

Document Title: Volvo standard tightening torques	Function Group: 030	Information Type: Service Information	Date: 4/6/2026
Profile: L110G Volvo			

Volvo standard tightening torques

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Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
L110G 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 $\approx 10\%$, 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	200	271	284	388
3/4	270	364	384	520
7/8	340	460	484	654
1	410	551	584	791
1 1/8	500	674	714	954
1 1/4	590	798	844	1134
1 3/8	680	922	974	1324
1 1/2	770	1046	1104	1504
1 5/8	860	1170	1234	1674
1 3/4	950	1294	1364	1854
1 7/8	1040	1418	1504	2034
2	1130	1542	1644	2214
2 1/8	1220	1666	1784	2394
2 1/4	1310	1790	1924	2574
2 3/8	1400	1914	2064	2754
2 1/2	1490	2038	2204	2934
2 5/8	1580	2162	2344	3114
2 3/4	1670	2286	2484	3294
2 7/8	1760	2410	2624	3474
3	1850	2534	2764	3654
3 1/8	1940	2658	2904	3834
3 1/4	2030	2782	3044	4014
3 3/8	2120	2906	3184	4194
3 1/2	2210	3030	3324	4374
3 5/8	2300	3154	3464	4554
3 3/4	2390	3278	3604	4734
3 7/8	2480	3402	3744	4914
4	2570	3526	3884	5094
4 1/8	2660	3650	4024	5274
4 1/4	2750	3774	4164	5454
4 3/8	2840	3898	4304	5634
4 1/2	2930	4022	4444	5814
4 5/8	3020	4146	4584	5994
4 3/4	3110	4270	4724	6174
4 7/8	3200	4394	4864	6354
5	3290	4518	5004	6534
5 1/8	3380	4642	5144	6714
5 1/4	3470	4766	5284	6894
5 3/8	3560	4890	5424	7074
5 1/2	3650	5014	5564	7254
5 5/8	3740	5138	5704	7434
5 3/4	3830	5262	5844	7614
5 7/8	3920	5386	5984	7794
6	4010	5510	6124	7974
6 1/8	4100	5634	6264	8154
6 1/4	4190	5758	6404	8334
6 3/8	4280	5882	6544	8514
6 1/2	4370	6006	6684	8694
6 5/8	4460	6130	6824	8874
6 3/4	4550	6254	6964	9054
6 7/8	4640	6378	7104	9234
7	4730	6502	7244	9414
7 1/8	4820	6626	7384	9594
7 1/4	4910	6750	7524	9774
7 3/8	5000	6874	7664	9954
7 1/2	5090	6998	7804	10134
7 5/8	5180	7122	7944	10314
7 3/4	5270	7246	8084	10494
7 7/8	5360	7370	8224	10674
8	5450	7494	8364	10854
8 1/8	5540	7618	8504	11034
8 1/4	5630	7742	8644	11214
8 3/8	5720	7866	8784	11394
8 1/2	5810	7990	8924	11574
8 5/8	5900	8114	9064	11754
8 3/4	5990	8238	9204	11934
8 7/8	6080	8362	9344	12114
9	6170	8486	9484	12294
9 1/8	6260	8610	9624	12474
9 1/4	6350	8734	9764	12654
9 3/8	6440	8858	9904	12834
9 1/2	6530	8982	10044	13014
9 5/8	6620	9106	10184	13194
9 3/4	6710	9230	10324	13374
9 7/8	6800	9354	10464	13554
10	6890	9478	10604	13734
10 1/8	6980	9602	10744	13914
10 1/4	7070	9726	10884	14094
10 3/8	7160	9850	11024	14274
10 1/2	7250	9974	11164	14454
10 5/8	7340	10098	11304	14634
10 3/4	7430	10222	11444	14814
10 7/8	7520	10346	11584	14994
11	7610	10470	11724	15174
11 1/8	7700	10594	11864	15354
11 1/4	7790	10718	12004	15534
11 3/8	7880	10842	12144	15714
11 1/2	7970	10966	12284	15894
11 5/8	8060	11090	12424	16074
11 3/4	8150	11214	12564	16254
11 7/8	8240	11338	12704	16434
12	8330	11462	12844	16614
12 1/8	8420	11586	12984	16794
12 1/4	8510	11710	13124	16974
12 3/8	8600	11834	13264	17154
12 1/2	8690	11958	13404	17334
12 5/8	8780	12082	13544	17514
12 3/4	8870	12206	13684	17694
12 7/8	8960	12330	13824	17874
13	9050	12454	13964	18054
13 1/8	9140	12578	14104	18234
13 1/4	9230	12702	14244	18414
13 3/8	9320	12826	14384	18594
13 1/2	9410	12950	14524	18774
13 5/8	9500	13074	14664	18954
13 3/4	9590	13198	14804	19134
13 7/8	9680	13322	14944	19314
14	9770	13446	15084	19494
14 1/8	9860	13570	15224	19674
14 1/4	9950	13694	15364	19854
14 3/8	10040	13818	15504	20034
14 1/2	10130	13942	15644	20214
14 5/8	10220	14066	15784	20394
14 3/4	10310	14190	15924	20574
14 7/8	10400	14314	16064	20754
15	10490	14438	16204	20934
15 1/8	10580	14562	16344	21114
15 1/4	10670	14686	16484	21294
15 3/8	10760	14810	16624	21474
15 1/2	10850	14934	16764	21654
15 5/8	10940	15058	16904	21834
15 3/4	11030	15182	17044	22014
15 7/8	11120	15306	17184	22194
16	11210	15430	17324	22374
16 1/8	11300	15554	17464	22554
16 1/4	11390	15678	17604	22734
16 3/8	11480	15802	17744	22914
16 1/2	11570	15926	17884	23094
16 5/8	11660	16050	18024	23274
16 3/4	11750	16174	18164	23454
16 7/8	11840	16298	18304	23634
17	11930	16422	18444	23814
17 1/8	12020	16546	18584	23994
17 1/4	12110	16670	18724	24174
17 3/8	12200	16794	18864	24354
17 1/2	12290	16918	19004	24534
17 5/8	12380	17042	19144	24714
17 3/4	12470	17166	19284	24894
17 7/8	12560	17290	19424	25074
18	12650	17414	19564	25254
18 1/8	12740	17538	19704	25434
18 1/4	12830	17662	19844	25614
18 3/8	12920	17786	19984	25794
18 1/2	13010	17910	20124	25974
18 5/8	13100	18034	20264	26154
18 3/4	13190	18158	20404	26334
18 7/8	13280	18282	20544	26514
19	13370	18406	20684	26694
19 1/8	13460	18530	20824	26874
19 1/4	13550	18654	20964	27054
19 3/8	13640	18778	21104	27234
19 1/2	13730	18902	21244	27414
19 5/8	13820	19026	21384	27594
19 3/4	13910	19150	21524	27774
19 7/8	14000	19274	21664	27954
20	14090	19398	21804	28134
20 1/8	14180	19522	21944	28314
20 1/4	14270	19646	22084	28494
20 3/8	14360	19770	22224	28674
20 1/2	14450	19894	22364	28854
20 5/8	14540	20018	22504	29034
20 3/4	14630	20142	22644	29214
20 7/8	14720	20266	22784	29394
21	14810	20390	22924	29574
21 1/8	14900	20514	23064	29754
21 1/4	14990	20638	23204	29934
21 3/8	15080	20762	23344	30114
21 1/2	15170	20886	23484	30294
21 5/8	15260	21010	23624	30474
21 3/4	15350	21134	23764	30654
21 7/8	15440	21258	23904	30834
22	15530	21382	24044	31014
22 1/8	15620	21506	24184	31194
22 1/4	15710	21630	24324	31374
22 3/8	15800	21754	24464	31554
22 1/2	15890	21878	24604	31734
22 5/8	15980	22002	24744	31914
22 3/4	16070	22126	24884	32094
22 7/8	16160	22250	25024	32274
23	16250	22374	25164	32454
23 1/8	16340	22498	25304	32634
23 1/4	16430	22622	25444	32814
23 3/8	16520	22746	25584	32994
23 1/2	16610	22870	25724	33174
23 5/8	16700	22994	25864	33354
23 3/4	16790	23118	26004	33534
23 7/8	16880	23242	26144	33714
24	16970	23366	26284	33894
24 1/8	17060	23490	26424	34074
24 1/4	17150	23614	26564	34254
24 3/8	17240	23738	26704	34434
24 1/2	17330	23862	26844	34614
24 5/8	17420	23986	26984	34794
24 3/4	17510	24110	27124	34974
24 7/8	17600	24234	27264	35154
25	17			

Product: L110G Volvo Wheel Loaders Service Manual

Full Download: <https://www.arepairmanual.com/downloads/l110g-volvo-wheel-loaders-service-manual/>

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

Sample manual. Download All 2533 pages at:

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Document Title: Engine, software specifications	Function Group: 030	Information Type: Service Information	Date: 4/6/2026
Profile: L110G Volvo			

Engine, software specifications

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Engine protection

Function	Action	Limit/cause
High coolant temperature	Yellow lamp on Red lamp on Both lamps off [T1] ⓘ Engine shut down	104°C (219°F) 107°C (225°F) 100°C (212°F) 116°C (241°F)
High inlet manifold air pressure	Red lamp on Red lamp off	0.35 MPa (51 PSI) 0.25 MPa (36 PSI)
High inlet manifold air temperature	Yellow lamp on Red lamp on	120°C (240°F) 140°C (284°F)
High oil temperature	Yellow lamp on Red lamp on Both lamps off [T2] ⓘ	125°C (257°F) 128°C (262°F) 123°C (253°F)
Low oil pressure	Red lamp and forced idle Engine shut down	0.5– 2 MPa (73–290 PSI)[T3] ⓘ
Low coolant level	Yellow lamp	[T4] ⓘ
High temperature of cooled EGR exhausts after the EGR cooler	Yellow lamp on Red lamp on Derate	200°C (392°F) 240°C (464°F) [T5] ⓘ
High E-ECU temperature	Red lamp on and derate	95°C (203°F)
High soot load	Yellow lamp Buzzer	100%
	Yellow lamp Buzzer Start derate	130%
	Red lamp Buzzer continuous Max derate [T6] ⓘ	140%
	Red lamp Buzzer continuous Max derate [T7] ⓘ	170%
	Red lamp Buzzer continuous Max derate [T8] ⓘ	200%
Air pump failure	Red lamp Derate [T9] ⓘ	Air pump failure

[T1] If the temperature has triggered yellow or red lamp, the temperature has to decrease to specified value for turning the lamps off.

[T2] If the temperature has triggered yellow or red lamp, the temperature has to decrease to specified value for turning the lamps off.

[T3] The red lamp is lit and force idle is performed when the oil pressure is lower than the specified value for 80% of the time during a 4 sec period. When vehicle speed is ~0km/h the engine will be forced shut off.

[T4] Yellow lamp is lit when the coolant level in the expansion tank has been below low level for 90% of the time during a 15 sec period.

[T5] If the temperature exceeds specified value for yellow lamp for more than 20% within a 30 sec period, the derate starts. At specified value for red lamp the derate will be 100%.

[T6] Stand still regeneration required

[T7] Service regeneration required

[T8] DPF replacement required

[T9] Startup delay 30 seconds.

Document Title: Valve mechanism, specifications	Function Group: 030	Information Type: Service Information	Date: 4/6/2026
Profile: L110G Volvo			

Valve mechanism, specifications

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Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
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Valve mechanism	
Valve arrangement	Top valves
Inlet valves, angle-tightening	To zero clearance, then 75° ±10° counter-clockwise
Exhaust valves, angle-tightening	To zero clearance, then 105° ±10° counter-clockwise

Tightening torques	
Lock nut, valves	20 ±2 Nm (14.8 ±1.5 lbf ft)
Valve cover	8.5 Nm (6.3 lbf ft)

Document Title: Flywheel, tightening torques	Function Group: 030	Information Type: Service Information	Date: 4/6/2026
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Flywheel, tightening torques

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Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
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NOTE!

Always use new bolts!

Flywheel

Tighten the bolts in the order shown in the following figure. All bolts are tightened in two steps:

Step 1	30 Nm (22 lbf ft)
Step 2, angle-tightening	60°
Step 3, angle-tightening	60°

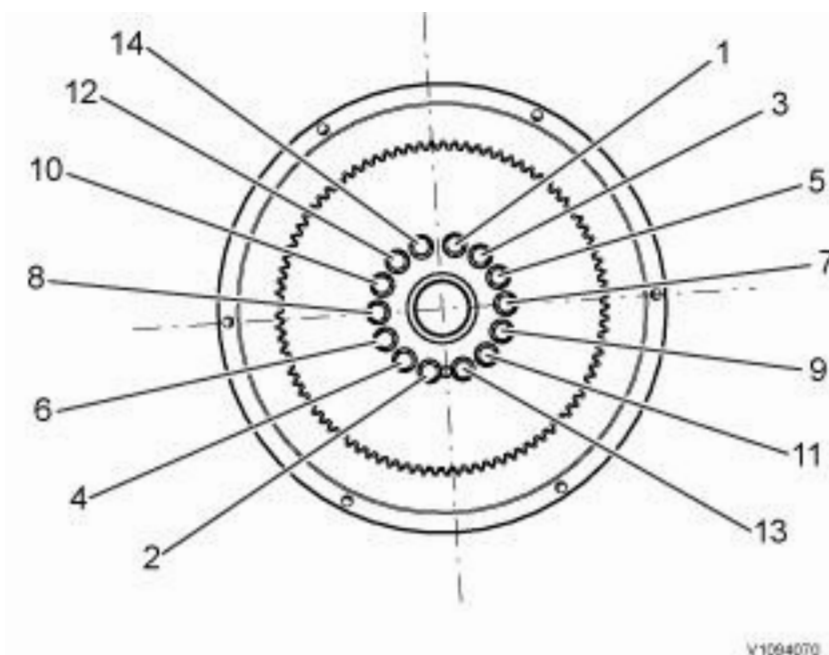


Figure 1

Vibration damper

Tighten the bolts in the order shown in the following figure. All bolts are tightened in two steps:

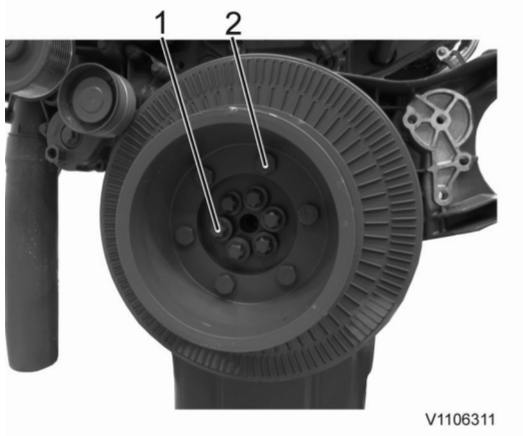


Figure 2

1. M12x80 bolt
2. M12x35 bolt

M12x80 bolt	
Step 1	30±3 Nm (22±2.2 lbf ft)
Step 2	60°
Step 3	60°

M12x35 bolt	110 ±11 Nm (81 ±8 lbf ft)
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Belt tensioner

Tightening torque	45±4.5 Nm (33±3.3 lbf ft)
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Document Title: Oil sump, tightening torque	Function Group: 030	Information Type: Service Information	Date: 4/6/2026
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Oil sump, tightening torque

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Oil sump	30±3 Nm (22±2 lbf ft)
<p>NOTE! Apply sealing compound in an even bead, thickness approx. 3.5 mm, to the sealing surface on the oil sump.</p> <p>See example in figure.</p>	

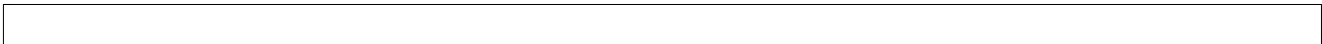


Figure 1

Document Title: Lubrication system, tightening torques	Function Group: 030	Information Type: Service Information	Date: 4/6/2026
Profile: L110G Volvo			

Lubrication system, tightening torques

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Valid for serial numbers			
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Part	Comment	Torque
Oil cooler on oil cooler housing	Tighten screws in order	22 Nm (16 lbf ft)

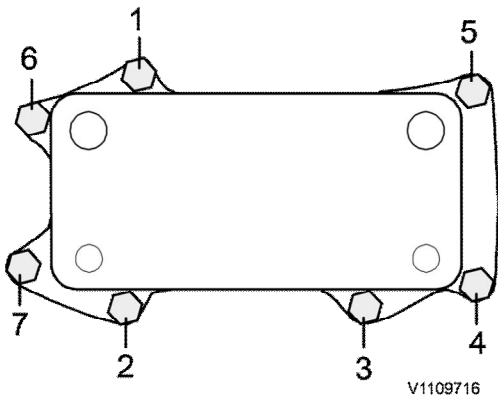


Figure 1
Oil cooler

Part	Comment	Torque
Oil cooler housing on crankcase	Step 1: Tighten screws M8x80–10.9 (3 pieces)	30 Nm (22 lbf ft)
	Step 2: Tighten screws M8x50–10.9 (5 pieces)	30 Nm (22 lbf ft)
Engine oil pressure sensor, SE2203		30 ±5 Nm (22.13 ±3.6 lbf ft)

Document Title: Exhaust aftertreatment system, specifications	Function Group: 030	Information Type: Service Information	Date: 4/6/2026
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Exhaust aftertreatment system, specifications

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Spark plug, electrode gap	1.0 +0.05/-0,05 mm (0.039 +0.002/-0.002 in)
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	Warm engine Low idle	Warm engine Burner running Low idle	Warm engine Regeneration running Low idle	Warm engine Regeneration running High idle
Burner temperature	50–120 °C (122–248 °F)	600–900 °C (1112–1652 °F)	600–900 °C (1112–1652 °F)	600–950 °C (1112–1742 °F)
Temperature before DOC	50–120 °C (122–248 °F)	280–380 °C (536–716 °F)	310–400 °C (590–752 °F)	310–400 °C (590–752 °F)
Temperature after DOC	50–120 °C (122–248 °F)	260–380 °C (500–716 °F)	360–650 °C (680–1202 °F)	360–650 °C (680–1202 °F)
Pressure after MV1 (AHI)	20–30 kPa (2.9–4.3 psi)	20–30 kPa (2.9–4.3 psi)	100–350 kPa (14.50 – 50.76 psi)	100–350 kPa (14.50– 50.76 psi)
Pressure after MV2 (Burner)	-	150 ± 20 kPa (21.76 ± 2.18 psi)	150 ± 15 kPa (21.76 ± 2.18 psi)	150 ± 15 kPa (21.76 ± 2.18 psi)
Shut off valve duty cycle	0 %	100 %	100 %	100 %
MV1 duty cycle	0 %	0 %	0–20 %	0–40 %
MV2 duty cycle	0 %	45–65 %	40–65 %	50–65 %
Spark plug duty cycle	0	1	1	1
Glow plug duty cycle	0 %	40–55 % (when the glow plug is active)	40–55 % (when the glow plug is active)	40–55 % (when the glow plug is active)
Air pump mass flow	3–5.4 kg/h	18–20.4 kg/h	13.2–20.4 kg/h	18–20.4 kg/h
Air pump motor speed	800–1400 rpm	2000–5600 rpm	2000–6000 rpm	2000–6300 rpm
Air pump mass flow during Tech Tool operation 25410–3	Approx. 19–22 kg/h	-	-	-
Air pump pressure during Tech Tool operation 25410–3	At least 12–40 kPa (1.74–5.8 psi), (relative pressure)	-	-	-
Air pump motor maximum speed during Tech Tool operation 25410–3	Max 6600 rpm	-	-	-

Document Title: Conversion tables	Function Group: 030	Information Type: Service Information	Date: 4/6/2026
Profile: L110G Volvo			

Conversion tables

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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	l	in ³	ft ³	yd ³
cm ³ = ml	1	0.000001	0.001	0.061024	0.000035	0.000001
m ³	1000000	1	1000	61024	35.315	1.30796
dm ³ (l)	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 (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 ton (metric) = 1.1023 ton (US) = 0.9842 ton (UK)

Pressure

Unit	kp/cm ²	bar	Pa=N/m ²	kPa	lbf/in ²	lbf/ft ²
kp/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

kg/cm² = 735.56 Dry (mmHg) = 0.96784 atm

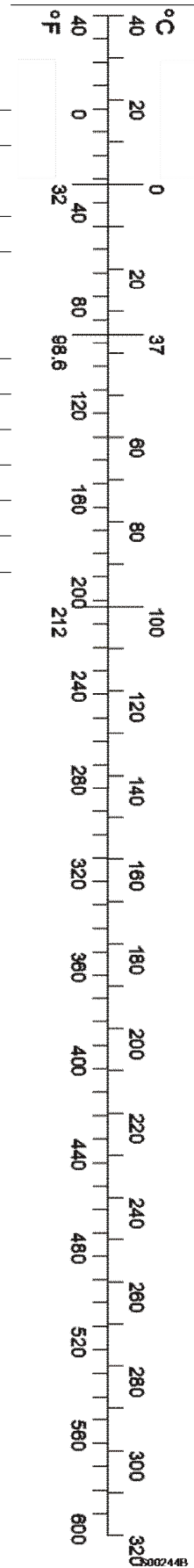
Unit explanations

Unit	abbreviation
Newton meter	Nm
Kilopoundmeter	kpm
Kilopascal	kPa
Megapascal	MPa
Kilowatt	kW
kilojoule	kJ
British thermal unit	Btu
Calorie	cal

Approx. conversion

SI unit	Conversion factor	Non SI	Conversion factor	SI
Torque				
Nm	x10.2	=kg/cm	x0.8664	=lb in
Nm	x0.74	=lbf-ft	x1.36	=Nm
Nm	x0.102	=kg/m	x7.22	=lbft
Pressure (Pa = N/m²)				
kPa	x4.0	=in.H ₂ O	x0.249	=kPa
kPa	x0.30	=in.Hg	x3.38	=kPa
kPa	x0.145	=psi	x6.89	=kPa
bar	x14.5	=psi	x0.069	=bar
kp/cm ²	x14.22	=psi	x0.070	=kp/cm ²
N/mm ²	x145.04	=psi	x0.069	=bar
MPa	x145	=psi	x0.00689	=MPa
Power (W = J/s)				
kW	x1.36	=hp(cv)	x0.736	=kW

kW	x1.34	= bhp	x0.746	= kW
kW	x0.948	= Btu/s	x1.055	= kW
W	x0.74	= ft-lb/s	x1.36	= W
Energy (J = Nm)				
kJ	x0.948	= Btu	x1.055	= kJ
J	x0.239	= calorie	x4.19	= J
Speed and acceleration				
m/s ²	x3.28	= ft/s ²	x0.305	= m/s ²
m/s	x3.28	= ft/s	x0.305	= m/s
km/h	x0.62	= mph	x1.61	= km/h
Horsepower/torque				
Bhp x5252 rpm = TQ (lb-ft)			TQ x rpm 5252 = bhp	
Temperature				
$^{\circ}\text{C} = (^{\circ}\text{F} - 32) / 1.8$			$^{\circ}\text{F} = (^{\circ}\text{C} \times 1.8) + 32$	
Flow factor				
l/min (dm ³ /min)	x0.264	= US gal/min	x3.785	= liter/min



Document Title: Fuel system, specifications	Function Group: 030	Information Type: Service Information	Date: 4/6/2026
Profile: L110G Volvo			

Fuel system, specifications

Showing Selected Profile

Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
L110G Volvo			

Fuel feed pump	
Type	Gear pump
Safety valve	1.5 MPa (217.6 psi)
Opening pressure	0.975 MPa (141.4 psi)
Fully opened	1.45 MPa (210.3 psi)
Feed pressure at:	
600 rpm	min. 0.56–0.64 MPa (81.2–92.8 psi)
1200 rpm	min. 0.56–0.65 MPa (81.2–94.3 psi)

Fuel Control Valve (FCV) — Overflow valve	
Opening pressure	0.46 MPa (66.7 psi)

Fuel rail	
Injection pressure at injectors	between 30–195 MPa (4351–28282 psi)
Maximum pressure	195 MPa (28282 psi)
Over-pressure (PRV opening pressure 1)	240–280 MPa (34809–40611 psi)
Injector fuel return flow, idling speed	0–115 ml/min (3.89 US oz./min)

Pressure Release Valve (PRV)	
Opening pressure	240–280 MPa (34809–40611 psi)
Pressure when open	90–110 MPa (13053–15954 psi)
Life time limits:	50 openings 300 minutes in PRV open mode accumulated Lifetime limits are not monitored by main software, no error messages when limits are exceeded. PRV openings are logged in the EMS error memory

Document Title: Lubrication specifications	Function Group: system, 030	Information Type: Service Information	Date: 4/6/2026
Profile: L110G Volvo			

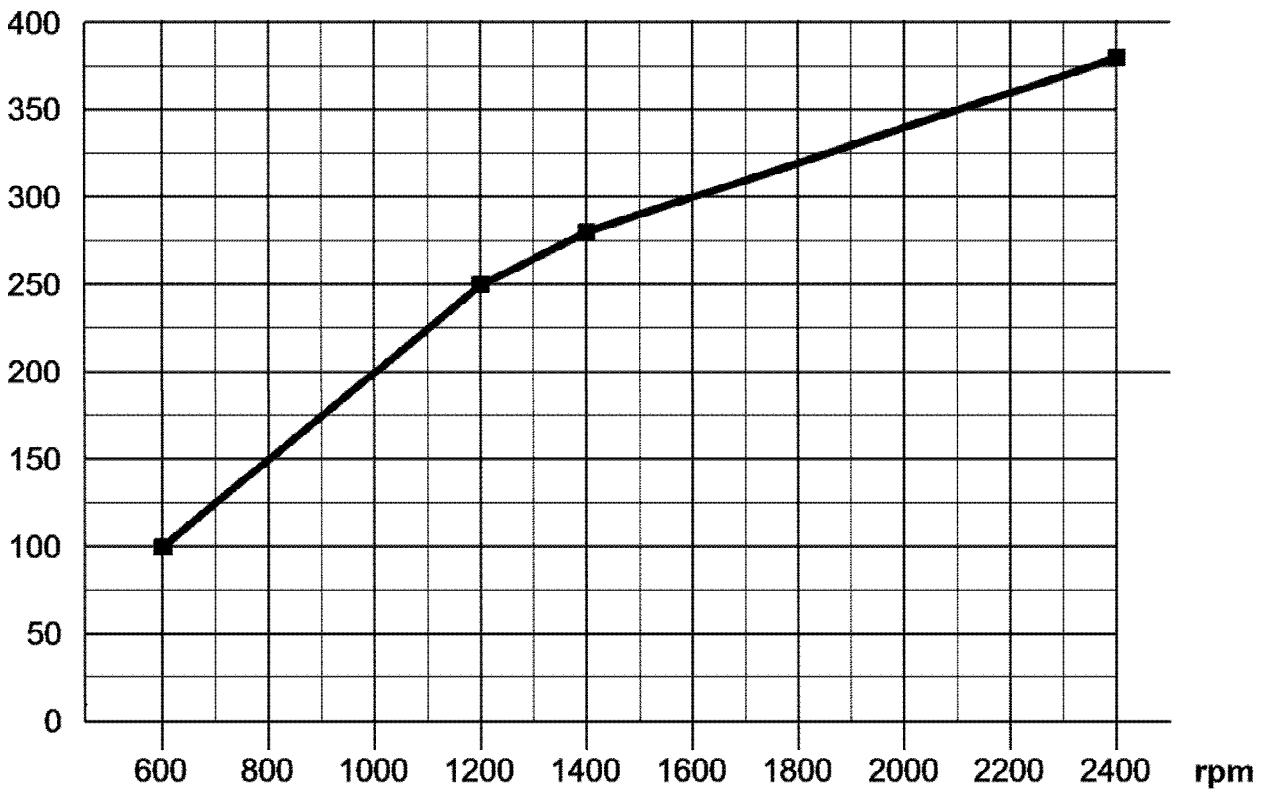
Lubrication system, specifications

Showing Selected Profile

Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
L110G Volvo			

Minimum oil pressure, recommendation

kPa



V1178857

Figure 1

Minimum oil pressure, guide

NOTE!

If the engine is operated continuously in the critical range, engine damage is expected in the long run.

Oil consumption

Lubricating oil, approx. maximum consumption	0.75 % of fuel consumption
--	----------------------------

Document Title: Engine, tighten torques	Function Group: 030	Information Type: Service Information	Date: 4/6/2026
Profile: L110G Volvo			

Engine, tightening torques

Showing Selected Profile

Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
L110G Volvo			

NOTICE

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

Engine mounts	
Flywheel housing – hydraulic transmission	92 Nm (67.8 lbf ft)
Front engine mount, rubber pads – frame	150 Nm (110.6 lbf ft)
Front engine mount, rubber pads – engine mount	92 Nm (67.8 lbf ft)
Front engine mount, engine member – engine block	230 Nm (169.6 lbf ft)
Engine	
Vibration damper: step 1	30 ±3 Nm (22 ±2.2 lbf ft)
Vibration damper: step 2, angle-tightening	60°
Vibration damper: step 3, angle-tightening	60°
Belt pulley	110 ±11 Nm (81 ±8 lbf ft)
Connector ED, centre bolt	3.5 ±0.5 Nm (2.6 ±0.4 lbf ft)

Document Title: Engine, specifications	Function Group: 030	Information Type: Service Information	Date: 4/6/2026
Profile: L110G Volvo			

Engine, specifications

Showing Selected Profile

Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
L110G Volvo			

General

Number of cylinders	6
Cylinder bore	110 mm (4.33 in)
Stroke	136 mm (5.35 in)
Displacement	7.75 litres (2.05 US gal)
Injection order	1-5-3-6-2-4
Low idle	800 rpm
High idle (run out speed)	2275 rpm
Weight, engine	750 kg (1655 lbs)

Stall speed torque converter⁽¹⁾

L110G ⁽²⁾	
HTL206 (22577)	1990–2090 rpm
HTE206B (22590)	1960–2070 rpm
HTE206 (22576)	2000–2100 rpm
L120G ⁽²⁾	
HTL206 (22577)	2020–2110 rpm
HTE206B (22590)	2000–2100 rpm
HTE206 (22576)	2000–2090 rpm

(1) Shall be performed on gear 2, APS-mode service (manual), and without using the hydraulics.

(2) The transmission part number can be found in the machine card in PROSIS.

Document Title: Operation numbers for additional work	Function Group: 070	Information Type: Service Information	Date: 4/6/2026
Profile: Wheel Loaders (WLO)			

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. When 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 1708, Checking point	Function Group: 080	Information Type: Service Information	Date: 4/6/2026
Profile: L110G Volvo			

E 1708, Checking point

Showing Selected Profile

Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
L110G Volvo			

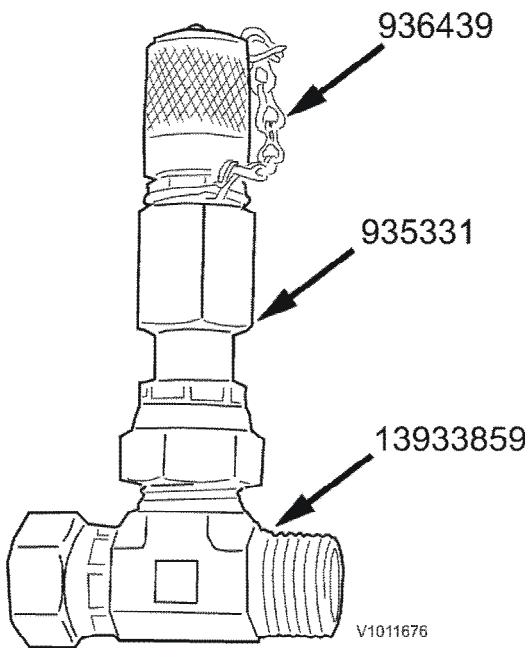


Figure 1

Document Title: E1711	Function Group: 080	Information Type: Service Information	Date: 4/6/2026
Profile: L110G Volvo			

E1711

Showing Selected Profile

Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
L110G Volvo			

E1711

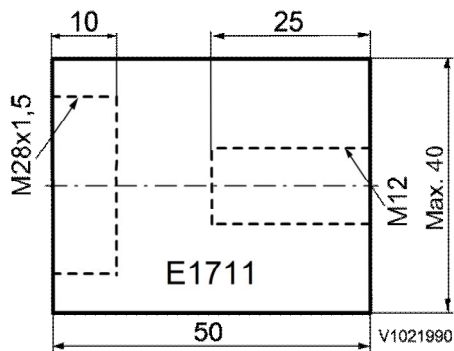


Figure 1

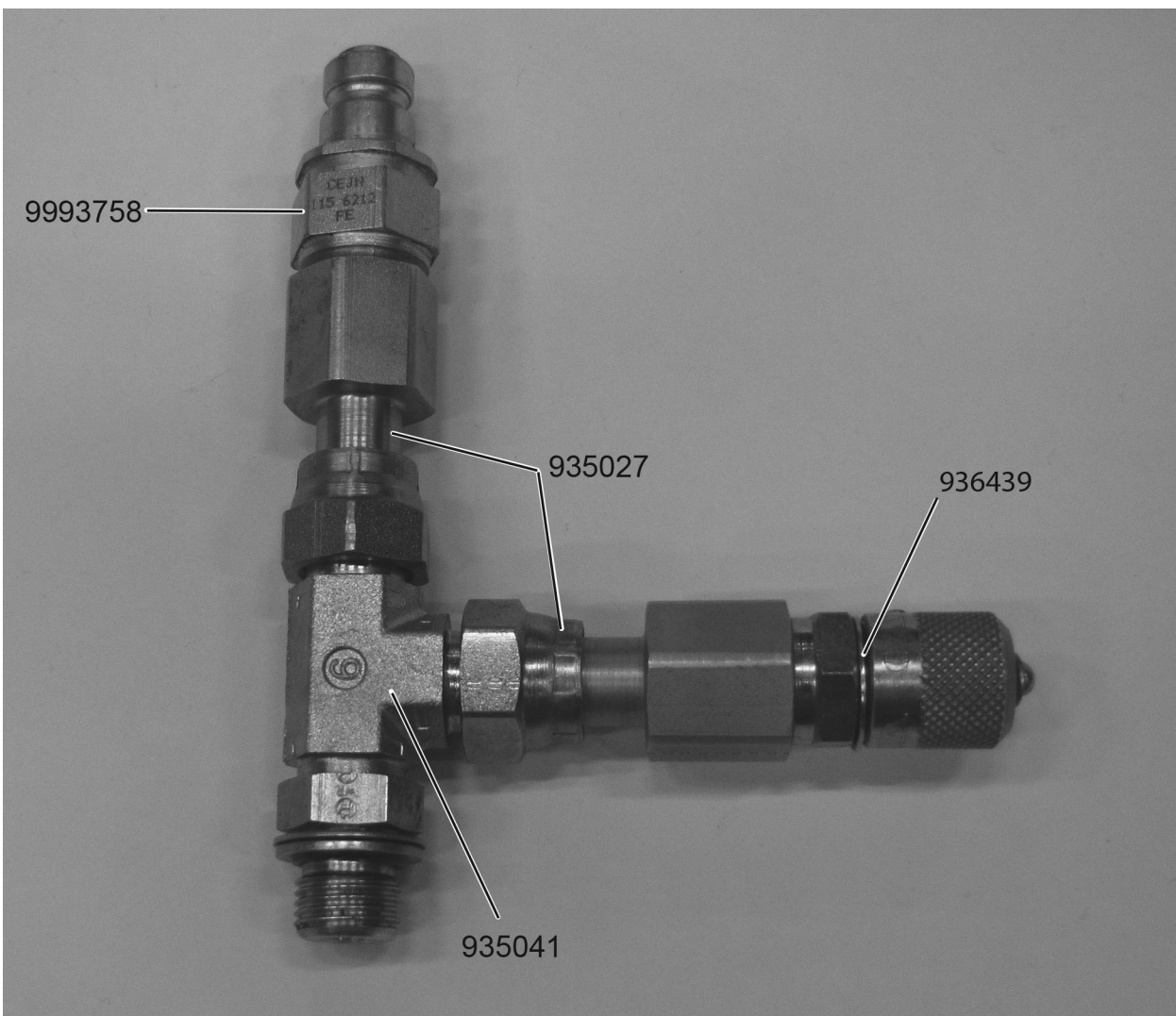
E1711

Document Title: E-2000	Function Group: 080	Information Type: Service Information	Date: 4/6/2026
Profile: L110G Volvo			

E-2000

Showing Selected Profile

Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
L110G Volvo			



V1139126

Figure 1

Document Title: E-2001	Function Group: 080	Information Type: Service Information	Date: 4/6/2026
Profile: L110G Volvo			

E-2001

Showing Selected Profile

Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
L110G Volvo			

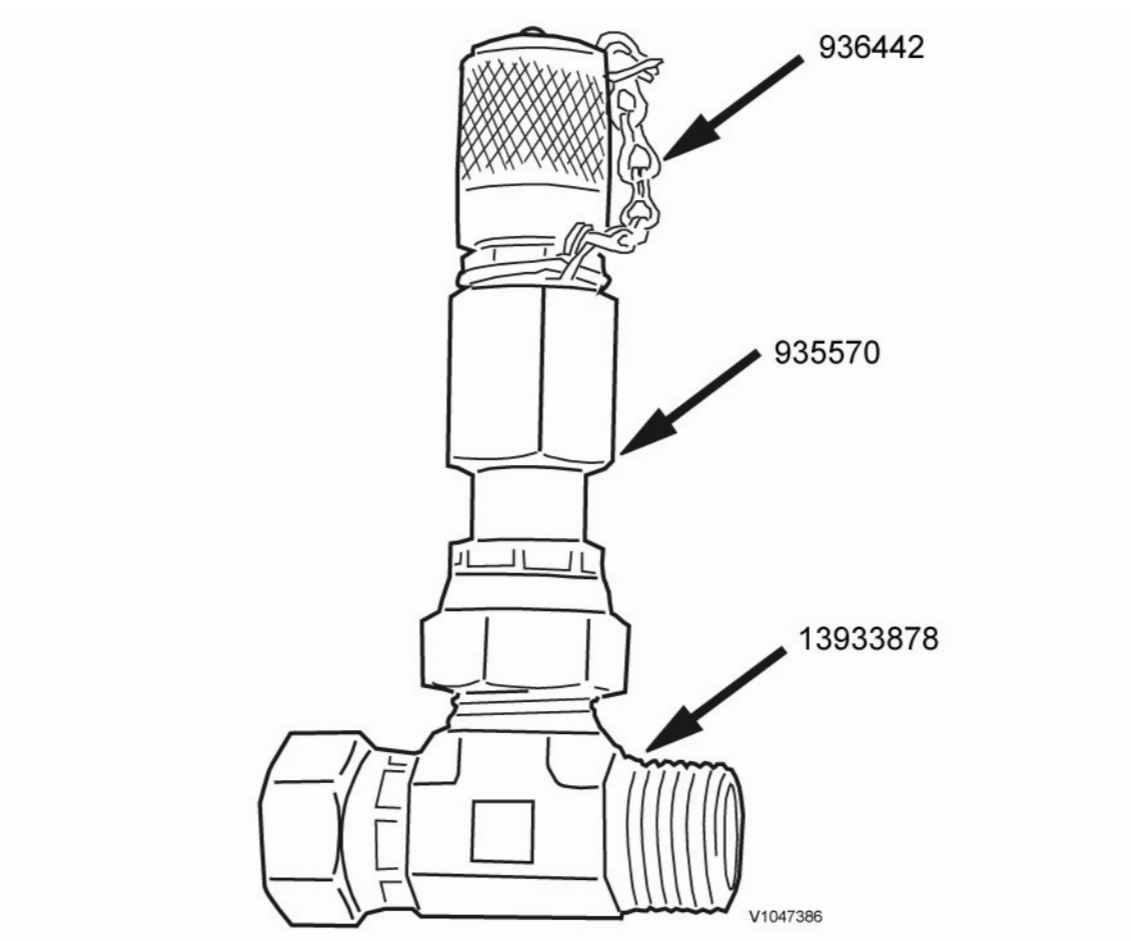


Figure 1

Document Title: E-2010	Function Group: 080	Information Type: Service Information	Date: 4/6/2026
Profile: L110G Volvo			

E-2010

Showing Selected Profile

Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
L110G Volvo			

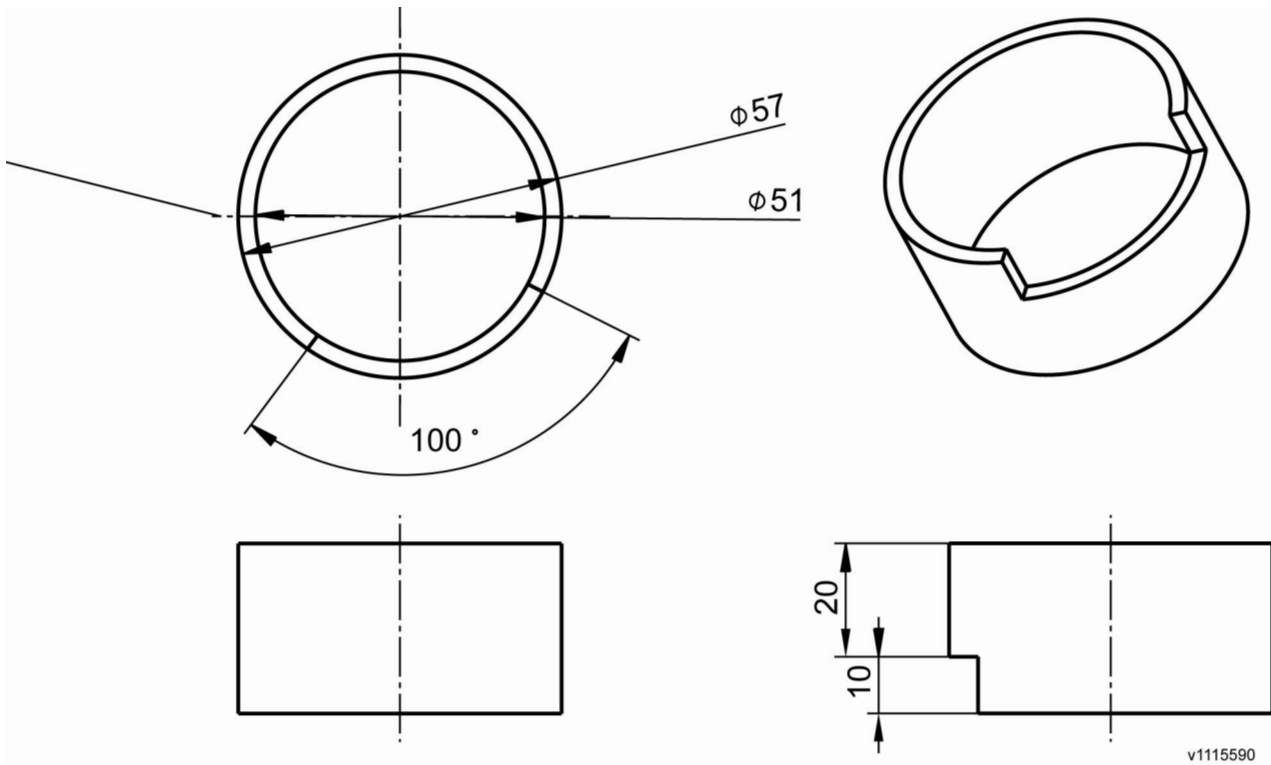


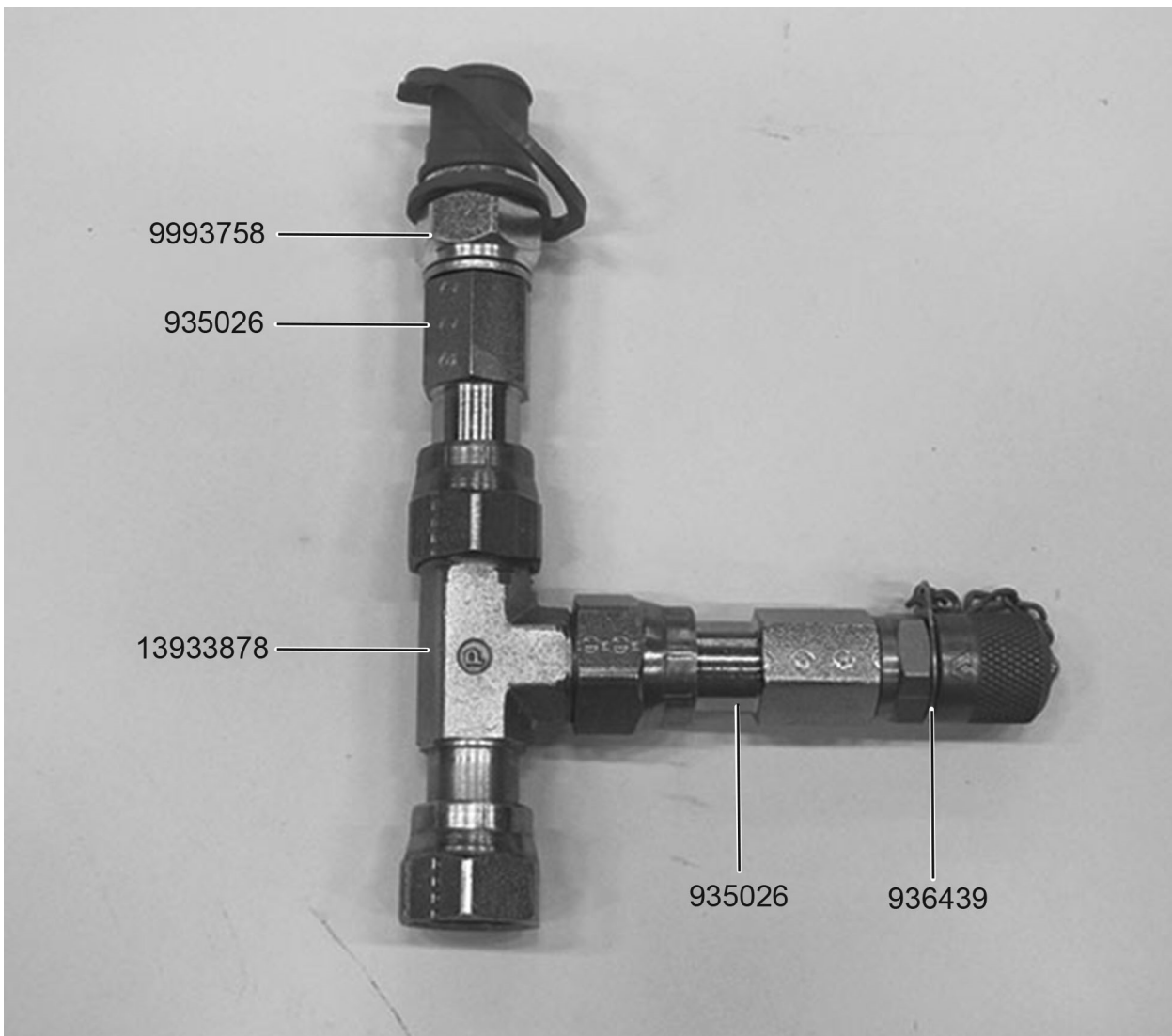
Figure 1

Document Title: E-2015	Function Group: 080	Information Type: Service Information	Date: 4/6/2026
Profile: L110G Volvo			

E-2015

Showing Selected Profile

Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
L110G Volvo			



V1138746

Figure 1

Document Title: E-2031	Function Group: 080	Information Type: Service Information	Date: 4/6/2026
Profile: L110G Volvo			

E-2031

Showing Selected Profile

Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
L110G Volvo			

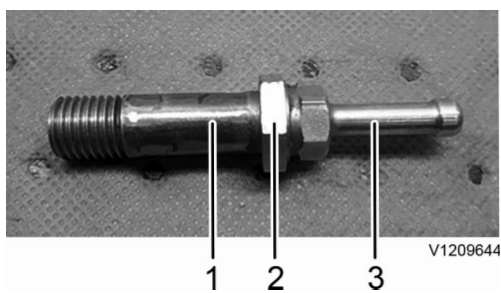


Figure 1

1. Holes welded shut
2. 21713266
3. Hose nipple, diameter of approx. 8 mm

Document Title: 9993807 Lifting tool user instructions	Function Group: 080	Information Type: Service Information	Date: 4/6/2026
Profile: L110G Volvo			

9993807 Lifting tool user instructions

Showing Selected Profile

Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
L110G Volvo			

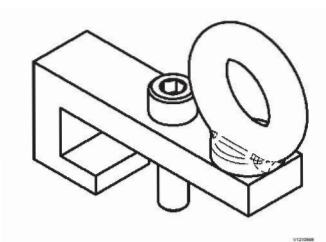


Figure 1
9993807 Lifting tool

Instructions

This instruction is a guide on how to use and maintain the lifting tool correctly. The instructions must be studied carefully by the personnel concerned before the lifting tool can be put into use.

The instructions must always be available to the personnel maintaining and using the lifting tool daily.

It is also important to:

- Keep the instructions and other applicable documents during the entire lifetime of the lifting tool.
- Pass the instructions to other owners or users of the lifting tool.
- Update the instructions with additions or changes made by the manufacturer.

Pay careful attention to information about warnings mentioned in the instructions and found on the warning signs on the lifting tools. If this information is not observed, severe personal injuries and equipment damage can arise.

Responsibility

The instructions describe the authorized method to use the lifting tool.

The lifting tool may only be used by personnel with adequate technical training or corresponding professional experience and in consultation with the manufacturer.

If the instructions have not been followed, the manufacturer is not responsible for personal injuries or damage to equipment.

Marking

Do not remove or make machine labels or other labels unreadable.

The lifting tool is marked with a CE mark, which means that it is designed, manufactured and described in accordance with EC Machinery Directive 2006/42/EC.

Warning decals and CE mark on lifting tool must be clearly visible. If a part provided with warning decals or CE mark is changed, a new warning decal and CE mark must be mounted in the same place. Defective decals and CE marks must be replaced immediately.



V1141218

Figure 2

CE-marking

Manufacturer

Company: Volvo Construction Equipment AB

Address: CE-46840, RLA 0301

Postal address: 631 85 Eskilstuna, Sweden

Rebuilding

If the lifting tool is rebuilt or supplemented with other parts without permission by the manufacturer, the CE marking does not include this part. If such rebuilding or added parts changes the function of the lifting tool, the CE marking in its entirety is no longer valid. After rebuilding, it is important that the instructions are supplemented with the necessary illustrations, photos and texts.

NOTE!

If not explicitly stated otherwise, always assume this instruction reference the use of two 9993807 Lifting tools.

Intended usage

The lifting toll specified in this document is only intended for lifting torque converters with a maximum weight of 100 kg. Intended users are appointed and trained personnel, the lifting gear is not intended to be used by unauthorised or underage personnel.

To fulfil the requirements for intended use, the user must follow all instructions and maintenance directions written by the manufacturer.

Technical data

Type designation: lifting tool for torque converter

Maximum load, lifting tool x 2: 100 kg (220 lb)

Mass, lifting tool x 2 with shackles and chain slings: 5 kg (11 lb)

Test factor for static testing (for lifting tools): 1.5

Safety information

Limits of use

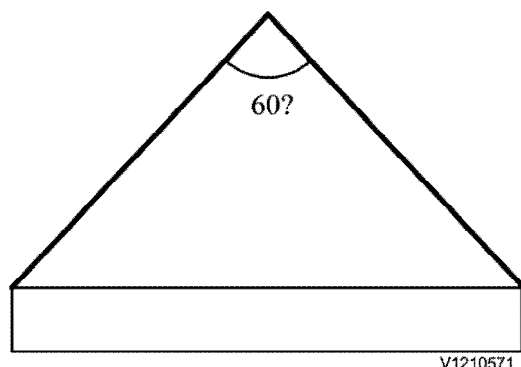
The lifting tools may only be used for the intended purpose. All other use is forbidden.

Lifting hooks must be equipped with a self-locking hook.

Shackles should be used for connecting the tools.

Lifting sling and straps should be marked with lifting capacity.

All accessories for the lift must have sufficient lifting capacity.



V1210571

Figure 3

Max lift-angle

Maximum lift angles must not exceed 60°.

Handling

To meet the requirements for intended use, the user must observe all user and maintenance instructions prescribed by the manufacturer.

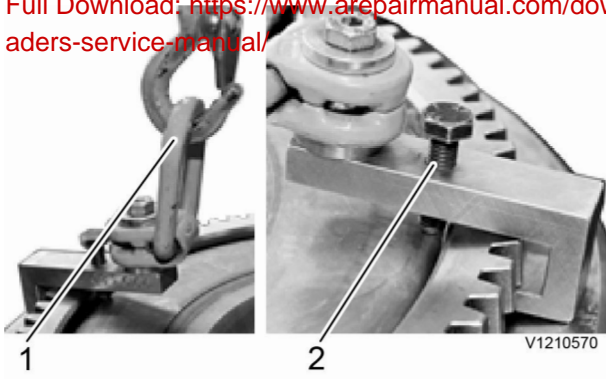


Figure 4

1. **Lifting equipment**
 Use lifting sling with sufficient lifting capacity, 100 kg (220 lb).
 Always use lifting hooks equipped with a self-locking hook.
 Use shackles with sufficient lifting capacity, 100 kg (220 lb).
2. **Bolts**
 Position the lifting tool under gear ring and tighten the bolts.
 Tighten until the lifting tool is unable to move independently of the gear ring.

Intended user

The lifting device is intended to be used by trained personnel, it is not intended to be used by unauthorized or underage personnel.

Conditions and preparatory measures

Lifting tool with damaged parts must not be used.
 Before lifting, check that the lifting tool does not have indications of cracks or deformations.

Maintenance

Maintenance must be performed by person with appropriate technical training or equivalent professional experience and in consultation with the manufacturer.

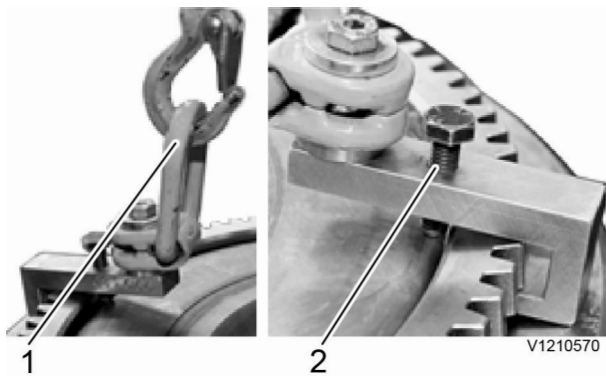


Figure 5

Detail/interval	Control/oversight
1 Shackles. Annual check.	Check that shackles does no have visible defects, cracks or deformations.
2 9993807 Lifting tool. Annual check.	Check that the lifting tool with threads and bolt does no have visible defects, cracks or deformations.

General

Sample manual. Download All 2533 pages at:
 A defective lifting tool must be replaced.
<https://www.aresairmanual.com/downloads/l110g-volvo-wheel-loaders-service-manual/>