

VOLVO WHEEL LOADER

L180C

HIGH-LIFT



- **Operating weight:** 30,5 t
67,000 lb

- **Grapples:** 3,2-4,8 m²
34.4 - 51.7 ft²

The high-capacity loader for log handling

- Powerful lift-arm system with high lift and long reach gives:
 - fast and effective loading and unloading
 - higher stacks
 - more efficient turnover of stored logs
- Rotating grapple, 360 °

- Grapples suited to various types of work

- **Volvo Low Emission High Performance engine** with excellent low rpm performance. The engine meets all known regulations regarding exhaust emissions for off road machines until year 2001.

- **Volvo transmission with APS II**, the 2nd generation of Automatic Power Shift with mode selector (shift pattern) selector for optimum performance and fuel consumption.

- Fully sealed oil-circulation cooled wet disc brakes incl. external oil cooling

- **Care Cab** – pressurized cab with high comfort and safety

- **Contronic monitoring system**

- Pilot-operated working hydraulics

- Sturdy and easily operated precision steering

VOLVO



SERVICE

Contronic monitoring system provides information on machine condition, routine maintenance schedules and minimizes time required for troubleshooting.

Service accessibility: Large, easy-opening engine access doors with gas struts. Hinged radiator grill and swing-out radiator. Automatic lube system is standard.

Refill capacities	L	US gal
Fuel tank	339	89.6
Engine coolant	80	21.1
Hydraulic tank	165	43.6
Transmission	35	9.2
Engine oil	34	9.0
Axle front/rear	55/54	14.5/14.3



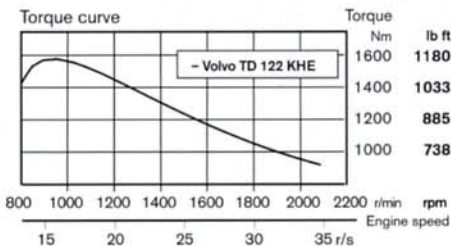
ENGINE

Engine delivers high torque and quick response at low rpm even under full load. The machine can work at low engine speeds, which contributes to good fuel economy, less noise, less wear and longer life.

Engine: Low emission, high performance, 6-cylinder, in-line, direct-injected, turbocharged, intercooled 4-stroke diesel engine with wet replaceable cylinder liners.

Air cleaning: three-stage.

Engine	Volvo TD 122 KHE	
Flywheel output at	35 r/s	2100 rpm
SAE J1349 gross	209 kW	284 hp
SAE J1349 net	198 kW	269 hp
Max. torque at	15 r/s	900 rpm
SAE J1349 gross	1580 Nm	1166 lb ft
SAE J1349 net	1570 Nm	1159 lb ft
Displacement	12,0 L	733 in ³



ELECTRICAL SYSTEM

Contronic monitoring system with complete information on the status of the machine's various systems is standard. Electrical system with circuit board is well protected by fuses. Prewired for optional equipment.

Central warning: Central warning lamp for the following functions: engine oil pressure, engine coolant temperature (with buzzer), transmission oil pressure, transmission oil temperature, brake pressure, parking brake (buzzer), high speed/gear, transmission oil filter, and axle oil temperature. Shut down to idle is standard

Voltage	24 V
Batteries	2x12 V
Battery capacity	2x160 Ah
Cold cranking capacity, ea	1050 A
Reserve capacity, ea	290 min
Alternator rating	1680 W / 60 A
Starter-motor output	6,6 kW 9.0 hp



DRIVETRAIN

Drivetrain and hydraulics well-matched to each other. Dependable design. Quick acceleration boosts productivity. Volvo system compatible design facilitates servicing.

Torque converter: Single-stage.

Transmission: Volvo automatic Power Shift transmission of countershaft type with single-lever control. Fast and smooth forward/reverse shift.

Shifting system: Volvo Automatic Power Shift generation II with mode selector (APS II).

Axles: Volvo, fully floating axle shafts with planetary-type hub reductions. Cast-steel axle housing. Fixed front axle and oscillating rear axle. 100% differential lock on front axle.

Transmission	Volvo HT 220
Torque multiplication	2,27:1
Speeds, max forward/reverse	km/h mph
1	6,5 4.0
2	12 7.5
3	24 14.9
4 (forward only)	35 21.7
Measured with tires	30/65 R29* L3
Front axle and rear axle	Volvo / AWB 40
Oscillation, rear axle	±15 °
Ground clearance at 15° oscillation	610 mm 24 in



BRAKE SYSTEM

Simple, reliable system with few parts ensures high availability and safety. Self-adjusting internal oil circulation-cooled disc brakes give long service intervals. Additional cooling provided by external oilcooling.

Service brakes: Volvo, dual-circuit system with nitrogen-charged accumulators. Fully hydraulically operated enclosed internal oil circulation-cooled outboard mounted disc brakes. Transmission declutch during braking can be preselected by a switch on the instrument panel.

Parking brake: Enclosed wet multi-disc brake built into the transmission. Spring applied, electro-hydraulic released via a switch on the instrument panel. Applies automatically when the key is turned off.

Secondary brake: Dual-circuit system with rechargeable accumulators. One circuit or the parking brake fulfills the requirements.

Standards: The brake system complies with the requirements of ISO 3450, SAE J1473

Number of discs/wheel	1
Accumulators, volume each	3x1,0 L 3x61 in ³
Accumulator, parking brake	1x0,5 L 1x30.5 in ³

GRAPPLES

SEE INFORMATION BELOW WHEN CHOOSING GRAPPLES

Grapples																	
Grip area	m ² ft ²	3,2	34.4	3,2	34.4	3,2	34.4	3,5	37.7	3,8	40.9	3,8	40.9	3,8	40.9	4,8	51.7
Performance																	
Working load	kg lb	8500	18739	8500	18739	8500	18739	8500	18739	8500	18739	8500	18739	8500	18739	8500	18739
Dimensions																	
A	mm	5670	18'6"	5540	18'2"	5670	18'6"	5570	18'3"	5540	18'2"	5220	17'1"	5220	17'1"	4649	15'3"
B	mm	6560	21'5"	6490	21'3"	6560	21'5"	6490	21'3"	6490	21'3"	6320	20'7"	6320	20'7"	6030	19'8"
C	mm	3630	11'9"	3930	12'9"	3630	11'9"	3750	12'3"	3930	12'9"	4500	14'8"	4500	14'8"	5495	18'0"
D	mm	2900	9'6"	3040	10'0"	2900	9'5"	3000	9'8"	3040	10'0"	3350	11'0"	3350	11'0"	3930	12'9"
E	mm	1220	4'0"	1335	4'4"	1220	4'0"	1320	4'3"	1355	4'4"	1670	5'5"	1670	5'5"	2250	7'4"
F	mm	2270	7'4"	2140	7'0"	2270	7'5"	2170	7'1"	2140	7'0"	1820	6'0"	1820	6'0"	1240	4'1"
G	mm	1100	3'6"	1100	3'6"	1100	3'6"	1100	3'6"	1100	3'6"	1100	3'6"	900	3'0"	1100	3'6"
BA	mm	5590	18'3"	5460	17'9"	5590	18'3"	5490	18'0"	5460	17'9"	5140	16'9"	5140	16'9"	4560	15'0"
BB	mm	6480	21'3"	6410	21'0"	6480	21'3"	6410	21'0"	6410	21'0"	6240	20'5"	6240	20'5"	5950	19'5"
BE	mm	550	1'8"	680	2'2"	550	1'8"	650	2'1"	680	2'2"	1000	3'3"	1000	3'3"	1580	5'2"
BF	mm	1270	4'2"	1140	3'7"	1270	4'2"	1170	3'8"	1140	3'7"	820	2'7"	820	2'7"	240	0'9"
Weight																	
Operating weight*)	kg lb	30400	67,032	30450	67,142	30600	67,473	30500	67,253	30600	67,473	30650	67,553	30650	67,553	30870	68,056
Order No.		91852		91853		91854		92340		91855		94463		93607		93635	

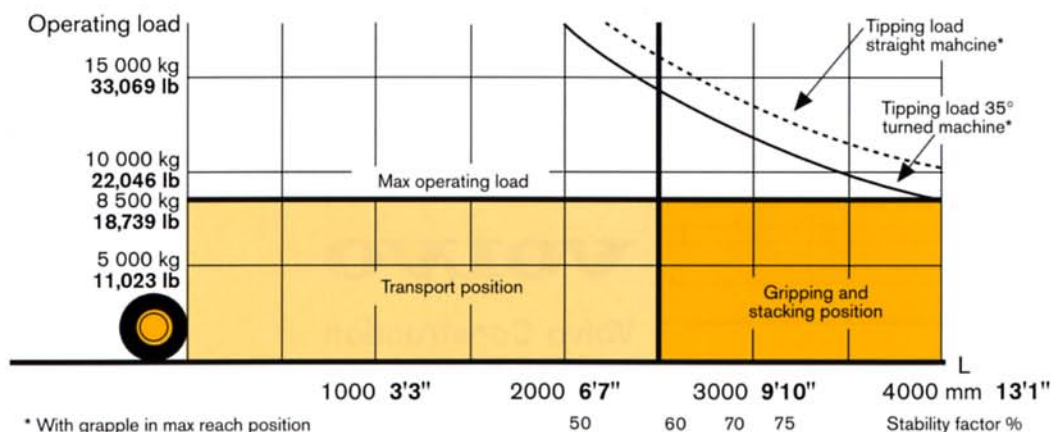
*) Including liquid in rear tires. The log pusher increases the operating weight by 800 kg / 1764 lb.

ALTERNATIVE EQUIPMENT*)

92309 Log pusher		
92366 Cylinder guard		
91852 Grapple with clinch chain**	3,2 m ² 34.4 ft²	91855 Grapple with clinch chain** suitable for loading/unloading rail freight cars
91853 Grapple with clinch chain** suitable for loading/unloading trucks	3,2 m ² 34.4 ft²	94463 Grapple with clinch chain** and straight tines suitable for picking logs located against walls
91854 Grapple equipped with hydraulic clamping arms suitable for long logs	3,2 m ² 34.4 ft²	93607 Grapple with clinch chain** and straight tines suitable for picking logs located against walls
92340 Grapple with clinch chain** suitable for low density or short logs	3,5 m ² 34.7 ft²	93635 Grapple for Pulpwood with clinch chain** and straight tines suitable for picking logs located against walls
		3,8 m ² 40.9 ft²
		3,8 m ² 40.9 ft²
		3,8 m ² 40.9 ft²
		4,8 m ² 51.7 ft²

*) A standard-equipped machine does not include grapple.
 **) The clinch chain consists of double triplex chains.

OPERATING LOAD DIAGRAM

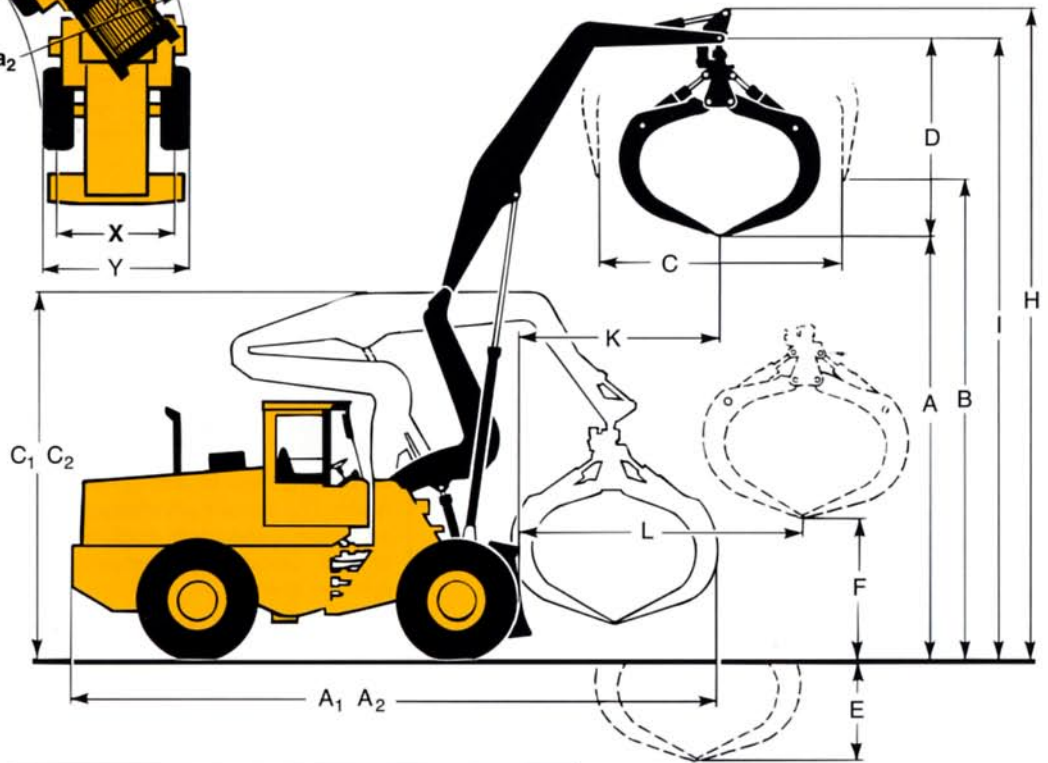
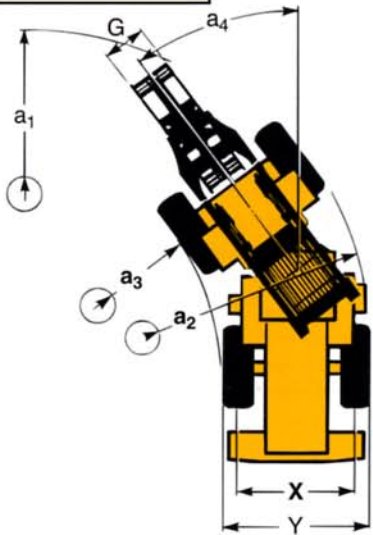
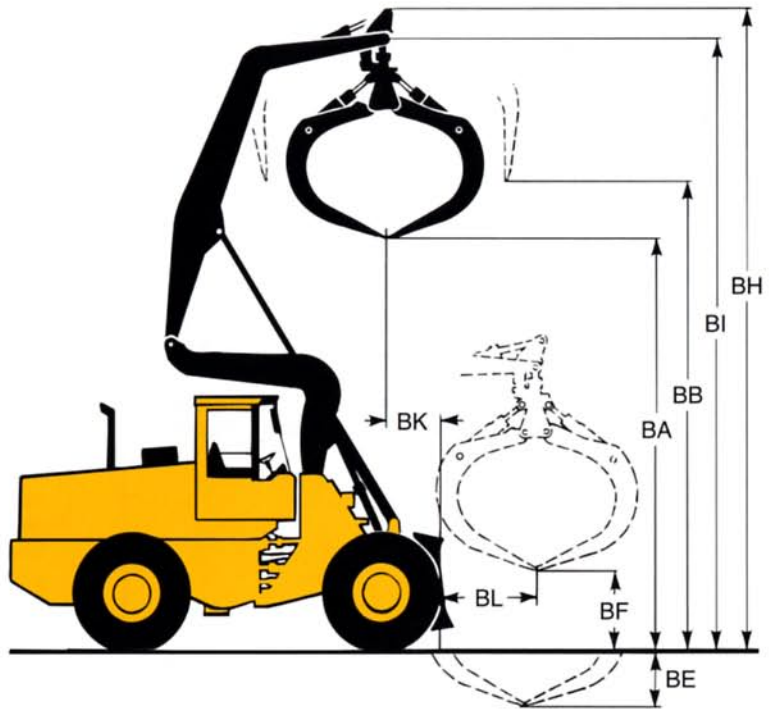


* With grapple in max reach position

OPERATIONAL DATA & DIMENSIONS

Rotating grapple, 360°, 3,2 m² 34.4 ft²
Tires: 30/65 R29* XRDNA L3

H	8960 mm	29'4"
I	8570 mm	28'1"
K	2790 mm	9'2"
L	4000 mm	13'1"
BH	8850 mm	29'0"
BI	8490 mm	27'9"
BK	850 mm	2'8"
BL	1300 mm	4'3"
X	2280 mm	7'5"
Y	3180 mm	10'4"
a ₁	7530 mm	24'7"
a ₂	6780 mm	22'2"
a ₃	3830 mm	12'6"
a ₄	±37 °	



A ₁	Grapple positioned lengthwise 3,5 m ² 37.7 ft ²	9240 mm	30'3"
A ₂	Grapple tilted forward	10350 mm	33'10"
C ₁	Grapple positioned lengthwise	4940 mm	16'2"
C ₂	Grapple tilted forward	4640 mm	15'2"



STEERING SYSTEM

Low-effort steering gives short work cycle times. Power-efficient system provides good fuel economy, good directional stability and smooth ride.

Steering system: Load-sensing hydrostatic articulated steering with power boost.

System supply: The steering system is supplied from a separate steering pump.

Pump: Variable-flow axial piston pump mounted on a power take-off on the transmission.

Cylinders: Two double-acting cylinders.

Steering cylinder	2	
Bore	100 mm	3.9 in
Piston rod diameter	50 mm	2.0 in
Stroke	418 mm	16.5 in
Relief pressure	21 MPa	3046 psi
Max. flow	116,6 L/min	30.8 USgpm
Articulation	± 37°	



CAB

Care Cab with easy entry and wide door opening. Lined with sound-absorbent material. Sound- and vibration-suppressing suspension. Good all-round visibility, large glass areas. Curved windshield of laminated, green-tinted glass. Ergonomically located controls and instruments permit a comfortable operating position.

Instrumentation: All important information is readily visible to the operator. Cab display for Contronic monitoring system.

Heater and defroster: Heating element with filtered fresh air and four-speed fan. Defroster outlets for all windows.

Operator's seat: Spring suspended, adjustable operator's seat, retractable seatbelt. The seat is mounted on a bracket on the rear wall. The force from the belt is absorbed by the seat rails.

Standards: Tested and approved according to the following standards: ROPS (ISO/3471, SAE J1040), FOPS (ISO 3449, SAE J231). Complies with "Overhead guards for rider lift trucks" (ISO 6055) and "Operator Restraint System" (SAE J386).

Emergency exits	2	
Sound level in cab as per ISO 6394, SAE J919, max.	75 dB (A)	
Fan position 2	73 dB (A)	
Exterior sound level ISO 6393	LwA 110 dB (A)	
Ventilation	10 m ³ /min	353 ft ³ /min
Heating capacity	11 kW	37 500 Btu/h
Air conditioning (optional)	8 kW	27 300 Btu/h



HYDRAULIC SYSTEM

High pump capacity gives short cycle times. Full control in all working positions, even working with heavy loads. Precise maneuvering of attachments.

Hydraulic system: Open center system with pilot-operated hydraulic valves.

Pump: One double vane pump mounted on a power take-off on the transmission.

Pilot operation: The pilot system is supplied from a separate pump, shared with the brake system. An electric servo-control actuates the two control valves.

Valves: Two pilot-operated 3-spool control valves. The *primary valve* controls: *lift, tilt and grapple*. The *secondary valve* controls: *tilt grapple, rotator and logpusher* (optional equipment).

Filter: Full-flow filtration through 20 µm nominal filter cartridge.

Main pump		
Working pressure		
circuit 1	19 MPa	2750 psi
circuit 2	14 MPa	2030 psi
Flow		
circuit 1	414 L/min	109.5 USgpm
circuit 2	92 L/min	24.2 USgpm
at	10 MPa	1450 psi
and engine speed	36.7 r/s	2200 rpm

Pilot pump		
Working pressure	3,0-4,5 MPa	435-653 psi

Cycle times (without load)	s
Lift	8,8
Lower	7,4
Tilt forward	2,9
Tilt backward	3,6
Grapple opening	2,2
Grapple closing	2,8



LIFT ARM SYSTEM

A powerful high-lift arm system with high lift height and long reach. The various attachments can be maneuvered over a large area from a stationary machine. Grapples suited to various types of work. Good stability while travelling under load permits high average speed.

Cylinders: Double-acting.

STANDARD EQUIPMENT

Service and maintenance equipment

Automatic lube system

Engine

Air cleaner, dry type, dual element, exhaust aspirated pre-cleaner
Coolant level, sight gauge
Coolant filter
Engine intake manifold preheater
Fan guard
Muffler, spark arresting
Dual fuel filter
Watertrap

Electrical System

24V – prewired for optional accessories
Acoustic back-up alarm
Alternator, 24V, 60 A
Battery disconnect switch
Fuel gauge
Engine coolant temperature
Transmission oil temperature
Hourmeter
Horn, electric
Instrument panel with symbols
Lights:
• driving (2-Front), halogen with high/low beam
• parking lights
• stop/tail combination (2 rear)
• turn signals with hazard warning switch
• working lights, halogen (2 front, 2 rear)
• attachments light
• instrument lightning

Contronic Monitoring System, ECU

Shot down to idle
Brake performance test
Brake monitoring
Transmission monitoring
Engine monitoring
Neutral start feature
Test function for warning & monitoring lights
Information panel (Contronic): start configuration, setting language and units, operating hours, general operating information, stop watch/trip meter, cycle counter, service interval
engine electrical system
transmission axles/brakes
Warning & monitoring lights:
• air cleaner restriction
• alternator malfunction
• working lights
• high beam driving lights
• direction indicator, hazard
Central warning:
• engine oil pressure
• engine coolant temperature
• transmission oil pressure
• transmission oil temperature
• brake system pressure
• parking brake applied during operation
• axle oil temperature
• transmission oil filter
• high speed/gear

Drivetrain

Transmission: modulated with single lever control, automatic power shift, and operator controlled declutch
Differentials:
front 100%, hydraulic differential lock
rear, conventional
Tires 30/65 R29* L3

Brake System

Wet, internal oil circulation cooled disc brakes, 4-wheel, dual circuit brake system.
External oil cooling

Cab

ROPS (SAE J1040CC) (ISO 3471), FOPS (SAE J 231) (ISO 3449).
Acoustical lining
Ashtray
Cigarette lighter
Door lockable (left side access)
Heater/defroster/pressurizer 11 kW
37500 Btu/h with four speed blower fan
Filtered air
Dual brake pedals
Tiltable steering wheel
Floor mat
Interior light
Mirror rear view interior
Mirror rear view (2), exterior
Openable window, right-hand side
Safety glass, tinted
Sliding window door

Seat belt (SAE J386)
Seat, heated, ergonomically designed, suspension adjustable
Storage compartment
Sun visor
Windshield wiper, front & rear
Intermittent wiper, front
Cab access steps and handrails
Windshield washer front/rear

Hydraulic System

Control Valve (3-spool), 2
Hydraulic oil cooler
Double vanepump
Electro-hydraulic servo control

External Equipment

Fenders, front/rear with anti-skid tape
Fuel strainer
Cross-beam
Rotator

Other Equipment

Lift fittings
Drawbar hitch

OPTIONAL EQUIPMENT *(Standard on certain markets)*

Service and maintenance equipment

Tool kit
Wheel-nut wrench kit
Lockable tool box

Engine Equipment

Electric engine heater
Pre-cleaner, oil-bath type
Suction fan
Radiator, corrosion protected

Electrical System

Rotating beacon, 2
Side marker light
Extra working light, front, (two), halogen

Extra working light, rear, (two), halogen
Alternator 100 A
Loud tone horn

Cab

Installation kit for radio (loudspeaker, antenna, etc.)
Air-suspended operator's seat
Hand throttle
Air conditioning
Speedometer
Arm rest, left side
Sliding window, right side

Hydraulic System

Boom Suspension System
Biodegradable hydraulic fluid

External Equipment

Fenders, rubber extension
Fenders, rear swing-out

Protective Equipment

Protective grille for headlight
Protective grille for rear working light
Protective grille for rear light
Muffler guard
Protection plate under cab
Bellyguard, rear
Protection plate, valve front frame
Protection for lift-cylinder rods

Other Equipment

Secondary steering
Comfort Drive Control (CDC)
Log pusher
External noise reduction kit

We reserve the right to change specifications and design without prior notice. The illustrations do not always show a machine with standard equipment. Specifications and dimensional data conform in applicable parts to ISO 7131, SAE J732, ISO 7546, SAE J742, ISO 5998, SAE J818.

VOLVO

Volvo Construction Equipment

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