

Document Title: <b>Volvo standard tightening torques</b>	Function Group: <b>030</b>	Information Type: <b>Service Information</b>	Date: <b>4/12/2026</b>
Profile: <b>L220F Volvo</b>			

## Volvo standard tightening torques

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Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
L220F 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	387
3/4	270	364	384	520
7/8	340	460	484	655
1	410	551	584	792
1 1/8	500	674	714	958
1 1/4	590	798	844	1130
1 3/8	680	922	974	1320
1 1/2	770	1046	1104	1500
1 3/4	860	1170	1234	1670
2	950	1294	1364	1850
2 1/4	1140	1552	1644	2230
2 3/4	1330	1810	1914	2600
3	1520	2068	2184	2970
3 1/2	1710	2326	2454	3340
4	1900	2584	2734	3710
4 1/2	2090	2842	2984	4070
5	2280	3100	3234	4430
5 1/2	2470	3358	3514	4790
6	2660	3616	3764	5150
6 1/2	2850	3874	4054	5510
7	3040	4132	4304	5870
7 1/2	3230	4390	4584	6230
8	3420	4648	4874	6590
8 1/2	3610	4906	5164	6950
9	3800	5164	5454	7310
9 1/2	3990	5422	5744	7670
10	4180	5680	6034	8030
10 1/2	4370	5938	6324	8390
11	4560	6196	6614	8750
11 1/2	4750	6454	6904	9110
12	4940	6712	7194	9470
12 1/2	5130	6970	7484	9830
13	5320	7228	7774	10190
13 1/2	5510	7486	8064	10550
14	5700	7744	8354	10910
14 1/2	5890	8002	8644	11270
15	6080	8260	8934	11630
15 1/2	6270	8518	9224	11990
16	6460	8776	9514	12350
16 1/2	6650	9034	9804	12710
17	6840	9292	10094	13070
17 1/2	7030	9550	10384	13430
18	7220	9808	10674	13790
18 1/2	7410	10066	10964	14150
19	7600	10324	11254	14510
19 1/2	7790	10582	11544	14870
20	7980	10840	11834	15230
20 1/2	8170	11098	12124	15590
21	8360	11356	12414	15950
21 1/2	8550	11614	12704	16310
22	8740	11872	12994	16670
22 1/2	8930	12130	13284	17030
23	9120	12388	13574	17390
23 1/2	9310	12646	13864	17750
24	9500	12904	14154	18110
24 1/2	9690	13162	14444	18470
25	9880	13420	14734	18830
25 1/2	10070	13678	15024	19190
26	10260	13936	15314	19550
26 1/2	10450	14194	15604	19910
27	10640	14452	15894	20270
27 1/2	10830	14710	16184	20630
28	11020	14968	16474	20990
28 1/2	11210	15226	16764	21350
29	11400	15484	17054	21710
29 1/2	11590	15742	17344	22070
30	11780	16000	17634	22430
30 1/2	11970	16258	17924	22790
31	12160	16516	18214	23150
31 1/2	12350	16774	18504	23510
32	12540	17032	18794	23870
32 1/2	12730	17290	19084	24230
33	12920	17548	19374	24590
33 1/2	13110	17806	19664	24950
34	13300	18064	19954	25310
34 1/2	13490	18322	20244	25670
35	13680	18580	20534	26030
35 1/2	13870	18838	20824	26390
36	14060	19096	21114	26750
36 1/2	14250	19354	21404	27110
37	14440	19612	21694	27470
37 1/2	14630	19870	21984	27830
38	14820	20128	22274	28190
38 1/2	15010	20386	22564	28550
39	15200	20644	22854	28910
39 1/2	15390	20902	23144	29270
40	15580	21160	23434	29630
40 1/2	15770	21418	23724	30000
41	15960	21676	24014	30360
41 1/2	16150	21934	24304	30720
42	16340	22192	24594	31080
42 1/2	16530	22450	24884	31440
43	16720	22708	25174	31800
43 1/2	16910	22966	25464	32160
44	17100	23224	25754	32520
44 1/2	17290	23482	26044	32880
45	17480	23740	26334	33240
45 1/2	17670	24000	26624	33600
46	17860	24258	26914	33960
46 1/2	18050	24516	27204	34320
47	18240	24774	27494	34680
47 1/2	18430	25032	27784	35040
48	18620	25290	28074	35400
48 1/2	18810	25548	28364	35760
49	19000	25806	28654	36120
49 1/2	19190	26064	28944	36480
50	19380	26322	29234	36840
50 1/2	19570	26580	29524	37200
51	19760	26838	29814	37560
51 1/2	19950	27096	30104	37920
52	20140	27354	30394	38280
52 1/2	20330	27612	30684	38640
53	20520	27870	30974	39000
53 1/2	20710	28128	31264	39360
54	20900	28386	31554	39720
54 1/2	21090	28644	31844	40080
55	21280	28902	32134	40440
55 1/2	21470	29160	32424	40800
56	21660	29418	32714	41160
56 1/2	21850	29676	33004	41520
57	22040	29934	33294	41880
57 1/2	22230	30192	33584	42240
58	22420	30450	33874	42600
58 1/2	22610	30708	34164	42960
59	22800	30966	34454	43320
59 1/2	22990	31224	34744	43680
60	23180	31482	35034	44040
60 1/2	23370	31740	35324	44400
61	23560	32000	35614	44760
61 1/2	23750	32258	35904	45120
62	23940	32516	36194	45480
62 1/2	24130	32774	36484	45840
63	24320	33032	36774	46200
63 1/2	24510	33290	37064	46560
64	24700	33548	37354	46920
64 1/2	24890	33806	37644	47280
65	25080	34064	37934	47640
65 1/2	25270	34322	38224	48000
66	25460	34580	38514	48360
66 1/2	25650	34838	38804	48720
67	25840	35096	39094	49080
67 1/2	26030	35354	39384	49440
68	26220	35612	39674	49800
68 1/2	26410	35870	39964	50160
69	26600	36128	40254	50520
69 1/2	26790	36386	40544	50880
70	26980	36644	40834	51240
70 1/2	27170	36902	41124	51600
71	27360	37160	41414	51960
71 1/2	27550	37418	41704	52320
72	27740	37676	42000	52680
72 1/2	27930	37934	42290	53040
73	28120	38192	42580	53400
73 1/2	28310	38450	42870	53760
74	28500	38708	43160	54120
74 1/2	28690	38966	43450	54480
75	28880	39224	43740	54840
75 1/2	29070	39482	44030	55200
76	29260	39740	44320	55560
76 1/2	29450	40000	44610	55920
77	29640	40258	44900	56280
77 1/2	29830	40516	45190	56640
78	30020	40774	45480	57000
78 1/2	30210	41032	45770	57360
79	30400	41290	46060	57720
79 1/2	30590	41548	46350	58080
80	30780	41806	46640	58440
80 1/2	30970	42064	46930	58800
81	31160	42322	47220	59160
81 1/2	31350	42580	47510	59520
82	31540	42838	47800	59880
82 1/2	31730	43096	48090	60240
83	31920	43354	48380	60600
83 1/2	32110	43612	48670	60960
84	32300	43870	48960	61320
84 1/2	32490	44128	49250	61680
85	32680	44386	49540	62040
85 1/2	32870	44644	49830	62400
86	33060	44902	50120	62760
86 1/2	33250	45160	50410	63120
87	33440	45418	50700	63480
87 1/2	33630	45676	50990	63840
88	33820	45934	51280	64200
88 1/2	34010	46192	51570	64560
89	34200	46450	51860	64920
89 1/2	34390	46708	52150	65280
90	34580	46966	52440	65640
90 1/2	34770	47224	52730	66000
91	34960	47482	53020	66360
91 1/2	35150	47740	53310	66720
92	35340	48000	53600	67080
92 1/2	35530	48258	53890	67440
93	35720	48516	54180	67800
93 1/2	35910	48774	54470	68160
94	36100	49032	54760	68520
94 1/2	36290	49290	55050	68880
95	36480	49548	55340	69240
95 1/2	36670			

Product: L220F Volvo Wheel Loaders Service Manual

Full Download: <https://www.arepairmanual.com/downloads/l220f-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 2292 pages at:

<https://www.arepairmanual.com/downloads/l220f-volvo-wheel-loaders-service-manual/>

Document Title: <b>Valve mechanism, tightening torques</b>	Function Group: <b>030</b>	Information Type: <b>Service Information</b>	Date: <b>4/12/2026</b>
Profile: <b>L220F Volvo</b>			

## Valve mechanism, tightening torques

Showing Selected Profile

Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
L220F Volvo			

Lock nut, valve adjusting screw	60 ±10°
Lock nut, double rocker arm	25 ±3 Nm (18 ±2 lbf ft)
Drain nipple, double rocker arm	6 ±1 Nm (4.4 ±0.7 lbf ft)
Control valve, IEGR	21 ±1 Nm (15 ±1 lbf ft)

Document Title: <b>Lubrication specifications</b>	Function Group: <b>system, 030</b>	Information Type: <b>Service Information</b>	Date: <b>4/12/2026</b>
Profile: <b>L220F Volvo</b>			

## Lubrication system, specifications

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<b>Valid for serial numbers</b>			
<b>Model</b>	<b>Production site</b>	<b>Serial number start</b>	<b>Serial number stop</b>
L220F Volvo			

<b>Lubrication system</b>	
Oil pressure, operating rpm	300–600 kPa (44–87 psi)
Oil pressure min. low idle, warm engine	70–110 kPa (10–16 psi)

Document Title: <b>Fuel system, tightening torques</b>	Function Group: <b>030</b>	Information Type: <b>Service Information</b>	Date: <b>4/12/2026</b>
Profile: <b>L220F Volvo</b>			

## Fuel system, tightening torques

Showing Selected Profile

Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
L220F Volvo			

Bolt, yoke, unit injector.	
First tightening:	
step 1	20 Nm (14.8 lbf ft)
step 2	60°
Bolt, yoke, unit injector <b>(new copper sleeve or new cylinder head)</b> .	
First tightening:	
step 1	20 Nm (14.8 lbf ft)
step 2	180°
Loosen the bolt for the unit injector's attaching yoke before the second tightening.	
Second tightening:	
step 1	20 Nm (14.8 lbf ft)
step 2	60°
Lock nut for adjusting screw, unit injector	52 Nm (38.4 lbf ft)
Banjo screw, fuel hose	
M10	12 ±2 Nm (8.8 ±1.5 lbf ft)
M12	20 ±3 Nm (14.8 ±2.2 lbf ft)
M14	35 ±5 Nm (25.8 ±3.7 lbf ft)
M16	40 ±5 Nm (29.5 ±3.7 lbf ft)

Document Title: <b>Engine, specifications</b>	Function Group: <b>030</b>	Information Type: <b>Service Information</b>	Date: <b>4/12/2026</b>
Profile: <b>L220F Volvo</b>			

## Engine, specifications

Showing Selected Profile

Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
L220F Volvo			

### General

Number of cylinders	6
Cylinder bore	131 mm (5.16 in)
Stroke	150 mm (5.91 in)
Displacement	12.13 litres (3.20 US gal)
Injection order	1-5-3-6-2-4
Low idle	725 rpm
High idle (run out speed)	
L150F	2040 rpm
L180F	2060 rpm
L220F	2080 rpm
Weight, engine	1220 kg (2690 lbs)

### Stall speed torque converter<sup>(1)</sup>

<b>L150F</b> <sup>(2)</sup>	
HTL220 (22573)	1740–1830 rpm
HTE210 (22565)	1750–1840 rpm
<b>L180F, L180F HL</b> <sup>(2)</sup>	
HTL220 (22573)	1790–1880 rpm
HTE220 (22554)	1780–1870 rpm
<b>L220F</b> <sup>(2)</sup>	
HTL305 (22571)	1820–1900 rpm
HTE305 (22580)	1780–1880 rpm
HTE305 (22566)	1810–1900 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: <b>Valve mechanism, specifications</b>	Function Group: <b>030</b>	Information Type: <b>Service Information</b>	Date: <b>4/12/2026</b>
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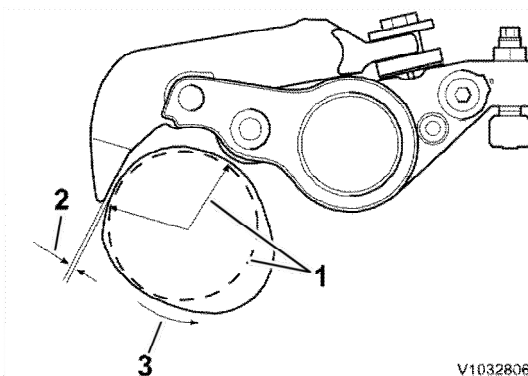
## Valve system, specification

Showing Selected Profile

Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
L220F Volvo			

Valve mechanism	
Inlet valves, valve clearance	0.20 mm
Exhaust valves (IEGR), valve clearance	0.70 mm
Clearance between double rocker arm and base circle on camshaft.	Measure with gauge 88820003

### Clearance measured between double rocker arm and base circle on camshaft.



**Figure 1**

Checking clearance between double rocker arm and base circle

1. Base circle
2. Clearance
3. Camshaft's rotational direction

### Checking and adjusting interval double rocker arm

Checking and adjustment, if needed, of the double rocker arm's clearance shall take place after 1000 hours. Thereafter together with [Valves, adjusting](#) every 4000 hours.

Document Title: <b>Engine, capacities</b>	Function Group: <b>030</b>	Information Type: <b>Service Information</b>	Date: <b>4/12/2026</b>
Profile: <b>L220F Volvo</b>			

## Engine, capacities

Showing Selected Profile

Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
L220F Volvo			

### **NOTICE**

**Stated capacity applies when changing, unless otherwise stated.**

Engine	
Engine oil, total	49 l (12.9 US gal)
Engine oil when changing, incl. filter	42 l (11.1 US gal)

Document Title: <b>Valve mechanism, double rocker arm</b>	Function Group: <b>030</b>	Information Type: <b>Service Information</b>	Date: <b>4/12/2026</b>
Profile: <b>L220F Volvo</b>			

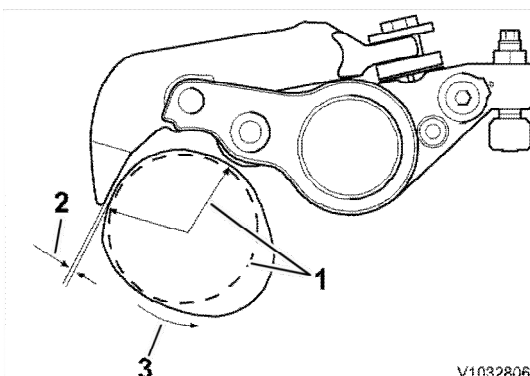
## Valve mechanism, double rocker arm

Showing Selected Profile

Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
L220F Volvo			

Valve mechanism	
Inlet valves, valve clearance	0.20 mm
Exhaust valves (IEGR), valve clearance	0.70 mm
Clearance between double rocker arm and base circle on camshaft.	Measure with gauge 88820003

### Clearance measured between double rocker arm and base circle on camshaft.



**Figure 1**

Checking clearance between double rocker arm and base circle

1. Base circle
2. Clearance
3. Camshaft's rotational direction

### Checking and adjusting interval double rocker arm

Checking and adjustment, if needed, of the double rocker arm's clearance shall take place after 1000 hours. Thereafter together with [Valves, adjusting](#) every 4000 hours.

Document Title: <b>Fuel feed pump, specifications</b>	Function Group: <b>030</b>	Information Type: <b>Service Information</b>	Date: <b>4/12/2026</b>
Profile: <b>L220F Volvo</b>			

## Fuel feed pump, specifications

Showing Selected Profile

Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
L220F Volvo			

Fuel feed pump	
Type	Gear-driven pump
Feed pressure	300–350 kPa (44–51 psi) at low idling speed min. 350 kPa (51 psi) at over 1000 rpm

Document Title: <b>Thermostat, specifications</b>	Function Group: <b>030</b>	Information Type: <b>Service Information</b>	Date: <b>4/12/2026</b>
Profile: <b>L220F Volvo</b>			

## Thermostat, specifications

Showing Selected Profile

Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
L220F Volvo			

Thermostat	
Type	Piston thermostat
Number of thermostats	1
Begins to open at	82 °C (180 °F)
Fully open at	91 °C (196 °F)
Opening pressure	50 kPa (7.3 psi)

Document Title: <b>Cooling system, volume</b>	Function Group: <b>030</b>	Information Type: <b>Service Information</b>	Date: <b>4/12/2026</b>
Profile: <b>L220F Volvo</b>			

## Cooling system, volume

Showing Selected Profile

<b>Valid for serial numbers</b>			
<b>Model</b>	<b>Production site</b>	<b>Serial number start</b>	<b>Serial number stop</b>
L220F Volvo			

Cooling system, total	60 l (16 US gal)
Cooling system, when changing	44 l (12 US gal)

Document Title: <b>Temperature limits for cooling fan speed, specifications.</b>	Function Group: <b>030</b>	Information Type: <b>Service Information</b>	Date: <b>4/12/2026</b>
Profile: <b>L220F Volvo</b>			

## Temperature limits for cooling fan speed, specifications.

Showing Selected Profile

Valid for serial numbers			
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L220F Volvo			

Signals from the different sensors vary linearly between 0.0 and 1.0 depending on the temperature. The cooling fan signal with the highest value controls the requested cooling fan speed. If the engine speed is below 800 rpm, the value for the charge air will be 0 = 45 °C (113 °F)

System	Temperature interval
Coolant flowing out of the radiator	70–80 °C (158–176 °F)
Hydraulic system when the thermostat has opened, see <a href="#">Thermostat specifications</a>	70–95 °C (158–203 °F)
Axles front and rear when the engine thermostat has opened, see <a href="#">Thermostat specifications</a>	90–133 °C (194–271.4 °F)
Transmission	90–105 °C (194–221 °F)
Engine	85–95 °C (185–203 °F)
Charge air when induction air temperature is 25 °C (77 °F) or lower	45–60 °C (113–140 °F)
Charge air when induction air temperature is above 25 °C (77 °F)	Induction air temperature = T T+20 °C to T+35 °C (T+68 °F to T+95 °F)

Document Title: <b>Cooling fan rpm, specifications</b>	Function Group: <b>030</b>	Information Type: <b>Service Information</b>	Date: <b>4/12/2026</b>
Profile: <b>L220F Volvo</b>			

## Cooling fan rpm, specifications

Showing Selected Profile

Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
L220F Volvo			

VCADS Pro parameter GDR is used to set max. cooling fan speed by selecting sound reduction level (A, B, or C) depending on the demands for cooling of engine, charge-air, transmission, and hydraulic oil.

Cooling fan	
Basic speed	400 rpm
Speed (rpm) at pressure test	1400 rpm

GDR	Max. cooling fan speed (rpm) at high idle	Description
A	1280 rpm	Low sound level
B	1400 rpm [1]	Standard cooling
C	1500 rpm [2]	Maximal cooling

### Cooling fan speed vs. engine speed at request for max. cooling fan speed

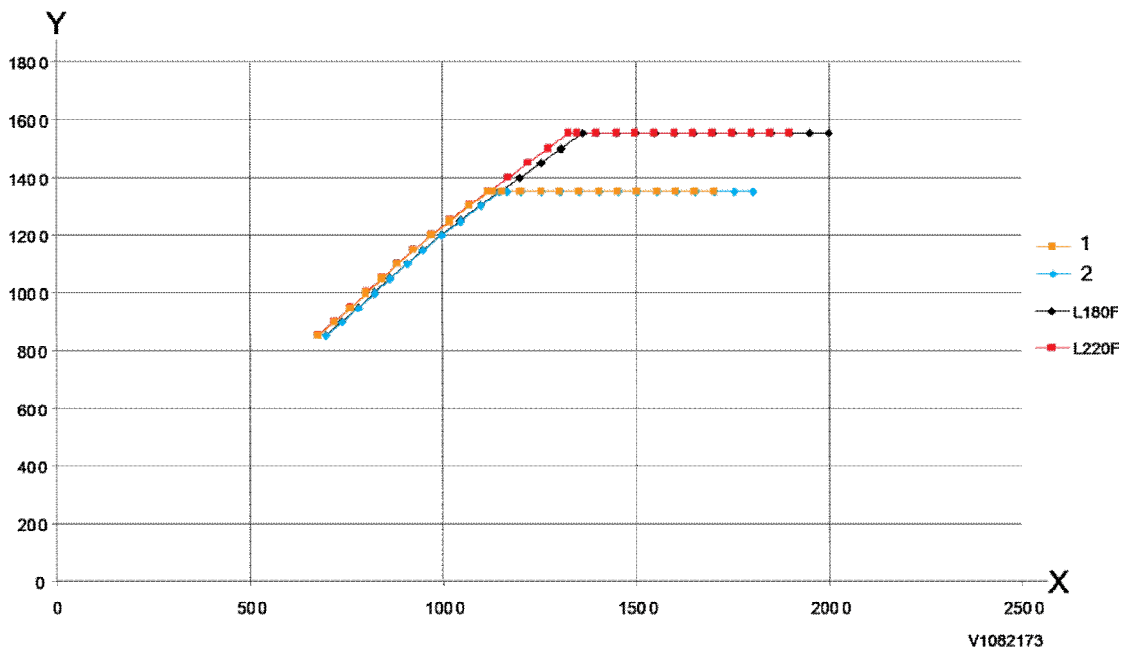


Figure 1

1. L220F with axle oil cooling
2. L180F with axle oil cooling

X = Engine speed (rpm)

Y = Fan speed (rpm)

**[1]**1350 rpm if axle oil cooler is installed

**[2]**1350 rpm if axle oil cooling is installed

Document Title: <b>Engine, specifications</b>	Function Group: <b>030</b>	Information Type: <b>Service Information</b>	Date: <b>4/12/2026</b>
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## Engine, tightening torques

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Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
L220F Volvo			

### **NOTICE**

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

Engine	
Engine member – Frame	220 Nm (220 lbf ft)
Flywheel housing – Hydraulic transmission	54 Nm (40 lbf ft)
Rubber damper – Member	85 Nm (63 lbf ft)
Rubber damper – Engine bracket	140 Nm (103 lbf ft)

Document Title: <b>Valve cover, tightening torque</b>	Function Group: <b>030</b>	Information Type: <b>Service Information</b>	Date: <b>4/12/2026</b>
Profile: <b>L220F Volvo</b>			

## Valve cover, tightening torque

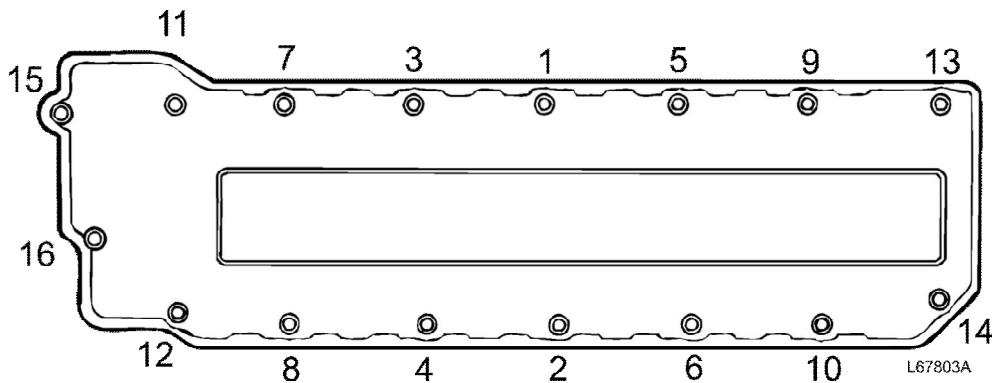
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Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
L220F Volvo			

### **NOTICE**

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

Valve cover	
Valve cover, retaining bolts	20 Nm (14.8 lbf ft)
Stud bolt, valve cover	30 Nm (22.1 lbf ft)



**Figure 1**  
Tightening sequence, valve cover

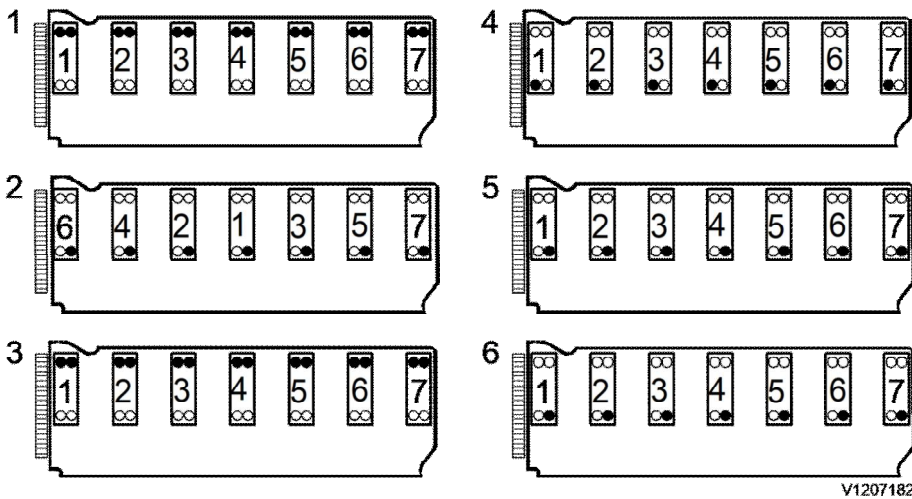
Document Title: <b>Rocker arm shaft, tightening torques</b>	Function Group: <b>030</b>	Information Type: <b>Service Information</b>	Date: <b>4/12/2026</b>
Profile: <b>L220F Volvo</b>			

## Rocker arm shaft, tightening torques

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Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
L220F Volvo			

### Camshaft and rocker arm shaft



**Figure 1**

Step 1: Tighten the bolts in numerical order according to the figure	15 ±5 Nm (12 ±4 lbf ft)
Step 2: Tighten the bolts in numerical order according to the figure <b>NOTE!</b> Tighten the bolts in steps to ensure that the rocker arm shaft comes down without bending.	60 ±5 Nm (44 ±4 lbf ft)
Step 3: Angle-tighten the bolts in numerical order according to the figure	90° ±5°
Step 4: Tighten + angle-tighten the bolts in numerical order according to the figure	15 ±5 Nm (12 ±4 lbf ft) + 120° ±5°
Step 5	Loosen the bolts
Step 6: Tighten + angle-tighten the bolts in numerical order according to the figure	15 ±5 Nm (12 ±4 lbf ft) + 120° ±5°

Document Title: <b>Tightening torques, cooling fan</b>	Function Group: <b>030</b>	Information Type: <b>Service Information</b>	Date: <b>4/12/2026</b>
Profile: <b>L220F Volvo</b>			

## Tightening torques, cooling fan

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Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
L220F Volvo			

Engine		
	Nm	lbf ft
Nut, fan hub	185 ±30	136 ±22

Document Title: <b>Battery, specifications</b>	Function Group: <b>030</b>	Information Type: <b>Service Information</b>	Date: <b>4/12/2026</b>
Profile: <b>L220F Volvo</b>			

## Battery, specifications

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<b>Valid for serial numbers</b>			
<b>Model</b>	<b>Production site</b>	<b>Serial number start</b>	<b>Serial number stop</b>
L220F Volvo			

<b>Battery</b>	
Total	2 batteries connected in series
Voltage	12 V
Battery capacity	140 Ah

<b>Charge level</b>	<b>Voltage</b>
Fully charged battery	12.78 V
Charge within 24 hours	12.54 V
Minimum charge to store machine for 30 days	12.64 V

Document Title: <b>Battery, weight</b>	Function Group: <b>030</b>	Information Type: <b>Service Information</b>	Date: <b>4/12/2026</b>
Profile: <b>L220F Volvo</b>			

## Battery, weight

Showing Selected Profile

<b>Valid for serial numbers</b>			
<b>Model</b>	<b>Production site</b>	<b>Serial number start</b>	<b>Serial number stop</b>
L220F Volvo			

<b>Battery</b>	
Weight, incl. electrolyte	40.3 kg (89 lb)

Document Title: <b>Electrical specifications</b>	Function Group: <b>system, 030</b>	Information Type: <b>Service Information</b>	Date: <b>4/12/2026</b>
Profile: <b>L220F Volvo</b>			

## Electrical system, specifications

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<b>Valid for serial numbers</b>			
<b>Model</b>	<b>Production site</b>	<b>Serial number start</b>	<b>Serial number stop</b>
L220F Volvo			

<b>Electrical system</b>	
System voltage	24 V

Document Title: <b>Preheating, specifications</b>	Function Group: <b>030</b>	Information Type: <b>Service Information</b>	Date: <b>4/12/2026</b>
Profile: <b>L220F Volvo</b>			

## Preheating, specifications

Showing Selected Profile

<b>Valid for serial numbers</b>			
<b>Model</b>	<b>Production site</b>	<b>Serial number start</b>	<b>Serial number stop</b>
L220F Volvo			

<b>Preheating coil</b>	
Output	4 kW

Document Title: <b>Alternator 80 A, specification</b>	Function Group: <b>030</b>	Information Type: <b>Service Information</b>	Date: <b>4/12/2026</b>
Profile: <b>L220F Volvo</b>			

## Alternator 80 A, specification

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Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
L220F Volvo			

Alternator, 80 amp with regulator	
Type	Alternating current
Output (rated output)	2280 W
Voltage, at +20 °C (68 °F)	28.3 ± 0.3 V
Current, maximum	80 A
Resistance across rotor winding	8.0 ± 0.4 Ω
Resistance in stator winding	0.1 Ω

Document Title: <b>Starter specifications</b>	<b>motor,</b>	Function Group: <b>030</b>	Information Type: <b>Service Information</b>	Date: <b>4/12/2026</b>
Profile: <b>L220F Volvo</b>				

## Starter motor, specifications

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<b>Valid for serial numbers</b>			
<b>Model</b>	<b>Production site</b>	<b>Serial number start</b>	<b>Serial number stop</b>
L220F Volvo			

<b>Starter motor</b>	
Output	7 kW

Document Title: <b>Front and rear axles, tightening torque</b>	Function Group: <b>030</b>	Information Type: <b>Service Information</b>	Date: <b>4/12/2026</b>
Profile: <b>L220F Volvo</b>			

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## Front and rear axles, tightening torque

Showing Selected Profile

Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
L220F Volvo	Arvika	6001	6806

### NOTICE

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

Front axle, tightening torques, AWB50	
Front axle — frame	1300 ±100 Nm(960 ±75 lbf ft)
Final drive (differential carrier assembly)	
Bolts, differential carrier housing	470 Nm (345 lbf ft)
Crown wheel, differential housing	280–300 Nm (210–220 lbf ft)
Adjusting nuts for differential bearings	30 Nm (22 lbf ft)
Pinion nut	2250 Nm (1660 lbf ft)
Hub reduction	
Hub nut, rolling torque, initial value for calculating adjusting shims	48–62 Nm (35–45 lbf ft)
New bearings	12–15 Nm (9–11 lbf ft)
Run-in bearings	
Centre cover	50 Nm (37 lbf ft)
Hub carrier – axle housing	290–330 Nm (215–245 lbf ft)
Shaft washer	470 Nm (345 lbf ft)
Plug	38 Nm (28 lbf ft)
Differential lock	
Stop bolt	27–33 Nm (19–24 lbf ft)
Cover	24–30 Nm (18–22 lbf ft)
Shift rail, attaching bolts	45 Nm (33 lbf ft)

Rear axle, tightening torques, AWB41	
Rear axle suspension – frame	805 ±80 Nm (590 ±60 lbf ft)
Final drive (differential carrier assembly)	
Bolts, differential carrier housing	470 Nm (345 lbf ft)
Crown wheel, differential housing	280–300 Nm (210–220 lbf ft)
Adjusting nuts for differential bearings	30 Nm (22 lbf ft)
Pinion nut	2250 Nm (1660 lbf ft)
Hub reduction	

Hub nut, rolling torque, initial value for calculating adjusting shims	26–34 Nm (19–25 lbf ft)
Centre cover	45 Nm (33 lbf ft)
Hub carrier – axle housing	290–330 Nm (215–245 lbf ft)
Hub nut	2750 Nm (2030 lbf ft)
Outer hub nut	600 Nm (443 lbf ft)

Document Title: <b>Front and rear axles, tightening torque</b>	Function Group: <b>030</b>	Information Type: <b>Service Information</b>	Date: <b>4/12/2026</b>
Profile: <b>L220F Volvo</b>			

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## Front and rear axles, tightening torque

Showing Selected Profile

Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
L220F Volvo	Arvika	6807	9999

### NOTICE

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

Front axle, tightening torques, AWB50	
Front axle — frame	1150 Nm (848 lbf ft)
Final drive (differential carrier assembly)	
Bolts, differential carrier housing	470 Nm (345 lbf ft)
Crown wheel, differential housing	280–300 Nm (210–220 lbf ft)
Adjusting nuts for differential bearings	30 Nm (22 lbf ft)
Pinion nut	2250 Nm (1660 lbf ft)
Hub reduction	
Hub nut, rolling torque, initial value for calculating adjusting shims	48–62 Nm (35–45 lbf ft)
New bearings	12–15 Nm (9–11 lbf ft)
Run-in bearings	
Centre cover	50 Nm (37 lbf ft)
Hub carrier – axle housing	290–330 Nm (215–245 lbf ft)
Shaft washer	470 Nm (345 lbf ft)
Plug	38 Nm (28 lbf ft)
Differential lock	
Stop bolt	27–33 Nm (19–24 lbf ft)
Cover	24–30 Nm (18–22 lbf ft)
Shift rail, attaching bolts	45 Nm (33 lbf ft)

Rear axle, tightening torques, AWB41	
Rear axle suspension – frame	805 ±80 Nm (590 ±60 lbf ft)
Final drive (differential carrier assembly)	
Bolts, differential carrier housing	470 Nm (345 lbf ft)
Crown wheel, differential housing	280–300 Nm (210–220 lbf ft)
Adjusting nuts for differential bearings	30 Nm (22 lbf ft)
Pinion nut	2250 Nm (1660 lbf ft)
Hub reduction	

Hub nut, rolling torque, initial value for calculating adjusting shims	26–34 Nm (19–25 lbf ft)
Centre cover	45 Nm (33 lbf ft)
Hub carrier – axle housing	290–330 Nm (215–245 lbf ft)
Hub nut	2750 Nm (2030 lbf ft)
Outer hub nut	600 Nm (443 lbf ft)



Document Title: <b>Front and rear axles, specifications</b>	Function Group: <b>030</b>	Information Type: <b>Service Information</b>	Date: <b>4/12/2026</b>
Profile: <b>L220F Volvo</b>			

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## Front and rear axles, specifications

Showing Selected Profile

Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
L220F Volvo			

Drive axles	
Type	Fully floating half shafts with planetary gear hub reductions
Make	Volvo
<b>Designation:</b>	
front	AWB50
rear	AWB41
Differential lock, front axle	Dog clutch