



Volvo Construction Equipment

L45H

Volvo Wheel Loaders





OPTIMISED DRIVELINE



The engine, transmission and axles are all designed to work in perfect harmony with the hydraulics and steering for superb performance, durability and reliability.



Volvo L45H

Engine

Volvo Tier 4f / Stage IV compliant, 4 liter, 4-cylinder in-line turbocharged diesel engine; featuring common rail fuel injection system and externally cooled exhaust gas recirculation (EGR). Exhaust aftertreatment system includes a diesel oxidation catalyst (DOC), a diesel particulate filter (DPF) and a selective catalytic reduction (SCR). Cooling pack includes side by side arranged radiators for engine coolant, hydraulic oil and charge air cooler.

		L45H
Engine		Volvo D4J
Max power at	r/min	1 800 - 2 200
	r/s	30 - 36.7
SAE J1995 gross	kW	75
	hp	102
ISO 9249, SAE J1349 net	kW	73
	hp	99
Max torque at	r/min	1 450
	r/s	24.2
SAE J1995 gross	Nm	425
	ISO 9249, SAE J1349 net	Nm
Economic working range	r/min	1 200 - 1 800
	r/s	20 - 30
Displacement	l	4

Drivetrain

Hydrostatic transmission allows for of speed range change without any tractive power interruption. Maximum tractive power is available in all speed ranges, regardless of the driving direction. Automatic power regulation prevents engine stalling in case of additional power demand from the working hydraulics or the auxiliaries, and protects from overheating in case of overload. Fully floating axle shafts with planetary hub reductions and steel casted axle housing. Fixed front axle and oscillating rear axle, both self-lubricated. 100% differential lock on both axles.

		L45H
Travel speeds (Forward / Reverse)		
1st speed range	km/h	0 - 5
2nd speed range	km/h	0 - 20
Angle of rear axle oscillation	°	±12
Oscillation at wheel	mm	360
at Track width	mm	1 730

Hydraulic System

Closed center load sensing hydraulic system with pilot operated control valves.

System supply:

A variable displacement piston pump provides flow to the working hydraulic and steering system. The steering function has always priority.

A gear pump provides flow to the braking system and the cooling fan.

System control:

Double-acting 3-spools main control valve (4-spools valve as option).

The lift function has four positions: lift, hold (neutral), lower and float position.

An optional automatic boom kick-out can be switched on and off and is adjustable to any position between maximum reach and full lifting height.

The tilt function has three positions: rollback, hold (neutral) and dump.

The standard bucket positioner system allows to easily adjust the tilt angle to a predefined position.

A third and fourth hydraulic functions are available as options to power hydraulic implements (Volvo hydraulic Attachment Bracket, Hi-Tip bucket, angle sweeper etc...)

Filtration:

Full-flow filtration through 10 micron (absolute) filter cartridge in a combined suction-return-filter.

Cooling:

Thermostatically controlled oil flow to oil cooler (fast warm-up, optimized cooling).

		L45H
Working pressure max	Mpa	26
Flow at engine speed	l/min	132
	r/min	2 200
	r/s	36.7
Pilot working pressure	Mpa	2.5

Linkage

Double acting cylinder for all functions

		L45H
Linkage system		Torque parallel (TP)
Lift cylinders		2
Tilt cylinders		1
Lift time (loaded)	s	4.8
Lowering time (empty)	s	3.2
Dump time	s	1.5



Steering System

Load sensing hydrostatic articulated steering with double acting cylinders.

System supply:

The steering system has priority feed from the load-sensing axial piston pump with variable displacement.

Steering cylinders:

Two double-acting cylinders. Elastical end-stops.

		L45H
Steering cylinders		2
Working pressure	Mpa	17.5
Maximum flow	l/min	70
Max articulation	°	±40

Brake System

The brake system complies with ISO 3450 requirements. Single circuit service brake featuring hydraulically operated wet disk brakes on rear axle.

An Inching-brake pedal provides hydrostatic wearless braking in the first stage for precise approach; if applied further the service brakes takes over for final braking and machine immobilization.

Parking brake: Mechanically operated dry disc brake located on the input shaft of the front axle.

Electrical System

Contronic electrical system with central warning light and buzzer, providing clear and easy to read information to the operator. LCD display with main and sub information field, adjustable to various languages.

Display information in three categories:

- Information on continous operating data,
- Check requests (based on vehicle and error messages)
- Warning (with alarm texts).

Additional audible warning by a buzzer.

Indicator and activation lights for various control and monitoring functions.

Gauges for Adblue® level, fuel tank level, speedometer, engine speed, coolant temperature, transmission/hydraulic oil temperature.

A keypad allows easy navigation on the central instrument display.

Direct access buttons for Engine, Transmission, Hydraulics, Axles & Brakes, Electrical system, Vehicle information, Vehicle messages, Service, Settings and Cycle information.

		L45H
Voltage	V	24
Batteries	V	2x12
Battery capacity	Ah	2x100
Cold cranking capacity, approx	A	830
Alternator rating	W/A	3 080/110
Starter motor output	kW/hp	5.5 / 7.5

Cab

The cab is tested and approved according to ROPS (ISO 3471, SAE J1040) and FOPS (ISO 3449).

The cab is compliant with ISO 6055 requirements regarding Operator overhead protection - Industrial trucks and SAE J386 regarding Operator Restraint System.

The operator's seat features an adjustable suspension and a retractable seatbelt.

Fresh air is filtered through two large elements prior entering, ensuring extremely clean air distribution in the cab.

11 air flow settings or an automatic mode provides efficient ventilation.

Air vents are available to all windows enabling fast de-misting and defrosting.

The contronic monitoring system provides all important information in a central position and all machine controls are located in the operator's field of vision.

Sound Level

		L45H
Sound level in cab according to ISO 6396		
LpA	dB(A)	70
LpA (as option)	dB(A)	68
External sound level according to ISO 6395		
LwA	dB(A)	102

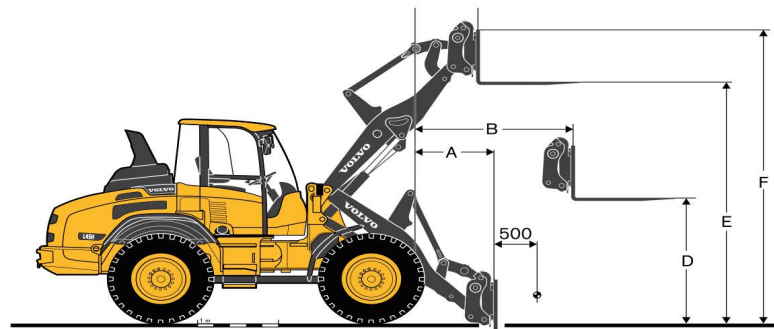
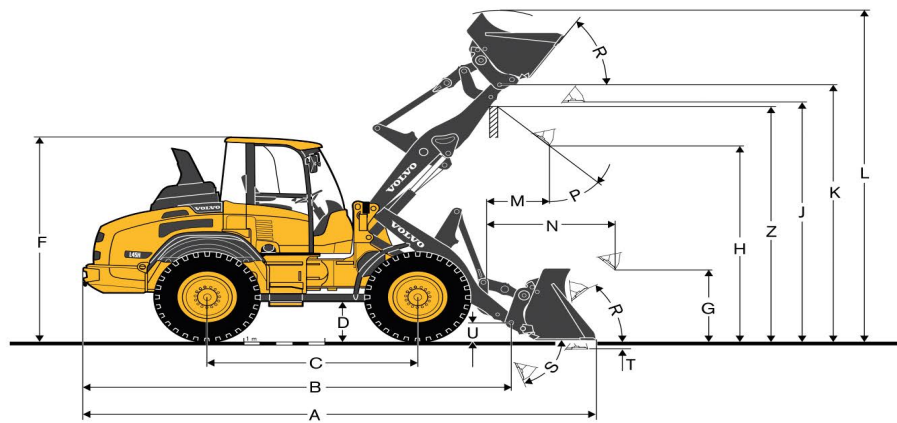
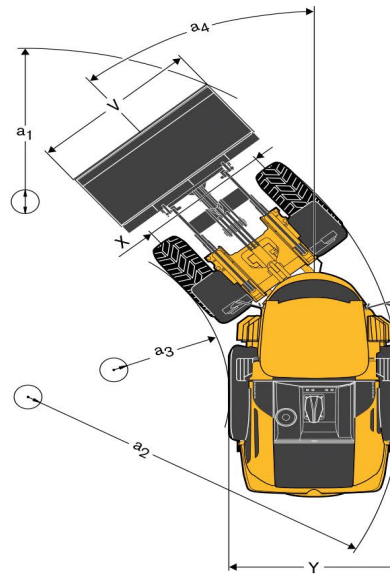
Service / Filling capacities

		L45H
Fuel tank	l	150
AdBlue® tank	l	20
Engine oil	l	14
Engine coolant	l	20
Hydraulic tank	l	95
Transmission oil	l	1.2
Front axle oil	l	17.5
Rear axle oil	l	17.5

Specifications L45H

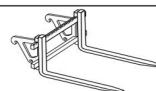
With TP-linkage, TPV attachment bracket and 15.5-25 tires

B	mm	5 320
C	mm	2 650
D	mm	395
F	mm	2 950
G	mm	1 000
J	mm	3 430
K	mm	3 685
O	°	55
P	°	45
R	°	45
S	°	75
U	mm	255
X	mm	1 750
Y	mm	2 150
Z	mm	3 445
a ₂	mm	4 745
a ₃	mm	2 555
a ₄	°	40



With Loading Fork

TPV attachment bracket



Center of gravity 500 mm

A	mm	785
B	mm	1 475
C	mm	650
D	mm	1 705
E	mm	3 490
F	mm	4 225
Tipping load full turn (ISO 14397)	kg	4 420
Working load acc. to EN 474-3, 60/80%	kg	2 650 / 3 530
Working load 80%, transport position, 40 deg. and full turn	kg	4 000



With TP-Linkage, TPV attachment bracket and 15.5-25 tires		4-in-1	
Capacity heaped	m ³	1.2	
Material density	kg/m ³	1 900	
Static tipping load. straight (ISO 14397)	kg	5 580	
Static tipping load. full turn 40° (ISO 14397)	kg	4 940	
Hydraulic lifting capacity. max.	kN	67	
Breakout force	kN	77	
A Total length	mm	6 295	
L Lift height. max.	mm	4 815	
V Bucket width	mm	2 250	
a ₁ Clearance circle	mm	10 305	
T Digging depth	mm	120	
H Dump height. 45°	mm	2 790	
M Reach at max. height	mm	830	
N Reach. max.	mm	1 650	
Operating weight	kg	8 990	



Equipment

STANDARD EQUIPMENT

	L45H
Service	
Standard tool kit	•
Drain valves for engine oil, hydraulic oil and coolant	•
Hydraulic pressure test ports with quick-connects	•
Engine	
Dry-type air filter	•
Three stage air cleaner, pre-cleaner, primary and secondary filter	•
Preparation for pre-cleaner	•
Preheating of induction air	•
Side by side (single layer) cooling pack	•
Coolant level monitoring	•
Filtration screens on air inlets	•
Fuel pre-filter with water trap	•
Crank case breather oil trap	•
Exhaust after-treatment system	•
Exhaust heat ventilation	•
Electrical system	
24 V electrical system (2 X 12V maintenance free batteries)	•
Batteries covered by lockable engine hood	•
Electronic battery cut-off switch	•
Alternator 110 A / 3 080 W	•
Electric horn	•
Lighting	
Main head lights (halogen) upper/dipped/asymmetrical	•
Working lights, halogen (2 front/2 rear)	•
Parking lights	•
Rear lights	•
Brake lights	•
Direction indicators	•
Hazard warning lights	•
Reversing lights	•
Cab lighting	•
Instrumentation & controls	
24 Volt accessories socket	•
Hazard warning switch	•
Safety start	•
Electronic Information System	
Contronic display with keypad	•
Monitoring of fuel level, fuel consumption, AdBlue level, temperatures and pressures (engine, ambient, transmission, hydraulics, brakes and steering)	•
LED-illuminated symbols are available for direction indicators, transportation & work lights, rotating beacon, parking brake, engine oil pressure, battery charging, differential lock, boom suspension system, Adblue warning, regeneration and high exhaust temperature	•
Drivetrain	
Hydrostatic drive	•
Inching-brake pedal (hydrostatic wearless braking ahead of service brake application)	•
Wet disc service brakes, hydraulically operated	•
Dry disc parking brake	•
Operator-selected 100% differential locks in both axles	•
Hydraulic system	
Load-Sensing Hydraulics	•
Flow sharing main control valve, three-spool system	•
Variable displacement axial piston pump for working hydraulic and steering	•
Gear pump for brake system and cooling fan	•
3rd hydraulic circuit	•
Bucket positioner	•
Indicator glass for hydraulic oil level	•
Thermostatically controlled oil flow to oil cooler (fast warm-up, optimized cooling)	•
Cab, Exterior	
ROPS/FOPS-cab	•
Cab cushioning	•
Single key kit door / start	•
Lockable door	•
Door stops	•
All-round tinted safety glass	•
Sliding window RHS	•
Two-stage air inlet filtration with large easy to replace elements	•
External rear view mirrors (right/left)	•
Windscreen wiper (front/rear)	•
Windscreen washer (front/rear)	•

	L45H
Cab, Interior	
Acoustic inner lining	•
Floor mat	•
Adjustable steering column	•
Left and right armrests	•
4-way adjustable operator's seat	•
Retractable seat belt	•
Sunvisor	•
Interior rear view mirrors	•
Air conditioner	•
Automatic heat control	•
Several air vents on the front and rear of the cab, allowing excellent climate control, demisting and defrosting	•
Interior light	•
Coat hook	•
Cup holder	•
Storage box in the cab	•
24 V power outlet	•
Emergency hammer	•
Working Equipment	
Automatic bucket positioner	•
Hydraulic quick-change attachment bracket	•
External equipment	
Fenders (front/rear)	•
Lockable engine hood	•
Lockable fuel-tank cap	•
Lockable AdBlue filler cap	•
Vertical exhaust	•
Frame, joint lock	•
Towing device	•
Lifting eyes and Tie-down points	•
Official approval	
Machine conforming to European directive 2006/42/EC	•
Electromagnetic compatibility (EMC) conforming to European directive 2014/30/EC	•
Noise emissions in the environment conforming to directive 2000/14/EC	•
Tipping load and payload conforming to ISO 14397-1	•
ROPS conforming to ISO 3471	•
FOPS conforming to ISO 3449	•