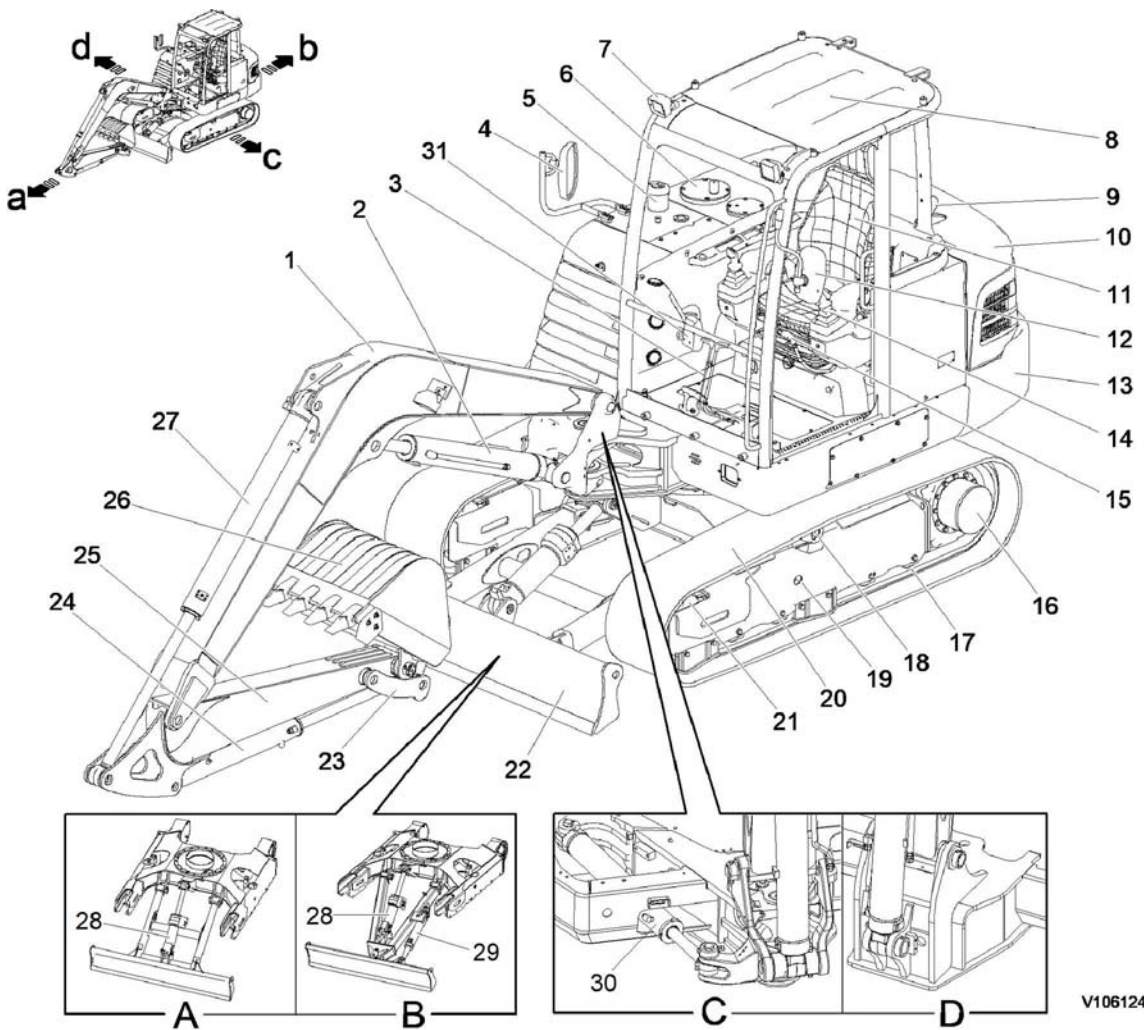


Document Title: Machine view	Function Group: 000	Information Type: Service Information	Date: 2018/8/1 0
Profile: EC60C Volvo			

Machine view

Showing Selected Profile

Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
EC60C Volvo			



V1061244

Figure 1
Position of components

- | | |
|----------------------------|---------|
| A Fixed type (dozer blade) | a Front |
| B Angle type (dozer blade) | b Rear |
| C Boom slewing type | c Left |
| D Boom fixed type | d Right |

- 1 Boom
- 2 Boom cylinder
- 3 Travel lever (pedal)
- 4 Rear mirror (right)
- 5 Fuel tank
- 6 Hydraulic tank
- 7 Working lights
- 8 Cab
- 9 Muffler
- 10 Bonnet
- 11 Operator's seat
- 12 Rear mirror (left)
- 13 Counterweight
- 14 Control lever
- 15 Control lock-out lever (safety locking lever)
- 16 Track motor and gearbox
- 17 Bottom roller
- 18 Top roller
- 19 Track tension adjustment position
- 20 Tracks
- 21 Idler
- 22 Dozer blade
- 23 Link
- 24 Bucket cylinder
- 25 Dipper arm
- 26 Bucket
- 27 Dipper arm cylinder
- 28 Dozer blade cylinder
- 29 Angle cylinder (dozer blade)
- 30 Slewing cylinder (boom)
- 31 Instrument panel

Document Title: Product plates	Function Group: 000	Information Type: Service Information	Date: 2018/8/1 0
Profile: EC60C Volvo			

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Product plates

Showing Selected Profile

Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
EC60C Volvo			

When ordering spare parts, and in all telephone enquiries or correspondence the model designation and the Product Identification Number (PIN) must always be quoted.

Product plate

The product plate on the machine shows the manufacturer's name and address, model designation, PIN, machine weight, engine output, production year and year of delivery. There is also room for the CE mark. The plate is positioned under the boom on the superstructure frame.

Engine

The engine product plate contains type designation and part and serial numbers and is positioned on the engine inside the rear engine cover on the right side of the machine.

Attachment quick coupler

The attachment quick coupler nameplate is attached on the outside of the attachment quick coupler. (shows part number and weight)

Bucket

The bucket nameplate is attached on the top of the bucket. (shows the bucket model order No, Serial number, bucket part number, rated capacity, weight, cutting width, tooth part number and adapted part number)

Cab

The nameplate is attached on the inside of the cab and indicates the product number, serial number, model type, and weight.

Document Title: Product plates	Function Group: 000	Information Type: Service Information	Date: 2018/8/1 0
Profile: EC60C Volvo			

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Product plates

Showing Selected Profile

Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
EC60C Volvo			

The following illustrations and descriptions show the product plates on the machine. When ordering spare parts or for short enquiries by phone and in correspondence you should always specify model designations and product identification number.

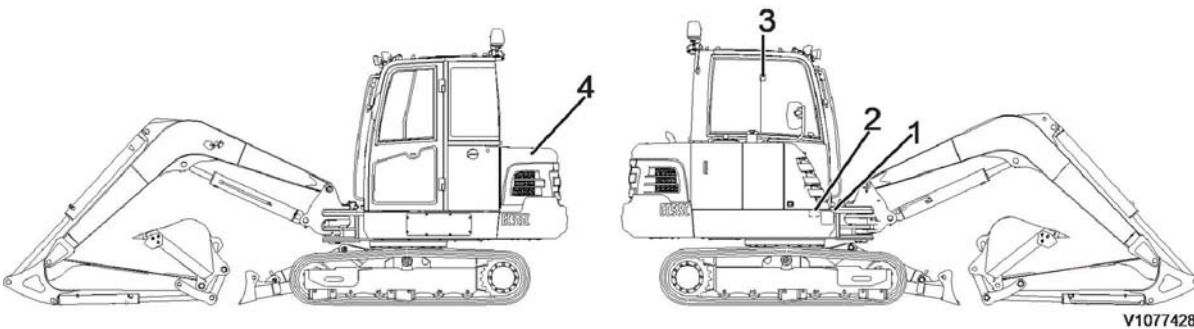


Figure 1

Product Identification plate (PIN)

The product plate contains name and address of manufacturer, model/type designation and 17 digit PIN number.

Supplementary PIN plate (EU countries only)

V	C	E	E	C	3	5	C	C	0	0	0	1	2	3	4	5
A		B			C		D									

V1076896

Figure 2

Example of 17 digit PIN number on PIN plate

- A. World Manufacturing Code
- B. Machine description
- C. Check letters
- D. Serial number

The supplementary plate contains information about machine mass in kg, engine net power in Kw, manufacturing year, machine serial number and a CE-mark.

Machine mass

The machine mass in kg on the supplementary PIN plate is based on:

- cab or canopy
- most used track type
- most usual bucket (without load)
- full fuel tank

For safety reasons, 103 % of the machine mass will be shown on the supplementary PIN plate.

Cab identification plate

The plate contains information about product number, machine model, cab serial number, ROPS/TOPS certificate number, max. machine mass and international standard.

Engine identification plate

The engine identification plate contains information about manufacturer, designation and engine serial number.

Document Title: Measurement conversion tables	Function Group: 030	Information Type: Service Information	Date: 2018/8/1 0
Profile: EC60C Volvo			

Measurement conversion tables

Showing Selected Profile

Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
EC60C 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 mile² = 259 ha = 2.59 km²

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 cm³ = 231 in³ = 0.83267 gal(US)

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

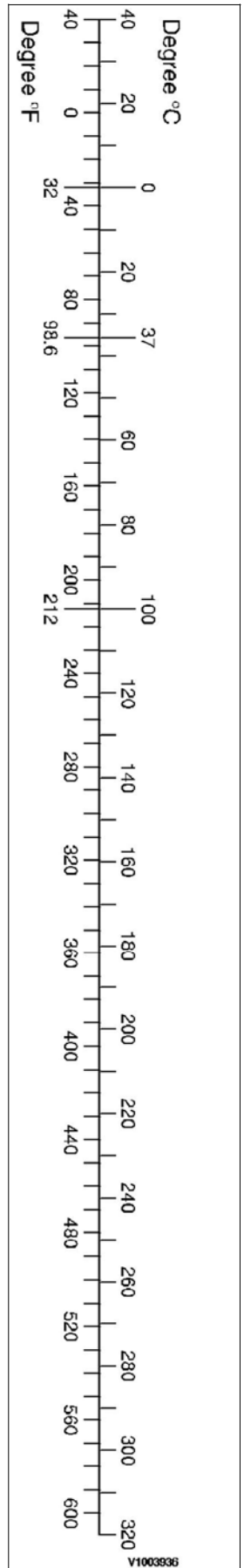
Unit	kgf/cm ²	bar	Pa=N/m ²	kPa	lbf/in ²	lbf/ft ²
kgf/cm ²	1	0.98067	98066.5	98.0665	14.2233	2048.16
bar	1.01972	1	100000	100	14.5037	2088.6
Pa=N/m ²	0.00001	0.001	1	0.001	0.00015	0.02086
kPa	0.01020	0.01	1000	1	0.14504	20.886
lbf/in ²	0.07032	0.0689	6894.76	6.89476	1	144
lbf/ft ²	0.00047	0.00047	47.88028	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 ₂ O	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/cm ²)	x 14.22	= psi	x 0.070	= (kgf/cm ²)
(newton/mm ²)	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

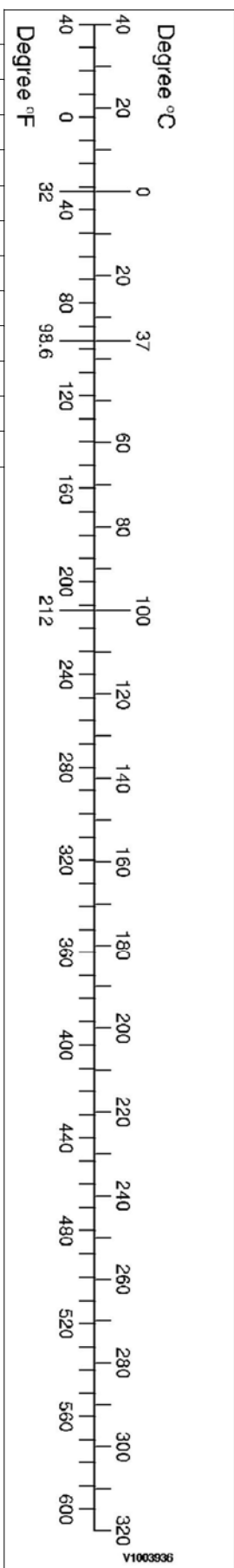


Approximate conversions

SI Unit	Conversion Factor	Non-SI Unit	Conversion Factor	SI 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 sec ² (m/s ²)	x 3.28	= ft/s ²	x 0.305	= m/s ²
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 (dm ³ /min)	x 0.264	= US gal/min x 3.785		= liter/min

Note: () non-si unit



Document Title: Standard tightening torques	Function Group: 030	Information Type: Service Information	Date: 2018/8/10
Profile: EC60C Volvo			



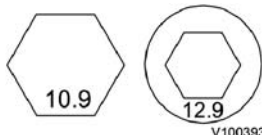
Standard tightening torques

Showing Selected Profile

Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
EC60C Volvo			

The following charts give the standard tightening torques of screws and nuts. Exceptions are given in each sections of "disassembly and assembly".

Tightening torque (meter)

Classification		4.8T			8.8T			10.9T, 12.9T		
Screw type										
Screw size		Tightening torque			Tightening torque			Tightening torque		
mm	inch	N m	kgf m	lbf ft	N m	kgf m	lbf ft	N m	kgf m	lbf ft
M 4	0.15	1.96 ±0.19	0.2 ±0.02	1.4 ±0.1	-	-	-	3.92 ±0.39	0.4 ±0.04	2.9 ±0.3
M 5	0.19	2.94 ±0.29	0.3 ±0.03	2.2 ±0.2	5.88 ±0.59	0.6 ±0.06	4.3 ±0.4	7.84 ±0.78	0.8 ±0.08	5.8 ±0.6
M 6	0.23	4.90 ±0.49	0.5 ±0.05	3.6 ±0.4	9.8 ±0.98	1.0 ±0.10	7.2 ±0.7	13.72 ±1.37	1.4 ±0.14	10.1 ±1
M 8	0.31	11.76 ±1.17	1.2 ±0.12	8.7 ±0.9	23.541 ±2.35	2.4 ±0.24	17.3 ±1.7	32.36 ±2.94	3.3 ±0.3	23.8 ±2.2
M 10	0.39	22.55 ±2.25	2.3 ±0.23	16.6 ±1.7	48.05 ±4.9	4.9 ±0.5	35.4 ±3.6	63.74 ±6.86	6.5 ±0.7	46.9 ±5.1
M 12	0.46	39.22 ±3.92	4.0 ±0.4	29 ±3	85.32 ±8.83	8.7 ±0.9	62.8 ±6.5	110.81 ±10.78	11.3 ±1.1	81.6 ±7.9
M 14	0.55	62.7 ±5.88	6.4 ±0.6	46 ±4	140.24 ±13.73	14.3 ±1.4	103.2 ±10.1	175.53 ±17.65	17.9 ±1.8	129.2 ±13
M 16	0.62	93.16 ±8.82	9.5 ±0.9	69 ±6	219.67 ±21.57	22.4 ±2.2	161.7 ±15.9	261.83 ±26.47	26.7 ±2.7	192.8 ±19.5
M 18	0.71	132.3 ±13.72	13.5 ±1.4	97 ±10	290.28 ±29.42	29.6 ±3.0	213.7 ±21.7	372.65 ±37.26	38.0 ±3.8	274.4 ±27.4
M 20	0.78	182.40 ±18.63	18.6 ±1.9	134 ±14	430.51 ±43.14	43.9 ±4.4	317.0 ±31.8	511.90 ±50.99	52.2 ±5.2	376.9 ±37.5
M 22	0.87	242.22 ±24.51	24.7 ±2.5	178 ±18	579.57 ±57.85	59.1 ±5.9	426.7 ±42.6	680.58 ±67.66	69.4 ±6.9	501.1 ±49.8
M 24	0.94	314.79 ±31.38	32.1 ±3.2	232 ±23	740.40 ±73.54	75.5 ±7.5	545.1 ±54.2	884.56 ±88.25	90.2 ±9.0	651.2 ±65
M 30	1.17	613.80	62.6 ±6.3	452 ±45	-	-	-	1726.95	176.1	1271.4

		±61.78						±172.59	±17.6	±127.1
M 36	1.40	1061.08 ±105.91	108.2 ±10.8	781 ±78	-	-	-	2984.16 ±298.12	304.3 ±30.4	2197 ±219.5
M 42	1.65	1684.78 ±168.67	171.8 ±17.2	1240 ±124	-	-	-	4738.57 ±473.66	483.2 ±48.3	3488.7 ±348.7
M 45	1.77	2072.15 ±206.92	211.3 ±21.1	1525 ±152	-	-	-	5828.09 ±582.51	594.3 ±59.4	4290.9 ±428.9

Tightening torque (inch)

Classification		4.8T			8.8T			10.9T, 12.9T		
Screw size		Tightening torque			Tightening torque			Tightening torque		
mm	inch	N m	kgf m	lbf ft	N m	kgf m	lbf ft	N m	kgf m	lbf ft
1/4	6.35	9.80 ±0.98	0.6 ±0.06	4.3 ±0.4	23.53 ±2.35	1.0 ±0.1	7.2 ±0.7	16.67 ±1.96	1.7 ±0.2	12.2 ±1.2
5/16	7.94	11.76 ±1.17	1.2 ±0.12	8.7 ±0.8	19.61 ±1.96	2.0 ±0.2	14.4 ±1.4	29.42 ±2.94	3.0 ±0.3	21.7 ±2.2
3/8	9.53	19.61 ±1.96	2.0 ±0.20	14.4 ±1.4	40.20 ±3.92	4.1 ±0.4	29.6 ±2.9	54.91 ±4.90	5.6 ±0.5	40 ±4
7/16	11.11	31.38 ±3.13	3.2 ±0.32	23 ±2	59.82 ±5.88	6.1 ±0.6	44.0 ±4.3	87.27 ±8.82	8.9 ±0.9	64 ±6
1/2	12.70	46.09 ±4.60	4.7 ±0.47	34 ±3	100.02 ±9.80	10.2 ±1.0	73.6 ±7.2	131.40 ±12.74	13.4 ±1.3	97 ±10
9/16	14.29	66.68 ±6.66	6.8 ±0.68	50 ±5	140.23 ±13.72	14.3 ±1.4	103.2 ±10.1	186.32 ±18.63	19.0 ±1.9	137 ±14
5/8	15.88	91.20 ±9.12	9.3 ±0.93	67 ±7	200.05 ±19.61	20.4 ±2.0	147.3 ±14.4	255.95 ±25.49	26.1 ±2.6	190 ±19
3/4	19.05	156.90 ±15.69	16.0 ±1.60	115 ±15	-	-	-	442.28 ±44.12	45.1 ±4.5	325 ±33
7/8	22.22	250.07 ±25.00	25.5 ±2.55	185 ±19	-	-	-	702.15 ±70.60	71.6 ±7.2	520 ±52
1	25.40	372.65 ±37.26	38.0 ±3.80	275 ±27	-	-	-	1048.33 ±104.93	106.9 ±10.7	770 ±77
1 1/8	28.58	530.54 ±53.05	54.1 ±5.41	390 ±39	-	-	-	1492.57 ±149.06	152.2 ±15.2	1100 ±110
1 1/4	31.75	727.65 ±72.76	74.2 ±7.42	535 ±54	-	-	-	2048.61 ±204.95	208.9 ±20.9	1510 ±151
1 3/4	34.93	968.89 ±96.88	98.8 ±9.88	710 ±71	-	-	-	2724.29 ±272.62	277.8 ±27.8	2000 ±200
1 1/2	38.1	1257.21 ±125.72	128.2 ±12.82	925 ± 93	-	-	-	3537.26 ±354.02	360.7 ±36.1	2600 ±260

NOTE!

This torque table does not apply to screws with nylon packings or where nonferrous metal washers are to be used, or which require tightening to a different specified torque, or tightening procedure.

NOTE!

N m (Newton meter): 1 N m \cong 0.1 kgf m

Tightening torque of split flange screws

Use these torques for split flange screws.

Tightening torque (split flange screws)

Thread diameter of screw (mm)	Width across flats (mm)	Tightening torque		
		N m	kgf m	lbf ft

10	14	65.7 ±6.8	6.7 ±0.7	48.4 ±5
12	17	112 ±9.8	11.5 ±1	83 ±8
16	22	279 ±29	28.5 ±3	206 ±20

Tightening torque for hydraulic plugs with O-ring

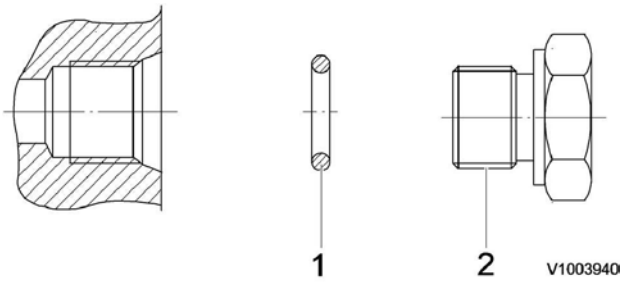


Figure 1
Hydraulic plugs with O-ring

- 1. O-ring
- 2. Plug

Pf thread

Tightening torque (hydraulic plugs)

Thread	Plug part No.	Tightening torque N m	Tightening torque kgf m	Tightening torque lbf ft
1/8	9415-11012	24.51 ±1.96	2.5 ±0.2	18 ±1.4
1/4	9415-11022	49.03 ±4.90	5.0 ±0.5	36 ±3.6
3/8	9415-11032	73.54 ±4.90	7.5 ±0.5	54 ±3.6
1/2	9415-11042	107.87 ±9.80	11.0 ±1.0	79 ±7
3/4	9415-11052	176.52 ±9.80	18.0 ±1.0	130 ±7
1	9415-11062	205.94 ±19.61	21.0 ±2.0	152 ±14

Tightening torque for swivel nut fitting with O-ring

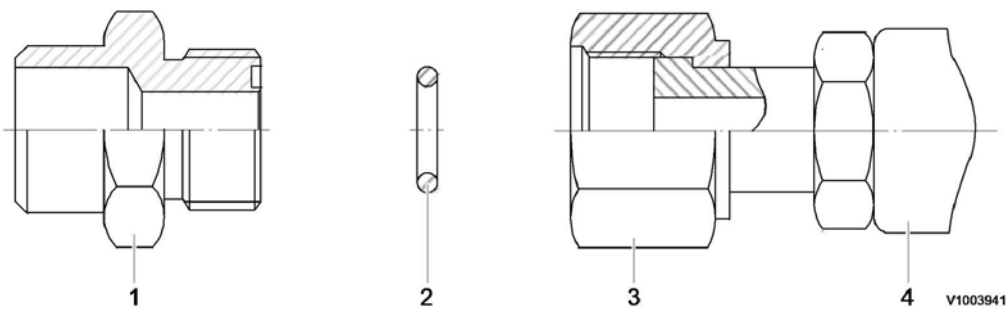


Figure 2
Swivel nut fitting with O-ring

- 1. Connector
- 2. O-ring
- 3. Swivel nut
- 4. Hose

Tightening torque for swivel nut fitting

Tube outer diameter (in)	Thread size (in)	Tightening torque, N m	Tightening torque, kgf m	Tightening torque, lbf ft
1/2	UN 13/16 – 16	93.16 ±9.31	9.5 ±0.95	69 ±7
3/4	UN 1 3/16 – 12	176.52 ±17.65	18 ±1.8	130 ±13
1	UN 1 7/16 – 12	205.94 ±20.59	21 ±2.1	152 ±15

Document Title: Specification, filling capacities	Function Group: 030	Information Type: Service Information	Date: 2018/8/1 0
Profile: EC60C Volvo			

Specification, filling capacities

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Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
EC60C Volvo			

Refill capacities

Reservoir	Kind of fluid	Approximate refill capacities
		Liters (US gal)
Engine oil, including filter	Engine oil	11.5 (3)
Hydraulic oil tank	Hydraulic oil	84 (22.2)
Hydraulic system, total	Hydraulic oil	134 (35.4)
Slew gearbox	Engine oil	1 (0.26)
Track gearbox	Gear oil	1.3 (0.3) X 2 EA
Fuel tank	Diesel fuel	110 (29)
Slew ring gear	Grease	6 (1.6)
Cooling system	Coolant	12.1 (3.2)

Document Title: Engine, specifications	Function Group: 030	Information Type: Service Information	Date: 2018/8/1 0
Profile: EC60C Volvo			

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Engine, specifications

Showing Selected Profile

Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
EC60C Volvo			

Specifications

Item	Unit	Specifications
Make	–	Volvo-Yanmar
Model	–	D3.1DCAE2
Type	–	Vertical, in-line, 4-cylinder, water-cooled diesel engine
Combustion chamber	–	Direct injection
Number of cylinder	–	4
Cylinder bore × stroke	mm (in)	94 × 110 (3.2 × 4.3)
Total displacement	cc (cu-in)	3054 (186)
Rated output (Gross)	PS (kW)/rpm	54 (39.7) / 2200
Maximum torque (Net)	Nm/rpm (lbf ft/rpm)	193~213/1000 (143~158/1000)
Firing order	–	1 – 3 – 4 – 2 (No.1 cylinder on flywheel side)
Compression ratio	–	19 : 1
Low idle (No-load)	rpm	960 ±30
High idle (No-load)	rpm	2400 ±30
Nozzle pressure	kgf/cm ² (psi)	220 ~ 230 (3128 ~ 3270)
Valve clearance	Inlet/Exhaust	mm (in)
		0.15 ~ 0.25 (0.006 ~ 0.010)
Oil pan capacity	Maximum/Minimum	Liter (gal)
		11.5 (3) / 5 (1.3)
Weight of engine (dry)	kg (lb)	260 (573)

Document Title: Engine, specifications	Function Group: 030	Information Type: Service Information	Date: 2018/8/1 0
Profile: EC60C Volvo			

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Engine, specifications

Showing Selected Profile

Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
EC60C Volvo			

Specifications

Item	Unit	Specifications
Make	–	Volvo-Yanmar
Model	–	D3.1DCBE3
Type	–	Vertical, in-line, 4-cylinder, water-cooled diesel engine
Combustion chamber	–	Direct injection
Number of cylinder	–	4
Cylinder bore × stroke	mm (in)	94 × 110 (3.7 × 4.3)
Total displacement	cc (cu-in)	3054 (186)
Rated output (Gross)	PS (kW)/rpm	49.2 (36.2)/2100
Maximum torque (Net)	Nm/rpm (lbf ft/rpm)	193~213/1000 (143~158/1000)
Firing order	–	1 – 3 – 4 – 2 (No.1 cylinder on flywheel side)
Compression ratio	–	19 : 1
Low idle (No-load)	rpm	960 ±30
High idle (No-load)	rpm	2290 ±30
Nozzle pressure	kgf/cm ² (psi)	220 ~ 230 (3128 ~ 3270)
Valve clearance	Inlet/Exhaust	mm (in)
		0.15 ~ 0.25 (0.006 ~ 0.010)
Oil pan capacity	Maximum/Minimum	Liter (gal)
		11.5 (3) / 5 (1.3)
Weight of engine (dry)	kg (lb)	260 (573)

Document Title: Engine, specifications	Function Group: 030	Information Type: Service Information	Date: 2018/8/1 0
Profile: EC60C Volvo			

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Engine, specifications

Showing Selected Profile

Valid for option/configuration			
Model	Option no.	Option	Configuration
EC60C Volvo	8299199	Engine	Engine D3.4D Stage IIIA CN

Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
EC60C Volvo	Linyi	131000	210000

Model	D3.4D
Type	Vertical, in-line, 4-cylinder, water-cooled diesel engine
Power output at 2200 rpm SAE J1995, Gross	39 kW (53 PS, 52 HP)
Power output at 2200 rpm ISO 9249 / SAE J1349, Net	37.5 kW (51 PS, 50 HP)
Maximum torque	207 Nm (21 kgf m, 153 lbf ft) at 1650 rpm
Minimum torque	190 Nm (19 kgf m, 140 lbf ft) at 1650 rpm
Cylinder bore	98 mm (3.86 inch)
Stroke	110 mm (4.33 inch)
Displacement	3.319 litres (203 cu in)

Document Title: Valve system specifications	Function Group: 030	Information Type: Service Information	Date: 2018/8/1 0
Profile: EC60C Volvo			

Valve system specifications

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Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
EC60C Volvo			

Adjustment Specifications

Valve clearance, Intake	0.15 ~ 0.25 mm (0.006 ~ 0.010 in)
Valve clearance, Exhaust	0.15 ~ 0.25 mm (0.006 ~ 0.010 in)
Valve bridge clearance	0

Cylinder head

Item	Standard	Limit
Combustion Surface Distortion (Flatness)	0.05 mm (0.0020 in) or less	0.15 mm (0.0059 in)
Valve Recession, Intake	0.36 ~ 0.56 mm (0.0142 ~ 0.0220 in)	0.8 mm (0.0315 in)
Valve Recession, Exhaust	0.35 ~ 0.55 mm (0.0138 ~ 0.0217 in)	0.8 mm (0.0315 in)
Valve seat angle, Intake	120°	—
Valve seat angle, Exhaust	90°	—
Seat correction angle	40°, 150°	—

Document Title: Lubrication specifications	system, 030	Function Group:	Information Type: Service Information	Date: 2018/8/1 0
Profile: EC60C Volvo				

Lubrication system, specifications

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Item	Unit	Specifications
Lubrication oil pump, type	—	Trochoid pump
Engine oil pressure	Rated engine speed	MPa (psi) (bar) 0.29 ~ 0.39 (42 ~ 56.6) (2.9 ~ 3.9)
	Low idle speed	MPa (psi) (bar) ≥0,06 (8.7) (0.6)
Oil Pressure Switch Operating Pressure	MPa (psi) (bar)	0.04 ~ 0.06 (5.8 ~ 8.8) (0.4 ~ 0.6)

Document Title: Fuel system, specifications	Function Group: 030	Information Type: Service Information	Date: 2018/8/1 0
Profile: EC60C Volvo			

Fuel system, specifications

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Model	Production site	Serial number start	Serial number stop
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Fuel system	
Fuel supply pump	Electric
Injection fuel pump	Direct injection
Fuel injector pressure	21.6 ~ 22.6 MPa (3133 ~ 3278 psi) (216 ~ 226 bar)

Document Title: Fuel tank, specifications	Function Group: 030	Information Type: Service Information	Date: 2018/8/1 0
Profile: EC60C Volvo			

Fuel tank, specifications

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Model	Production site	Serial number start	Serial number stop
EC60C Volvo			

Fuel tank	
Volume	110 liters (29 US gal)
Weight	42 kg (92.6 lbs)

Document Title: Fuel filler pump, specifications	Function Group: 030	Information Type: Service Information	Date: 2018/8/1 0
Profile: EC60C Volvo			

Fuel filler pump, specifications

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Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
EC60C Volvo			

Specifications

Item	Specifications
Rated voltage	DC 12 V
Rated current	18 A (at 3 m head)
Output flow	35 lpm (at 3 m head)
Continuous working time (minutes)	30 at 20 °C, 25 at 30 °C, 20 at 40 °C
Working temperature	-30 ~ 80 °C (-22 ~ 176 °F)

Document Title: Fuel injection pump, specifications	Function Group: 030	Information Type: Service Information	Date: 2018/8/10
Profile: EC60C Volvo			

Fuel injection pump, specifications

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Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
EC60C Volvo			

Specifications

Item	Unit	Specifications
Plunger diameter	mm (in)	10 (0.39)
Max. cam lift	mm (in)	10 (0.39)
Fuel injection timing control system	-	Built-in hydraulic control timer
Fuel feed pump	-	Forced lubrication system with trochoid pump
Lubrication system	-	Engine system oil
Dry weight	kg (lb)	11.5 (25.4)

Document Title: Injectors, specification	Function Group: 030	Information Type: Service Information	Date: 2018/8/1 0
Profile: EC60C Volvo			

Injectors, specification

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Model	Production site	Serial number start	Serial number stop
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Fuel injection nozzle, specifications

Description	Unit	Specifications							
		Nozzle opening pressure	-	21.57 MPa	+0.98 0	220 kgf/ cm ²	+10 0	3129 psi	+142 0
Nozzle angle	°	162							
		159							
No. of nozzles × diameter	mm (inch)	5 × 0.16 (0.2 × 0.0063)							
		5 × 0.17 (0.2 × 0.0067)							

Document Title: Cooling specifications	system, 030	Function Group:	Information Type: Service Information	Date: 2018/8/1 0
Profile: EC60C Volvo				

Cooling system, specifications

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Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
EC60C Volvo			

Specifications

Item		Unit	Specifications
Radiator	Core type	–	CF (Wave fin)
	Material	–	Copper & Brass
	Core size (W × H × D)	mm (inch)	526 × 550 × 66 (20.7 × 21.7 × 2.6)
	Heat rejection	Kcal/h	52000 kcal/hr (Front velocity : 6.35 m/sec)
	Weight (dry)	kg (lb)	14.2 (31.3)
Hydraulic oil cooler	Core type	–	CF (Wave fin)
	Material	–	Aluminium
	Core size (W × H × D)	mm (inch)	517.6 × 481 × 48 (20.4 × 19 × 1.26)
	Heat rejection	Kcal/h	17000 kcal/hr (Front velocity : 6.35 m/sec)
	Weight (dry)	kg (lb)	5 (11)
Thermostat	Valve opening temperature	°C (°F)	82 (179.6)
	Full opening lift temperature	°C (°F)	8mm (0.32 inch) or above 95 (203)

Document Title: Engine - Pump control, specification	Function Group: 030	Information Type: Service Information	Date: 2018/8/1 0
Profile: EC60C Volvo			

Engine - Pump control, specification

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Valid for option/configuration			
Model	Option no.	Option	Configuration
EC60C Volvo	8299199	Engine	Engine D3.4D Stage IIIA CN

Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
EC60C Volvo	Linyi	131000	210000

Engine speed control switch		Max pump input torque, Nm (lbf ft)	Power, kW (HP)
Mode (Switch step)	Engine speed (rpm) No-load / Load		
9	2350 / above 2200	148.6 (110.0)	34.2 (45.9)
8	2180 / above 2030		31.6 (42.3)
7	2010 / above 1860		28.9 (38.8)
6	1840 / above 1690		26.3 (35.2)
5	1670 / above 1520		23.7 (31.7)
4	1500 / above 1350		21.0 (28.1)
3	1330 / above 1180		18.4 (24.6)
2	1160 / above 1010		15.7 (21.1)
1	990 / above 840		13.1 (17.5)

Document Title: Electrical specifications	system, 030	Function Group:	Information Type: Service Information	Date: 2018/8/1 0
Profile: EC60C Volvo				

Electrical system, specifications

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Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
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Specification

Electrical system	
System voltage	DC 12 V

Document Title: Instrument control unit I-ECU, specifications	Function Group: 030	Information Type: Service Information	Date: 2018/8/1 0
Profile: EC60C Volvo			

Instrument control unit I-ECU, specifications

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Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
EC60C Volvo			

Item	Specifications
Operating voltage	6 – 18 VDC
Rated supply voltage	14 VDC
Operating temperature	-40 – 70 °C (-40–158 °F)
Connector	TYCO 23 WAYS

Document Title: Battery, specifications	Function Group: 030	Information Type: Service Information	Date: 2018/8/1 0
Profile: EC60C Volvo			

Battery, specifications

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Model	Production site	Serial number start	Serial number stop
EC60C Volvo			

Battery, specifications

Items	Specifications
Quantity	1
Battery voltage (nominal)	12 V
Capacity	100 Ah
Type	MF

Document Title: Alternator, specifications	Function Group: 030	Information Type: Service Information	Date: 2018/8/1 0
Profile: EC60C Volvo			

Alternator, specifications

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Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
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Alternator, specifications

Items	Description
Type	Alternating current (AC)
Nominal output	12 V 65 A
Max. revolution	1100 rpm
Current rating	40A at 2000 rpm, 65 A at 6000 rpm

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