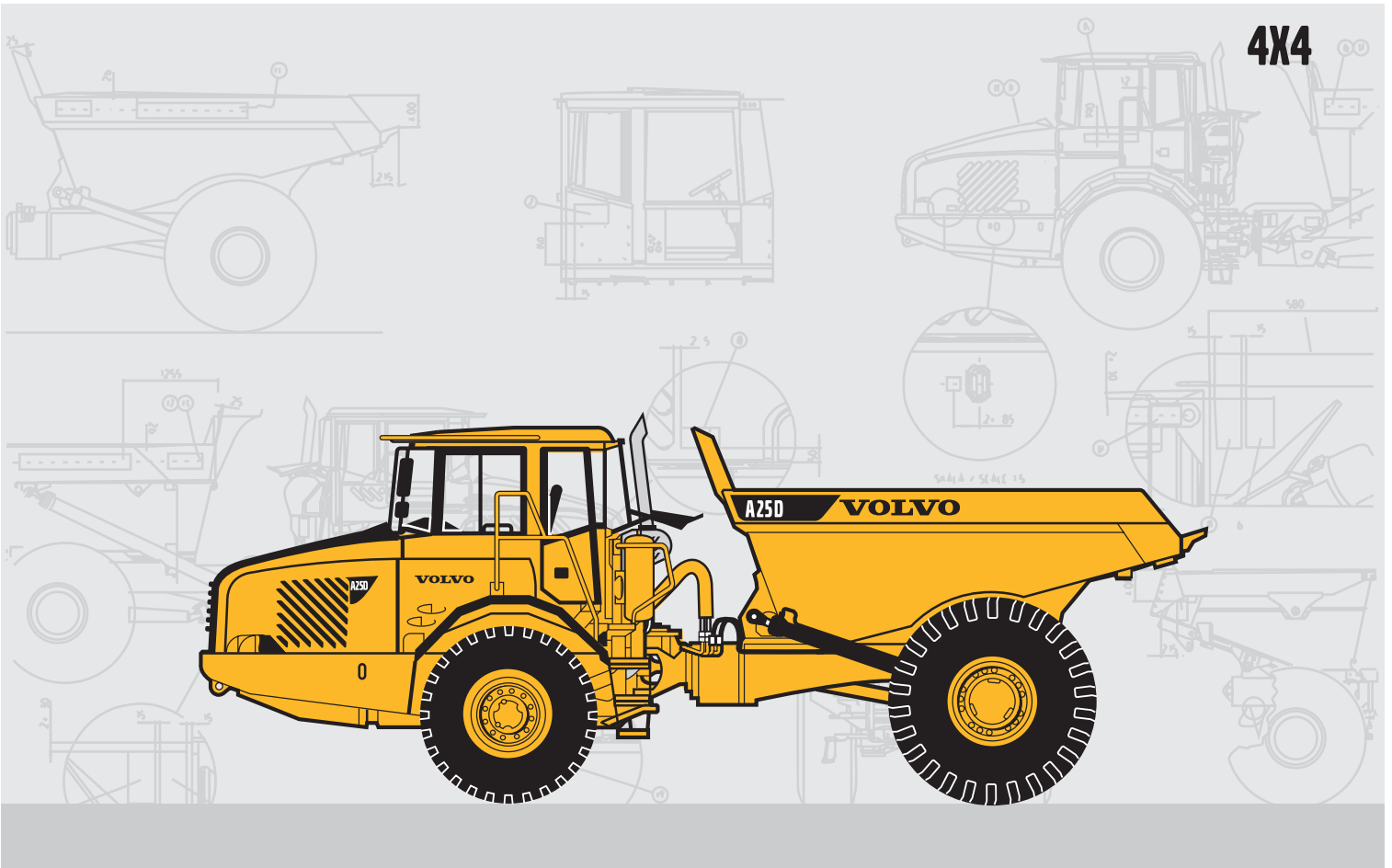


## VOLVO ARTICULATED HAULER

# A25D



- **Engine output:**  
s/n 13001-  
SAE J1995, Gross 224 kW  
(305 hp)  
SAE J1349, Net 223 kW  
(303 hp)
- **Body volume, heaped:**  
13,0 m<sup>3</sup>
- **Load capacity:**  
24,0 t
- **Volvo cab**, designed for high operator visibility, ergonomics and comfort.
- **Reduced maintenance time** with no daily or weekly grease points.
- **Electronic Operator's Communication System**
- **Volvo high performance – low emission**, electronically controlled, direct injected, turbocharged, intercooled diesel engine.
- **Fully automatic planetary transmission**, electronically controlled.
- **Hydraulic retarder** integral in transmission.
- **Dropbox with longitudinal differential lock**
- **100% lock-up differentials.** One longitudinal and two transverse differential locks.
- **Front axle with three-point suspension.**
- **Volvo Load & Dump Brake.**

# VOLVO

# The A25D 4x4 in detail

## Service

The computerized information system monitors all fluid levels, minimizing daily and weekly service times.

Time to next service and the status of vital vehicle systems is shown to the operator on a display in the instrument panel.

**Service accessibility:** Fold-down front grill with access ladder to remote filter bank, located in front of engine.

Large, 90° opening hood for total engine access.

Remote drain hoses and swing-out radiator for easy cleaning.

## Fill capacities

Crankcase.....	40 l
Fuel tank.....	400 l
Cooling system .....	115 l
Transmission total .....	41 l
Dropbox.....	8,5 l
Front axle.....	33 l
Rear axle.....	52 l
Hydraulic tank .....	175 l

## Engine

Volvo inline 6-cylinder, direct injected electronically controlled, turbocharged, intercooled 4-stroke low-emission diesel engine with wet replaceable cylinder liners.

**Fan:** Hydrostatically driven, thermostatically controlled variable speed radiator fan consuming power only when needed.

**Engine brake:** Exhaust retarder.

Make, model .....	Volvo D9AAAE2*
Make, model .....	Volvo D9AABE2**
Max power at .....	35 r/s (2 100 r/min)
SAE J1995 Gross .....	224 kW (305 hp)
Flywheel power at .....	35 r/s (2 100 r/min)
SAE J1349 Net, DIN 6271*** .....	223 kW (303 hp)
Max torque at .....	20 r/s (1 200 r/min)
SAE J1995 Gross .....	1 700 Nm
SAE J1349 Net, DIN 6271*** .....	1 689 Nm
Displacement total .....	9,4 l

\* ) Meets Europe (EU) step 2.

\*\* ) Meets US (EPA) step 2, California (CARB) step 2 and Europe (EU) step 2.

\*\*\* ) with fan at normal speed.

With fan operating at full speed, the flywheel power is 210 kW (285 hp) and maximum torque is 1 589 Nm which corresponds to DIN 70020.

## Electrical system

All cables, sockets and pins are identified. Cables are enclosed in plastic conduit and secured to main frame.

Halogen lights. Prewired for options.

Connectors meet IP67 standard for waterproofing as necessary.

Voltage .....	24 V
Battery capacity.....	2x170 Ah
Alternator .....	2,24 kW (80 A)
Starter motor .....	7 kW (9,4 hp)



## Drivetrain

Volvo components, specifically designed for hauler applications.

**Torque converter:** Single-stage with free-wheeling stator and automatic lock-up on all gears.

**Transmission:** Fully automatic planetary transmission with six forward gears and two reverse gears, with a built-in variable hydraulic retarder.

**Dropbox:** Volvo design, single-stage.

**Axles:** Volvo design with fully floating axle shafts and planetary type hub reductions.

**Differential locks:** One longitudinal and two transverse with 100% lock-up function, operator selectable on the move.

**Configuration:** 4-wheel drive.

Torque converter.....	2,37:1
Transmission.....	Volvo PT 1562
Dropbox.....	IL 1
Axles.....	Volvo AH 64 / AH 71E

## Speed:

Forward	
1 .....	8 km/h
2 .....	12 km/h
3 .....	22 km/h
4 .....	31 km/h
5 .....	40 km/h
6 .....	53 km/h
Reverse	
1 .....	8 km/h
2 .....	13 km/h

## Brake system

Dual circuit system with air-hydraulic disc brakes. Meets ISO 3450 and SAE J1473 at total machine weight.

**Service brakes:** Dry discs on all wheels.

**Circuit division:** One circuit for front axle and one for rear axle.

**Parking brake:** Spring-applied disc brake on the propeller shaft, designed to hold a loaded machine on a grade up to 18%. When the parking brake is applied, the longitudinal differential is locked.

**Compressor:** Gear-driven by engine transmission.

**Retarder:** Hydraulic, infinitely variable, integrated in transmission.

Total retarding capability including transmission retarder and exhaust retarder, see graph.

## Steering system

Hydromechanical self-compensating articulated steering for safe and accurate high-speed hauling. Fast acting, low effort steering with 3,4 turns lock-to-lock for slow speed maneuverability.

**Cylinders:** Two double-acting steering cylinders.

**Secondary steering:** Meets ISO 5010 at total machine weight.

**Steering angle:** ±45°

## Suspension

Volvo's unique maintenance-free 3-point suspension system. The front axle is suspended at three points, which results in independent movement needed in rough terrain.

**Front axle:** One hollow rubber spring on each side. A cross stay provides the stability. Two shock absorbers on each side.

**Rear axle:** No suspension

## Cab

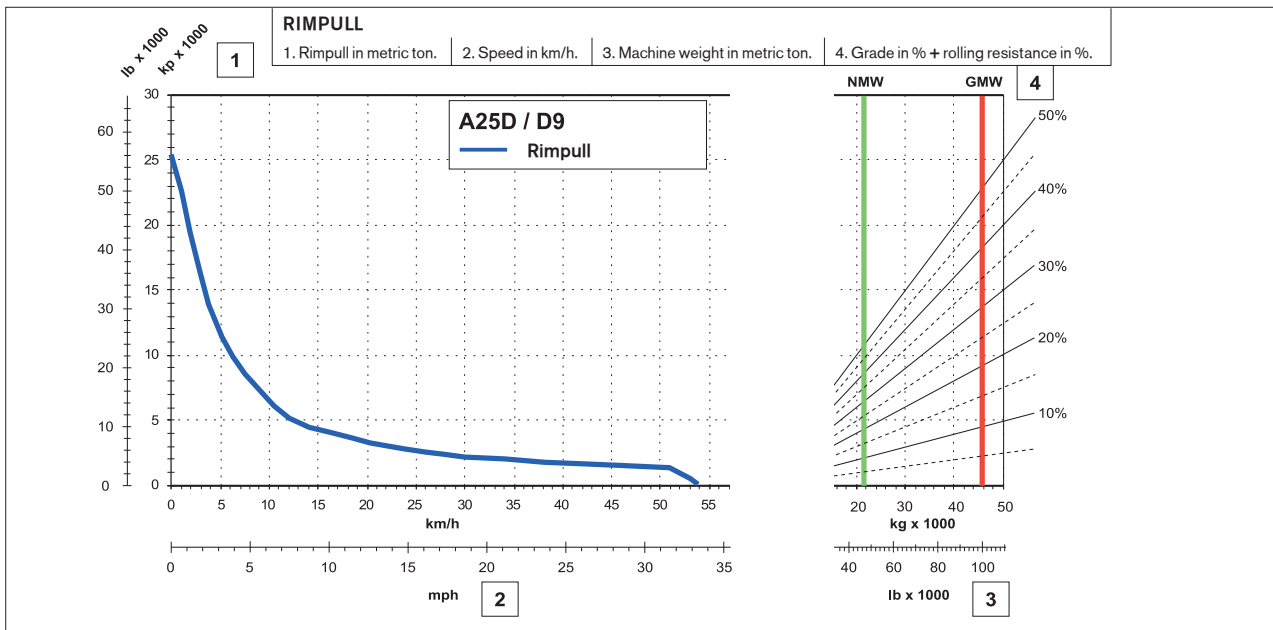
Volvo cab, ergonomically designed for high operator comfort and excellent visibility. Wide threshold-free door opening and ergonomic cab entrance. Insulating rubber pads to reduce vibrations. Tilt/ telescopic steering wheel. Overhead console for radio and storage. Dash-mounted Operator's Communication System. Storage bins.

**Standard:** ROPS/FOPS tested and approved. (ISO 3471, SAE J1040) / (ISO 3449, SAE J231) standards.

**Heater and defroster:** Filtered fresh air, four-speed fan and pressurized cab to maintain a clean operating environment. Multi-level air outlets and separate defroster vents for all windows.

**Operator's seat:** Adjustable operator's seat with flameproof upholstery. Retractable seat belt.

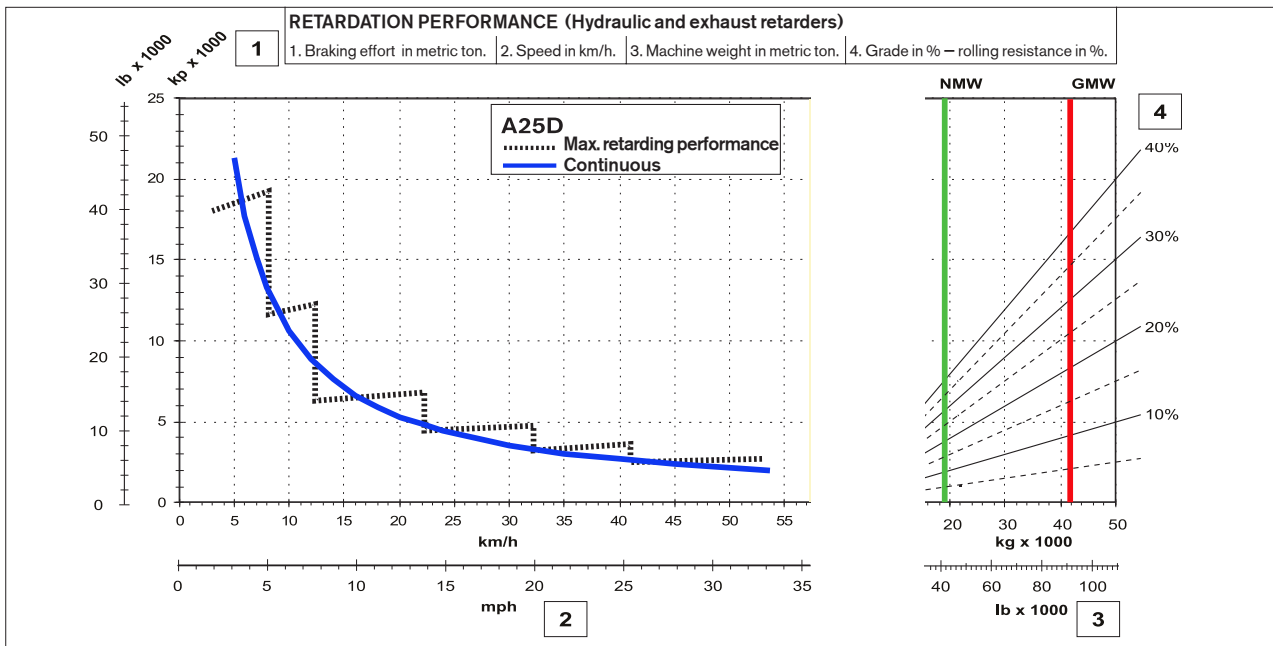
Sound level in cab, ISO 6396 74 dB (A)



**Instructions**

Diagonal lines represent total resistance (grade % ± rolling resistance %). Charts based on 0% rolling resistance, standard tires and gearing, unless otherwise stated.

- A. Find the diagonal line with the appropriate total resistance on the right-hand edge of the chart.
- B. Follow the diagonal line downward until it intersects the actual machine weight line, NMW or GMW.
- C. Draw a new line horizontally to the left from the point of intersection until the new line intersects the rimpull or retardation curve.
- D. Read down for vehicle speed.



**Hydraulic system**

Load-sensing, variable displacement, piston pumps, consume power only when needed.

**Pumps:** Four engine-driven variable displacement load-sensing piston pumps driven by the flywheel PTO. One ground-dependent piston pump for secondary steering mounted on the dropbox.

**Filter:** One fibreglass filter with magnetic core.

**Pump capacity per pump:**

Engine-dependent ..... 140 l/min  
 Ground-dependent ..... 142 l/min  
 at shaft speed ..... 52,5 r/s (3 150 r/min)  
 Working pressure ..... 25 MPa

**Body**

**Load and dump brake:** With the engine running, the service brakes on the rear axle are applied and transmission is shifted to neutral.

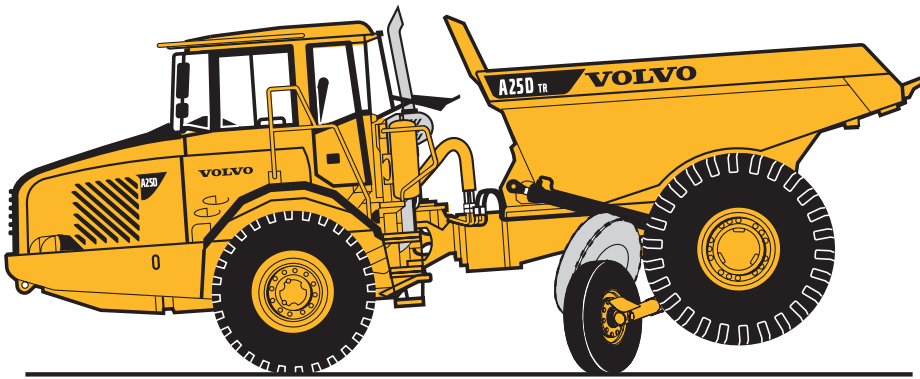
**Body material:** Hardened and tempered steel body, flat plate design made of high-strength steel.

Front ..... 10 mm  
 Sides ..... 10 mm  
 Bottom ..... 16 mm  
 Yield strength ..... 1000 N/mm<sup>2</sup>  
 Tensile strength ..... 1 250 N/mm<sup>2</sup>  
 Hardness ..... 400 HB

**Dump Cylinders:** Two single-stage double-acting cylinders.

Tipping angle ..... 59°  
 Tipping time with load ..... 7 s  
 Lowering time ..... 7 s

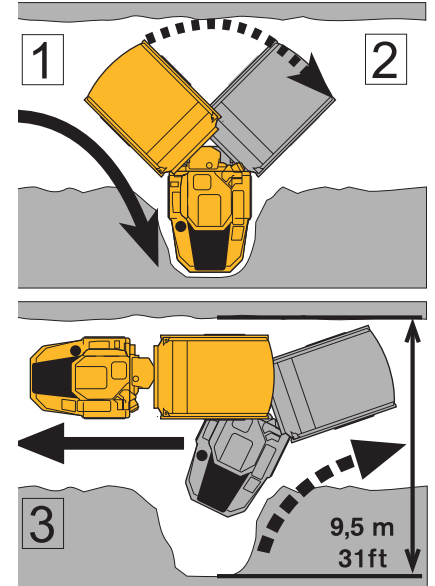




### A25D 4x4 Turn-Around (Optional)

Turn-around system. Turns 180° in 25 seconds. A width of only 9.5 m (31 ft) is needed to turn the machine 180° in a 3-step operation. The turn-around system is hydraulically operated from the operator's seat and raises the unloaded trailer unit, thus enabling the steering hydraulics to swing the trailer through 90°.

1. Drive up to the turning point, steer the tractor unit fully to one side and engage the brakes.
2. Raise the trailer unit and steer the maximum 90°.
3. Lower the trailer and reverse away from the turning point.



Weights	Ground Pressure	Load Capacity
Operating weight includes all fluids and operator and tires	At 15% sinkage of unloaded radius and specified weights.	Body volume according to SAE 2:1
<b>Tires</b> Front: 23,5R25, Rear: 29,5R25	Front: 23,5R25, Rear: 29,5R25	
<b>Operating weight unloaded</b>	<b>Unloaded</b>	
Front 12 400 kg	Front 125 kPa	<b>Load capacity</b> 24 000 kg
Rear 7 070 kg	Rear 49 kPa	<b>Body, struck</b> 9,5 m <sup>3</sup>
Total 19 470 kg	<b>Loaded</b>	<b>Body, heaped</b> 13,0 m <sup>3</sup>
Payload 24 000 kg	Front 159 kPa	
<b>Total weight</b>	Rear 194 kPa	
Front 15 650 kg		
Rear 27 820 kg		
Total 43 470 kg		

## STANDARD EQUIPMENT

### Safety

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ROPS/ FOPS protected cab  
Service platform for ease of service  
Anti-slip material on hood and fenders  
Hazard lights  
Horn  
Protective grille for rear window  
Rear -view mirrors  
Retractable 3-inch safety belt  
Secondary steering  
Steering joint locking assembly  
Dump body lock  
Windshield wipers with interval function  
Windshield washers

### Comfort

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Tilt/telescopic steering wheel  
Cab heater with filtered fresh air and defroster  
Overhead console for radio  
Sun visor  
Tinted glass  
Can holder /storage tray  
Cigarette lighter  
Ashtray  
Space for lunch cooler  
Storage box

### Engine

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Direct injected, electronically controlled  
Turbocharged, intercooled  
Remote oil drain plug  
Remote oil filters, for ease of access  
Preheater for easier cold starts

### Electrical system

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55 A alternator  
Battery disconnect switch  
Extra 24 V socket for lunch cooler  
Lights:  
•Headlights  
•Parking lights  
•Direction indicators  
•Rear lights  
•Back-up  
•Brake lights  
•Cab lighting  
•Instrument lighting

### Operator information interface

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Gauges:  
•Speedometer  
•Tachometer  
•Brake pressure  
•Fuel  
•Transmission oil temperature  
Pilot lights for all switches  
Warning lights grouped and easy to read  
Central warning (3 levels) for all vital functions  
Central positioned information display:  
•Automatic pre-start checks  
•Operation information, easy-to-find menu  
•Troubleshooting diagnostics  
•Hour meter  
•Clock  
•Machine settings

### Drivetrain

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Automatic transmission  
Torque converter with automatic lock-up  
Dropbox, single-stage  
Hydraulic variable retarder  
100% longitudinal differential lock  
100% differential locks in all axles

### Brakes

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Air-hydraulic disc brakes  
Two circuit brake system  
Parking brake on prop shaft

### Body

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Body prepared for exhaust heating  
Load and Dump brake

### Tires

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Front: 23,5R25, Rear: 29,5R25

### Other

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Air drier

## OPTIONAL EQUIPMENT

(Standard on certain markets)

### Safety

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Fire-extinguisher and first aid kit

### Service and maintenance

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Tool kit with tire inflation unit  
Electrical hood opening

### Engine

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Extra air cleaner, heavy-duty  
Electric engine heater (120V or 240V)  
External emergency engine stop  
Delayed engine stop

### Electrical

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Work lights, roof-mounted  
Work lights, rear-facing, fender-mounted  
Rotating beacon, collapsible mount  
Back-up alarm  
Rear vision system  
Anti-theft system (prevents engine start)  
Headlights for left-hand traffic  
Alternator, heavy-duty 80 A

### Cab

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Air suspended, electrically heated operator's seat  
Instructor's seat with seat belt  
Electrically heated rear-view mirrors  
Air conditioning  
Radio installation kit  
Radio  
Cable kit for cab heater (120V or 240V)  
Window tint film

### Body

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Body exhaust heating kit  
Wear plates

### External

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Wheel block  
Additional front bumper (rubber)

### Other

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Turn-around system, a width of only 9.5 m (31 ft) is needed to turn the machine  
Synthetic hydraulic oil (biologically degradable)  
Arctic oil kit  
Toolbox  
Towing Hitch



*Under our policy of continual product improvement, we reserve the right to change specifications and design without prior notice. The illustrations do not necessarily show the standard version of the machine.*

**VOLVO**

**Construction Equipment**

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