

VOLVO WHEEL LOADER

L180C

HIGH-LIFT



- **Operating weight:** 30,5 t

- **Grapples:** 3,2-4,8 m²

The high-capacity loader for timber 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 timber

- **Rotating grapple, 360 °**

- **Grapples suited to various types of work**

- **Volvo high performance low emission engine**

- with excellent low r/min performance
- meets all known exhaust emission for off road vehicles until year 2001

- **Volvo transmission with APS II,**

- 2nd generation of Automatic Power Shift with mode selector
- optimizes the performance

- **Wet disc brakes**

- Fully sealed oil-circulation cooled outboard mounted

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

- **Contronic monitoring system**

- **Load-sensing steering system**

- **Pilot-operated working hydraulics**

VOLVO



SERVICE

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

Service accessibility: Large, easy-opening, gas-sprung hatches. Top-hung lift-up radiator grille and swing-out radiator.

Central lubrication: Long lubrication and oil-change intervals.

Refill capacities

Fuel tank	318 l
Engine coolant	80 l
Hydraulic tank	165 l
Transmission	38 l
Engine oil	34 l
Axle front/rear	55/54 l



ENGINE

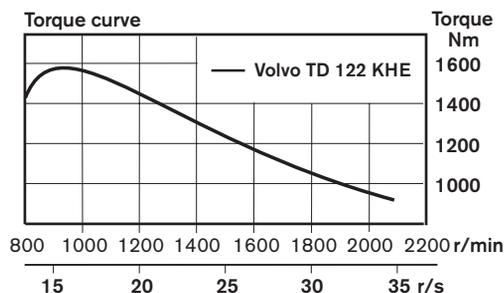
Engine delivers high torque and quick response at low rpm even under full load. The machine can work at low engine speeds, which contributes to good fuel economy, less noise, less wear and longer life.

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

Air cleaning: three-stage.

Cooling system: Hydrostatically driven fan with separate cooling for the intercooler circuit.

Engine	Volvo TD 122 KHE
Flywheel output at	35 r/s (2100 r/min)
SAE J1349 gross	209 kW (284 hp)
SAE J1349 net	203 kW (276 hp)
Max. torque at	15,0 r/s (900 r/min)
SAE J1349 gross	1580 Nm
SAE J1349 net	1570 Nm
Displacement	12,0 l



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. Prepared for retrofitting of optional equipment.

Central warning lamp for the following functions: Engine oil pressure, transmission oil pressure, transmission oil temperature, transmission oil filter, brake system pressure, steering pressure.

Central warning lamp with buzzer for the following functions: engine coolant temperature, overspeeding of engine/transmission, axle temperature, parking brake (if applied when operating), low brake pressure (when gear is engaged).

Voltage	24 V
Batteries	2x12 V
Battery capacity	2x140 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 working hydraulics well-matched to each other. Dependable design. Quick acceleration boosts productivity. Volvo system-compatible design facilitates serviceing.

Torque converter: Single-stage.

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

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	
1	6,5 km/h
2	12,1 km/h
3	24,0 km/h
4 (forward only)	35,1 km/h

Measured with tires	26.5 R25* L3
Front axle and rear axle	Volvo / AWB 40
Oscillation, rear axle	± 15 °
Ground clearance at	
15° oscillation	610 mm



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.

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. Brake performance test provided by the Contronic system.

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

Number of discs/wheel	1
Accumulators, volume each	3x1,0 l

GRAPPLES

SEE INFORMATION BELOW WHEN CHOOSING GRAPPLES

									
Grip area	m ²	3,2	3,2	3,2	3,5	3,8	3,8	3,8	4,8
Working load	kg	8500	8500	8500	8500	8500	8500	8500	8500
Dimensions									
A	mm	5670	5540	5670	5570	5540	5220	5220	4649
B	mm	6560	6490	6560	6490	6490	6320	6320	6030
C	mm	3630	3930	3630	3750	3930	4500	4500	5495
D	mm	2900	3040	2900	3000	3040	3350	3350	3930
E	mm	1220	1335	1220	1320	1355	1670	1670	2250
F	mm	2270	2140	2270	2170	2140	1820	1820	1240
G	mm	1100	1100	1100	1100	1100	1100	900	1100
M	mm	2406	2050	2406	2512	2670	2350	1926	2250
BA	mm	5590	5460	5590	5490	5460	5140	5140	4560
BB	mm	6480	6410	6480	6410	6410	6240	6240	5950
BE	mm	550	680	550	650	680	1000	1000	1580
BF	mm	1270	1140	1270	1170	1140	820	820	240
Operating weight*)	kg	30400	30450	30600	30500	30600	30650	30650	30870
Order No.		91852	91853	91854	92340	91855	94463	93607	93635

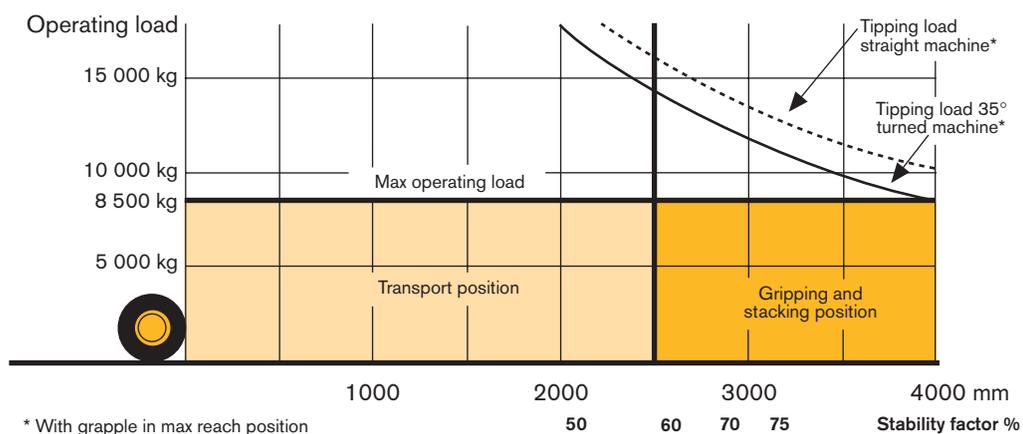
*) Including liquid in rear tires. The log pusher increases the operating weight by 800 kg

ALTERNATIVE EQUIPMENT*)

Grapples	Shortwood (pulpwood)	Long timber	Terminal handling	Unloading/ loading of vehicles	Railway cars	Unloading/ loading against wall	With hydraulic clamping arms	With triplex chain
91852 3,2 m ²		X	X	X				X
91853 3,2 m ²		X	X	X		X		X
91854 3,2 m ²		X	X	X			X	
92340 3,5 m ²	X	(X)	X	X				X
91855 3,8 m ²	X		X	X	X			X
94463 3,8 m ²	X		X	X		X		X
*93607 3,8 m ²	X		X	X		X		X
93635 4,8 m ²	X		X	X		X		X

*) Width 900 mm. Other grapples 1100 mm wide.
(X) For low density of wood.

OPERATING LOAD DIAGRAM

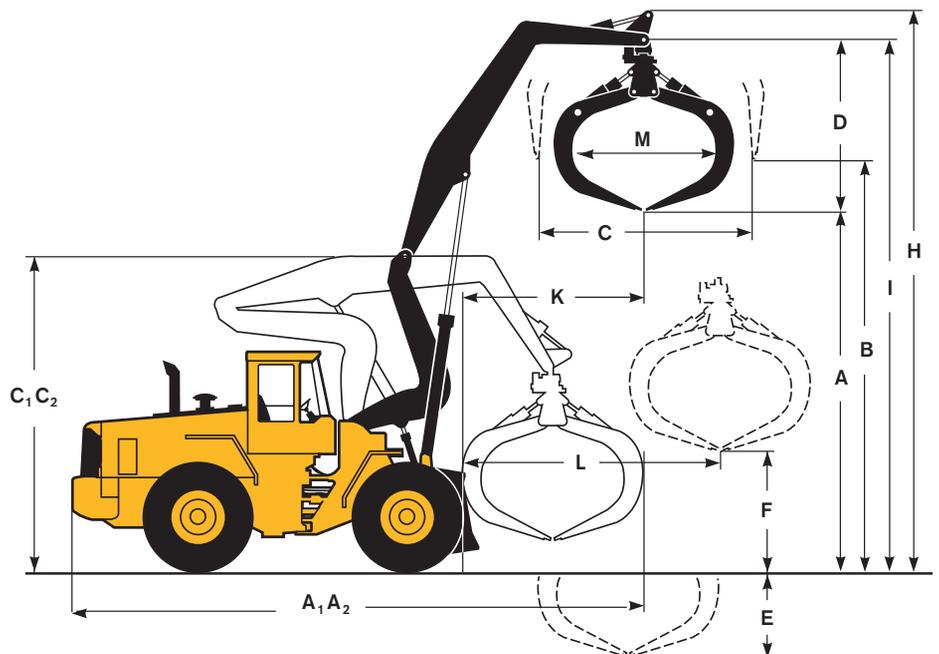
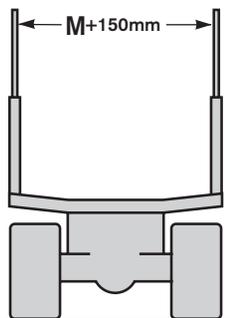
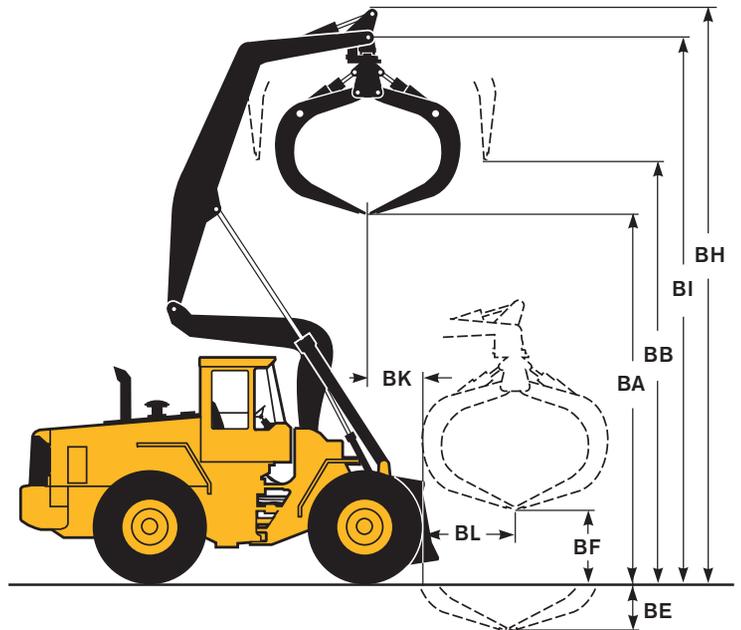
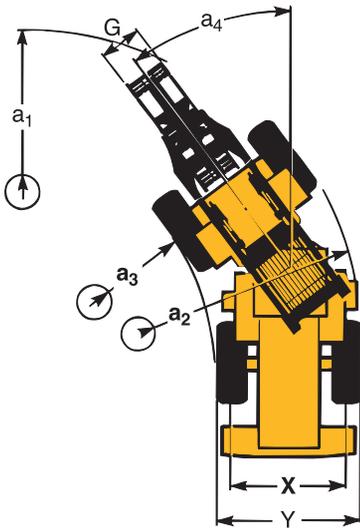


OPERATIONAL DATA & DIMENSIONS

Rotating grapple, 360°, 3,2 m²

Tires: 30/65 R29* XRDNA L3

H	I	K	L	BH	BI	BK	BL	X	Y	a ₁	a ₂	a ₃	a ₄
8960 mm	8590 mm	2790 mm	4000 mm	8850 mm	8490 mm	850 mm	1300 mm	2280 mm	3180 mm	7530 mm	6780 mm	3830 mm	±37°



A ₁	Grapple positioned lengthwise 3,5 m	9240 mm
A ₂	Grapple tilted forward	10350 mm
C ₁	Grapple positioned lengthwise	4940 mm
C ₂	Grapple tilted forward	4640 mm



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.

Working pressure	21 MPa
Flow	116,6 l/min
Max. steering angle	± 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 (option).

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 with 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	76 dB (A)
Fan position 2	73 dB (A)
Exterior sound level ISO 6393, J2104	LwA 110 dB (A)
Ventilation	10 m ³ /min
Heating capacity	11 kW
Air conditioning (optional)	8 kW



HYDRAULIC SYSTEM

High pump capacity gives fast movements. Good control in all working positions, even when working with heavy loads. Precision manoeuvring of attachments.

Hydraulic system: Open centre 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 via a servo unit.

Valves: Two pilot-operated 3-spool control valves. The primary control valve governs: lift, tilt and grapple. The secondary control valve governs: tilt grapple, rotator and pusher (extra equipment).

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

Main pump	
Working pressure,	
circuit 1	19 MPa
circuit 2	14 MPa
Flow,	
circuit 1	414 l/min
circuit 2	92 l/min
at	10 MPa
and engine speed	36,7 r/s
Pilot pump	
Working pressure	3,0-4,5 MPa
Cycle times (without load)	
Lift	8,8 s
Lower	7,4 s
Tilt forward	2,9 s
Tilt backward	3,6 s
Grapple opening	2,2 s
Grapple closing	2,8 s



LIFT-ARM SYSTEM

A powerful high-lift arm system with high lift height and long reach. The various attachments can be manoeuvred 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

Central lubrication system

Engine

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

Electrical System

24 V – prewired for optional
accessories
Alternator, 24 V/60 A
Battery disconnect switch
Fuel gauge
Engine coolant temperature gauge
Transmission oil temperature gauge
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)
- instrument lighting

Contronic Monitoring System, ECU

Neutral start feature
Test function for warning &
monitoring lights
Warning & monitoring lights:
• engine oil pressure
• engine coolant temperature
• air cleaner restriction
• alternator malfunction
• working lights
• high beam driving lights
• direction indicator, hazard
Central warning:
• transmission oil pressure
• transmission oil temperature
• brake system pressure
• parking brake applied
• steering pressure
• axle oil temperature
• transmission oil filter
• high speed/gear
• engine oil pressure
• engine coolant temperature
(buzzer)

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*

Brake System

Wet, internal oil circulation cooled
disc brakes, 4-wheel, dual circuit
brake system, with separate
cooling system secondary
Parking brake alarm

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
Floor mat
Interior light
Mirror rear view interior
Mirror rear view (2), exterior

Openable window, right-hand side
Safety glass, tinted
Seat belt retractable (SAE J386)
Seat, heated, ergonomically
designed, suspension adjustable
Storage compartment
Sun visor
Windshield wiper, front & rear
Intermittent wiper, front
Cab access steps and handrails
Fenders, front & rear with anti-
skid-tape

Hydraulic System

Control Valve (3-spool), 2
Hydraulic oil cooler
Double vane pump
Electro-hydraulic servocontrol

External Equipment

Mudguards
Cross-beam
Rotator

Other Equipment

Lift fittings

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
Coolant filter
Radiator, corrosion protected

Electrical System

Rotating beacon, 2
Side marker light
Left-hand asymmetrical headlight
(halogen)
Extra working light, front,
(two), halogen
Extra working light, rear,
(two), halogen
Attachment light (halogen)
Air horn
Acoustic back-up alarm

Cab

Installation kit for radio
(loudspeaker, antenna, etc.)
Instructor's seat
Electrically heated operator's seat
Air-sprung operator's seat
Windshield washers, front and rear
Interlocked brake pedals
Hand throttle
Sliding vent window
Air conditioning
Speedometer
Tiltable steering wheel
Information panel (Contronic):
start figuration, setting language
and units, operating hours,
general operating information,
stop watch/trip meter, cycle
counter, service interval
engine
electrical system
transmission
axles/brakes

Hydraulic System

Boom Suspension System
Biodegradable hydraulic fluid

External Equipment

Tow fitting
Slow Moving Vehicle sign
Covering mudguards

Protective Equipment

Protective grille for headlight
Protective grille for rear working
light
Protective grille for rear light
Muffler guard

Other Equipment

Secondary steering
Comfort Drive Control (CDC)
Fueling strainer
Log pusher
Piston-rod guards
External noise reduction kit
91850 Cross-beam
91851 Rotator
92309 Log Pusher
92366 Lift cylinder guard

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.