Document Title: **Machine view**	Function Group: **000**	Information Type: **Service Information**	Date: **9/16/2025**
Profile: **EC220D Volvo**			

Machine view

Showing Selected Profile

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
EC220D Volvo	Shanghai	230001	240000
EC220D Volvo	Pederneiras	240001	250000
EC220D Volvo	Bangalore	250001	260000
EC220D Volvo	Kaluga	260001	270000
EC220D Volvo	Changwon	270001	310000

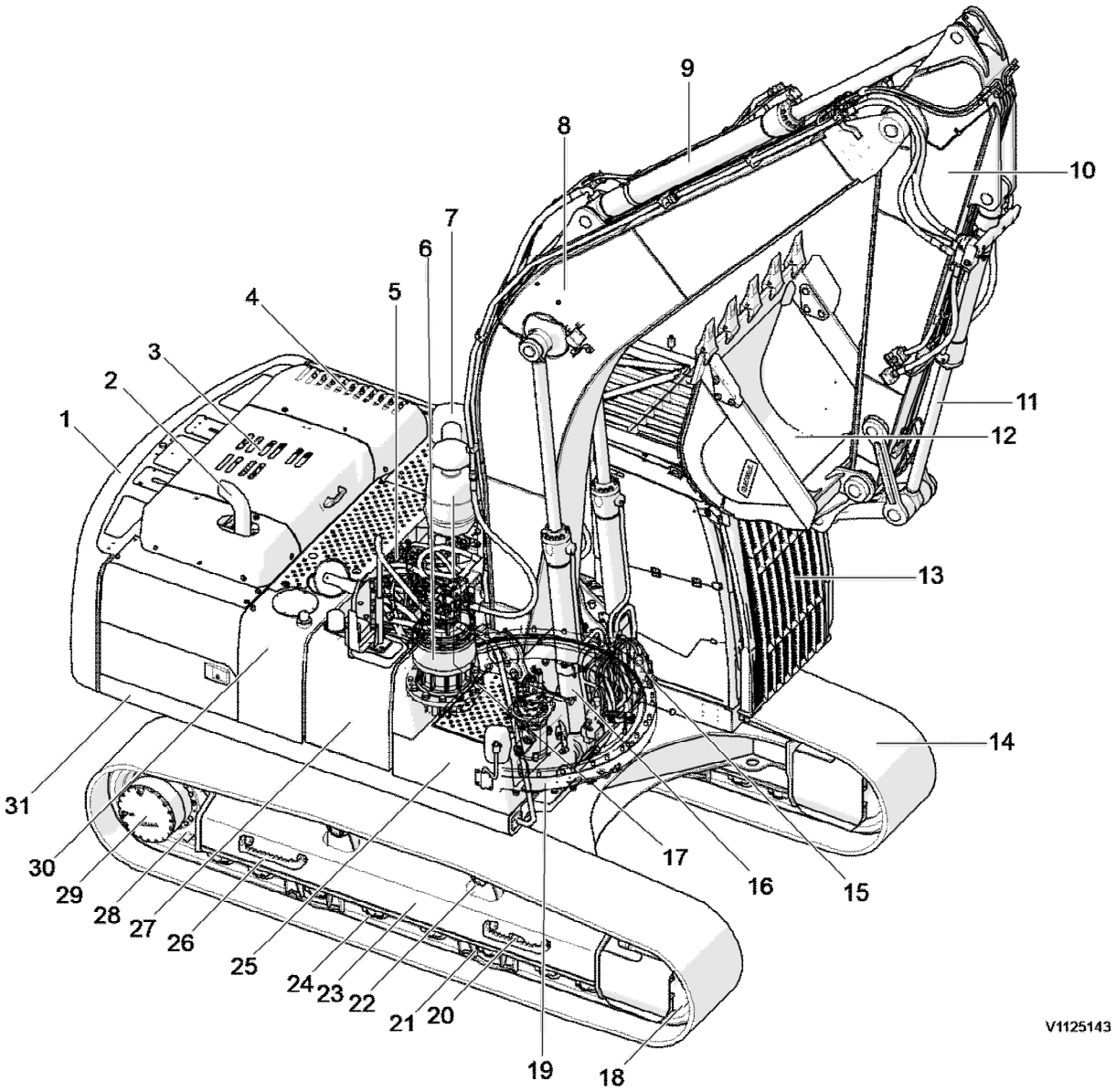


Figure 1
The above illustration explains the case of the EC220D.

1	Counterweight	17	Oil bath air cleaner
2	Muffler	18	Idler
3	Engine	19	Swing ring gear
4	Radiator and charge air cooler	20	Track tension grease valve
5	Main control valve	21	Track guard
6	Swing motor and gearbox	22	Top roller
7	Air cleaner	23	Lower frame
8	Boom	24	Bottom roller
9	Dipper arm cylinder	25	Battery
10	Dipper arm	26	Steps
11	Bucket cylinder	27	Fuel tank
12	Bucket	28	Sprocket
13	Operator's cab	29	Track motor and gearbox
14	Track chain	30	Hydraulic tank
15	Line rupture valves	31	Upper frame
16	Boom cylinder		

Document Title: **Product plates**	Function Group: **000**	Information Type: **Service Information**	Date: **9/16/2025**
Profile: **EC220D Volvo**			

Product plates

Showing Selected Profile

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
EC220D Volvo			

Please refer to the figure below to locate the product plate, engine plate, cab plate and attachment plates. Always use the Product Identification Number (PIN) provided on the vehicle and/or engine plates for troubleshooting purposes and/or when ordering spare parts.

1. Product plate

This plate with Product Identification Number, PIN, for the complete machine indicates the model designation, serial number and when applicable, machine weight, engine power, manufacturing year and CE approval. The plate is positioned on the right side of the upper frame.

Models (General application)
Volvo Crawler excavators and Wheel Excavator are available in different sizes from 5 ton to 95 ton. Some machines can be equipped with different Attachments, Demolition, High Reach Demolition, Pipe Layer, Rotating Pipelayer Kit machine and Dozer blade.

EC	Excavator Crawler	EW	Excavator Wheel
ECR	Excavator Crawler Short-Swing-Radius	AG	Agricultural machines
PL	Pipe Layer	FE	Feller Bunchers
L, LC	Long Crawler	NLD	Narrow Crawler Demolition
N, NC	Narrow Crawler	HR	High Reach Demolition
NL, NLC	Narrow Long Crawler	F, FX	Forestry Application
LM, LCM	Long Crawler Marsh	LD, LCD	Long Crawler Demolition
LR	Long Reach Boom & Arm	LC4	Long Crawler 4
LHDS	Long Crawler Heavy Duty Shanghai	LS	Long Crawler Shanghai
LHDC	Long Crawler Heavy Duty Changwon	NH	Narrow Heavy Duty
LRC4	Long Reach Crawler 4 (Boom & Arm)		

Supplementary PIN plate (EU countries only)

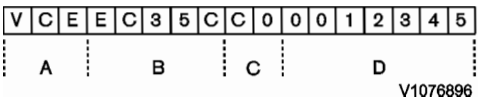


Figure 1

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.

2. Engine

The engine type designation, part and serial numbers are stamped on the top of valve cover.

3. Attachment quick coupler

This nameplate is attached on the outside of the bracket and indicates the part number and weight.

4. Bucket

This nameplate is attached on the top of the bucket and indicates the bucket model order number, serial number, bucket part number, rated capacity, weight, cutting width, tooth part number, and adapter part number.

5. Cab

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

Document Title: **Volvo standard tightening torques**	Function Group: **030**	Information Type: **Service Information**	Date: **9/16/2025**
Profile: **EC220D Volvo**			

Volvo standard tightening torques

Showing Selected Profile

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
EC220D 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

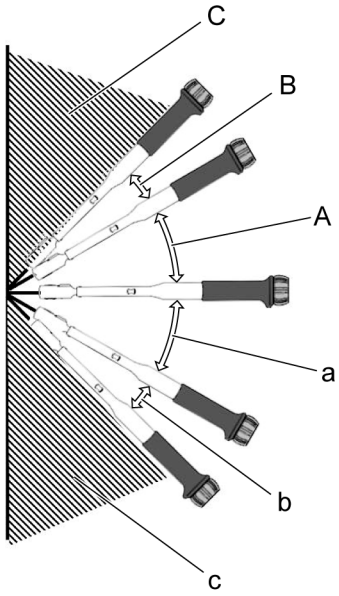


Figure 1
Tool access angle

A: +0˚ ~ +30˚

B: +30˚ ~ +45˚

C: +45˚

a: -0˚ ~ -30˚

b: -30˚ ~ -45˚

c: -45˚

ORFS female swivel fitting

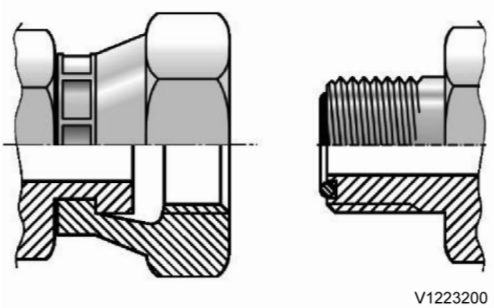


Figure 2

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

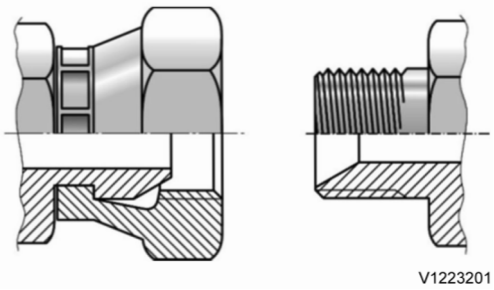


Figure 3

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: **9/16/2025**
Profile: **EC220D Volvo**			

Measurement conversion tables

Showing Selected Profile

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
EC220D 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)					

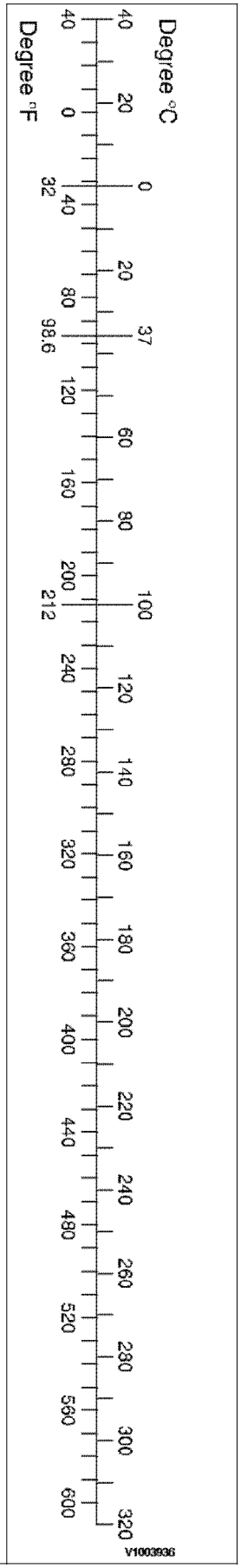
Pressure

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

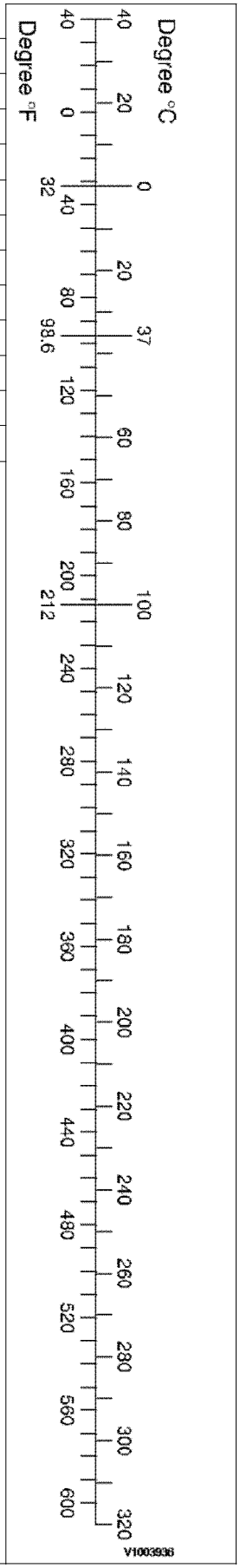


Approximate conversions

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



Document Title: **Thermostat, specifications**	Function Group: **030**	Information Type: **Service Information**	Date: **9/16/2025**
Profile: **EC220D Volvo**			

Thermostat, specifications

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Valid for option/configuration			
Model	**Option no.**	**Option**	**Configuration**
EC220D Volvo	8292039	Engine	D6E Engine for BRIC (Tier 2)
EC220D Volvo	8292040	Engine	D6E Engine for BRIC (Tier 3)

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
EC220D Volvo	Shanghai	230001	240000
EC220D Volvo	Pederneiras	240001	245000
EC220D Volvo	Pederneiras	245001	260000
EC220D Volvo	Bangalore	250001	260000
EC220D Volvo	Kaluga	260001	270000
EC220D Volvo	Changwon	270001	310000

Thermostat, type	Piston thermostat
Quantity	1
Coolant thermostat begins to open at	83 °C (181 °F)
Coolant thermostat fully open at	95 °C (302 °F)
Coolant thermostat stroke distance	8 mm (0.32 in)

Document Title: **Undercarriage, tightening torque**	Function Group: **030**	Information Type: **Service Information**	Date: **9/16/2025**
Profile: **EC220D Volvo**			

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Undercarriage, tightening torque

Showing Selected Profile

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
EC220D Volvo	Changwon	210001	220000
EC220D Volvo	Konz	220001	230000
EC220D Volvo	Shanghai	230001	240000
EC220D Volvo	Pederneiras	240001	250000
EC220D Volvo	Bangalore	250001	260000
EC220D Volvo	Kaluga	260001	270000
EC220D Volvo	Changwon	270001	280000
EC220D Volvo	Changwon	280001	310000

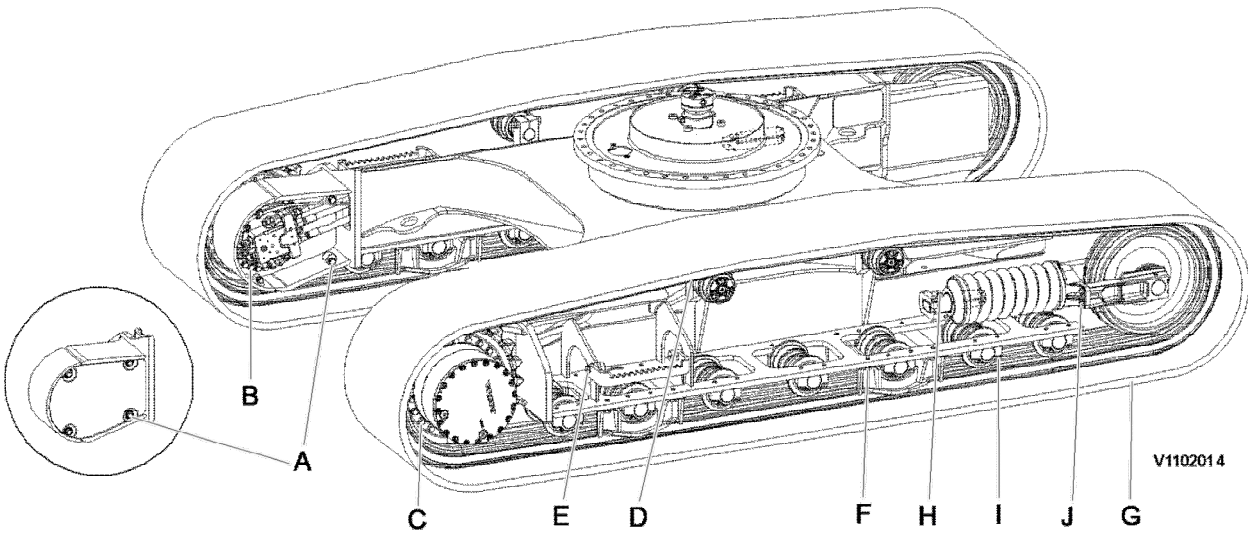

Figure 1
Tightening torque

Tightening torque, Nm (kgf m) (lbf ft)

A	Track motor protection cover 264 ±29 (27 ±3) (195 ±22)	F	* Track guard (Standard + Full) 373 ±37 (38 ±3.8) (274 ±27)
B	* Track motor 290 ±29 (26.7 ±2.7) (214.6 ±21.5)	G	Track shoe –
C	* Sprocket –	H	Track tension valve 68.6 ±2.5 (7 ±0.25) (50.5 ±1.8)
D	* Top roller 512 ±51 (52 ±5) (379 ±38)	I	* Bottom roller 373 ±37 (38 ±3.8) (274 ±27)

E	* Step 264.8 ±29.4 (27 ±3) (194.9 ±21.7)	J	* Idler 264.8 ±29.4 (27 ±3) (194.9 ±21.7)

NOTE!

* Apply Loctite #277 or equivalent locking fluid

Document Title: **Undercarriage, tightening torque**	Function Group: **030**	Information Type: **Service Information**	Date: **9/16/2025**
Profile: **EC220D Volvo**			

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Undercarriage, tightening torque

Showing Selected Profile

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
EC220D Volvo	Changwon	210757	220000
EC220D Volvo	Konz	221459	230000
EC220D Volvo	Shanghai	230579	240000
EC220D Volvo	Pederneiras	240001	250000
EC220D Volvo	Bangalore	250001	260000
EC220D Volvo	Kaluga	260001	270000
EC220D Volvo	Changwon	270407	280000
EC220D Volvo	Changwon	280084	310000

Track shoe tightening torque

Tightening torque, Nm (kgf m) (lbf ft)

G	Track shoe 834 ±49 (85 ±5) (614 ±36)

NOTE!

Apply Loctite #277 or equivalent locking fluid

Document Title: **Undercarriage, tightening torque**	Function Group: **030**	Information Type: **Service Information**	Date: **9/16/2025**
Profile: **EC220D Volvo**			

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Undercarriage, tightening torque

Showing Selected Profile

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
EC220D Volvo			

Sprocket tightening torque

Tightening torque, Nm (kgf m) (lbf ft)

C	* Sprocket 373 ±37.3 (38 ±3.8) (274 ±27.4)

NOTE!

* Apply Loctite #277 or equivalent locking fluid

Document Title: **Operation numbers for additional work**	Function Group: **070**	Information Type: **Service Information**	Date: **9/16/2025**
Profile: **Excavators (EXC)**			

Operation numbers for additional work

Showing Selected Profile

These operations can be used to identify work that is not included in the time guide or described in the methods in the Service Manual. When these operations are used, a description of the work that has been performed must be provided.

Other work related to engine
Op. no. 070-210
This operation can be used when work has been done related to the engine and function group 2 when no applicable method description was available. When this operation is used, additional information is required:

- Description of work that has been done

Other work related to electrical system
Op. no. 070-310
This operation can be used when work has been done related to the electrical system and function group 3 when no applicable method description was available. When this operation is used, additional information is required:

- Description of work that has been done

Other work related to transmission, gearbox, travel motor, swing motor
Op. no. 070-410
This operation can be used when work has been done related to the transmission, gearbox, travel motor or swing motor and function group 4 when no applicable method description was available. Hhen this operation is used, additional information is required:

- Description of work that has been done

Other work related to drive axle
Op. no. 070-470
This operation can be used when work has been done related to the drive axle and function group 46 when no applicable method description was available. When this operation is used, additional information is required:

- Description of required work that have been done

Other work related to brake system
Op. no. 070-510
This operation can be used when work has been done related to the brake system and function group 5 when no applicable

method description was available. When this operation is used, additional information is required:

- Description of work that has been done

Other work related to steering system
Op. no. 070-610
This operation can be used when work has been done related to the steering system and function group 6 when no applicable method description was available. When this operation is used, additional information is required:

- Description of work that has been done

Other work related to frame link, axle suspension
Op. no. 070-710
This operation can be used when work has been done related to the frame link, axle suspension and other parts related to function group 7 when no applicable method description was available. When this operation is used, additional information is required:

- Description of work that has been done

Other work related to cab, air conditioning
Op. no. 070-810
This operation can be used when work has been done related to the cab, air conditioning and other parts related to function group 8 when no applicable method description was available. When this operation is used, additional information is required:

- Description of work that has been done

Other work related to hydraulic system
Op. no. 070-910
This operation can be used when work has been done related to the hydraulic system and other parts related to function group 9 when no applicable method description was available. When this operation is used, additional information is required:

- Description of work that has been done

Document Title: **E-tools, NET 3004 Collar installation tool for track gearbox**	Function Group: **080**	Information Type: **Service Information**	Date: **9/16/2025**
Profile: **EC220D Volvo**			

E-tools, NET 3004 Collar installation tool for track gearbox

Showing Selected Profile

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
EC220D Volvo	Shanghai	232216	240000
EC220D Volvo	Changwon	271316	280000
EC220D Volvo	Changwon	281221	310000

Track gearbox collar installation tool

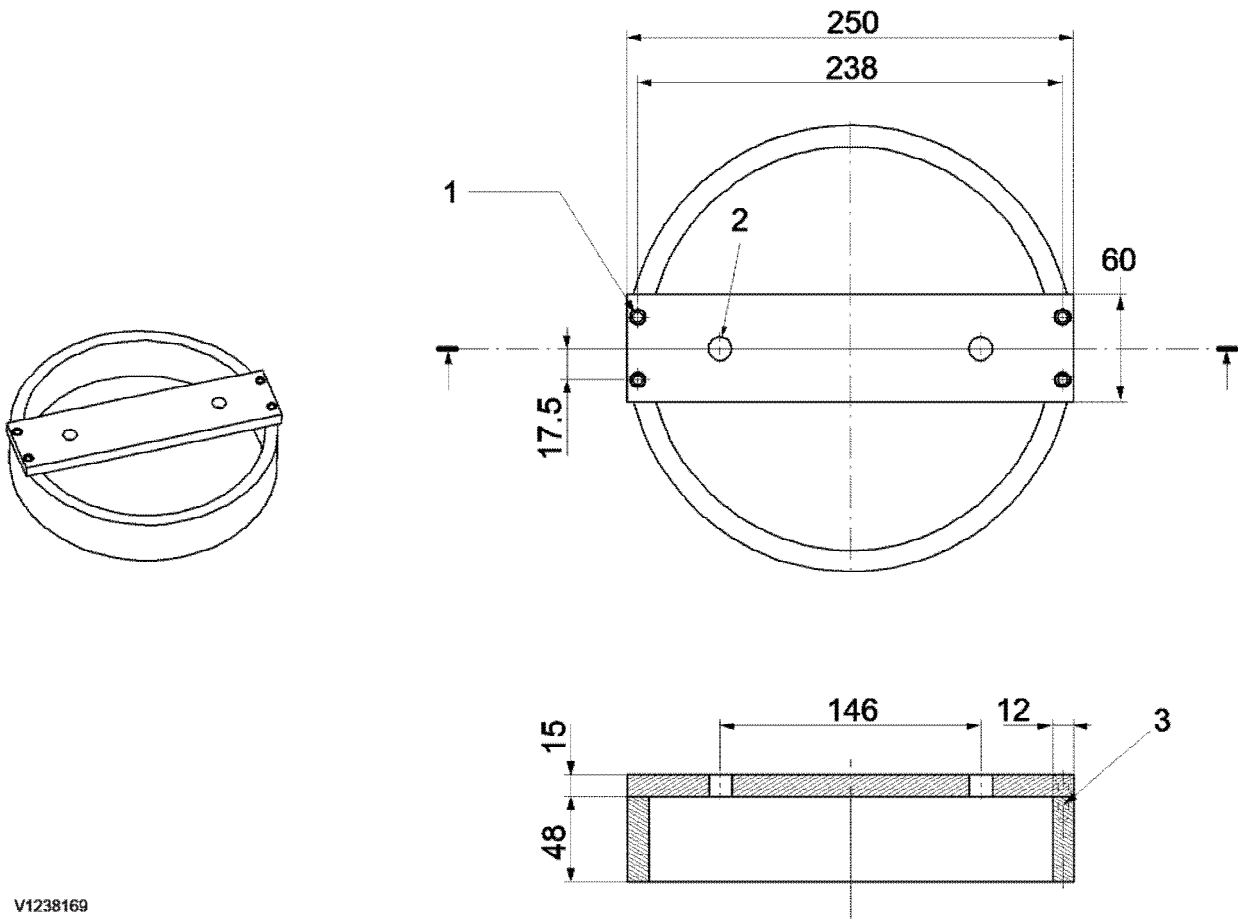


Figure 1
Track gearbox collar installation tool (Unit; mm)

Item	Quantity	Name	Remark
1	4	Drill thru	2x2x Ø5.5 Ø9 C'Bore DP6

2	2	Drill thru	2x Ø5.5
3	4	Tap DP10	2x2x M5

Document Title: **Service positions**	Function Group: **091**	Information Type: **Service Information**	Date: **9/16/2025**
Profile: **EC220D Volvo**			

Service positions

Showing Selected Profile

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
EC220D Volvo	Shanghai	230001	240000
EC220D Volvo	Pederneiras	240001	250000
EC220D Volvo	Bangalore	250001	260000
EC220D Volvo	Kaluga	260001	270000
EC220D Volvo	Changwon	270001	310000

Park the machine on a horizontal and firm surface.
The suitable position is indicated in the description for the various service jobs.

Before beginning any work on the machine.

- Turn off the engine and remove the ignition key.
- Depressurize all pressurized lines and pressure vessels carefully so that high pressure is released without risk.
- Allow the machine to cool down.

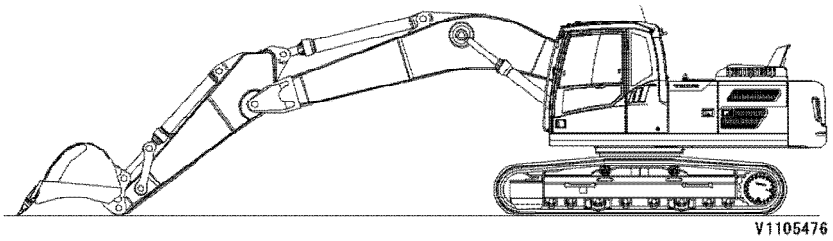


Figure 1
Service position A

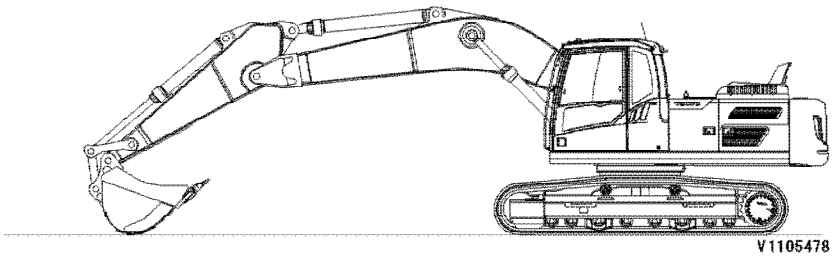


Figure 2
Service position B

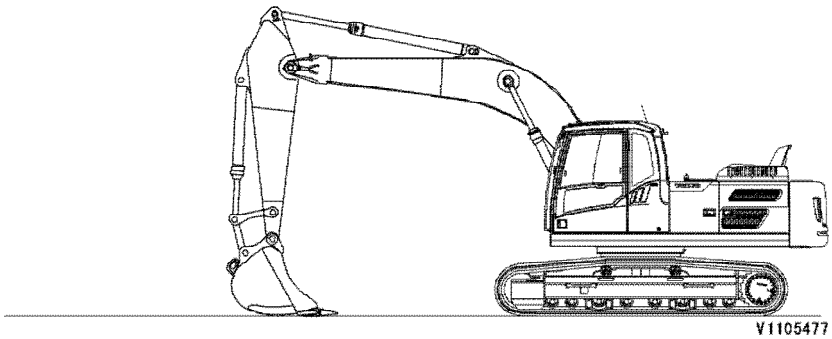


Figure 3
Service position C

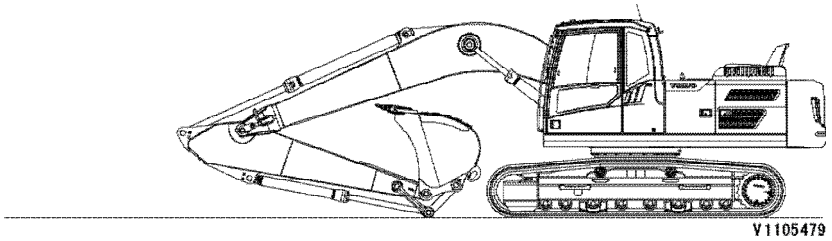


Figure 4
Service position D

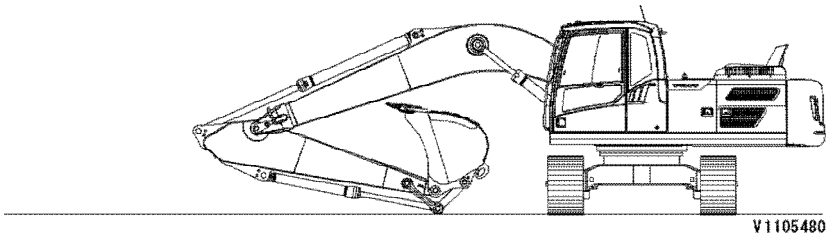


Figure 5
Service position E

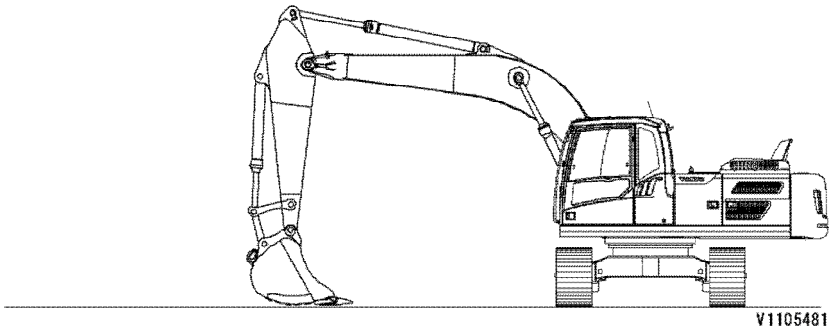


Figure 6
Service position F

VOLVO

Service Information

Document Title: **Recommended lubricants**	Function Group: **160**	Information Type: **Service Information**	Date: **9/16/2025**
Profile: **EC220D Volvo**			

Recommended lubricants

Showing Selected Profile

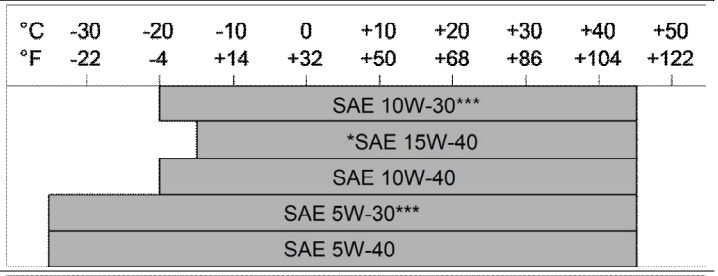
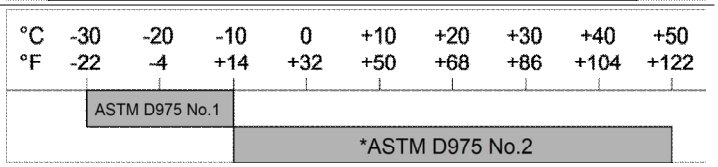
Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
EC220D Volvo			

The Volvo lubricants have been specially developed to fulfil the demanding operating conditions, in which Volvo excavators are used in. The oils have been tested according to Volvo excavator specifications and therefore meet the high requirements for safety and quality. Other mineral oils can be used if they conform to our viscosity recommendations and meet our quality requirements. The approval of Volvo is required, if any other oil base quality (for example biologically degradable oil) is to be used.

NOTE!

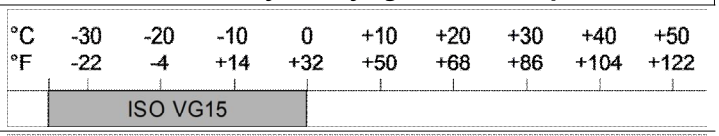
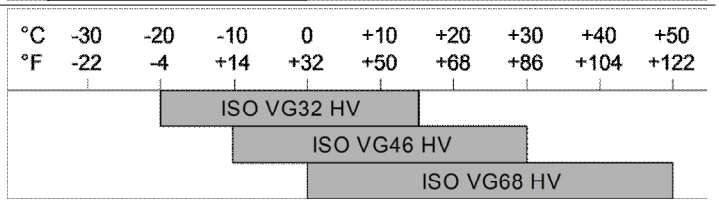
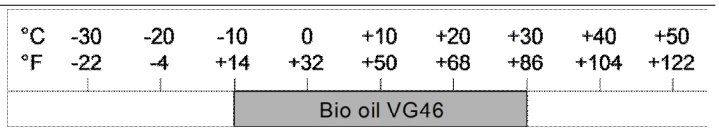
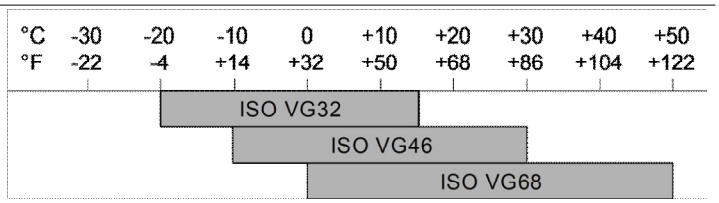
If a high water or excessive contamination in the lubricants (e.g. engine oil, hydraulic oil, axle oil, etc.) is found by Volvo oil analysis, change the lubricants regardless of the change interval.

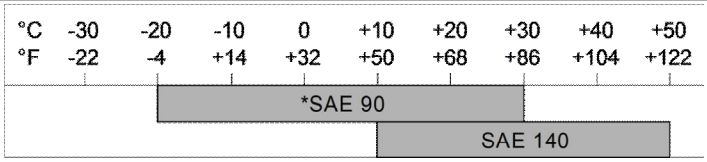
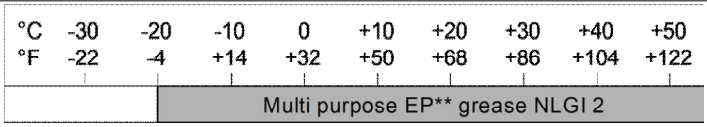
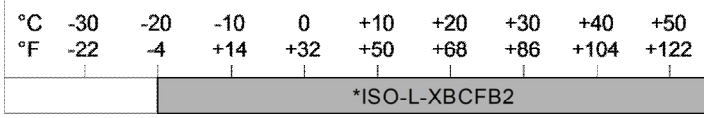
See service bulletins “Oil sampling” in function group 160.

System	**Oil grade**	**Recommended viscosity at varying ambient temperature**
Engine	Engine oil For detail, see page Engine oil.	
Fuel	Diesel fuel For detail, see page Fuel.	 **NOTE!** The fuel should at least meet the legal requirement, and national and international standards for marketed fuels, for example : EN590 (with nationally adapted temperature requirements), ASTM D975 No 1-D and No 2-D, JIS KK 2204.
Cooling system	**Volvo Coolant VCS-2 Ready Mixed** For detail, see page Coolant.	**Volvo Coolant VCS Ready Mixed** should be used only. **NOTE!** The content of Volvo coolant must not be less than 40% of the total mixture.

*: Installed at factory

***: VDS-4 or VDS-4.5 approved oils only. Other oils can be used up to +30°C (86°F).

System	Oil grade	Recommended viscosity at varying ambient temperature
Hydraulic system	Hydraulic oil for severe cold area or if siberian option kit is installed	
	Volvo Hydraulic Oil 98609 Extra 32 or **Volvo Hydraulic Oil 98609 Extra 46** or **Volvo Hydraulic Oil 98609 Extra 68** or **Volvo Hydraulic Oil 98611 HO103 32** **Volvo Hydraulic Oil 98611 HO103 46** **Volvo Hydraulic Oil 98611 HO103 68**	
	Volvo Hydraulic Oil 98610 Biodegradable 46	 **NOTE!** If the machine is filled with Volvo Biodegradable hydraulic oil this oil must also be used when filing and changing. The mineral oil content in bio oil should not exceed 2% when changing from mineral oil to bio oil. Contact a workshop authorised by Volvo.
	Volvo Hydraulic Oil 98620 Ultra 32 or **Volvo Hydraulic Oil 98620 Ultra 46** or **Volvo Hydraulic Oil 98620 Ultra 68**	

System	Oil grade	Recommended viscosity at varying ambient temperature
Track gearbox Swing gearbox PTO gearbox (EC950 only)	**Volvo Axle Oil 97321 80W-90** or **Volvo Axle Oil 97321 80W-140** or **Volvo Axle Oil 97317 75W-80 GO102** or **Volvo Synthetic Axle Oil 97312 75W-90** or **Volvo Axle Oil 97321 85W-90 Limited Slip**	 Or corresponding gearbox oil below. ○ Mobil SHC630 ○ Volvo Synthetic Drum Eccentric Oil
Swing ring gear (Bath and Ball)	**Volvo Multipurpose Grease 97718 GR101**	 Or corresponding grease on lithium base with EP** additives and consistency NLGI class 2.
Pin and bushing	**Volvo Extreme Grease 97765 GR103** or **Volvo Multipurpose Grease 97718 GR101[T1]** For detail, see page Grease.	 Or corresponding grease on lithium base with EP** additives and consistency NLGI class 2.
Air conditioner system	Refrigerant	HFC R134a

[T1]Volvo Multipurpose Grease 97718 GR101 is not recommended when the ambient temperature is above 40 °C.

*: Installed at factory
**: Extreme Pressure

Document Title: **Grease**	Function Group: **160**	Information Type: **Service Information**	Date: **9/16/2025**
Profile: **EC220D Volvo**			

Grease

Showing Selected Profile

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
EC220D Volvo			

Recommended grease for all digging equipment greasing points

Manufacturer	**Product name**	
	Recommendations	**Alternatives***
VOLVO	Volvo Extreme Grease 97765 GR103	Volvo Multipurpose Grease 97718 GR101
CALTEX	Molytex EP2	Multifak EP2
GULF	Gulflex Moly EP	Gulfcrown EP2
EXXONMOBIL	Beacon EP2 Moly	Beacon EP2
SHELL	Retinax HDX2 / Alvania HDX2	Retinax EP2 / Alvania EP2
TOTAL	Multis MS2	Multis EP2
CASTROL	Pyro LM	Pyroplex Red

* Alternatives are not recommended when the ambient temperature is above 40 °C.

Mixability of types of grease with different additives

	Mixability of types of grease with additives					
	Lithium	**Calcium**	**Lithium complex**	**Calcium complex**	**Aluminium complex**	**Clay**
Lithium	√	√	√			
Calcium	√	√	√			√
Lithium complex	√	√	√	√		
Calcium complex			√	√		
Aluminium complex			√		√	
Clay		√			√	√

√ : Acceptable

VOLVO

Service Information

Document Title: **Hydraulic oil**	Function Group: **160**	Information Type: **Service Information**	Date: **9/16/2025**
Profile: **EC220D Volvo**			

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Hydraulic oil

Showing Selected Profile

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
EC220D Volvo	Shanghai	230001	240000
EC220D Volvo	Pederneiras	240001	250000
EC220D Volvo	Bangalore	250001	260000
EC220D Volvo	Kaluga	260001	270000
EC220D Volvo	Changwon	270001	310000

Only use Volvo genuine hydraulic oil approved by Volvo Construction Equipment. Do not mix different brands of hydraulic oil as this can lead to damage in the hydraulic system.
When changing different type of hydraulic oil, the oil must be drained as much as possible and it is required to flush the hydraulic system. For the drain points and changing method, please contact the workshop authorized by Volvo Construction Equipment.

For the hydraulic oil specification, see page Recommended lubricants.

	Ambient temperature												
	°C	**-50**	**-40**	**-30**	**-20**	**-10**	**0**	**+10**	**+20**	**+30**	**+40**	**+50**	**+60**
	°F	**-58**	**-40**	**-22**	**-4**	**+14**	**+32**	**+50**	**+68**	**+86**	**+104**	**+122**	**+140**
General oil grade			**(B)**		**(A)**				**(C)**				
				(B)		**(A)**				**(C)**			
					(B)		**(A)**						
Severe cold areas GS Hydro HDZ 15		**(B)**		**(A)**			**(C)**						

(A) : Ambient temperature recommended for general use of hydraulic system and components.
(B) : Ambient temperature guide for machine operation from a hydraulic oil viewpoint only, it does not guarantee the completion machine for other conditions like engine starting performance. In this range a warming-up period is needed to obtain proper performance.
(C) : Ambient temperature range to operate machine under special conditions, not a recommendation for general use conditions.

Additional information for severe cold areas
Severe cold condition of ambient temperature is between -45°C and 0°C.
Normal temperature of hydraulic oil is between -33°C and 55°C.

- Type : Anti-wear type hydraulic oil
- Viscosity characteristic

NOTE!
It is minimum theoretical recommendation without the guarantee of machine condition.

Document Title: **Hydraulic oil**	Function Group: **160**	Information Type: **Service Information**	Date: **9/16/2025**
Profile: **EC220D Volvo**			

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Hydraulic oil

Showing Selected Profile

Valid for serial numbers			
Model	**Production site**	**Serial number start**	**Serial number stop**
EC220D Volvo			

Only use Volvo genuine hydraulic oil approved by Volvo Construction Equipment. Do not mix different brands of hydraulic oil as this can lead to damage in the hydraulic system.

For the hydraulic oil specification, see page Recommended lubricants.

	Ambient temperature										
	°C	**-40**	**-30**	**-20**	**-10**	**0**	**+10**	**+20**	**+30**	**+40**	**+50**	**+60**
	°F	**-40**	**-22**	**-4**	**+14**	**+32**	**+50**	**+68**	**+86**	**+104**	**+122**	**+140**
Oil grade		**(B)**		**(A)**				**(C)**				
			(B)			**(A)**				**(C)**		
				(B)			**(A)**					

(A) : Ambient temperature recommended for general use of hydraulic system and components.
(B) : Ambient temperature guide for machine operation from a hydraulic oil viewpoint only, it does not guarantee the completion machine for other conditions like engine starting performance. In this range a warming-up period is needed to obtain proper performance.
(C) : Ambient temperature range to operate machine under special conditions, not a recommendation for general use conditions.

Additional recommendation for severe cold areas
A field solution for severe cold condition of ambient temperature between -40°C and +20°C.

- Type : Anti-wear type hydraulic oil
- Viscosity characteristic

  Viscosity index : More than 130
  Kinematic Viscosity : Less than 5,000cSt at -40°C, More than 5.6cSt at +90°C