



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 | 416 |
| 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 | l/min | 132 |
| at engine speed | 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 continuous 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 |

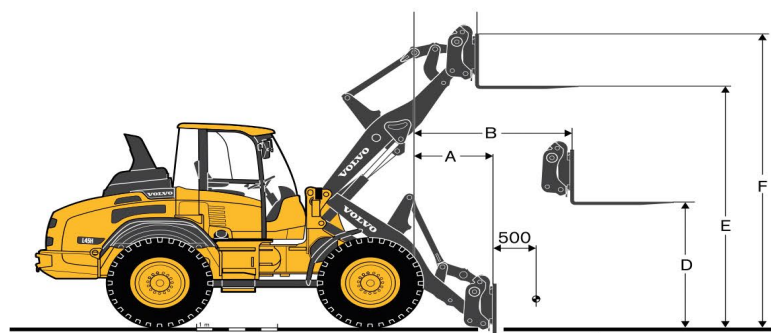
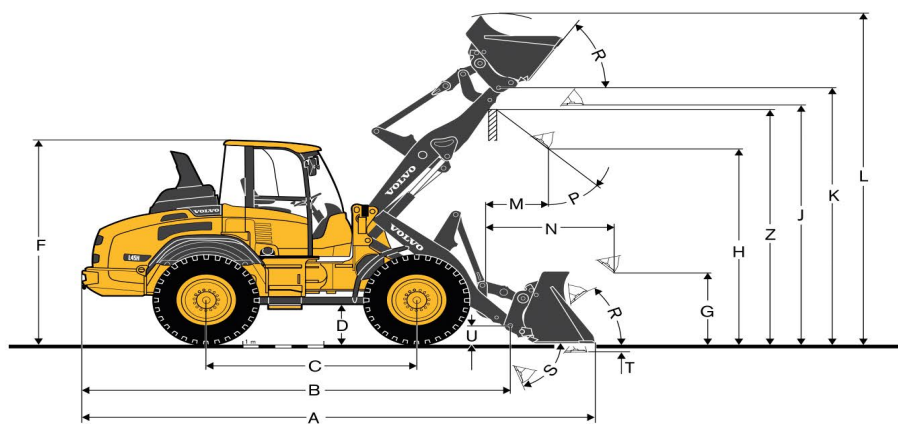
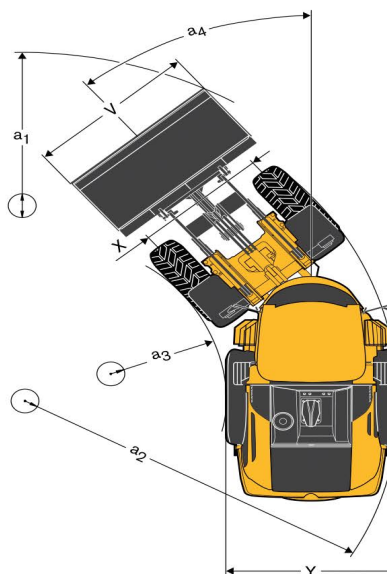
Service / Filling capacities

| | | 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

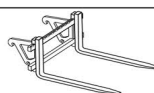
With TP-linkage, TPV attachment bracket and 15.5-25 tires

| | | |
|----------------|----|-------|
| 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 |

| | | 4-in-1 | |
|--|-------------------|---------------|--|
| With TP-Linkage, TPV attachment bracket and 15.5-25 tires | | | |
| 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 | |
| a₁ 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 | • |