

Document Title: Description	Function Group: 000	Information Type: Service Information	Date: 4/14/2026
Profile: L330E Volvo			

Description

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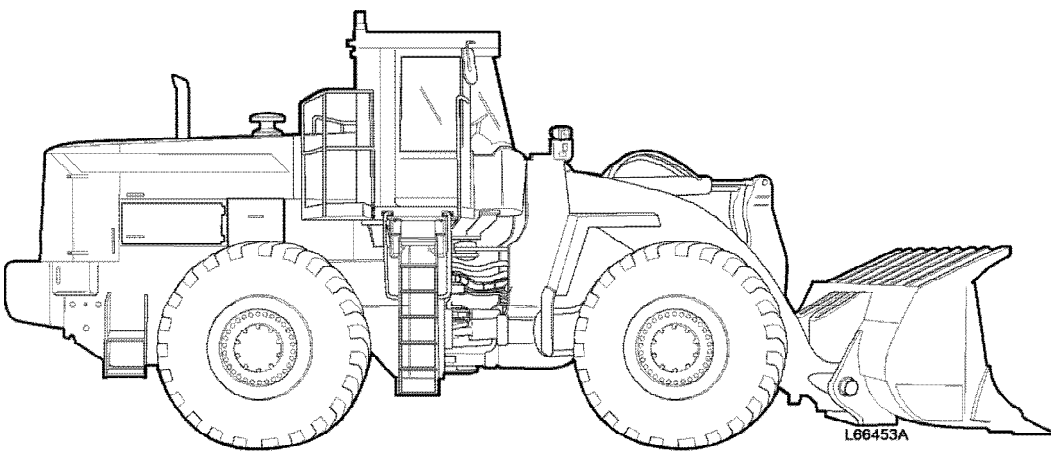


Figure 1

Wheel loader L330E

L330E is a four-wheel drive articulated wheel loader.

The engine is a straight, six-cylinder direct injection diesel engine with turbocharger and intercooler. The designation is D16B.

The hydraulic transmission is a hydro-mechanical transmission in which all gears lie in constant mesh. The designation is 8421H-21.

The torque converter is a single-stage torque converter mounted on the engine and connected to the transmission via a cardan joint. The torque converter has the designation 9672-6.

The axles have spiral bevel differential carriers on the crown wheel and pinion with an additional down-shifting via a planet gear.

The front and rear axles are completely floating drive shafts with a planet gear in the hub. The designation of both the front and rear axles is 53R312.

The brake system is a fully hydraulic dual-circuit system. The axles are equipped with a closed system of oil-cooled brake discs with six discs per wheel. Brake housing designation is 26100LCB (fluid-cooled brakes).

The parking brake is a disc brake mounted on the front axle pinion that is applied by a spring and released by hydraulic pressure.

Refer to the respective section for a detailed description of the various hydraulic systems, steering systems and other systems.

Sample manual. Download All 1422 pages at:

<https://www.arespairmanual.com/downloads/l330e-volvo-wheel-loaders-service-manual/>

Document Title: Product identification plates	Function Group: 000	Information Type: Service Information	Date: 4/14/2026
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Product identification plates

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The product identification plates below can be used to identify the machine and its components. **Product Identification Number, PIN**, indicates the machine's model designation, engine code and serial number. **Component Identification Number, CIN**, indicates the component's serial number.

Provide the PIN or CIN when placing orders for spare parts or making inquiries by telephone or post.

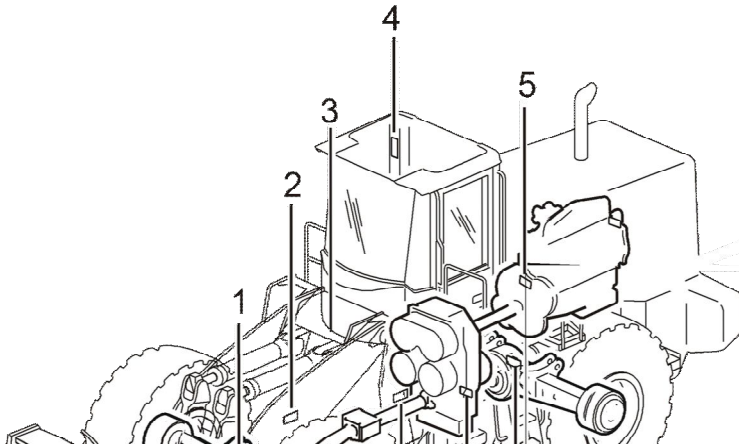


Figure 1

1 Front axle

Front drive shaft's CIN and manufacturer's name and address.

2 Lifting frame

Lifting frame's CIN and manufacturer's name and address.

3 Primary marking

Machine's PIN (stamped on right-hand side).

4 Cab

Manufacturer's name and address, product number, machine's model designation, max. machine weight, cab serial number, ROPS/FOPS number, ROPS/FOPS certification number.

5 Engine plate

Engine's model designation and number (stamped on engine).

6 Product identification plate

Machine's PIN, and manufacturer's name and address.

7 Additional plate to product identification plate

Machine weight, engine output, year of manufacture, year of delivery and place for CE mark (EU/EEA countries only).

8 Transmission

Transmission's CIN and manufacturer's name and address.

9 Rear axle

Rear drive shaft's CIN and manufacturer's name and address.

Document Title: Measurement conversion tables	Function Group: 030	Information Type: Service Information	Date: 4/14/2026
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Measurement 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

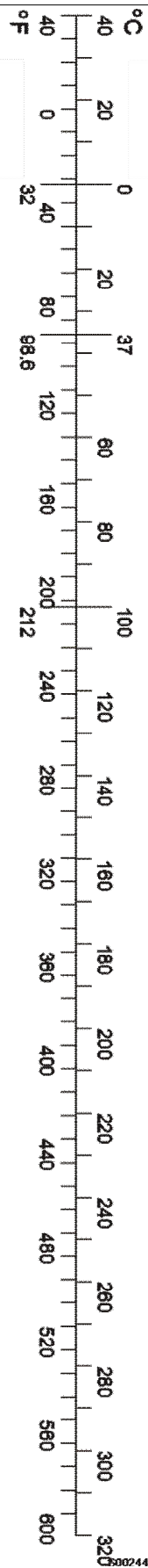
Unit explanations

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

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				
°C = (°F - 32) / 1.8			°F = (°C x 1.8) + 32	
Flow factor				
l/min (dm ³ /min)	x0.264	= US gal/min	x3.785	= liter/min



Document Title: Volvo standard tightening torques	Function Group: 030	Information Type: Service Information	Date: 4/14/2026
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Volvo standard tightening torques

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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	180	244	254	345

3/4	320	434	451	612
7/8	515	700	728	988
1	775	1052	1091	1480
1 1/8	953	1290	1545	2100
1 1/4	1344	1823	2180	2960
1 3/8	1600	2170	2650	3600
1 1/2	2000	2714	3200	4340

Document Title: Cooling system, tightening torques	Function Group: 030	Information Type: Service Information	Date: 4/14/2026
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Cooling system, tightening torques

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Model	Production site	Serial number start	Serial number stop
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NOTICE

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

Cooling system	
Retaining bolts, fan	95 +5/-9 Nm (70 +4/-7 lbf ft)
Fan shaft, nut	139 ±19 Nm (103 ±14 lbf ft)
Pump coupling	26 ±4 Nm (19 ±3 lbf ft)
Radiator frame	739 +41/-81 Nm (545 +30/-60 lbf ft)
Radiator damper	458 +30/-52 Nm (338 +22/-38 lbf ft)

Document Title: Engine, weight	Function Group: 030	Information Type: Service Information	Date: 4/14/2026
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Engine, weight

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Model	Production site	Serial number start	Serial number stop
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Engine	1430 kg (approx.) (3153 lb)
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Document Title: Engine, volume	Function Group: 030	Information Type: Service Information	Date: 4/14/2026
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Engine, volume

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Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
L330E Volvo			

NOTICE

Stated capacity applies when changing, unless otherwise stated.

Lubrication system, incl. filter when changing	49 l (12.9 US gal)
Lubrication system, incl. filter, total	49 l (12.9 US gal)

Document Title: Valve mechanism, specifications	Function Group: 030	Information Type: Service Information	Date: 4/14/2026
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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, specifications	
Valve clearance, cold engine, inlet valve	0.30 mm (0.012 in)
Valve clearance, cold engine, exhaust valve	0.60 mm (0.024 in)

Document Title: Engine, specifications	Function Group: 030	Information Type: Service Information	Date: 4/14/2026
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Engine, specifications

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Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
L330E Volvo			

Engine	
Type designation	D16BLAE2
Product number	8188181
Flywheel output at 30 r/s (1800 rpm)	369 kW (495 hp) SAE J1349, ISO 9249 Net
Torque at 16.7 r/s (1000 rpm)	2355 Nm (1718 lbf ft) SAE J1349, ISO 9249 Net
Specific fuel consumption at 1200 r/min (20 r/s)	204 g/kWh SAE J1349
Number of cylinders	6
Cylinder bore	144 mm (5.67 in)
Stroke	165 mm (6.50 in)
Cylinder capacity	16.11 dm ³ (983.1 in ³)
Compression ratio	17.5:1
Compression at starter motor revolution	3.04 MPa (30.4 bar) (441 psi)
Injection sequence	1-5-3-6-2-4
Idling speed, low	750 ±10 rpm (12.5 rps)
Idling speed, high	2030 ±20 rpm (33.8 rps)
Stall speed with torque converter	1870 ±100 rpm (31.2 ±1.7 rps)

Document Title: Fuel system, specifications	Function Group: 030	Information Type: Service Information	Date: 4/14/2026
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Injectors, specifications

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Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
L330E Volvo			

Injectors	
Type	Multi-hole nozzle (7 holes)
Opening pressure	23.5MPa (235 bar) (3408 psi)
Setting pressure, new spring	24.0 MPa (240 bar) (3481 psi)

Document Title: Fuel tank, volume	Function Group: 030	Information Type: Service Information	Date: 4/14/2026
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Fuel tank, volume

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Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
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Fuel tank total/potential	680/662 l (180.0/175.0 US gal)
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Document Title: Lubrication specifications	Function Group: system, 030	Information Type: Service Information	Date: 4/14/2026
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Lubrication system, specifications

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Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
L330E Volvo			

Lubrication system	
Oil pressure, high idle	approx. 400 kPa (4 bar) (58.0 psi)
Oil pressure min., low idle	150 kPa (1.5 bar) (21.8 psi)

Document Title: Lighting, specifications	Function Group: 030	Information Type: Service Information	Date: 4/14/2026
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Lighting, specifications

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Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
L330E Volvo			

Bulbs	Watt	Socket
Headlights, asymmetric	75/70	P 43t - 38 (H4)
Parking light, front	4	BA 9 s
Parking light, rear	10	BA 15 s
Tail lights	10	BA 15 s
Brake lights	21	BA 15 s
Direction indicators, rear	21	BA 15 s
Direction indicators, side	21	BA 15 s
Side running lights	5	SV 8.5
Cab lighting	10	BA 15 s
Instrument lighting	2	BA 9 s
Control light panel	1.2	W 2x 4.6 d
Switches' guide lights	1.2	W 2x 4.6 d
Work lights, front halogen, cab ^(a)	70	PK 22 s (H3)
Work lights, rear halogen, cab ^(a)	70	PK 22 s (H3)
Work lights, front halogen[T1] ⓘ	70	PK 22 s (H3)
Work lights, rear halogen ^(a)	70	PK 22 s (H3)

[T1]Optional equipment.

Document Title: Fuel feed pump, specifications	Function Group: 030	Information Type: Service Information	Date: 4/14/2026
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Fuel feed pump, specifications

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Model	Production site	Serial number start	Serial number stop
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Fuel feed pump	
Type	Piston pump
Feed pressure	130—180 kPa (1.3—1.8 bar) (18.9—26.1 psi)

Document Title: Fuel tank, volume	Function Group: 030	Information Type: Service Information	Date: 4/14/2026
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Fuel tank, volume

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Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
L330E Volvo			

Fuel tank total/potential	680/662 l (180.0/175.0 US gal)
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Document Title: Injection specifications	Function Group: pump, 030	Information Type: Service Information	Date: 4/14/2026
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Injection pump, specifications

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Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
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Injection pump	
Type	In-line pump
Injection pump's rotational direction	Clockwise
Basic setting of injection pump	7 ±0.5°

Document Title: Injectors, specifications	Function Group: 030	Information Type: Service Information	Date: 4/14/2026
Profile: L330E Volvo			

Injectors, specifications

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Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
L330E Volvo			

Injectors	
Type	Multi-hole nozzle (7 holes)
Opening pressure	23.5MPa (235 bar) (3408 psi)
Setting pressure, new spring	24.0 MPa (240 bar) (3481 psi)

Document Title: Control system, injection timing device, specification	Function Group: 030	Information Type: Service Information	Date: 4/14/2026
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Control system, injection timing device, specification

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Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
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Control system, injection timing device	
Max. timing adjustment	4° ±1° at 1700 rpm
Pilot injection	7° ±0.5° B.T.D.C

Document Title: Oil-bath precleaner, volume	Function Group: 030	Information Type: Service Information	Date: 4/14/2026
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Oil-bath precleaner, volume

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Oil-bath precleaner (optional equipment)	
Oil-bath precleaner 2 pcs., volume	2x9.1 l (2x2.4 US gal)

Document Title: Cooling specifications	Function Group: system, 030	Information Type: Service Information	Date: 4/14/2026
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Cooling system, specifications

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Model	Production site	Serial number start	Serial number stop
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Cooling system	
Type	Closed system
Pressure valve opens at	50 kPa (0.5 bar) (7.3 psi)

Document Title: Cooling system volume	Function Group: 030	Information Type: Service Information	Date: 4/14/2026
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Cooling system volume

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Model	Production site	Serial number start	Serial number stop
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Cooling system, total	83 l (21.9 US gal)
Cooling system, change	66 l (17.4 US gal)

Document Title: Thermostat, specifications	Function Group: 030	Information Type: Service Information	Date: 4/14/2026
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Thermostat, specifications

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Model	Production site	Serial number start	Serial number stop
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Thermostat	
Type	Piston-type thermostat
Quantity	2
Begins to open at	82 °C (180 °F)
Fully open at	91 °C (196 °F)

Document Title: Cooling fan motor, specifications	Function Group: 030	Information Type: Service Information	Date: 4/14/2026
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Fan motor, specification

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Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
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Fan motor, specification	
Type	Axial piston motor
Displacement	45 cm ³
Speed at stand-by pressure	approx. 400 rpm
Normal max. speed with warm machine	Varies between approx. 700-1200 rpm depending on cooling need
Speed at max. pressure	approx. 1400 rpm

Document Title: Temperature limits for cooling fan speed, specifications	Function Group: 030	Information Type: Service Information	Date: 4/14/2026
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Temperature limits for cooling fan speed, specifications

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Model	Production site	Serial number start	Serial number stop
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Temperature limits for cooling fan speed		
Fan speed	400 rpm	Max. 1100- 1300 rpm
Coolant temperature, SE210	<60 °C (140 °F)	80 °C (176 °F)
Transmission oil temperature, SE406	<90 °C (194 °F)	105 °C (221 °F)
Hydraulic oil temperature, SE906	<70 °C (158 °F)	95 °C (203 °F)

Document Title: Cooling fan max. speed, specifications	Function Group: 030	Information Type: Service Information	Date: 4/14/2026
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Cooling fan max. speed, specifications

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Cooling fan max. speed		
The following max. speed can be selected from the service display unit:		
On the service display unit	Means	Corresponds to maximum speed
A	Noise reduction kit	900 rpm
B	EU execution	1100 rpm
C	High cooling performance	1300 rpm

Document Title: Battery, specifications	Function Group: 030	Information Type: Service Information	Date: 4/14/2026
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Battery, specifications

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Battery	
Number	4 (connected in series 2+2)
Battery disconnect switch (Chassis connection)	Connected to negative terminal
Battery voltage	12 V
Battery capacity	4 x 120 Ah
System voltage	24 V

Charge level	Voltage
Fully charged battery	12.7 V
Half-charged battery	12.4 V
Discharged battery	11.6 V and lower

Battery electrolyte density	
Fully charged battery	1.275-1.285 kg/dm ³
The battery must be recharged at	1.250 kg/dm ³