047	47.88028	0.04788	0.00694	1
1 kgf/cm² = 735.56 Torr(mmHg) = 0.96784 atm						

Approximate conversions

SI	Conversion	Non-SI	Conversion	SI
Unit	Factor	Unit	Factor	Unit
Torque				
newton meter (N·m)	x 10.2	= kgf·cm	x 0.8664	= (lbf·in)
newton meter (N·m)	x 0.74	= lb·ft	x 1.36	= N·m
newton meter (N·m)	x 0.102	= kgf·m	x 7.22	= (lbf·ft)
Pressure (Pa = N/m²)				
kilopascal (kPa)	x 4.0	= in. H_2O	x 0.249	= kPa
kilopascal (kPa)	x 0.30	= in. Hg	x 3.38	= kPa
kilopascal (kPa)	x 0.145	= psi	x 6.89	= kPa
(bar)	x 14.5	= psi	x 0.069	= (bar)
(kgf/cm²)	x 14.22	= psi	x 0.070	= (kgf/cm²)
(newton/mm²)	x 145.04	= psi	x 0.069	= (bar)
megapascal (MPa)	x 145	= psi	x 0.00689	= MPa
Power (W = J/s)				
kilowatt (kW)	x 1.36	= PS (cv)	x 0.736	= kW
kilowatt (kW)	x 1.34	= HP	x 0.746	= kW
kilowatt (kW)	x 0.948	= Btu/s	x 1.055	= kW
watt (W)	x 0.74	= ft·lb/s	x 1.36	= W

Note: ( ) non-si unit

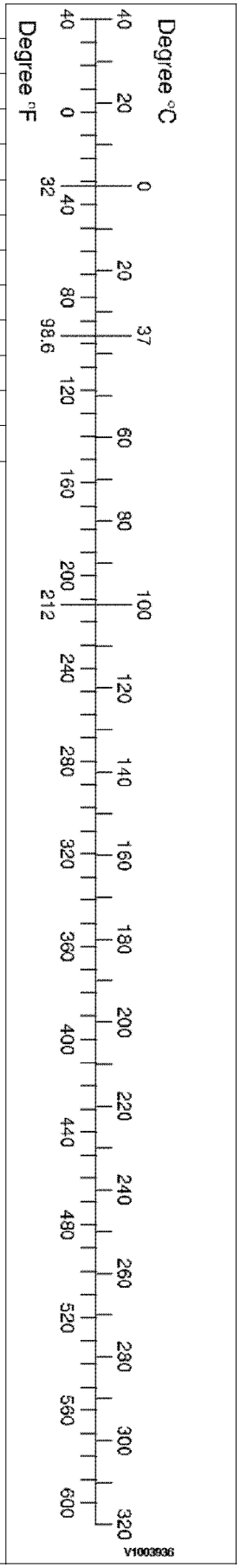


Approximate conversions

SI	Conversion	Non-SI	Conversion	SI
Unit	Factor	Unit	Factor	Unit

Energy (J = N·m)				
kilojoule (kJ)	x 0.948	= Btu	x 1.055	= kJ
joule (J)	x 0.239	= calorie	x 4.19	= J
Velocity and Acceleration				
meter per sec² (m/s²)	x 3.28	= ft/s²	x 0.305	= m/s²
meter per sec (m/s)	x 3.28	= ft/s	x 0.305	= m/s
kilometer per hour (km/h)	x 0.62	= mph	x 1.61	= km/h
Horse power/torque				
BHP x 5252 rpm = TQ (lb·ft)			TQ x rpm 5252 = B.H.P.	
Temperature				
°C = (°F - 32) /1.8	°F = (°C x 1.8) + 32			
Flow Rate				
liter/min (dm³/min)	x 0.264	= US gal/min x 3.785		= liter/min

Note: ( ) non-si unit



VOLVO

Service Information

Document Title: **Specification, filling capacities**	Function Group: **030**	Information Type: **Service Information**	Date: **8/12/2025**
Profile: **EC210B Volvo**			

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Specification, filling capacities

Showing Selected Profile

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
EC210B Volvo	Changwon	10001	30000
EC210B Volvo	Konz	20001	20837
EC210B Volvo	Shanghai	30001	35000

Refill capacities

Reservoir	**Kind of fluid**	**Approximate refill capacities**
		Liters (US gal)
Engine oil pan with filter	Engine oil	25 (6.61)
Hydraulic oil tank	Hydraulic oil	160 (42.3)
Hydraulic system, total	Hydraulic oil	285 (75.3)
Slew gearbox (SN: 10001~17232, 20001~20728, 30000~31519)	Gear oil	6.0 (1.7)
Slew gearbox (SN: 17233~20000, 20729~30000, 31520~)	Gear oil	8.6 (2.3)
Track gearbox	Gear oil	5.8 (1.5)
Fuel tank	Diesel fuel	LC: 350 (92.5) NLC: 335 (89)
Slew ring gear	Grease	17 (4.5)
Pin and bushing	Grease	-
Cooling system	Coolant	27.5 (7.3)

Document Title: **Specification, filling capacities**	Function Group: **030**	Information Type: **Service Information**	Date: **8/12/2025**
Profile: **EC210B Volvo**			

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Specification, filling capacities

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Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
EC210B Volvo	Shanghai	35001	70000
EC210B Volvo	Changwon	70001	110000

Refill capacities

Reservoir	**Kind of fluid**	**Approximate refill capacities**
		Liters (US gal)
Engine oil pan with filter	Engine oil	25 (6.61)
Hydraulic oil tank	Hydraulic oil	160 (42.3)
Hydraulic system, total	Hydraulic oil	285 (75.3)
Slew gearbox	Gear oil	8.6 (2.3)
Track gearbox	Gear oil	5.8 (1.5)
Fuel tank	Diesel fuel	LC: 350 (92.5) NLC: 335 (89)
Slew ring gear	Grease	20 (5.3)
Pin and bushing	Grease	-
Cooling system	Coolant	32 (8.45)

Document Title: **Engine, specifications**	Function Group: **030**	Information Type: **Service Information**	Date: **8/12/2025**
Profile: **EC210B Volvo**			

Engine, specifications

Showing Selected Profile

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
EC210B Volvo			

Specifications

Item	**Unit**	**Specifications**	
Model	–	D6D	D6E Machine serial no.: CHW 80011 ~ 80188 / SHA 95001 ~ 95057
Make	–	Volvo	
Type	–	4–stroke, 6–cylinder, water cooled, vertical in-line, direct injection, turbocharged and air to air aftercooled diesel engine.	
Maximum output (net)	kW (hp) / rpm	107 (143) / 1900	110 (147) / 1800
Maximum torque (Net)	N m (lb ft) / rpm	665 (492) / 1425	730 (540) ./ 1350
No. of cylinder × bore × stroke	mm	6–98 × 126 (6– 3.86 × 4.96)	
Total displacement	cc (cu·in)	5700 (347.8)	
Lubrication		Forced circulation	
Starter	–	24 V, 5.5 kW	
Alternator	–	28 V, 80 A	
Engine rpm (low/high idle)	RPM	800 / 1900	800 / 1800
Coolant capacity	Liter (gal)	27.5 (7.3)	32 (8.45)
Engine oil capacity	Liter (gal)	25 (6.6)	
Oil change volume with oil filter at dry engine	Liter (gal)	25 (6.6)	

Document Title: **Engine, weight**	Function Group: **030**	Information Type: **Service Information**	Date: **8/12/2025**
Profile: **EC210B Volvo**			

Engine, weights

Showing Selected Profile

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
EC210B Volvo	Shanghai	35001	70000
EC210B Volvo	Changwon	70001	110000

Engine, dry, approx.	550 kg (1212.5 lbs)

VOLVO

Service Information

Document Title: **Valve clearance, specifications**	Function Group: **030**	Information Type: **Service Information**	Date: **8/12/2025**
Profile: **EC210B Volvo**			

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Valve system specifications

Showing Selected Profile

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
EC210B Volvo	Changwon	10001	30000
EC210B Volvo	Konz	20001	20837
EC210B Volvo	Shanghai	30001	35000

Model	**Machine serial no.**	**Engine type**	**Intake mm (inch)**	**Exhaust mm (inch)**
EC140B	10001 ~	D4DEAE1	0.3 (0.012)	0.5 (0.020)
EC210B	10001 ~	D6DECE2	0.3 (0.012)	0.5 (0.020)
EC290B	10001 ~	D7DEAE2	0.3 ~ 0.4 (0.012 ~ 0.016)	0.5 ~ 0.6 (0.02 ~ 0.024)
	80001 ~	D7EEAE3	0.3 ~ 0.4 (0.012 ~ 0.016)	0.5 ~ 0.6 (0.02 ~ 0.024)
EC330B	10001 ~ 10235	D10BEAE2	0.4 (0.016)	0.7 (0.027)
	10236 ~ 80001 ~	D12CECE2	0.2 (0.008)	0.5 (0.02)
EC360B	10001 ~ 10828	D10BEAE2	0.4 (0.016)	0.7 (0.027)
	10829 ~ 80001 ~	D12CECE2	0.2 (0.008)	0.5 (0.02)
EC460B	10001 ~ 11514	D12CEAE2	0.2 (0.008)	0.5 (0.02)
	11515 ~	D12DEAE2	0.2 (0.008)	0.5 (0.0275)
	80001 ~	D12DEAE3	0.2 (0.008)	0.7 (0.0275)
EC700B	10001 ~	D16EEAE3	0.3 ±0.05 (0.012 ±0.0019)	0.6 ±0.05 (0.024 ±0.0019)

Document Title: **Valve clearance, specifications**	Function Group: **030**	Information Type: **Service Information**	Date: **8/12/2025**
Profile: **EC210B Volvo**			

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Valve system specifications

Showing Selected Profile

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
EC210B Volvo			

Valves	
Valve head diameter:	
inlet	44.4 ±0.1 mm (1.75 ±0.004 in)
exhaust	38.7 ±0.1 mm (1.52 ±0.004 in)
Valve stem, diameter:	
inlet	7.94 – 0.04 mm (0.31 –0.0015 in)
exhaust	7.94 – 0.04 mm (0.31 –0.0015 in)
Valve clearance, cold engine, value when adjusting:	
inlet	To zero clearance, then 75° counter-clockwise
exhaust	To zero clearance, then 120° counter-clockwise
Clearance between control valve piston and rocker arm	To zero clearance, then 144° counter-clockwise
Measurement between valve disc and cylinder head's face:	
inlet	0.9 +0.15 –0.1 mm (0.035 +0.006 –0.0039 in)
exhaust	0.9 +0.15 –0.1 mm (0.035 +0.006 –0.0039 in))
Valve head edge, thickness:	
inlet	2.36 mm (0.09 in)
exhaust	1.8 mm (0.07 in)

Valve guides	
Max. clearance valve stem - guide, wear tolerance:	
Inlet	0.07 — 0.13 mm (0.0027 — 0.0052 in)
Outlet	0.07 — 0.13 mm (0.0027 — 0.0052 in)

Valve springs	
Inlet/exhaust	
Length, unloaded	59 ±1.9 mm (2.32 ±0,039 in)
Diameter, thread	4 ±0.03 mm (0.157 ±0,012 in)

Rocker arm	
Hole diameter inlet, exhaust	21.02 +0.033 (0.828 +0.0013 in)
Tapp	21 –0.021 (0.827 –0.0008 in)

Valve seat

Valve seat diameter:	
Inlet	46.09 –0.02 mm
Outlet	39.99 –002 mm
Valve seat angle:	
Inlet	30°
Outlet	45°

Document Title: **Flywheel, weight**	Function Group: **030**	Information Type: **Service Information**	Date: **8/12/2025**
Profile: **EC210B Volvo**			

Flywheel, weight

Showing Selected Profile

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
EC210B Volvo	Shanghai	35001	70000
EC210B Volvo	Changwon	70001	110000

Flywheel, approx.	55 kg (112 lbs)

Document Title: **Lubrication system, specifications**	Function Group: **030**	Information Type: **Service Information**	Date: **8/12/2025**
Profile: **EC210B Volvo, EC210B Volvo**			

Lubrication system, specifications

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Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
EC210B Volvo			
EC210B Volvo			

Oil temperature, normal	80 °C (176 °F)
Oil temperature, max.	125 °C (257 °F)
Oil pressure, > 1100 rpm	0.45 MPa (4.5 bar, 65 psi)
Oil pressure, low idle	0.08 MPa (0.8 bar, 11.6 psi)
Pressure regulating valve, opening pressure	0.4 ±0.04 MPa (4 ±0.4 bar, 58 ±5.8 psi)
Overflow valve, opening pressure	0.25 ±0.05 MPa (2.5 ±0.5 bar, 36.2 ±7.3 psi)

Document Title: **Fuel pressure, specifications**	Function Group: **030**	Information Type: **Service Information**	Date: **8/12/2025**
Profile: **EC210B Volvo**			

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Fuel system, specifications

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Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
EC210B Volvo			

Specifications

Feed pressure	0.5 MPa (5 bar) (72.5 psi)
Feed pressure after the fuel filter at 1500 rpm	0.28 MPa (28 bar) (40.6 psi)
Minimum fuel flow at 1500 rpm	600 litres/hour (158 US gal/hour)

VOLVO

Service Information

Document Title: **Fuel pressure, specifications**	Function Group: **030**	Information Type: **Service Information**	Date: **8/12/2025**
Profile: **EC210B Volvo**			

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Fuel pressure, specifications

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Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
EC210B Volvo			

Fuel feed pressure	
Minimum pressure in engine starting condition	0.35 ±0.05 MPa, 51 ±7 psi, 3.5 ±0.5 bar
Minimum pressure in engine running condition	0.6 ±0.05 MPa, 87 ±7 psi, 6.0 ±0.5 bar
Maximum pressure in the pump pressure relive valve	1.15 ±0.15 MPa, 167 ±22 psi, 11.5 ±1.5 bar

Fuel control unit (FCU) pressure	
Pressure in engine starting condition	0.07 ±0.04 MPa, 10 ±6 psi, 0.7±0.4 bar
Pressure without load in engine running condition	0.1 ±0.01 MPa, 15 ±2 psi, 1 ±0.1 bar
Pressure with load in engine running condition	0.09–0.21 MPa, 13–31 psi, 0.9–2.1 bar
Pressure without regulation in engine running condition	0.45 ±0.02 MPa, 65 ±3 psi, 4.5 ±0.2 bar

High pressure fuel pump output pressure at testing condition	
Output pressure	55 ±5 MPa, 7979 ±725 psi, 550 ±50 bar

Fuel rail pressure	
Pressure in engine starting condition	30 ±5 MPa, 4352 ±725 psi, 300 ±50 bar (at charge air pressure 0 MPa, 0 psi, 0 bar)
Pressure with rail PRV open in running conditions	70 ±5 MPa, 10153 ±725 psi, 700 ±50 bar
Pressure with **load above 60%** in engine running condition	80–150 MPa, 11606–21762 psi, 800–1500 bar (at charge air pressure 0.05–0.25 MPa, 7.3–36.3 psi, 0.5–2.5 bar)

Document Title: **Fuel system, tightening torques**	Function Group: **030**	Information Type: **Service Information**	Date: **8/12/2025**
Profile: **EC210B Volvo**			

Fuel system, tightening torques

Showing Selected Profile

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
EC210B Volvo			

NOTICE

Regarding bolted joints which are not listed here, see "Volvo standard tightening torques"

Fuel rail, attaching bolts	30 Nm (22 lbf ft)
Electrical cables, attaching bolts	1.4 ±0.1 Nm (1.03 lbf ft)
Fuel delivery line (between fuel rail and injector) Step 1: Step 2:	 10 Nm (7.4 lbf ft) 60°+15°
Injector, yoke Step 1: Step 2:	 5 Nm (3.7 lbf ft) 120°+5°
Fuel control valve (FCV)	30 Nm (22 lbf ft)
Return line to control valve	39 Nm (28.8 lbf ft)
Fuel feed filter, attaching bolts	30 Nm (22 lbf ft)
Feed line to control valve (from fuel filter)	49 Nm (39.1 lbf ft)
Feed pipe (on control valve)	34 Nm (25.1 lbf ft)
High-pressure pump, attaching bolts Step 1: Step 2:	 10 Nm (7.4 lbf ft) 50 Nm (36.9 lbf ft)
Safety valve (PRV), fuel rail	100 Nm (73.8 lbf ft)
High-pressure sensor, fuel rail	70 Nm (51.6 lbf ft)

Document Title: **Fuel feed pump, specifications**	Function Group: **030**	Information Type: **Service Information**	Date: **8/12/2025**
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Fuel feed pump, specifications

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Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
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Feed pump relief valve, opening pressure	0.6 ±0.05 MPa (6 ±0.5 bar) (87 ±7.3 psi)
Overflow valve, opening pressure	50 ±5 kPa (0.5 ±0.05 bar (7.3 ±0.7 psi)

Document Title: **Fuel feed pump, specifications**	Function Group: **030**	Information Type: **Service Information**	Date: **8/12/2025**
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Fuel feed pump, specifications

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Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
EC210B Volvo			

Fuel feed pump	
Type	Rotor pump
Feed pressure	500 – 700 kPa (5.0 – 7.0 bar) (72.5 – 101.5 psi) at 780 max. rpm

Document Title: **Cooling system, specifications**	Function Group: **030**	Information Type: **Service Information**	Date: **8/12/2025**
Profile: **EC210B Volvo**			

Cooling system, specifications

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Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
EC210B Volvo			

Specifications

Item		**Unit**	**Specifications**	
			SN: 10001~35000	**SN: 35001~110000**
Radiator	Core type	–	4–Row CF (wave fin)	
	Core size (W × H × D)	mm	886 × 890 × 66	720 × 293 × 145.4
		in	41.0 × 35.4 × 3.9	28.35 × 11.54 ×5.72
	Dry weight	kg (lb)	41.5 (91.5)	
Hydraulic oil cooler	Core type	–	1–Row CF (wave fin)	
	Core size (W × H × D)	mm	595 × 773 × 68	735 ×320.4 ×145.4
		inch	23.4 × 30.4 × 2.7	28.94 ×12.60 ×5.72
	Dry weight	kg (lb)	33.5 (73.9)	
Charge air cooler	Core type	–	1–Row CF (wave fin)	
	Core material	–	Aluminium	
	Tube type	–	Extrusion type	
	Core size (W × H × D)	mm	395 × 766 × 68	729 ×155 × 145.4
		inch	15.56 × 30.2 × 2.7	28.7 × .61 ×5.7
	Dry weight	kg (lb)	12 (26.5)	

VOLVO

Service Information

Document Title: **Engine - Pump control, specification**	Function Group: **030**	Information Type: **Service Information**	Date: **8/12/2025**
Profile: **EC210B Volvo**			

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Engine - Pump control, specification

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Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
EC210B Volvo			

D6D Engine

Except North America

Mode		**Engine speed control switch**		**Power shift valve current (mA) No-load / Load**	**Remarks**
		Switch steps	**Engine speed (rpm) No-load / Load**		
Power maximum	P	9	2000 / above 1900	215 / variable	
Heavy	H		1900 / above 1800	250 / variable	
General	G1	8	1800 / above 1700	290 / variable	
	G2	7	1700 / above 1600		
	G3	6	1600 / above 1500		
Fine	F1	5	1500 / -	450	
	F2	4	1400 / -		
	F3	3	1300 / -		
Idle	I1	2	1000 / -	555	
	I2	1	800 / -		
Emergency switch position	High		1900 / -	340	
	Low		800 / -		

North America

Mode		**Engine speed control switch**		**Power shift valve current (mA) No-load / Load**	**Remarks**
		Switch steps	**Engine speed (rpm) No-load / Load**		
Heavy	H	9	2000 / above 1900	215 / variable	
General	G1	8	1900 / above 1800	250 / variable	
	G2	7	1800 / above 1700	290 / variable	
	G3	6	1700 / above 1600		
Fine	F1	5	1500 / -	450	
	F2	4	1400 / -		
	F3	3	1300 / -		
Idle	I1	2	1000 / -		
	I2	1	800 / -	555	

Emergency switch position	High	1900 / -	340	
	Low	800 / -		

Document Title: **Engine - Pump control, specification**	Function Group: **030**	Information Type: **Service Information**	Date: **8/12/2025**
Profile: **EC210B Volvo**			

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Engine - Pump control, specification

Showing Selected Profile

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
EC210B Volvo			

D6E Engine

Except North America

Mode		**Engine speed control switch**		**Power shift valve current (mA) No-load / Load**	**Remarks**
		Switch steps	**Engine speed (rpm) No-load / Load**		
Power maximum	P	9	1900 / above 1800	215 / variable	
Heavy	H		1850 / above 1750	245 / variable	
General	G1	8	1800 / above 1700	275 / variable	
	G2	7	1700 / above 1600	320 / variable	
	G3	6	1600 / above 1500		
Fine	F1	5	1400 / -	505	
	F2	4	1300 / -		
	F3	3	1200 / -		
Idle	I1	2	1000 / -	595	
	I2	1	800 / -		
Emergency switch position	High		1900 / -	330	
	Low		800 / -		

North America

Mode		**Engine speed control switch**		**Power shift valve current (mA) No-load / Load**	**Remarks**
		Switch steps	**Engine speed (rpm) No-load / Load**		
Heavy	H	9	1900 / above 1800	215 / variable	
General	G1	8	1850 / above 17500	245 / variable	
	G2	7	1800 / above 1700	275 / variable	
	G3	6	1700 / above 1600	320 / variable	
Fine	F1	5	1400 / -	505	
	F2	4	1300 / -		
	F3	3	1200 / -		
Idle	I1	2	1000 / -		
	I2	1	800 / -	595	

Emergency switch position	High	1900 / -	330	
	Low	800 / -		

Document Title: **Engine speed control switch, specifications**	Function Group: **030**	Information Type: **Service Information**	Date: **8/12/2025**
Profile: **EC210B Volvo**			

Engine speed control switch, specifications

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Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
EC210B Volvo			

Specification

Item	**Specification**
Power supply	DC 24 V
Output voltage	DC 0 ~ 5 V
Type	Potentiometer
Consumption	0.5 W