

VOLVO ARTICULATED HAULER

A25D

4X4



- **Engine output:**
SAE J1995, Gross 228 kW (306 hp)
SAE J1349, Net 227 kW (304 hp)
- **Body volume, heaped:**
13.0 m³ (17.0 yd³)
- **Load capacity:**
24.0 t (26.5 sh tn)
- **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 Contrinsic Monitoring System monitors all major 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.....	38 l.....	(10.0 US gal)
Fuel tank.....	400 l.....	(106.0 US gal)
Cooling system.....	71 l.....	(18.7 US gal)
Transmission total.....	41 l.....	(10.8 US gal)
Dropbox.....	8.5 l.....	(2.2 US gal)
Front axle.....	33 l.....	(8.7 US gal)
Rear axle.....	52 l.....	(13.7 US gal)
Hydraulic tank.....	175 l.....	(46.0 US gal)

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 D10BACE2*	
Max. power at.....	33.3 r/s	(2 000 r/min)
SAE J1995 Gross.....	228 kW	(306 hp)
Flywheel power at.....	33.3 r/s	(2 000 r/min)
SAE J1349 Net, DIN 6271***	227 kW	(304 hp)
Max. torque at.....	22.5 r/s	(1 350 r/min)
SAE J1995 Gross.....	1 375 Nm	(1014 lb ft)
SAE J1349 Net, DIN 6271***	1 365 Nm	(1007 lb ft)
Displacement total.....	9.6 l	(586 in ³)

*) 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 214 kW (287 hp) and maximum torque is 1 276 Nm (914 lb ft) which corresponds to DIN 70020.

Electrical system

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

Halogen lights.

Prewired for options.

Connectors meet IP67 standard for water-proofing as necessary.

Voltage.....	24 V
Battery capacity.....	2x170 Ah
Alternator.....	1.54 kW (55 A)
Starter motor.....	6.6 kW (8.8 hp)



Drivetrain

Volvo components are 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.

Axes: 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 1560
Dropbox.....	Volvo IL 1
Axes.....	Volvo AH 64/AH 71E

Speed:

Forward	
1.....	8 km/h.....(5.0 mph)
2.....	12 km/h.....(7.5 mph)
3.....	22 km/h.....(13.6 mph)
4.....	31 km/h.....(19.3 mph)
5.....	40 km/h.....(24.8 mph)
6.....	53 km/h.....(32.9 mph)
Reverse	
1.....	8 km/h.....(5.0 mph)
2.....	13 km/h.....(8.1 mph)

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

Hydro-mechanical 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

The Volvo cab is ergonomically designed for 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.

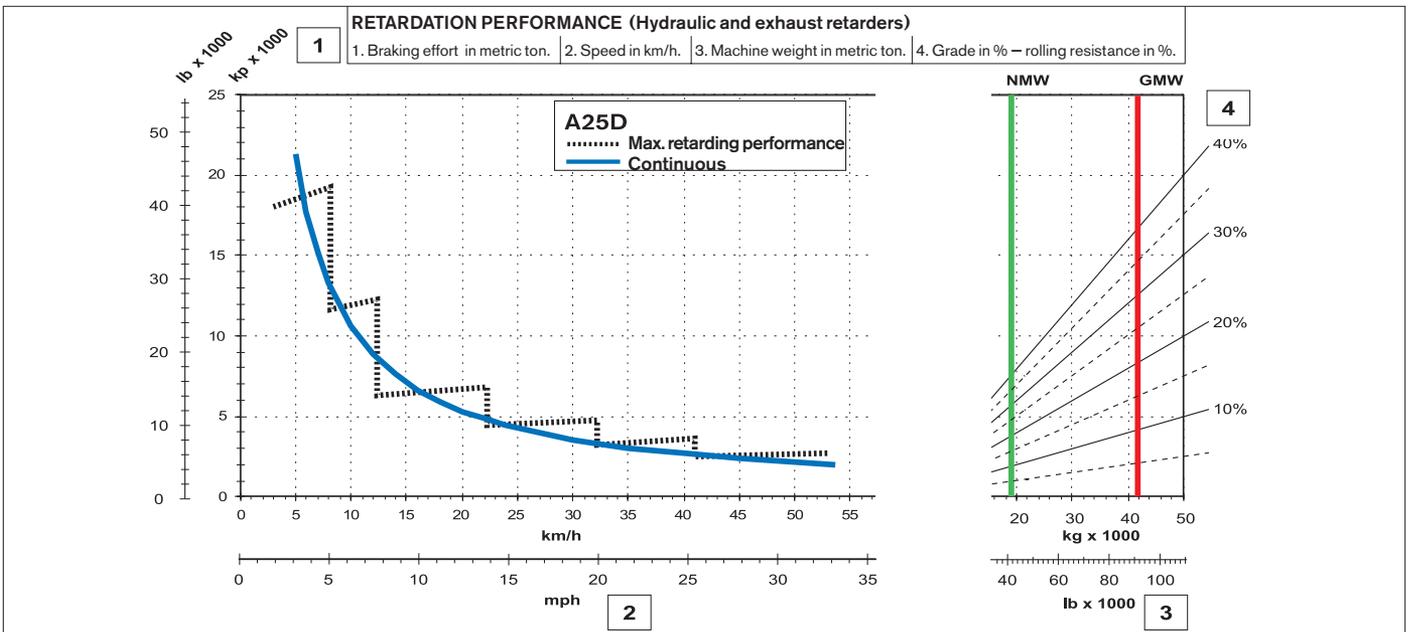
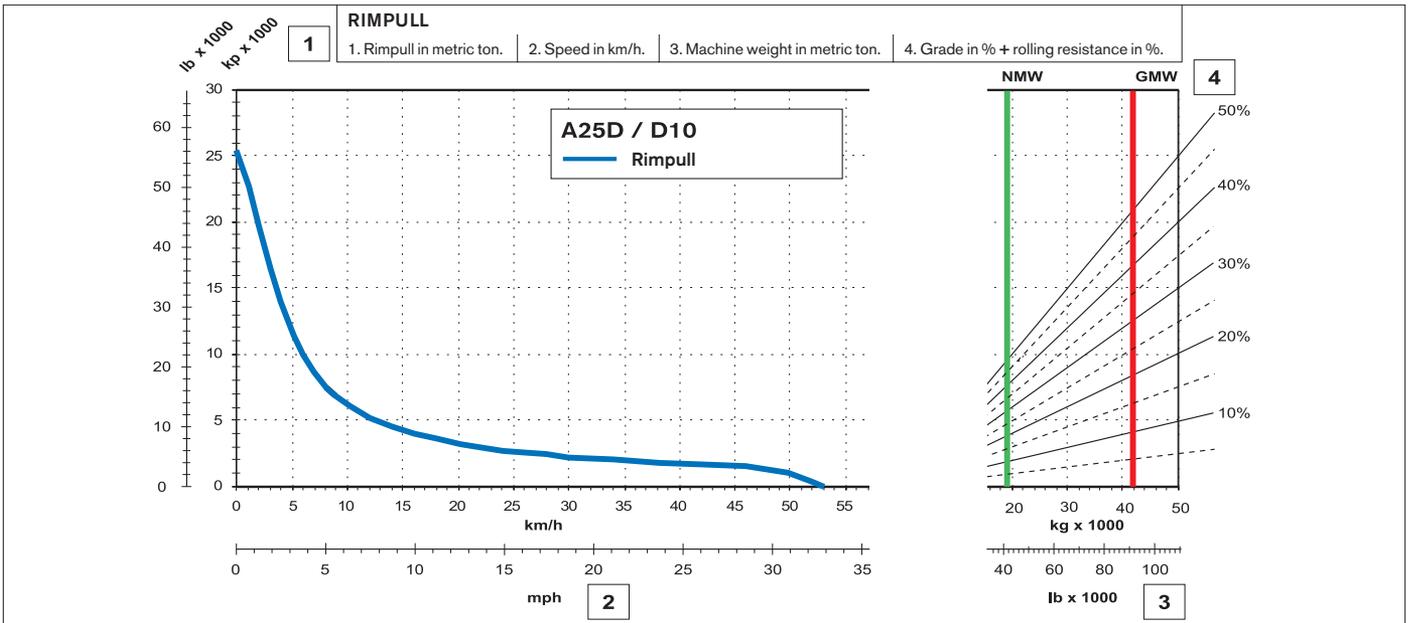
Standard: ROPS/FOPS tested and approved. (ISO 3471, SAE J1040)/(ISO 3449, SAE J231) standards.

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 seatbelt.

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



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 fiberglass filter with magnetic core.

Pump capacity per pump:

Engine dependent..... 140 l/min... (37.0 US gpm)
 Ground dependent ... 142 l/min... (37.5 US gpm)
 at shaft speed 52.5 r/s ... (3 150 r/min)
 Working pressure 25 MPa..... (3626 psi)

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 (0.39")
 Sides..... 10 mm (0.39")
 Bottom..... 16 mm (0.63")
 Yield strength, min. ... 950 N/mm² ... (138 000 psi)
 Tensile strength, min. 1 200 N/mm² (174 000 psi)
 Hardness 400 HB

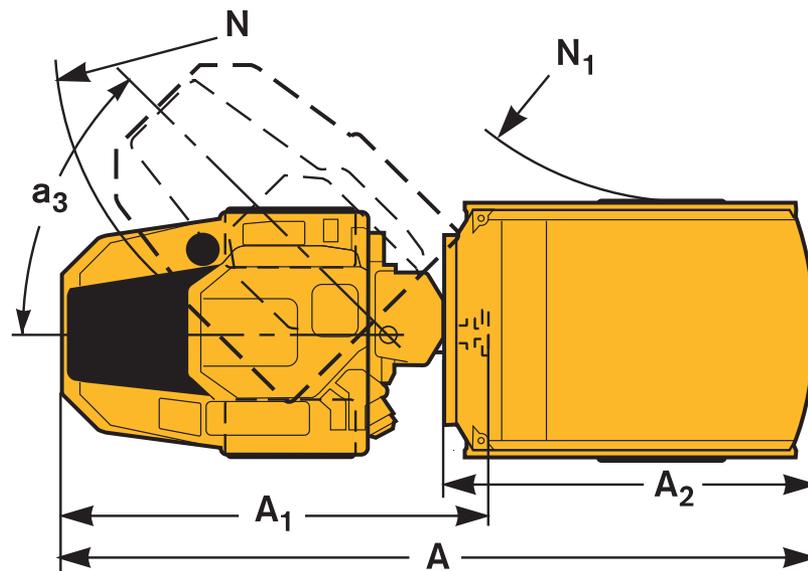
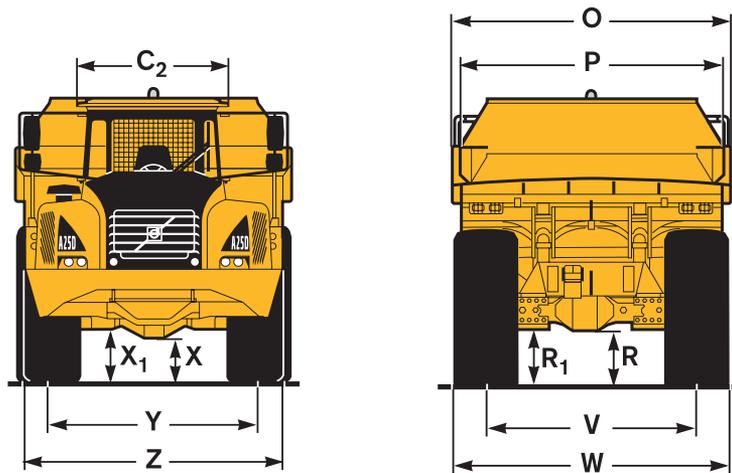
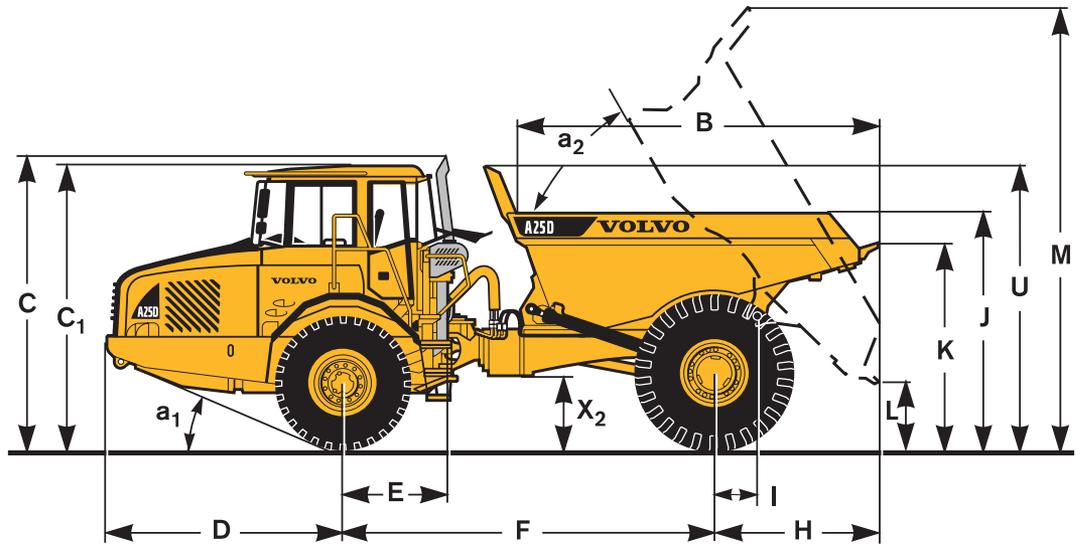
Dump cylinders: Two single-stage double-acting cylinders.

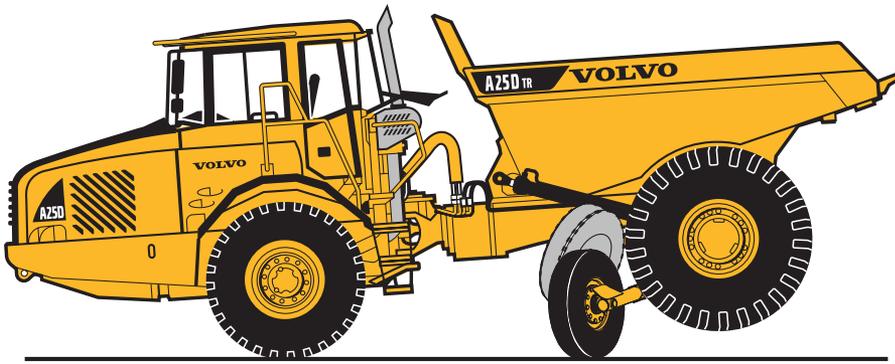
Dumping angle..... 59°
 Dumping time with load..... 7 s
 Lowering time..... 7 s

Specifications

Pos	Metric	Imp.
A	8 939 mm	29'4"
A ₁	4 954 mm	16'3"
A ₂	4 558 mm	14'11"
B	4 219 mm	13'10"
C	3 470 mm	11'5"
C ₁	3 332 mm	10'11"
C ₂	1 768 mm	5'10"
D	2 766 mm	9'1"
E	1 210 mm	4'0"
F	4 254 mm	13'11"
H	1 919 mm	6'4"
I	495 mm	1'7"
J	2 794 mm	9'2"
K	2 416 mm	7'11"
L	773 mm	2'6"
M	5 176 mm	17'0"
N	7 092 mm	23'3"
N ₁	3 197 mm	10'6"
O	3 130 mm	10'3"
P	2 930 mm	9'7"
R	637 mm	2'1"
R ₁	664 mm	2'2"
U	3 317 mm	10'11"
V	2 374 mm	7'9"
W	3 117 mm	10'3"
X	461 mm	1'6"
X ₁	585 mm	1'11"
X ₂	886 mm	2'11"
Y	2 258 mm	7'5"
Z	2 859 mm	9'5"
a ₁	23.1°	23.1°
a ₂	59°	59°
a ₃	45°	45°

Unloaded machine with 23.5R25/
29.5R25 tires.

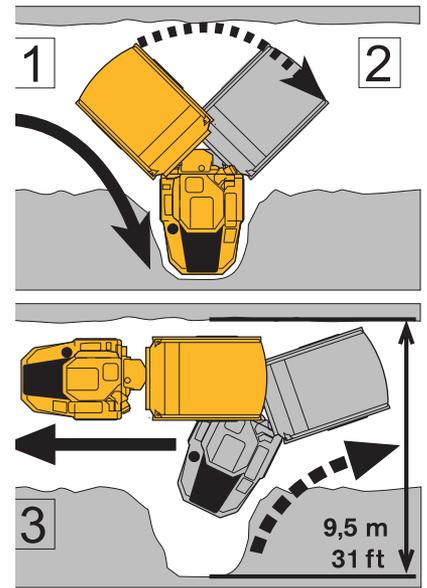




A25D 4x4 Turn-Around (Optional)

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, operator and tires.		At 15% sinkage of unloaded radius and specified weights.		Body volume according to SAE 2:1.	
Tires	Front: 23.5R25, Rear: 29.5R25	Front: 23.5R25, Rear: 29.5R25			
Operating weight unloaded		Unloaded			
Front	12 400 kg 27 337 lb	Front	125 kPa 18.1 psi	Load capacity	24 000 kg 26.5 sh tn
Rear	7 070 kg 15 587 lb	Rear	49 kPa 7.1 psi	Body, struck	9.5 m ³ 12.4 yd ³
Total	19 470 kg 42 924 lb	Loaded		Body, heaped	13.0 m ³ 17.0 yd ³
Payload	24 000 kg 52 911 lb	Front	159 kPa 23.0 psi		
Total weight		Rear	194 kPa 28.1 psi		
Front	15 650 kg 34 502 lb				
Rear	27 820 kg 61 333 lb				
Total	43 470 kg 95 835 lb				

STANDARD EQUIPMENT

Safety

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
Rearview mirrors
Retractable 3-inch safety belt
Secondary steering
Steering joint locking assembly
Dump body lock
Windshield wipers with interval function
Windshield washers

Comfort

Tilt/telescopic steering wheel
Cab heater with filtered fresh air and defroster
Overhead console for radio and storage
Sun visor
Tinted glass
Can holder/storage tray
Cigarette lighter
Ashtray
Space for lunch cooler
Storage box
Air suspended, electrically heated operator's seat
Instructor seat with safety belt
Air conditioning
Radio

Engine

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

Electrical system

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
•Back-up alarm

Operator information interface

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-use menu
•Troubleshooting diagnostics
•Hour meter
•Clock
•Machine settings

Drivetrain

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

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

Body

Body prepared for exhaust heating
Load and Dump Brake

Tires

Front: 23.5R25, Rear: 29.5R25

Other

Air drier
Electrical hood opening

OPTIONAL EQUIPMENT

(Standard on certain markets)

Safety

Fire-extinguisher and first aid kit

Service and maintenance

Tool kit with tire inflation unit

Engine

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

Electrical

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

Cab

Electrically-heated rearview mirrors
Cable kit for cab heater (120V or 240V)
Window tint film

Body

Body exhaust heating kit
Wear plates

External

Additional front bumper (rubber)

Other

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

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

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