Document Title: **Description**	Function Group: **000**	Information Type: **Service Information**	Date: **4/18/2026**
Profile:			

Description

The L70D is a four-wheel drive loader with articulated frame steering.

Loader L70D is powered by a six-cylinder, four-stroke, direct-injection turbocharged diesel engine with intercooler, type designation TD63KDE. The engine is of low-emission type.

The hydraulic transmission is hydro-mechanical and all gears are in constant mesh. Its designation is HT90.

Fitted between the engine and hydraulic transmission is a single-stage hydraulic torque converter.

The front and rear axles have fully-floating drive shafts with planetary gears in the wheel hubs.

The service brakes are of oil-cooled multi-disc type integrated with the planetary gearing of each wheel hub.
The parking brake is of drum type and mounted on the front axle.

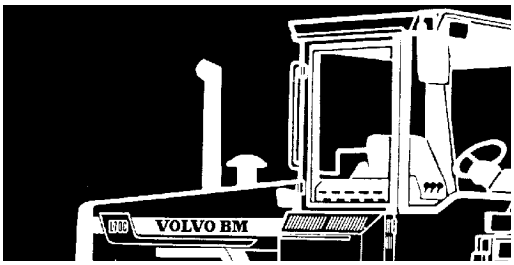

Figure 1
Wheel loader L70D

The machine is equipped with two load-sensing variable hydraulic pumps connected in parallel. Through a central valve they supply oil to the steering system, brakes, servo and working hydraulics.

For a more detailed description of the various functions and components, refer to the relevant section.

Document Title: **Product identification plates**	Function Group: **000**	Information Type: **Service Information**	Date: **4/18/2026**
Profile:			

Product identification plates

The identification plates that should be present on the machine will be evident from the following illustrations and text.

The model designation and Product Identification Number (PIN) should be stated when ordering spare parts and making enquiries by telephone or mail.

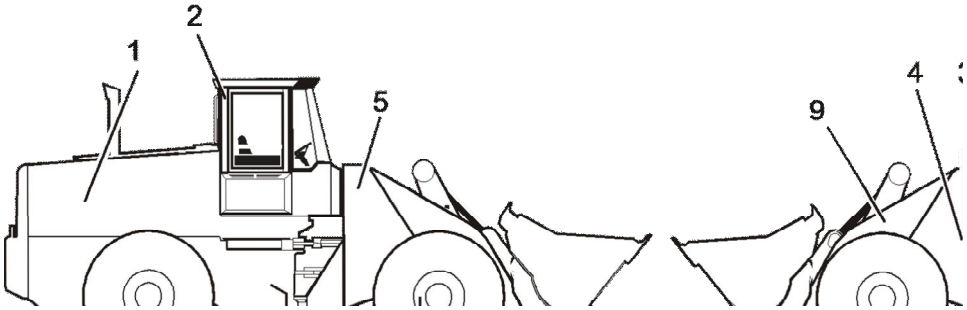

Figure 1

1. **Engine**
   The type designation and part number of the engine are given on a plate affixed beside the dipstick on the right-hand side of the machine. The serial number of the machine is given on a plate affixed beside the injection pump on the right-hand side of the machine.
2. **Cab**
   The serial number, machine type, manufacturer's name and address, ROPS/FOPS number and max. machine weight are located on the right-hand rear roof pillar inside the cab.
3. **Product identification plate**
   Includes the machine type and the manufacturer's name and address. The Product Identification Number (PIN) of the complete machine (the PIN includes the model designation, engine code and serial number) is located on the left-hand side of the front frame.
4. **Additional plate**
   A plate in addition to the identification plate and showing the machine weight (only EU/EEA countries) is located below the identification plate on the left-hand side of the front frame.
5. **Primary marking**
   The PIN, model designation, engine code and serial number are stamped on the right-hand side of the front frame (showing same PIN number as on the identification plate).
6. **Rear axle**
   The rear drive shaft's component plate Component Identification Number (CIN) with product number, serial number and manufacturer is located on the front of the axle housing to the left.
7. **Transmission**
   The product number, serial number and manufacturer of the transmission are located on the front of it.
8. **Front axle**
   The front drive shaft's component plate Component Identification Number (CIN) with product number, serial number and manufacturer is located on the rear of the axle housing to the right.
9. **Lifting frame**
   The lifting frame's product identification number, serial number and manufacturer are located on its left-hand side.

Document Title: **Capacities, (litres)**	Function Group: **030**	Information Type: **Service Information**	Date: **4/18/2026**
Profile:			

Capacities, (litres)

NOTE!

Specified capacity applies when changing unless otherwise stated.

Engine, including filter	16 dm3 (4.22 US gal)
Cooling system (total)	40 dm3 (10.56 US gal)
Fuel tank (total)	190 dm3 (50.16 US gal)
Transmission, including torque converter	17 dm3 (4.49 US gal)
Front axle, including hub reductions (total)	24 dm3 (6.34 US gal)
Rear axle, including hub reductions (total)	24 dm3 (6.34 US gal)
Hydraulic system (total)	104 dm3 (27.46 US gal)
Hydraulic oil tank	65 dm3 (17.16 US gal)

VOLVO

Service Information

Document Title: **Dimensions**	Function Group: **030**	Information Type: **Service Information**	Date: **4/18/2026**
Profile:			

Dimensions

See specifications, operator's manual

Document Title: **Section 2 Engine**	Function Group: **030**	Information Type: **Service Information**	Date: **4/18/2026**
Profile:			

Section 2 Engine

Designation	TD63KGE
With mechanical radiator fan	
Flywheel output as per SAE J1349, net	91 kW (124 hp) at 33.3 r/s (2 000 rpm)
Output as per SAE J1349, gross	94 kW (128 hp) at 33.3 r/s (2 000 rpm)
Max. torque as per SAE J1349, net	590 Nm (435 lbf ft) at 16.67 r/s (1 000 rpm)
Max. torque as per SAE J1349, gross	595 Nm (439 lbf ft) at 16.67 r/s (1 000 rpm)
With hydraulically driven radiator fan (option)	
Flywheel output as per SAE J1349, net	93 kW (126 hp) at 33.3 r/s (2 000 rpm)
Output as per SAE J1349, gross	94 kW (128 hp) at 33.3 r/s (2 000 rpm)
Max. torque as per SAE J1349, net	590 Nm (435 lbf ft) at 16.67 r/s (1 000 rpm)
Max. torque as per SAE J1349, gross	595 Nm (439 lbf ft) at 16.67 r/s (1 000 rpm)
Number of cylinders	6
Cylinder bore	98.43 mm (3.88 in)
Stroke	120 mm (4.72 in)
Cylinder capacity	5.48 litres (1.45 US gal)
Compression ratio	18.3:1
Injection sequence	1–5–3–6–2–4
Idle speed, low	715 ±30 rpm
Idle speed, high	2 430 ±60 rpm
Stall speed, third gear	2 135 ±95 rpm

Valve mechanism	
Valve arrangement	Overhead valves
Valve clearances, hot/cold engine	
Inlet valves	0.40 mm (0.016 in)
Exhaust valves	0.55 mm (0.022 in)

Lubrication system	
Oil pressure	300–500 kPa (3–5 bar) (43.5–72.5 psi)
Oil pressure, hot engine, idling	150 kPa (1.5 bar) (21.75 psi)

Fuel feed pump	
Type	Piston pump
Feed pressure	110–150 kPa (1.1–1.5 bar) (15.95–21.75 psi)

Injection pump, governor	
Type	In-line pump

Timing setting	13° ±0.5° BTDC
Governor	RQW

Injectors	
Type	Multi-hole nozzle (6 holes)
Identification code	737
Opening pressure	25.0 MPa (250 bar) (3625 psi)
Setting pressure, for new spring	26.0–26.8 MPa (260–268 bar) (3770–3886 psi)

Document Title: **Section 3 Electrical system**	Function Group: **030**	Information Type: **Service Information**	Date: **4/18/2026**
Profile:			

Section 3 Electrical system

General	
System voltage	24 V

Alternator with regulator	
Type	Alternating current
Output (rated output)	1 680 W
Voltage, at + 20 °C (68 °F)	28.5 ±0.15 V
Current, max.	60 A
Resistance across rotor winding	13.5 Ω
Resistance in stator winding	0.12 Ω

Battery	
Number of thermostats	2 (connected in series)
Battery disconnect switch (Chassis connection)	Connected to negative terminal
Voltage	12 V
Battery capacity	2 x 170 Ah

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

Starter motor	
Type	KB 24 V
Output	6.6 kW (9 hp)

Light bulbs	**Output**	**Base**
Headlights, asymmetrical	75/70 W	P 43t –38 (H4)
Parking lights	4 W	BA 9 s
Tail lights	10 W	BA 15 s
Brake lights	21 W	BA 15 s
Direction indicators, rear	21 W	BA 15 s
Direction indicators, side	21 W	BA 15 s
Side lights	5 W	SV 8.5
Cab light	10 V	BA 15 s
Instrument lighting	2 W	BA 9 s
Indicator lamp panel (20)	1.2 W	W 2x4.6 d
Guide light in switches	1.2 W	W 2x4.6 d
Work lights, front halogen	70 W	PK 22 s (H3)

Work lights, rear halogen	70 W	PK 22 s (H3)
Work lights, front halogen (optional)	70 W	PK 22 s (H3)
Work lights, rear halogen (optional)	70 W	PK 22 s (H3)

Fuses	**Current strength**
1 pc., blade fuse	20 A
3 pcs., blade fuses	15 A
14 pcs., blade fuses	10 A
15 pcs., blade fuses	5 A

Fuses					
Designation	**Feed**	**AMP**	**Wiring diagram**	**Circuit No.**	**Circuits**
FU1	15A	10	21	9.010-9.050	Bucket positioner and boom kick-out, float position, attachment change, brake pressure charging
FU1	15A	10	120	9.055	Automatic float position
FU1	15A	10	22	9.060	3rd/4th hydraulic function
FU1	15A	10	140	9.310	Single lever control
FU2	15A	10	23	9.090 9.100	Boom Suspension System, solenoids
FU3	15A	10	18	8.010	Front wiper/washer, horn
FU4	15B	20	19	8.080	Cab fan, air conditioning (AC)
FU5	15B	5	1, 20, 26, 185	8.170	Heated seat Re101 unloading 15B feed
FU6	30 via SW301	5	6	3.040-3.080	Front right and rear left parking lights, front right side light, number plate lighting, guide light switch
FU7	30 via SW301	5	6	3.010-3.030+3.250	Front left and right rear parking lights, instrument lighting
FU7	30 via SW301	5	24	—	Service connection instrument lighting
FU8	30	15	3	2.010	Starter motor with starter inhibitor
FU9	30	5	8	3.290	Hazard flashers
FU10	RA	5	20	8.150	Voltage converter for radio
FU11	30 via SW301	5	6	3.100	Low beam, right
FU12	30 via SW301	5	6	3.090	Low beam, left
FU13	30	10	7	3.170-3.190	Work lighting attachment and radiator casing
FU14	15EA	5	3	2.020	Preheating
FU14	15EA	5	9	4.010-4.030	Gearshifting, Kick-down
FU14	15EA	5	11	4.170	Transmission disengagement
FU14	15EA	5	12	4.210, 4.220	Mode selector, Differential lock,
FU14	15EA	5	24	—	Service socket IA
FU14	15EA	5	1	—	Spare
FU14	15EA	5	14	2.020	Preheating
FU14	15EA	5	14	4.020/4.160	Gearshifting
FU15	15EA	5	14	5.040	Gearshifting solenoid 2, when V-ECU is by-passed
FU15	15EA	5	15	5.040	Parking brake
FU15	15EA	10	2	1.000	15EA feed I-ECU, V-ECU, EM

FU15	15EA	10	5 / 14	2.130	Radiator fan adjustment
FU16	1	10	1	—	15EA feed
FU17	30E	10	2	—	Feed I-ECU, V-ECU
FU18	30E	10	2	—	30EAM, 30E rear frame
FU19	30	5	20	8.190	Cigarette lighter
FU20	15A	5	8	3.290-3.330	Brake lights
FU20	15A	5	18	8.040	Direction indicators
FU21	15A	10	1	—	Pre-magnetization, alternator
FU22	30	10	7	3.200-3.240	Work lights radiator casing and cab, control lamp work lights
FU23	30	10	20	8.150	Voltage converter for radio
FU24	30 via SW301	5	6	3.110	Main beam right + control lamp, main beam
FU25	30 via SW301	5	6	3.110	High beam, left
FU26	30	10	7	3.140-3.190	Work lights cab front, interior lighting
FU27	30	15	6	3.010-3.130	Headlights
FU28	30	10	7	3.230+3.240	Work lights cab rear
FU28	30	10	8	3.260	Rotating beacon
FU29	30	10	1	1.000	Ignition switch feed
FU30	15EA	5	3	2.030	Key-turn engine stop
FU30	15EA	5	9	4.040-4.070	Lever console
FU30	15EA	5	15	5.020-5.040	Parking brake, brake pressure
FU30	15EA	5	16	6.010	Secondary steering
FU30	15EA	5	23	9.070	Boom Suspension System
FU30	15EA	5	14	5.030	Low brake pressure
FU30	15EA	5	17	4.075	CDC gearshifting
FU31	15EA	5	1	—	15EA feed rear frame
FU31	15EA	5	5	2.110	Air filter
FU32	15EA	5	12	4.220	Differential lock (re-engagement)
FU32	15EA	5	1	—	15EA feed front frame, transm.
FU33	3015EA	20	3	2.030	Key-turn engine stop
FU50	30	5	19	8.090	Air conditioning (AC)
FU52	30A	10	20	8.180	Operator’s seat with air suspension
FU53	30A	5	32B	5.045	Rider truck safety norms
FU54	15B	5	20	8.180	Operator’s seat with air suspension
FU58	30A	15	185	2.170	Engine compartment fan
FH1	30 via RE201	5	3	2.020	Preheating, control light
FH2	30 via RE201	—	3 / 14	2.020	Preheating
FH3	30 via RE601	5	16	6.010	Secondary steering, control light
FH4	—	5	20	8.160	Voltage converter, ground

Document Title: **Section 4 Power transmission**	Function Group: **030**	Information Type: **Service Information**	Date: **4/18/2026**
Profile:			

Section 4 Power transmission

Hydraulic transmission	
Type	Hydro-mechanical
Make	Volvo
Designation	HT90
Number of gears	4 forward, 4 reverse
Number of gears	8 forward, 8 reverse
Gearshifting system	Electro-hydraulic

Torque converter	
Type	Single-stage
Designation	XT 379A
Torque amplification, at stall	2.85:1

Transmission oil pressure	
Temperature	Normal operating temperature
Engine speed	High idle
Main pressure (neutral)	1.30—1.46 MPa (188.5—211.7 psi)
Clutch pressure, 1st—4th Forward—Reverse	1.30—1.46 MPa (188.5—211.7 psi)
Torque converter pressure, (output, neutral)	max. 0.79 MPa (114.6 psi)
Lubricating oil pressure, (neutral)	0.24—0.29 MPa (34.8—42.1 psi)

Weight	
Hydraulic transmission 4—speed	425 kg (937.1 lbs)
Hydraulic transmission 8—speed	440 kg (970.2 lbs)
Torque converter	44 kg (97 lbs)

Capacity	
Oil capacity, total	27.0 l (7.1 US gal)
When changing oil, incl. filter	20.0 l (5.3 US gal)
When changing oil, excl. filter	18.5 l (4.9 US gal)
Oil volume between min. and max. marks on dipstick	1.0 l (0.3 US gal)

Tightening torques	
Transmission—flywheel housing	64—68 Nm (47.2—50.2 lbf ft)
Transmission attachments to transmission	170—208 Nm (125.4—153.4 lbf ft)
Transmission attachments to frame	333—407 Nm (245.6—300.2 lbf ft)

Drive axles

Type	Fully-floating drive shafts with hub reduction gearing of planetary type
Make	Volvo
Designation	
Front axle	AWB15 (Prod. no. 23848)
Rear axle	AWB15 (Prod. no. 23849)
Front axle with differential lock (dog clutch)	AWB15 (Prod. no. 23850)
Front axle with limited slip differential	AWB15 (Prod. no. 23867)
Rear axle with limited slip differential	AWB15 (Prod. no. 23865)
Gear ratio, total	20.75:1
Differential lock dog clutch	Front axle
Operation	Electro-hydraulic

Weight	
Axle incl. oil	600 kg (1323 lbs)
Hub reduction	160 kg (353 lbs)

Capacity	
Oil capacity, total (incl. hub reductions)	24.5 l (6.47 US gal)
Oil capacity when changing oil (incl. hub reductions)	24 l (6.34 US gal)

Speed range

Tyres	Gear	Travel speed (km/h (mph))
17.5 R25	1 H	6 (3.7)
	2 H	12 (7.4)
	3 H	24 (14.9)
	4 H	41 (25.4)
	1 L	1.7 (1.1)
	2 L	3.3 (2.1)
	3 L	6.5 (4.0)
	4 L	12.1 (7.5)
20.5 R25	1 H	7 (4.3)
	2 H	14 (8.7)
	3 H	26 (16.1)
	4 H	45 (27.9)
	1 L	1.9 (1.2)
	2 L	3.8 (2.4)
	3 L	7.3 (4.5)
	4 L	13.7 (8.5)

Document Title: **Section 5 Brakes**	Function Group: **030**	Information Type: **Service Information**	Date: **4/18/2026**
Profile:			

Section 5 Brakes

Type	**Dual circuit hydraulic wet disc brake**
Brake pad area per wheel	636 cm2 (99 in2)
Brake disc, min. thickness	7.2 mm (0.28 in)
Brake discs, thickness, new disc	9.5 mm (0.37 in)
Accumulator capacity	3x0.5 litres (3x0.13 US gal)
Precharging pressure, new accumulators	5.0 MPa (50 bar) (725 psi)
Precharging pressure, min.	3.5 MPa (35 bar) (507.5 psi)

Brake pressure (max.):	15.0 ±0.5 MPa (150 ±5 bar) (2175 ±72.5 psi)
Release pressure (electrical):	13.7 ±0.3 MPa (137 ±3 bar) (1986.5 ±43.5 psi)
Cut-in pressure:	12.0 ±0.3 MPa (120 ±3 bar) (1740 ±43.5 psi)
Brake charging pump pressure: (determined by pressure-reducing valve)	16.5 ±1.0 MPa (165 ±10 bar) (2392.5 ±145 psi)
Brake circuit pressure:	8.0 ±0.6 MPa (80 ±6 bar) (1160 ±87 psi)

Parking brake	
Type	Mechanical drum brake on front axle

Document Title: **Section 6 Steering system**	Function Group: **030**	Information Type: **Service Information**	Date: **4/18/2026**
Profile:			

Section 6 Steering system

Type	**Hydrostatic**
Steering angle	± 40°
Number of steering wheel turns, total	3.7 turns

Hydraulic pump (common to other hydraulic equipment)	
Type	Nine-cylinder axial piston pump, variable displacement
Max. steering pressure (low idling)	21.0 ±0.5 MPa (210 ±5 bar) (3045 ±72.5 psi)
Hold (stand-by) pressure	2.8 ±0.4 MPa (28 ±4 bar) (406±58 psi)

Steering valve	
Type	"Closed centre"
Designation	OSPB 400LS

Shock valves	
Number of valves	2 pcs
Shock valve, opening pressure, idling	28 ±0.5 MPa (280 ±5 bar) (4060 ±72.5 psi)

Steering cylinder	
Type	Double-acting
Weight	14 kg (30.9 lbs)
Inside diameter	63 mm (2.48 in)
Piston rod diameter	40 mm (1.57 in)
Stroke	370 mm (14.57 in)

Document Title: **Section 8 Cab, interior fittings and machine superstructure**	Function Group: **030**	Information Type: **Service Information**	Date: **4/18/2026**
Profile:			

Section 8 Cab, interior fittings and machine superstructure

Weights	
Amount of refrigerant R134a	1.9 ±0.1 kg (4.2 ±0.2 lbs)

Air conditioning temperature values during performance test				
Temperature values in °C at different ambient temperatures in relation to relative humidity.				
	Ambient temperature Air conditioning temperature values			
Relative humidity of the air	25 °C (77 °F)	30 °C (86 °F)	35 °C (95 °F)	40 °C (104 °F)
10%	7 °C (45 °F)	7 °C (45 °F)	7 °C (45 °F)	
20%	7 °C (45 °F)	7 °C (45 °F)	7 °C (45 °F)	7 °C (45 °F)
30%	7 °C (45 °F)	7 °C (45 °F)	7 °C (45 °F)	7 °C (45 °F)
40%	7 °C (45 °F)	7 °C (45 °F)	7 °C (45 °F)	8 °C (46 °F)
50%	7 °C (45 °F)	7 °C (45 °F)	8 °C (46 °F)	11 °C (52 °F)
60%	7 °C (45 °F)	8 °C (46 °F)	10 °C (50 °F)	14 °C (57 °F)
70%	7 °C (45 °F)	10 °C (50 °F)	13 °C (55 °F)	17 °C (63 °F)
80%	7 °C (45 °F)	11 °C (52 °F)	15 °C (59 °F)	20 °C (68 °F)
90%	7 °C (45 °F)	12 °C (54 °F)	18 °C (64 °F)	23 °C (73 °F)

Normal system pressure of air conditioning unit, engine speed 1 800 rpm

The system pressure varies depending on ambient temperature.
The values should be considered as guide values. Occasionally, a lower pressure is noticeable on the low-pressure side.

At ambienttemperatures below +30 °C (86 °F)

Low-pressure side	0.3–2.7 bar (4.35–39.15 psi)
High-pressure side	6.5–15.5 bar (94.25–224.75 psi)

At ambienttemperatures above +30 °C (86 °F)

Low-pressure side	0.7–2.3 bar (10.15–33.35 psi)
High-pressure side	14–18 bar (203–261 psi)

Document Title: **Section 9 Hydraulic system**	Function Group: **030**	Information Type: **Service Information**	Date: **4/18/2026**
Profile:			

Section 9 Hydraulic system

Type	Servo-assisted of "closed centre" type

Control valve	**Pressure**
Shock valve, rear tilt	30 ±0.8 MPa (300 ±8 bar) (4350 ±116 psi)
Shock valve, forward tilt	27.5 ±0.8 MPa (275 ±8 bar) (3988 ±116 psi)
Shock valve, lift function	40 ±0.8 MPa (400 ±8 bar) (5800 ±116 psi)
Shock valves, 3rd and 4th functions	21 ±0.8 MPa (210 ±8 bar) (3045 ±116 psi)
Servo pressure	3 ±0.8 MPa (30 ±8 bar) (435 ±116 psi)
Back-up valve, return pressure	0.6 MPa (6 bar) (87 psi)
Holding (stand-by) pressure:	2.8 ±0.8 MPa (28 ±8 bar) (406 ±116 psi)

Lift cylinder	
Type	Double-acting
Inside diameter	100 mm (3.9 in)
Piston rod diameter	70 mm (2.8 in)
Stroke	734 mm (28.9 in)

Tilt cylinder	
Type	Double-acting
Inside diameter	150 mm (5.9 in)
Piston rod diameter	80 mm (3.1 in)
Stroke	440 mm (17.3 in)

Servo system	
Type	"Closed centre"
Load lowering equipment	
Accumulator 0.5 l on servo circuit	precharging pressure 1.4 MPa (14 bar) (203 psi)
Temperature:	Normal operating temperature[T1]
Engine speed	Low/high idle
Servo pressure:	3.0 ±0.8 MPa (30 ±8 bar) (435 ±116 psi)

[T1]Achieved in about 15 minutes on a haulage run.

Boom Suspension System (BSS 400)	
Setting pressure, pressure-reduction valve	12.0 MPa (120 bar) (1740 psi)
Accumulator, precharging pressure, min.	2.0 MPa (20 bar) (290 psi)
Accumulator, precharging pressure, max.	6.0 MPa (60 bar) (870 psi)

Specifications, GP hydraulics:	

Max. flow	130 dm3/minute (34 US gal/min)
Max. pressure	21 MPa (3045 psi)
Max. power requirement	32 kW (42,9 hp)

Document Title: **Tightening torques**	Function Group: **030**	Information Type: **Service Information**	Date: **4/18/2026**
Profile:			

Tightening torques

Important: bolted joints not included here, see "VOLVO standard tightening torques".

CAUTION

Nuts and bolts must be clean and lubricated with oil.

Engine	**Tightening torques**	
Flywheel housing—torque converter housing	57 ±6 Nm (42 ±4 lbf ft)	5.7 ±0.6 kgf m
Engine block—bracket	85 ±8 Nm (63 ±6 lbf ft	8.5 ±0.8 kgf m
Bracket—tapered rubber damper	200 ±20 Nm (148 ±15 lbf ft)	20.0 ±2.0 kgf m
Rear frame—rubber damper	48 ±5 Nm (35 ±4 lbf ft)	4.8 ±0.5 kgf m
Valves		
Bearing bracket, rocker arm shaft	65 Nm (48 lbf ft)	6.5 kgf m
Bearing bracket, rocker arm shaft (aluminium)	50 Nm (37 lbf ft)	5.0 kgf m
Inspection covers, tappets	24 Nm (18 lbf ft)	2.4 kgf m
Valve covers	24 Nm (18 lbf ft)	2.4 kgf m
Injectors		
Retaining yoke nut	50 Nm (37 lbf ft)	5.0 kgf m
Delivery pipe nuts	15—25 Nm (11—18 lbf ft)	1.5—2.5 kgf m

Steering system	**Tightening torques**	
Pin lockings—steering cylinders (M8)	24 Nm (18 lbf ft)	2.4 kgf m
Pin lockings—steering cylinders (M12)	85 Nm (62 lbf ft)	8.5 kgf m
Connecting rod—piston	200 Nm (148 lbf ft)	20 kgf m
Connecting rod guide—cylinder jacket	200 Nm (148 lbf ft)	20 kgf m
Steering valve cover	30—35 Nm (22—26 lbf ft)	3.0—3.5 kgf m

VOLVO

Service Information

Document Title: **VOLVO standard tightening torques**	Function Group: **030**	Information Type: **Service Information**	Date: **4/18/2026**
Profile:			

VOLVO standard tightening torques

The tightening torques in the following tables apply to bolted joints with tensile strengths as noted below. The tables should be regarded as general instruction for tightening torques of bolted joints which have no specified values - indicated.

NOTE!

For flange head bolts type U6FS the values should be increased by 10%.

Nuts and bolts must be clean and lubricated with oil.

TENSILE STRENGTH 8.8 Metric coarse and fine threads			
Threads	**Nm**	**kgf m**	**Ft.lb**
M6	10 ±2	1.0 ±0,2	7.4 ±1.5
M8	24 ±5	2.4 ±0.5	18 ±3.5
M10	48 ±10	4,8 ±1.0	35 ±7.4
M12	85 ±18	8.5 ±1.8	63 ±13.0
M14	140 ±25	14.0 ±2.5	103 ±18.0
M16	220 ±45	22.0 ±4.5	160 ±33.0
M20	430 ±85	43.0 ±8.5	320 ±63.0
M24	740 ±150	74.0 ±15.0	550 ±110.0

TENSILE STRENGTH 10.9 Metric coarse and fine threads			
Threads	**Nm**	**kgf m**	**Ft.lb**
M6	12 ±2	1.2 ±0.2	9 ±1.5
M8	30 ±5	3.0 ±0.5	22 ±3.5
M10	60 ±10	6.0 ±1.0	44 ±7.5
M12	105 ±20	10.5 ±2.0	78 ±14.5
M14	175 ±30	17.5 ±3.0	130 ±22
M16	275 ±45	27.5 ±4.5	204 ±33
M20	540 ±90	54.0 ±9.0	400 ±66
M24	805 ±160	80.5 ±16.0	594 ±118

UNC threads, coarse pitch			
Threads	**Nm**	**kgf m**	**Ft.lb**
1/4"	9 ±2	0.9 ±0.2	6.6 ±1.5
5/16"	18 ±4	1.8 ±0.4	13 ±3.0
3/8"	33 ±8	3.3 ±0.8	24 ±5.9
7/16"	54 ±14	5.4 ±1.4	40 ±10
1/2"	80 ±20	8.0 ±2.0	59 ±15
9/16"	120 ±30	12.0 ±3.0	89 ±22
5/8"	170 ±40	17.0 ±4.0	130 ±30
3/4"	300 ±70	30.0 ±7.0	220 ±52

7/8"	485 ±115	48.5 ±115	360 ±85

Document Title: **Weights, (approx.)**	Function Group: **030**	Information Type: **Service Information**	Date: **4/18/2026**
Profile:			

Weights, (approx.)

Engine with mechanical radiator fan	692 kg (1526 lbs)
Engine with hydraulic radiator fan	716 kg (1579 lbs)
Radiator	50 kg (110 lbs)
Transmission HT90	450 kg (992 lbs)
Front axle	540 kg (1191 lbs)
Rear axle	535 kg (1180 lbs)
Steering cylinder	20 kg (44 lbs)
Front frame	910 kg (2007 lbs)
Rear frame	994 kg (2192 lbs)
Counterweight	975 kg (2150 lbs)
Underbody skid plate	60 kg (132 lbs)
Lifting frame, including links and pins	1 200 kg (2646 lbs)
Attachment bracket	225 kg (496 lbs)
Lift cylinder	75 kg (165 lbs)
Tilt cylinder	100 kg (221 lbs)
Cab	580 kg (1279 lbs)
Hydraulic oil pump	47 kg (104 lbs)
Control valve	35 kg (77 lbs)
Central valve	19 kg (42 lbs)
Fuel tank	14 kg (31 lbs)
Hydraulic oil tank	42 kg (93 lbs)

Document Title: **Transporting the machine**	Function Group: **050**	Information Type: **Service Information**	Date: **4/18/2026**
Profile:			

Transporting the machine

On the platform of another vehicle

If the machine is lifted onto the platform of another vehicle the frame joint must be locked.

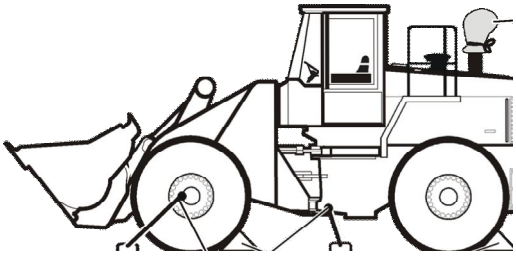

Figure 1
Transport safety

A. The front frame attaching eyes (ahead of the front axle retaining bolt) and in the towing hook.
B. Chock the wheels.
C. Exhaust pipe guards.

Transport the machine with the bucket facing in the vehicle's direction of travel.

- Make sure the machine is completely straight and stop the engine.
- Take out the pin and move the frame joint lock over to its designated place, insert the pin and lock it.

If the machine is driven up onto another vehicle the frame joint should not be locked.

Lash the machine to the platform of the transport vehicle so that it cannot overturn or start rolling. The following attachment points as in should be used.

NOTE!
To avoid air being pressed down into the exhaust pipe during transport, which could damage the turbocharger, the exhaust pipe must be covered with a suitable form of protection (not plastic).

Lifting

Use the lifting eyes intended for this purpose and lock the frame joint.

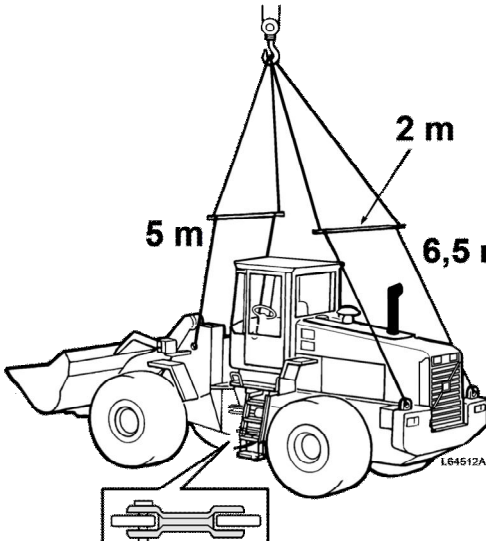

Figure 2
Lifting eyes

Over gangway

Check that the gangway is of sufficient width and strength to ensure that it cannot move out of position.

In a lift or other confined space

- Reverse the machine in
- Apply the parking brake and stop the engine before the lift is started.

WARNING

If the machine is to be driven from a loading dock to the platform of a truck or wagon, make sure that this vehicle is securely braked (wheels chocked) and that there is no danger of it overturning or heeling over in a dangerous manner when the machine is driven onto it.

In other respects follow the national rules and regulations.

Document Title: **Time Guide**	Function Group: **070**	Information Type: **Service Information**	Date: **4/18/2026**
Profile:			

Time Guide

Regarding: L70D

16 Lubricants, fuels and other liquids

Op.no.	Time (h)	Operation
16234	1,75	Hydraulic oil tank, changing oil and filter excl. cleaning tank
16236	2,5	Hydraulic oil tank, changing oil and filter incl.cleaning tank
16238	1,5	Transmission, changing oil and filter
16259	2	Axles, changing oil

17 General

17101	0,5	Arrival inspection, according to programme
17102	1,5	Delivery inspection, according to programme
17202	4,5	Warranty inspection 100 hours, according to service programme
17204	12	Warranty inspection 1000 hours, according to service programme
17307	1,75	Maintenance service, every 250 hours
17310	3,5	Maintenance service, every 500 hours
17312	7,5	Maintenance service, every 1000 hours
17314	12	Maintenance service, every 2000 hours

21 Engine, general

21002	1,75	Compression test, engine at operating temperature
21070	7	Engine, removing
21071	40	Engine removed, general overhaul
21072	7,5	Engine, fitting
21102	8	Cylinder head, replacing gasket
21168	3	Cylinder heads all removed, decarbonizing and grinding in valves
21171	0,75	Cylinder head removed, pressure testing each
21211	0,5	Cylinder, cylinder heads removed, measuring wear in all cylinders
21310	15	Cylinder liner and piston, replacing one
21318	25	Cylinder liners and pistons, replacing all
21412	3	Valves, adjusting
21436	2	Valve covers, fitting new gasket

21502	6	Timing gear cover, fitting new gasket in machine
21530	7	Timing gear, replacing in machine
21532	8	Timing gear case, fitting new gasket in machine
21614	2,5	Crankshaft, replacing front oil seal

22 Lubrication and oil system

22106	0,25	Oil pressure relief valve, replacing
22306	1,5	Oil cooler, replacing

23 Fuel system, general

23301	0,5	Fuel system, bleeding
23314	0,5	Fuel filters all, replacing
23315	0,5	Fuel filter extra, replacing
23410	3	Fuel tank, replacing
23601	0,5	Idling speed, checking and adjusting
23602	0,5	Stall speed, checking
23630	1,5	Injection timing, checking and adjusting
23644	1,5	Injection timing, checking
23673	3	Injection pump, replacing incl setting injection timing
23702	2,5	Injectors, replacing all
23707	0,25	Overflow valve, replacing
23716	2	Injectors, replacing copper sleeve in machine
23718	0,5	Delivery pipe, replacing one
23720	0,5	Pressure equalizer, replacing
23780	2	Injectors removed, reconditioning all

25 Inlet and exhaust systems

25102	1,5	Induction manifold, replacing gasket
25104	1,5	Exhaust manifold, replacing gasket
25220	1	Silencer, replacing
25221	0,5	Exhaust pipe, flexible tube, replacing
25571	1,25	Turbo charger, replacing
25573	2	Turbo charger removed, reconditioning
25602	0,5	Air cleaner, checking prssure drop indicator
25606	0,75	Pre-heating coil, replacing

26 Cooling system

26104	1	Coolant, changing
26108	2,5	Radiator, replacing
26112	1	Radiator hose upper, replacing
26114	1	Radiator hoses lower, replacing
26116	2	Radiator hoses all, replacing
26118	1	Expansion tank, changing

26202	2	Coolant pump, replacing
26271	2	Coolant pump removed, reconditioning
26298	0,75	Thermostat, replacing
26301	1,25	Fan motor, removing
26303	1,25	Fan motor, fitting
26322	1	Fan belt and/or alternator-, compressor belt, replacing all belts
26380	1,75	Fan hydraulically driven, replacing pump

27 Engine control

27321	1	Stop magnet, replacing
27322	0,75	Stop cable control, replacing
27323	0,5	Electrical engine shut down, check and adjusting

31 Battery and mounting parts

31102	1	Batteries, replacing
31103	0,5	Main switch, replacing
31106	0,5	Earth lead to battery, replacing
31108	1	Starter motor lead to battery, replacing

32 Alternator and charge regulator

32102	1	Alternator, replacing incl function check
32125	0,5	Alternator, replacing carbon brush kit in machine
32205	0,5	Charging regulator, replacing

33 Starting system, general

33118	0,75	Starter motor, replacing
33401	0,5	Starter lock, replacing

35 Lighting

35224	0,5	Head lamp assy, replacing one incl adjusting
35316	0,5	Rear lamp, replacing one
35318	0,25	Rear lamp, replacing glass or bulb
35656	0,5	Work lighting, replacing one head lamp assy

36 Other electrical equipment, general

36102	0,5	Flasher unit, replacing relay
36110	0,75	Flasher switch, replacing
36117	0,5	Flasher lamp, replacing glass or bulb
36202	0,25	Horn, replacing
36203	0,5	Reverse alarm, replacing
36301	0,5	Windscreen wiper rear, replacing motor

36302	0,75	Windscreen wiper front, replacing motor
36304	0,25	Windscreen flusher pump, replacing
36404	0,25	Switch, replacing
36408	0,25	Brake light switch, replacing
36652	1	V-ECU, replacing
36721	0,5	CU 8, replacing

38 Instruments, sender units, warning systems

38603	0,5	Transmission oil pressure sensor, replacing
38604	0,5	Transmission temperature sensor, replacing
38605	0,5	Transmission, revolution sensor, replacing
38606	0,5	Engine temperature sensor, replacing
38607	0,5	Engine oil pressure sensor, replacing
38611	1,25	Fuel level sender, replacing
38704	0,5	Transmission temperature gauge, replacing
38705	0,5	Information display, replacing

42 Transmission, general

42102	0,75	Hydraulic transmission, check oil pressure
42106	2	Oil cooler, replacing
42147	1	Gear selector, replacing
42148	1	Gear selector valve, replacing one solenoid
42152	1	Seal for front output shaft, replacing
42154	1	Seal for rear output shaft, replacing
42170	6	Transmission, removing
42171	40	Transmission removed, reconditioning
42172	8	Transmission, fitting

45 Propeller shaft incl. bearings and mounting

45102	1,5	Support or intermediate bearing, replacing
45104	1	Propeller shaft, rear, replacing
45107	1	Propeller shaft, in frame joint, replacing
45113	1	Propeller shaft, removed reconditioning

46 Drive axles, general

461	Null	Front axle
46101	5	Axle, replacing
46103	0,5	Axle, fitting
46105	1,5	Drive shaft, replacing one side
46113	15	Centre gear, axle removed, reconditioning

46114	1,75	Pinion front, fitting new gasket
46140	1	Hub retainer, replacing
46141	4,5	Hub retainer removed, reconditioning
46142	3,5	Hub retainer, reconditioning one side
46143	2,5	Hub, replacing seal
46152	0,25	Differential lock front, repacking excl adjusting
46153	0,75	Differential lock, adjusting engagement
463	Null	Rear axle
46301	5	Axle, replacing
46305	1,5	Drive shaft, replacing one side
46313	15	Centre gear, axle removed, reconditioning
46314	1,5	Pinion rear, fitting new gasket
46340	1	Hub retainer, replacing
46341	4,5	Hub retainer removed, reconditioning
46343	2,5	Hub, replacing seal

51 Wheel brake, all

516	Null	Front axle
51601	0,5	Brake linings, checking wear
51604	3	Brake discs, replacing on both sides
51650	1,5	Brake piston, replacing seals
517	Null	Rear axle
51701	0,5	Brake linings, checking wear
51704	3	Brake disc, replacing both sides
51750	1,5	Brake piston, replacing seals

52 Hydraulic brake system

52001	0,5	Brake system, checking function, hydraulic
52002	0,5	Brake system, checking function, retardation
52004	0,5	Brake system, adjusting unloading pressure
52005	0,5	Brake system, check and adjusting pressure in circuit
52037	1	Brake system, bleeding
52508	1,75	Foot brake valve, replacing
52509	1,25	Foot brake valve removed, reconditioning

55 Parking brake incl.control system

55002	0,5	Parking brake, adjusting

64 Steering

64121	1,5	Adjustable steering column, replacing
64515	0,5	Steering system, checking and adjusting standby pressure

64528	0,5	Steering system, checking and adjusting working pressure
64560	2	Steering cylinder, repacking in machine
64577	1,5	Steering cylinder removed, reconditioning incl replacing bearings
64581	1,75	Steering valve removed, reconditioning
64582	2	Steering valve, replacing
64793	1	Auxiliary steering, replacing hydraulic pump

66 CDC and other electrical operated systems

66002	8	Lever steering (CDC), fitting new

74 Frame joint, general

74105	0,5	Frame joint, checking clearance
74136	12	Frame joint, replacing bearings

75 Axle suspension, general

75501	1	Axle suspension, measuring axial and radial clearanse
75502	1	Axle suspension, adjusting axial clearance

77 Wheel, Tyre, Hub, Crawler/Track

77101	0,5	Wheel, removing and fitting one

81 Cab, general

81815	1	Cab suspension, rubber element replacing

83 Doors and Covers

83104	1,75	Door, replacing
83106	0,5	Door lock, replacing
83114	0,5	Door, replacing sealing strip

84 Outside trim parts, Glass, Sealing, Mouldings

84302	5	Windscreen, replacing
84312	5	Rear window, replacing
84313	5	Side window, replacing
84348	5	Door window, replacing

87 Air Conditioning unit

87304	1	Radiator, replacing
87306	1	Fan motor, replacing
87308	0,75	Heat control valve, replacing
87309	0,75	Heat control, replacing
87402	1	Refrigerant, draining

87403	1	Cooling unit, performance test
87405	1,75	Refrigerant, filling excl vacuum pumping
87406	4	Compressor, replacing incl draining and filling
87407	1	V-belt, replacing
87410	3,5	Condenser, replacing incl draining and filling
87411	3	Receiver, replacing incl draining and filling
87412	4	Evaporator, replacing incl draining and filling
87413	3,5	Expansion valve, replacing incl draining and filling
87414	1	Thermostat, replacing
87415	1	Compressor, replacing shaft seal (compressor removed)
87416	1	Compressor, replacing magnetic clutch (compressor removed)
87417	1,75	Compressor, replacing magnetic clutch in machine
87419	0,5	Compressor, replacing valve plate (compressor removed)

91 Working hydraulic and servo system

91105	3	Hydraulic tank, replacing inlet hose for pump
91111	1	Oil cooler, replacing
91138	5	Hydraulic oil tank, replacing
91201	3,5	Control valve, replacing
91209	1	Shock valve, tilt function, checking and adjusting
91211	1	Shock valve lift function, adjusting
91230	2	Central valve, replacing
91261	2	Control valve, repacking slide in machine
91303	0,25	Hydraulic pump, checking and adjusting standby pressure
91304	0,5	Hydraulic pump, checking and adjusting working pressure
91310	3	Hydraulic pump, replacing
91311	3	Hydraulic pump removed, reconditioning
91454	0,5	Servo valve, adjusting control
91455	0,5	Servo pressure, checking and adjusting
91458	3	Servo valve, replacing
91463	0,5	Servo pressure, checking by spool valve in control valve
91601	0,5	Boom suspension system, checking function
91602	0,75	Accumulator, check and adjusting
91604	1,5	Boom suspension system, checking

		closing pressure
91605	1	Boom suspension system, checking opening pressure
91650	10	Attachment locking, fitting new
91671	2	Boom suspension system, accumulator replacing
91672	16	Boom suspension system, fitting new
91673	2,5	Boom suspension system, valve replacing

94 Unit for load handling

94502	1	Lift frame, replacing bearing in lower bucket- or implement attachment
94503	0,5	Implement attachment, measuring clearence of lower bearing
94504	2	Lift cylinder, replacing
94505	3	Lift cylinder, repacking in machine
94506	2	Lift cylinder removed, repacking
94507	0,75	Tilt cylinder removed, replacing bearings "E-F"
94508	2	Tilt cylinder, replacing
94509	2	Tilt cylinder, repacking in machine
94510	1,5	Tilt cylinder removed, repacking
94511	2	Implemental attachment, replacing hydraulic cylinder
94512	1	Lift cylinder removed, replacing bearings "C-P"
94516	4	Lift frame, replacing bearing in upper mounting "O"
94545	1	Implemental attachment/bucket attachment, replacing bushes "A"
94554	0,75	Implement attachment, replacing
94556	1	Implement attachment, repacking removed hydraulic cylinder
94562	1	T-link upper, replacing "HIJ"
94563	0,75	T-link upper removed, replacing bearings "HIJ"
94564	1,5	T-link, lower, replacing "IB"
94565	1	T-link lower removed, replacing bearing "IB"
94566	1	Tilt link, replacing "GH"
94567	0,75	Tilt link removed, replacing bearings "GH"
94568	3	Tilt arm, replacing bearing "GDF"
94569	2	Tilt arm, replacing "GDF"
94570	0,75	Tilt arm removed, replacing bearing "GDF"