

Document Title: Volvo standard tightening torques	Function Group: 030	Information Type: Service Information	Date: 4/6/2026
Profile: JL120H			

Volvo standard tightening torques

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Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
JL120H			

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 contain values for coarse 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	290	396	416	558
7/8	410	552	584	783
1	560	754	792	1065
1 1/8	810	1092	1144	1545
1 1/4	1100	1488	1552	2070
1 3/8	1500	2034	2112	2835
1 1/2	2000	2712	2816	3780
1 3/4	2700	3654	3776	5070
2	3600	4872	5072	6760
2 1/4	4900	6636	6928	9240
2 3/4	6600	8952	9344	12510
3	8800	11904	12416	16680
3 1/2	11800	16056	16704	22350
4	15800	21384	22336	29700
4 1/2	21200	28656	29824	40200
5	28200	38256	39808	53400
5 1/2	37800	51144	53216	71700
6	50800	68664	71232	94800
6 1/2	68800	92856	96416	129000
7	92800	12576	129216	174000
7 1/2	125800	17052	174016	232500
8	168800	22944	235216	315000
8 1/2	228800	30936	315216	417000
9	308800	41736	418216	555000
9 1/2	418800	56244	564216	750000
10	568800	76056	760216	1014000
10 1/2	768800	103836	1038216	1380000
11	1038800	139896	1398216	1842000
11 1/2	1408800	188136	1888216	2490000
12	1888800	254544	2548216	3360000
12 1/2	2538800	342132	3428216	4560000
13	3388800	458736	4588216	6090000
13 1/2	4538800	618532	6188216	8190000
14	6038800	833436	8338216	10980000
14 1/2	8138800	1108332	11088216	14700000
15	10838800	1478136	14788216	19740000
15 1/2	14438800	1981332	19818216	26580000
16	19338800	2655432	26558216	35640000
16 1/2	25838800	3581332	35818216	47700000
17	34338800	4807332	48078216	64200000
17 1/2	45838800	6405332	64058216	85800000
18	60838800	8554332	85548216	114000000
18 1/2	81838800	11303332	113038216	151800000
19	108838800	15245332	152458216	202800000
19 1/2	144838800	20587332	205878216	273600000
20	193838800	27848332	278488216	366000000
20 1/2	258838800	37408332	374088216	492000000
21	343838800	50068332	500688216	654000000
21 1/2	458838800	66828332	668288216	876000000
22	608838800	90088332	900888216	1164000000
22 1/2	818838800	119648332	1196488216	1560000000
23	1088838800	161668332	1616688216	2088000000
23 1/2	1448838800	217248332	2172488216	2808000000
24	1938838800	290868332	2908688216	3792000000
24 1/2	2588838800	393448332	3934488216	5076000000
25	3438838800	524068332	5240688216	6780000000
25 1/2	4588838800	702668332	7026688216	9180000000
26	6088838800	940268332	9402688216	12480000000
26 1/2	8188838800	1256868332	12568688216	16800000000
27	10888838800	1672468332	16724688216	22440000000
27 1/2	14488838800	2238268332	22382688216	29880000000
28	19388838800	2994468332	29944688216	40080000000
28 1/2	25888838800	4060268332	40602688216	53640000000
29	34388838800	5406468332	54064688216	72240000000
29 1/2	45888838800	7242468332	72424688216	96840000000
30	60888838800	9668468332	96684688216	129600000000
30 1/2	81888838800	12884468332	128844688216	171600000000
31	10888838800	17282468332	172824688216	226800000000
31 1/2	14488838800	23240468332	232404688216	302400000000
32	19388838800	31098468332	310984688216	403200000000
32 1/2	25888838800	41456468332	414564688216	537600000000
33	34388838800	55014468332	550144688216	724800000000
33 1/2	45888838800	73672468332	736724688216	974400000000
34	60888838800	98430468332	984304688216	1308000000000
34 1/2	81888838800	131988468332	1319884688216	1752000000000
35	10888838800	177546468332	1775464688216	2328000000000
35 1/2	14488838800	237126468332	2371264688216	3144000000000
36	19388838800	317706468332	3177064688216	4176000000000
36 1/2	25888838800	425286468332	4252864688216	5640000000000
37	34388838800	569866468332	5698664688216	7560000000000
37 1/2	45888838800	767446468332	7674464688216	10248000000000
38	60888838800	1029026468332	10290264688216	13728000000000
38 1/2	81888838800	1374606468332	13746064688216	18288000000000
39	10888838800	1844186468332	18441864688216	24360000000000
39 1/2	14488838800	2479766468332	24797664688216	32880000000000
40	19388838800	3325346468332	33253464688216	44160000000000
40 1/2	25888838800	4450926468332	44509264688216	59280000000000
41	34388838800	5926506468332	59265064688216	79200000000000
41 1/2	45888838800	7972086468332	79720864688216	106080000000000
42	60888838800	10697666468332	106976664688216	141840000000000
42 1/2	81888838800	14353466468332	143534664688216	190080000000000
43	10888838800	19249266468332	192492664688216	254400000000000
43 1/2	14488838800	25805066468332	258050664688216	340800000000000
44	19388838800	34460866468332	344608664688216	456000000000000
44 1/2	25888838800	46216666468332	462166664688216	612000000000000
45	34388838800	61472466468332	614724664688216	816000000000000
45 1/2	45888838800	82228266468332	822282664688216	1092000000000000
46	60888838800	109484066468332	1094840664688216	1440000000000000
46 1/2	81888838800	145042066468332	1450420664688216	1920000000000000
47	10888838800	192598066468332	1925980664688216	2544000000000000
47 1/2	14488838800	258156066468332	2581560664688216	3408000000000000
48	19388838800	344714066468332	3447140664688216	4560000000000000
48 1/2	25888838800	462272066468332	4622720664688216	6120000000000000
49	34388838800	614830066468332	6148300664688216	8160000000000000
49 1/2	45888838800	822388066468332	8223880664688216	10920000000000000
50	60888838800	1094946066468332	10949460664688216	14400000000000000
50 1/2	81888838800	1450526066468332	14505260664688216	19200000000000000
51	10888838800	1926106066468332	19261060664688216	25440000000000000
51 1/2	14488838800	2581686066468332	25816860664688216	34080000000000000
52	19388838800	3447266066468332	34472660664688216	45600000000000000
52 1/2	25888838800	4622846066468332	46228460664688216	61200000000000000
53	34388838800	6148426066468332	61484260664688216	81600000000000000
53 1/2	45888838800	8224006066468332	82240060664688216	109200000000000000
54	60888838800	1094982066468332	10949820664688216	144000000000000000
54 1/2	81888838800	1450562066468332	14505620664688216	192000000000000000
55	10888838800	1926142066468332	19261420664688216	254400000000000000
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56	19388838800	3447342066468332	34473420664688216	456000000000000000
56 1/2	25888838800	4622922066468332	46229220664688216	612000000000000000
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63 1/2	14488838800	2581802066468332	25818020664688216	34080000000000000000
64	19388838800	3447502066468332	34475020664688216	45600000000000000000
64 1/2	25888838800	4623082066468332		

Product: JL120H Volvo Wheel Loaders Service Manual

Full Download: <https://www.arepairmanual.com/downloads/jl120h-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 554 pages at:

<https://www.arepairmanual.com/downloads/jl120h-volvo-wheel-loaders-service-manual/>

Document Title: Conversion tables	Function Group: 030	Information Type: Service Information	Date: 4/6/2026
Profile: JL120H			

Conversion tables

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Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
JL120H			

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

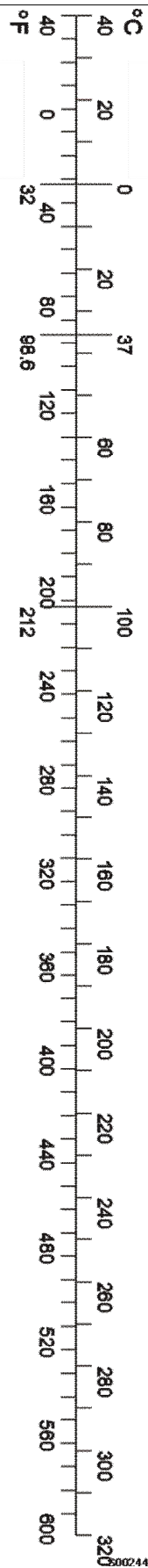
Unit explanations

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: 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

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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: Infrared Thermometer	Function Group: 080	Information Type: Service Information	Date: 4/6/2026
Profile: Wheel Loaders (WLO)			

Infrared Thermometer

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Gun Style Infrared Thermometer Laser Sight Model: SIG1

9998519 Infrared thermometer (user instruction in FGI 080) Application

This tool can be used to measure fast and easy temperature differences. For instance in case of troubleshooting it is sometimes necessary to measure temperature differences on two equal parts with the same surface.



Never point the device towards the eyes permanent eye damage may occur. Use extreme caution when using the laser. Keep out of the reach of children. Be careful around mirror surfaces since mirrors can reflect the laser. Looking into the reflected laser is just as damaging as looking directly at the laser.

General information

1. Field of view: The SIG1 takes its measurement from a circle of a size determined by a simple ratio of 10:1. The diameter of this circle is 1/10 the distance between the target and the tip of the SIG1. For example, if you're standing 20 feet (610 cm) from your target, the size of the circle you're taking the average temperature of will be 2 feet (61 cm) wide.
2. If you want to get the temperature of something small, such as a pipe, you must get close enough for the pipe to take up the whole viewing area circle. Otherwise the pipe and the background temperatures will be averaged into the reading.
3. You need to be aware that if the target surface is reflective enough, it may reflect infrared from other objects. For example, if you take a reading of a shiny metal surface, the infrared energy of your face may reflect enough energy off the surface to affect the reading. For this reason, it's a good idea to put non-reflective tape or paint on reflective surfaces when taking infrared temperature readings.

NOTE!

The measured temperature will be lower than actual.

Operation

1. Point the laser towards the target to be measured.
2. Pull trigger to light the target with the laser and measure its surface temperature.
3. As long as the trigger is held down, the SIG1 will constantly update the measurement and the blue backlight will illuminate the display.
4. When the trigger is pulled the red laser dot will shine about 1/4" above the centre of the circular area being measured by the thermometer.
5. Once the trigger is released, the last measurement will be shown and held until the trigger is pressed again or until the SIG1 turns off.

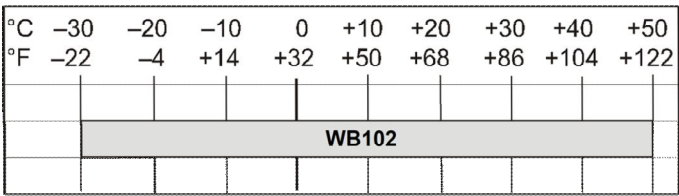
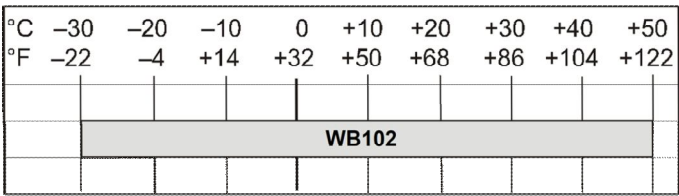
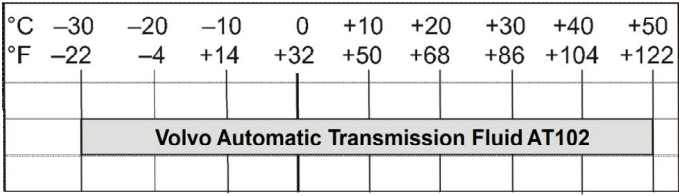
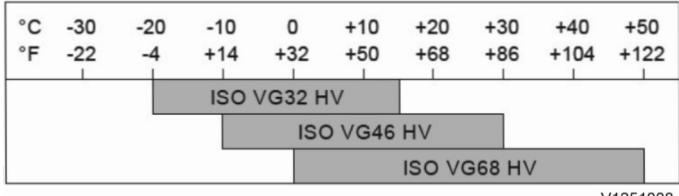
Document Title: Recommended lubricants	Function Group: 160	Information Type: Service Information	Date: 4/6/2026
Profile: JL120H			

Recommended lubricants

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Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
JL120H			

For any questions or more information about oils, lubricants and extreme outdoor temperatures, please contact your dealer.

	Oil grade	Service interval		Recommended viscosity at various ambient temperatures
		First (hours)	Every (hours)	
AXLES	Volvo Wet Brake Oil 97304 WB102	1000	2000	 <p style="text-align: right;">V1095848</p>
REAR BEARING (if applicable) AXLE	Volvo Wet Brake Oil 97304 WB102	—	4000	 <p style="text-align: right;">V1095848</p>
TRANSMISSION	Volvo Automatic Transmission Fluid 97342 AT102	—	4000	 <p style="text-align: right;">V1095847</p>
HYDRAULIC SYSTEM	Volvo Hydraulic Oil 98609 Extra 32 or Volvo Hydraulic Oil 98609 Extra 46	—	4000	 <p style="text-align: right;">V1251008</p>
	Volvo Hydraulic Oil 98608 Super 68		4000	
COOLING SYSTEM	Volvo Coolant	—	6000 or	

VCS-2
For more
information,
see: [Coolant](#).

max 4
years

Document Title: Grease	Function Group: 160	Information Type: Service Information	Date: 4/6/2026
Profile: JL120H			

Grease

Showing Selected Profile

Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
JL120H			

Volvo Super Grease Lithium EP2

Or corresponding grease on lithium base with EP additives and consistency NLGI class 2.

If the machine is provided with automatic greasing system, other recommended lubricants apply.

Rear axle bearings

Front rear axle bearing:

Axle oil according to Recommended Lubricants, see page [Recommended lubricants](#).

Rear rear axle bearing:*

Rubens HT2 (Q8)

Chevron Ultra Duty No. 2

Texaco Starplex HD2

Almagard 3752

*Rear rear axle bearing is maintenance-free, and only greased in connection with a service.

Document Title: Hydraulic oil	Function Group: 160	Information Type: Service Information	Date: 4/6/2026
Profile: JL120H			

Hydraulic oil

Showing Selected Profile

Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
JL120H			

For further information, see [Recommended lubricants](#).

Document Title: Change intervals	Function Group: 160	Information Type: Service Information	Date: 4/6/2026
Profile: JL120H			

Change intervals

Showing Selected Profile

Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
JL120H			

Oil and fluid changes	Hours
Coolant	6000[T1] ⓘ
Front and rear axles	2000[T2] ⓘ
Transmission, at the same time clean suction strainer	4000
Hydraulic system (working hydraulics, brake system and steering system)	4000

[T1] Change coolant every 6000 hours or every fourth year. See also page [Coolant](#).

[T2] First change after 1000 hours.

Filter change	Hours
Transmission, oil filter	4000
Drive axles, breather filter	2000
Cab, ventilation filters	2000[T1] ⓘ
Hydraulic system, return oil filter	2000
Hydraulic system, breather filter	2000

[T1] Change the prefilter every 1000 hours.

Document Title: Lubricants and filling capacities	Function Group: 160	Information Type: Service Information	Date: 4/6/2026
Profile: JL120H			

Change capacities

Showing Selected Profile

Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
JL120H			

Capacities	When changing	Total
Transmission oil incl. filter	39 litres (10.3 US gal)	
Front axle	36 litres (9.51 US gal)	
Rear axle	41 litres (10.8 US gal)	
Rear axle mounting	0.5 litres (0.13 US gal)	
Hydraulic system		215 litres (57 US gal)
Hydraulic oil tank	140 litres (37 US gal)	
Cooling system	Passive cooling 22 litres (5.81 US gal) Traction battery cooling 13 litres (3.43 US gal) Cab heating 4litres (1.06 US gal)	

Document Title: Coolant	Function Group: 160	Information Type: Service Information	Date: 4/6/2026
Profile: JL120H			

Coolant

Showing Selected Profile

Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
JL120H			

The Volvo Coolant VCS is replaced by the Volvo Coolant VCS-2.

Only use Volvo Coolant VCS or VCS-2 when topping up or changing coolant.

NOTE!

To avoid damage to engine and cooling system, Volvo Coolant VCS and VCS-2 must never be mixed with other brands of coolant or additives.

The Volvo Coolant VCS-2 is orange.

The Volvo Coolant VCS is yellow.

Volvo Coolant VCS and VCS-2 can be mixed, the color of the coolant changes depending on the mixing ratio.

When using concentrated Volvo Coolant VCS or VCS-2 and clean water, the mixture should contain 40–60% concentrated coolant and 60–40% clean water.

The amount of concentrated coolant must never be less than 40% of the total mixture, see table below.

Volvo Coolant VCS

Freeze protection down to	Mixed-in amount of concentrated coolant
-25 °C (-13 °F)	40%
-35 °C (-31 °F)	50%
-46 °C (-51 °F)	60%

Volvo Coolant VCS-2

Freeze protection down to	Mixed-in amount of concentrated coolant
-25 °C (-13 °F)	40%
-37 °C (-35 °F)	50%
-45 °C (-49 °F)	60%

The concentrated coolant must not be mixed with water that contains a high degree of lime (hard water), salt or metals.

The clean water for the cooling system must also meet the following requirements:

Description	Value
Total number of solid particles	< 300 ppm
Total hardness	< 120 ppm or 7° dH
Chloride	< 40 ppm

Sulphate	< 100 ppm
pH value	6.5 – 8.5
Silica	< 20 ppm
Iron	< 0.10 ppm
Manganese	< 0.05 ppm
Electrical conductivity	< 400 μ S/cm
Organic material, COD-Mn	< 8 ppm

If there is any doubt about the water quality, use ready-mixed Volvo Coolant VCS or VCS-2, which contains 40% concentrated coolant.

Do not mix with any other ready-mixed coolants since this may result in engine damage.

Document Title: Purpose of fluid analysis	Function Group: 160	Information Type: Service Information	Date: 4/6/2026
Profile: JL120H			

Purpose of fluid analysis

Showing Selected Profile

Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
JL120H			

Operational issues in machines, engines and other components are often reflected in current condition of the fluid. Fluid analysis determines when the properties of the fluid have reached a point at which they are no longer serviceable or the machine is starting to develop a problem.

This helps in three main business areas:

Maintenance

- Identify contamination and wear and identify corrective actions such as fluid and filter replacements.
- Reduce in-service failures by improving machine maintenance.
- Establish condition based fluid drain intervals and maintenance actions.

Management

- Improve business reliability and productivity.
- Improve manufactured products quality and reduce waste and spoilage.
- Reduce unnecessary maintenance such as time dependent component replacements.
- Assist in product selection (e.g. lube oils, coolants, greases), to make the machine to run most efficiently.

Uptime

- Reduce machine downtime.
- Increase the machine's overall usable life.
- Extend drain intervals, reduce oil consumption, reduce disposal costs and reduce environmental impact.

Keys to successful fluid analysis

A successful fluid analysis program requires an organized and sustained effort. No preventive maintenance initiative will reach its goal without integrating processes for continued improvement and a conscious effort by both user and laboratory to work together in all aspects of the program to achieve optimal machine health and reliability.

These proven steps are key

- Clearly define program goals and requirements to be sure the test packages utilized are appropriate for the application and the service is being fully utilized on a regular, on-going basis.
- Take representative samples that are indicative of the true condition of the fluid and the component so that the testing and analysis performed is accurate and reliable.
- Have a frequent communication with the laboratory to optimize both laboratory interpretations and recommendations as well as machine diagnostics and maintenance action.
- Provide complete and accurate sample information so that data analysts may provide an accurate interpretation of the test results with well-informed, actionable maintenance or diagnostic recommendations.
- Review test reports promptly to be sure abnormal or critical machine or fluid conditions are addressed quickly and equipment damage and production losses are minimized.

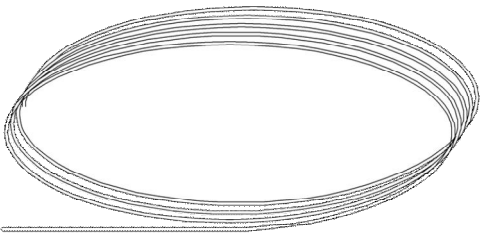
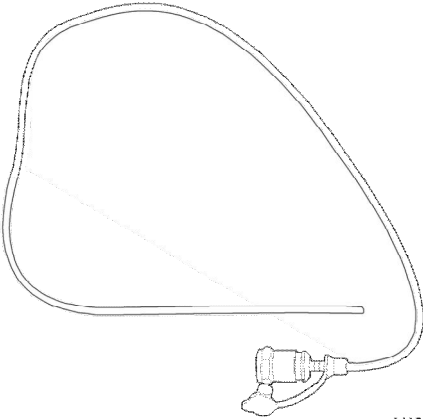
Document Title: Fluid analysis, tools	Function Group: 160	Information Type: Service Information	Date: 4/6/2026
Profile: JL120H			

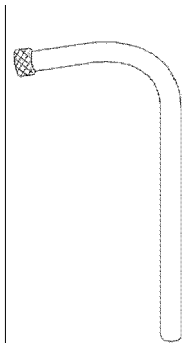
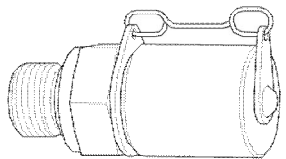
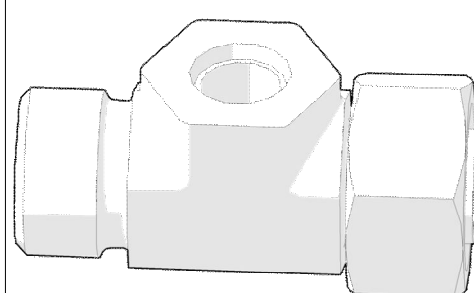
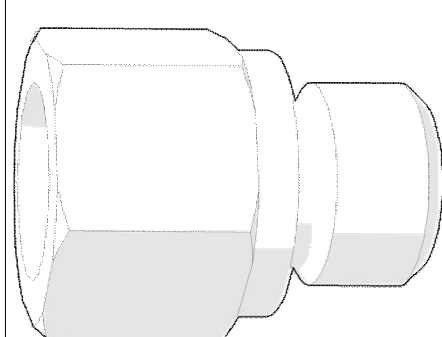
Fluid analysis, tools

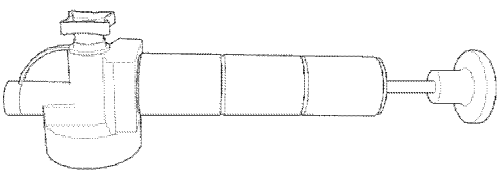
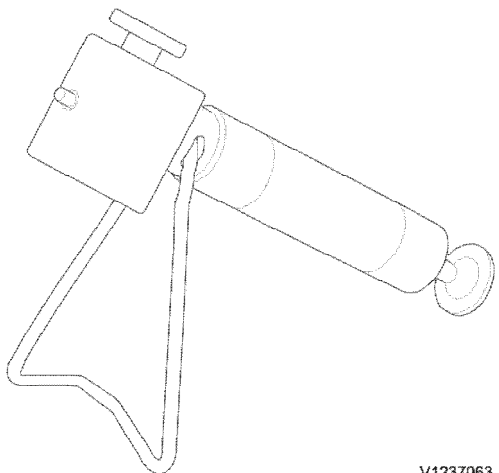
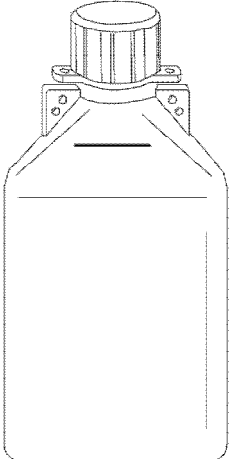
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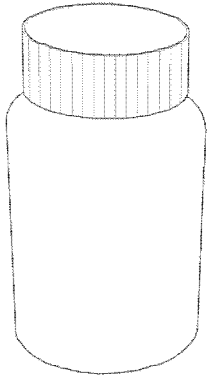
Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
JL120H			

Sampling equipment

Image	Part No.	Description	Content
 <p style="text-align: right;">V1236918</p> <p>Figure 1</p>	<i>TUBE</i> (VOE54041577)	Tubing roll	Roll of tubing 100 ft (North America only)
	<i>TUBE</i> (VOE54538320)	Tubing short	10 m tubing (all regions except for North America)
	<i>TUBE</i> (VOE54059017)	Tubing short	1 m tubing (all regions except for North America)
 <p style="text-align: right;">V1236920</p> <p>Figure 2</p>	<i>HOSE</i> (VOE14025152)	Sampling hose	For pressurized systems

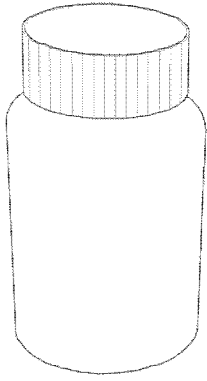
 <p style="text-align: center;">V1238681</p> <p>Figure 3</p>	<p><i>DRAIN VALVE</i> (VOE16891310)</p>	<p>Drain valve</p>	<p>Coupling – M26x1.5</p>
 <p style="text-align: center;">V1236950</p> <p>Figure 4</p>	<p><i>NIPPLE</i> (VOE936442)</p>	<p>Nipple</p>	<p>M10x1 – M16x2</p>
	<p><i>TESTING NIPPLE</i> (VOE15184094)</p>	<p>Nipple</p>	<p>M16x1,5 – M16x2</p>
	<p><i>TESTING NIPPLE</i> (VOE936446)</p>	<p>Nipple</p>	
 <p style="text-align: center;">V1244916</p> <p>Figure 5</p>	<p><i>NIPPLE</i> (VOE14612084)</p>	<p>T-Nipple</p>	<p>M26x1.5</p>
 <p style="text-align: center;">V1244912</p> <p>Figure 6</p>	<p><i>NIPPLE</i> (VOE14557502)</p>	<p>Nipple</p>	<p>M16x1.5</p>

 <p>V1236949</p> <p>Figure 7</p>	<p><i>PUMP</i> (VOE54376076)</p>	<p>Sampling pump</p>	<p>Sampling pump, standard - 38 mm (1,500 in)</p>
 <p>V1237063</p> <p>Figure 8</p>	<p><i>PUMP</i> (VOE54042482)</p>	<p>Sampling pump</p>	<p>Sampling pump, heavy duty - 38 mm (1,500 in)</p>
 <p>V1239813</p> <p>Figure 9</p>	<p><i>PLASTIC BOTTLE</i> (VOE54231335)</p>	<p>Single sampling bottle, fuel</p>	<p>Bottle for fuel sampling</p>
<p><i>KIT</i> (VOE54042464)</p>			
		<p>Kit 100 sampling bottles</p>	<p>100 sampling bottles with flatpacks.</p>



V1239814

Figure 10

 <p>V1239814</p> <p>Figure 10</p>	<p><i>PLASTIC BOTTLE</i> (VOE54236381)</p>	<p>Kit 20 sampling bottles</p>	<p>Cardboard box with 20 sampling bottles</p>
	<p><i>BAG</i> (VOE54041827)</p>	<p>Return bag</p>	<p>Prepaid plastic bag for 10 bottles (North America only) (Atlanta GA – lab)</p>
	<p><i>BAG</i> (VOE54745898)</p>	<p>Return bag</p>	<p>Prepaid plastic bag for 10 bottles (North America only) (Chicago IL – lab)</p>
	<p><i>BAG</i> (VOE54745900)</p>	<p>Return bag</p>	<p>Prepaid plastic bag for 10 bottles (North America only) (Houston TX – lab)</p>
	<p><i>KIT</i> (VOE54041771)</p>	<p>Starter kit</p>	<p>Sampling pump (metal body) standard, tube 100 ft (North America only)</p>

Document Title: Service	Function Group: 170	Information Type: Service Information	Date: 4/6/2026
Profile: JL120H			

Service

Showing Selected Profile

Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
JL120H			

For the machine to operate safely and at the lowest possible cost, it must receive thorough and complete maintenance. Intervals for maintenance and lubrication refer to normal operating and environmental conditions. Maintenance work is described in the Operator's Manual and the manual "Service and maintenance" as well as the Service Programme.

Service Programme

The checking boxes in the Service Programme show what type of service should be done for intervals from every 50 hours up to and incl. 4000 hours. The service intervals from and incl. 6000 hours only contain the additional service points that are to be done at each interval.

The additional service points that are to be done at the first 1000 hours are presented in the same way.

Time Guide

The Time Guide for service intervals for every 50 hours up to and incl. 4000 hours shows time for the total service. Intervals from and incl. 6000 hours only show time for the additional service points.

Example, 6000 hour interval:

Do all maintenance according to the standard interval every 500 hours and also do the extra interval 6000 hours.

Follow the same example at the first 1000 hours.

Document Title: Arrival Inspection, according to Inspection Programme	Function Group: 171	Information Type: Service Information	Date: 4/6/2026
Profile: Wheel Loaders (WLO)			

Arrival Inspection, according to Inspection Programme

Op nbr 171-001

Total procedure time (hr): 1.75

1. This Inspection Programme can be found as a PDF file in the document library in PROSIS.

Document Title: Delivery Inspection, according to Inspection Programme	Function Group: 171	Information Type: Service Information	Date: 4/6/2026
Profile: Wheel Loaders (WLO)			

Delivery Inspection, according to Inspection Programme

Op nbr 171-002

Total procedure time (hr): 2.50

1. This Inspection Programme can be found as a PDF file in the document library in PROSIS.

Document Title: Delivery Instructions, according to Inspection Programme	Function Group: 171	Information Type: Service Information	Date: 4/6/2026
Profile: Wheel Loaders (WLO)			

Delivery Instructions, according to Inspection Programme

Op nbr 171-004

1. This Inspection Programme can be found as a PDF file in the document library in PROSIS.

Document Title: Maintenance of Stored Machines, according to Inspection Programme	Function Group: 171	Information Type: Service Information	Date: 4/6/2026
Profile: Wheel Loaders (WLO)			

Maintenance of Stored Machines, according to Inspection Programme

Op nbr 171-003

Total procedure time (hr): 1.50

1. This Inspection Programme can be found as a PDF file in the document library in PROSIS.

Document Title: Maintenance service, as required	Function Group: 173	Information Type: Service Information	Date: 4/6/2026
Profile: JL120H			

Maintenance service, as required

Showing Selected Profile

Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
JL120H			

This interval only contains the methods that supplement the relevant standard interval. See example in Foreword, [Service](#).

Op nbr 173-001

Total procedure time (hr): 5.00

1. Place the machine in Service Position 1. Refer to [Service position 1](#).
2. [Coolant level checking](#).

Document Title: Maintenance service, first 500 hours	Function Group: 173	Information Type: Service Information	Date: 4/6/2026
Profile: JL120H			

Maintenance service, first 500 hours

Showing Selected Profile

Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
JL120H			

This interval only contains the methods that supplement the relevant standard interval. See example in Foreword, [Service](#).

Op nbr 173-040

Total procedure time (hr): 0.70

Tools:

[88894001 Cable](#)

[88890313 Cable](#)

[88894000 Diagnostics unit](#)

[Tech Tool Service Tool](#)

1. Calibrate the transmission and run the function check.
2. Fill in the Service journal that is included in the Operator's Manual.

Document Title: Maintenance service, first 1000 hours	Function Group: 173	Information Type: Service Information	Date: 4/6/2026
Profile: JL120H			

Maintenance service, first 1000 hours

Showing Selected Profile

Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
JL120H			

This interval only contains the methods that supplement the relevant standard interval. See example in Foreword, [Service](#).

Op nbr 173-042

Total procedure time (hr): 0.90

Tools:

[9993831 Support](#)

1. Place the machine in service position according to: [Service position 2](#).
2. [Drive axle oil changing](#)
3. [Restoring of the machine](#)
4. Fill in the Service journal that is included in the Operator's Manual.



Document Title: Maintenance service, every 50 hours	Function Group: 173	Information Type: Service Information	Date: 4/6/2026
Profile: JL120H			

Maintenance service, every 50 hours

Showing Selected Profile

Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
JL120H			

Op nbr 173-004

Total procedure time (hr): 1.25

1. Place the machine in service position according to: [Service position 1](#).
2. [Basic service](#)
3. [Lubrication, every 50 hours](#)
4. [Tyre wear and air pressure, checking](#)
5. [Restoring of the machine](#)