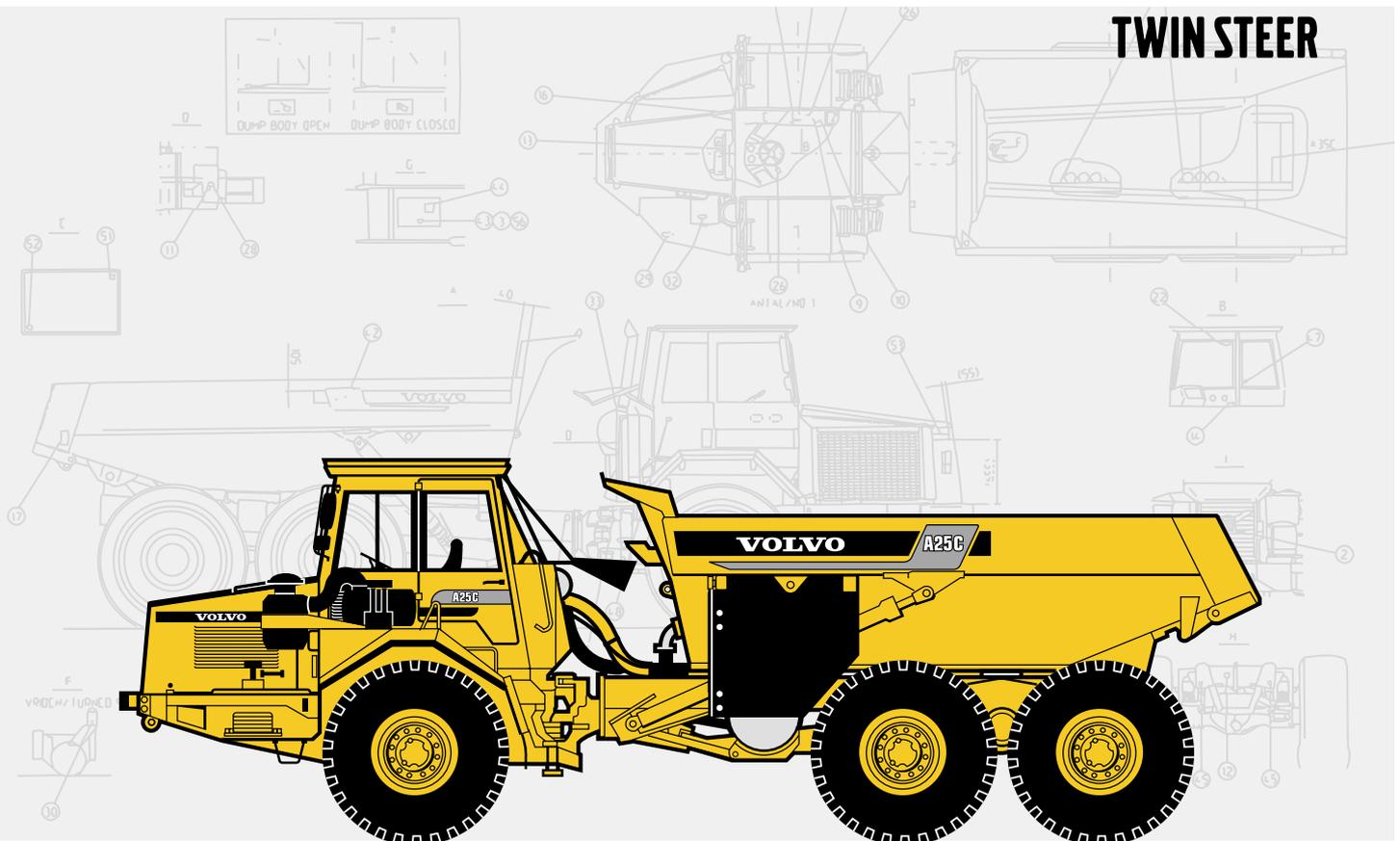


VOLVO ARTICULATED HAULER

A25C



- Engine output SAE J1349:
Net 187 kW (251 hp)
Gross 190 kW (255 hp)
- Body volume:
13,5 m³ (17.7 yd³)
- Load capacity:
22,5 t (25 sh tn)
- Volvo low emission direct-injected, turbocharged, intercooled high performance diesel engine.
- Volvo Venturi scrubber exhaust gas treatment system.
- Fully automatic powershift transmission, electronically controlled.
- Drop box with longitudinal differential lock and high and low gear ranges.
- Hydraulic retarder as standard.
- 100% lock-up differential locks. One longitudinal and three transverse diff-locks.
- Front axle with three-point suspension and effective shock absorption.
- Volvo terrain bogie, individually oscillating axles and high ground clearance.
- Twin steering allows operator to drive the machine positioned in both directions.
- Load and dump brake.
- Low interior noise level.
- Adjustable steering wheels.

VOLVO



ENGINE

Volvo 6-cylinder, in-line, turbocharged, direct-injected, intercooled, 4-cycle low emission diesel engine with overhead valves and wet replaceable cylinder linings. Meets 88/77/EEC and California off-road regulation 1996.

Fan: Hydrostatic driven, thermostatically controlled radiator fan consuming power only when needed.

Make	Volvo
Model	TD73 KCE
Max power at	40 r/s (2400 r/min)
SAE J1349 Gross	190 kW (255 hp)
Flywheel power at	40 r/s (2400 r/min)
SAE J1349 Net	187 kW (251 hp)
DIN 6271*	187 kW (251 hp)
Max torque at	20 r/s (1200 r/min)
SAE J1349 Gross	1090 Nm (804 lbf ft)
SAE J1349 Net	1080 Nm (796 lbf ft)
DIN 6271**	1080 Nm (796 lbf ft)
Displacement total	6,73 l (411 in ³)
Bore	105 mm (4.1 in)
Stroke	130 mm (5.12 in)
Compression ratio	17,7:1

*) with fan at normal speed. With fan operating at full speed the flywheel power is 174 kW (233 hp) which corresponds to DIN 70020.

**) with fan at normal speed. With fan operating at full speed the maximum torque is 970 Nm (715 lbf ft), which corresponds to DIN 70020.



ELECTRICAL SYSTEM

Voltage	24 V
Battery capacity	2x135 Ah
Alternator	1,65 kW (60 A)
Starter motor	5 kW (6.7 hp)



SERVICE CAPACITIES

Crankcase	24 l (6.3 US gal)
Fuel tank	280 l (74.0 US gal)
Cooling system	37 l (9.8 US gal)
Transmission total	16 l (4.2 US gal)
Drop box	6 l (1.6 US gal)
Front axle	27 l (7.1 US gal)
First bogie axle	28 l (7.4 US gal)
Second bogie axle	27 l (7.1 US gal)
Brake hydraulics	2 l (0.5 US gal)
Hydraulic system	180 l (47.6 US gal)
Hydraulic tank	155 l (41 US gal)
Exhaust gas cleaning tanks	342 l (90.3 US gal)



DRIVETRAIN

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

Transmission: Electronically controlled, fully automatic planetary transmission with 5 gears forward and 1 in reverse.

Drop box: Volvo with 2-stage design, power take-off and differential with lock-up function.

Axles: Volvo. 6-wheel drive. All axles have transversal diff-locks with 100% lock-up and fully floating axle shafts with planetary type hub reductions.

Differential locks: One longitudinal and three transverse. All with 100% lock-up.

Torque converter	2,4:1
Transmission	Volvo PT 1051 (5HP 500)
Drop box	Volvo FL 652
Axles	Volvo AH 54

Speeds with tires	20.5R25	23.5R25
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Forward

Low gear

1	6 km/h (4 mile/h)	7 km/h (4 mile/h)
2	10 km/h (6 mile/h)	12 km/h (7 mile/h)
3	18 km/h (11 mile/h)	21 km/h (13 mile/h)
4	27 km/h (17 mile/h)	30 km/h (19 mile/h)

High gear

1	9 km/h (6 mile/h)	11 km/h (7 mile/h)
2	16 km/h (10 mile/h)	18 km/h (11 mile/h)
3	27 km/h (17 mile/h)	32 km/h (20 mile/h)
4	42 km/h (26 mile/h)	46 km/h (29 mile/h)

Reverse

Low gear

1	7 km/h (4 mile/h)	9 km/h (6 mile/h)
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High gear

1	12 km/h (7 mile/h)	14 km/h (9 mile/h)
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SUSPENSION

Volvo suspension system. Totally maintenance-free.

Front axle: Two rubber springs with bottoming absorption on each side. Stabilizer. Two shock absorbers on each side. The front axle is suspended at three points, which results in oscillating needed in rough terrain.

Bogie: Volvo's unique terrain bogie, which permits individual oscillation between the axles.



BRAKE SYSTEM

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

Circuit Division: One circuit for front axle and one for bogie axles.

Parking brake: Spring-applied, air-released 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.

Load and dump brake: With the engine running, the service brake on the bogie axles is applied together with the parking brake.

Compressor: Gear-driven by engine transmission.

Exhaust brake: Standard.

Retarder: Hydraulic, integrated in transmission as standard. Infinitely variable with the retarder pedal or full effect applied via the service brake pedal.

For retarding capability incl. retarder, exhaust brake and engine, see graph on page 4.



HYDRAULIC SYSTEM

Pumps: Three engine-dependent, variable piston pumps mounted on flywheel power take-offs. One unused power take-off available.

Ground-dependent hydraulic pump for supplementary steering mounted on the drop box.

Filtration: Through two paper filters with magnetic cores.

Pump capacity per pump at shaft speed	34 r/s (2040 r/min)
engine dependent	100 l/min (26.4 US gpm)
ground dependent	118 l/min (31.2 US gpm)
Working pressure	19,5 MPa (2830 psi)



CAB

Volvo cab, tested and approved according to ROPS standard ISO/3471 and SAE J1040/APR88.

Mounted on rubber pads which effectively reduce vibrations. Adjustable steering wheels, accelerator and brake control in both directions.

Radio/ Contronic console in ceiling.

Heater and defroster: Filtered air and pressurized cab. Three speed fan.

Operator's seat: Ergonomically designed and adjustable operator's seat with flameproof upholstery. Retractable seat belt.

Trainer seat: Option.

Number of exits	2
Internal sound level, according to ISO 6394 and at max speed	78 dB (A)



TWIN STEERING SYSTEM

Hydromechanical articulated steering. 3,4 lock-to-lock turns. Double command system with two steering wheels allows operator to rotate the operator seat and drive the machine positioned in both directions.

Cylinders: Two double-acting steering cylinders.

Supplementary steering: Complies with ISO 5010 standard at total machine weight.

Steering angle: ± 45°



BODY

Body: Hardened and tempered steel body with high impact strength.

Cylinders: Two single stage double-acting hoist cylinders.

Tipping angle	70°
Tipping time with load	15 s
Lowering time	12 s
Body, plate thickness	
Front	8 mm (0.31 in)
Sides	12 mm (0.47 in)
Bottom	14 mm (0.55 in)
Chute	22 mm (0.87 in)
Yield strength	1000 N/mm ² (145000 psi)
Tensile strength	1250 N/mm ² (181000 psi)
Hardness min.	360–440 HB



WEIGHTS

Operating weight includes all fluids and operator. Standard machine.

Operating weight with 23.5R25 tires:	
Front	9290 kg (20480 lb)
Rear	8980 kg (19800 lb)
Total	18270 kg (40280 lb)
Payload	22500 kg (49600 lb)
Total weight	
Front	11750 kg (25900 lb)
Rear	29020 kg (63980 lb)
Total	40770 kg (89880 lb)

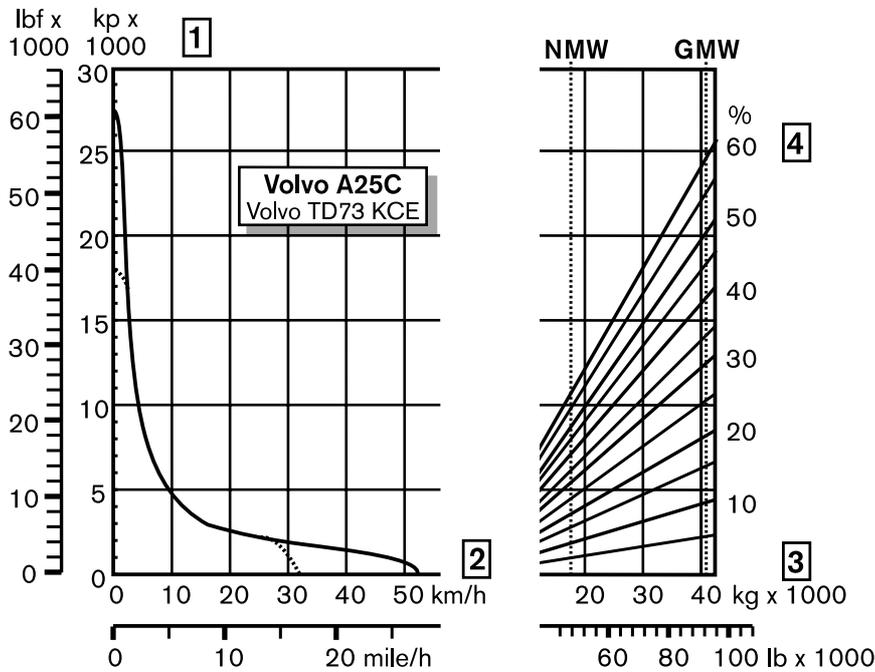
A25C with 20.5R25 tyres, subtract 200 kg (440 lb) per axle.



GROUND PRESSURE

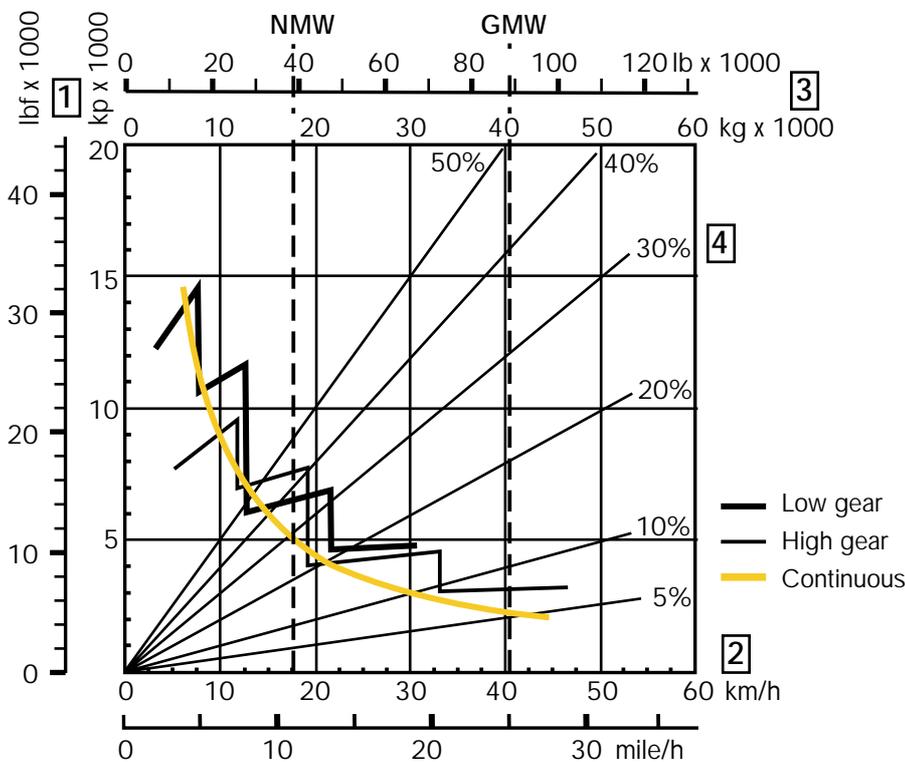
At 15% sinkage of unloaded radius and specified weights.

With tires	20.5R25	23.5R25
Unloaded		
Front	114 kPa (17 psi)	94 kPa (14 psi)
Rear	54 kPa (8 psi)	46 kPa (7 psi)
Loaded		
Front	145 kPa (21 psi)	119 kPa (17 psi)
Rear	180 kPa (26 psi)	147 kPa (21 psi)



RIMPULL

- 1 Rimpull in kP (lbf)
- 2 Speed in km/h (mile/h)
- 3 Machine weight in kg (lb)
- 4 Grade in % + rolling resistance in %.



RETARDATION PERFORMANCE

- 1 Braking effort in kP (lbf)
- 2 Speed in km/h (mile/h)
- 3 Machine weight in kg (lb)
- 4 Grade in % – rolling resistance in %

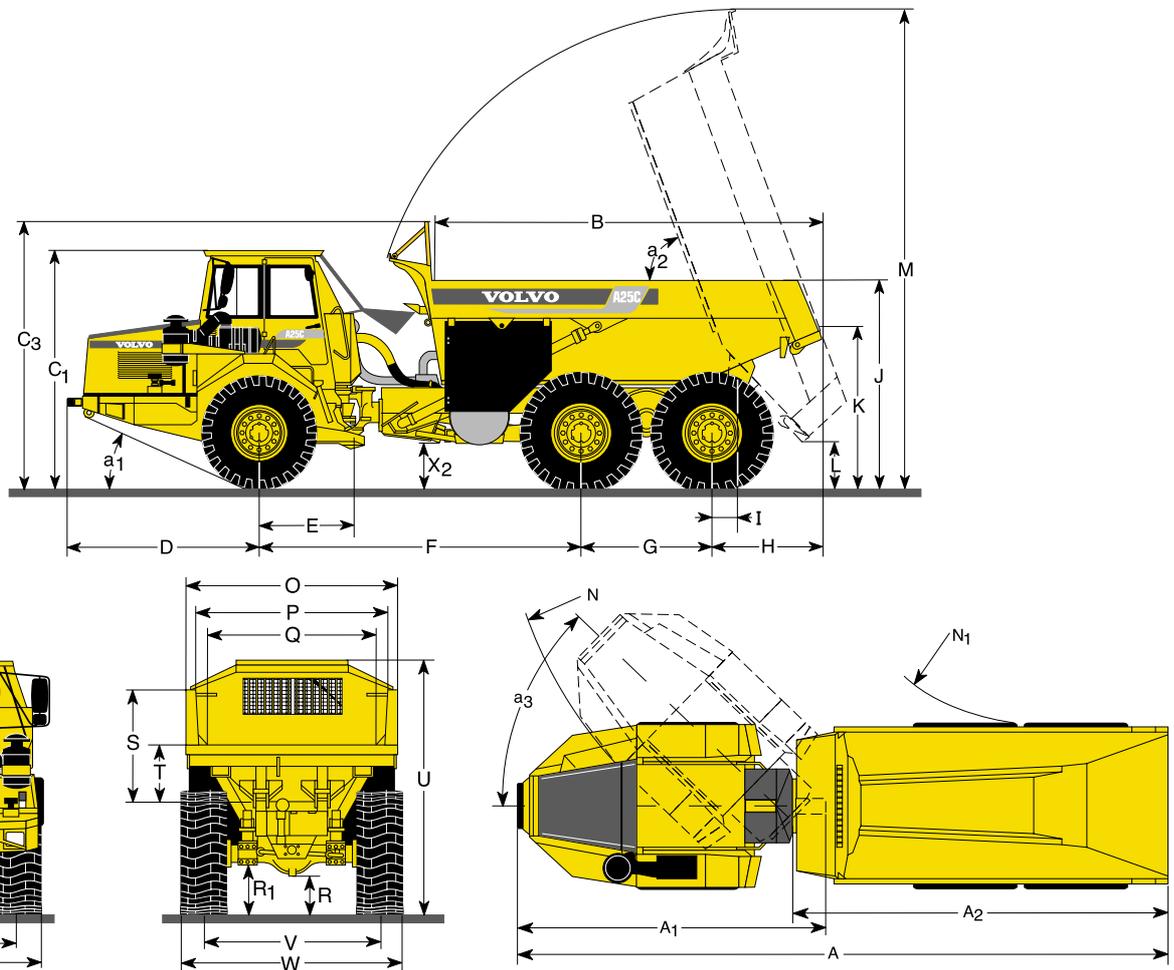
INSTRUCTIONS

Diagonal lines represent total resistance (grade % **plus** rolling resistance %).

Charts based on 0% rolling resistance, standard tyres and gearing, unless otherwise stated.

In the retardation chart the diagonal lines represent the "total resistance" as well (here in downhill grades it is the total extra pushing force), which is the grade in % **minus** the rolling resistance in %.

- 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.



DIMENSIONS Volvo A25C 6x6 (unloaded with 23.5R25 tires)

A	9675 mm (31'9")	E	1200 mm (3'11")	N	7850 mm (25'9")	V	2150 mm (7'6")
A ₁	4495 mm (14'9")	F	4165 mm (13'8")	N ₁	4250 mm (13'11")	W	2795 mm (9'2")
A ₂	5710 mm (18'9")	G	1670 mm (5'6")	O	2500 mm (8'2")	X	480 mm (1'7")
B	5000 mm (16'5")	H	1425 mm (4'8")	P	2300 mm (7'7")	X ₁	610 mm (2')
C ₁	3210 mm (10'6")	H ₁	385 mm (1'3")	Q	2100 mm (6'11")	X ₂	660 mm (2'2")
C ₂	1320 mm (4'4")	J	2780 mm (9'1")	R	520 mm (1'8")	Y	2150 mm (7'6")
C ₃	3571 mm (11'9") with optional spillguard in upright position	K	2150 mm (7'1")	R ₁	620 mm (2')	Z	2795 mm (9'2")
D	2415 mm (7'11")	L	640 mm (2'1")	S	1340 mm (4'5")	a ₁	26°
		M	6400 mm (21')	T	710 mm (2'4")	a ₂	70°
				U	2995 mm (9'10")	a ₃	45°

DIMENSIONS Volvo A25C 6x6 (unloaded with 20.5R25 tires)

A	9675 mm (31'9")	E	1200 mm (3'11")	N	7850 mm (25'9")	V	1930 mm (6'4")
A ₁	4495 mm (14'9")	F	4165 mm (13'8")	N ₁	4250 mm (13'11")	W	2490 mm (8'2")
A ₂	5710 mm (18'3")	G	1670 mm (5'6")	O	2500 mm (8'2")	X	420 mm (1'5")
B	5000 mm (16'5")	H	1425 mm (4'8")	P	2300 mm (7'7")	X ₁	550 mm (1'10")
C ₁	3150 mm (10'4")	H ₁	385 mm (1'3")	Q	2100 mm (6'11")	X ₂	600 mm (2')
C ₂	1320 mm (4'4")	J	2720 mm (8'11")	R	460 mm (1'6")	Y	1930 mm (6'4")
C ₃	3271 mm (11'7") with optional spillguard in upright position	K	2090 mm (6'10")	R ₁	560 mm (1'10")	Z	2490 mm (8'2")
D	2415 mm (7'11")	L	580 mm (1'11")	S	1340 mm (4'5")	a ₁	24,5°
		M	6350 mm (20'10")	T	710 mm (2'4")	a ₂	70°
				U	2945 mm (9'8")	a ₃	45°

LOAD CAPACITY (Body volumes according to SAE 2:1)

Load capacity	22 500 kg (25 sh tn)
Body, struck	10,6 m ³ (13.9 yd ³)
heaped	13,5 m ³ (17.7 yd ³)
With underhung tailgate (optional)	
Body, struck	11,1 m ³ (14.5 yd ³)
heaped	13,8 m ³ (18.0 yd ³)

STANDARD EQUIPMENT

Safety

ROPS cab
 FOPS over head guard
 Anti-slip material on hood and fenders
 Ergonomically designed, rotatable and adjustable operator's seat with retractable seat belt
 Hazard flashers
 Horn
 Protective grille for rear window
 Rear-view mirrors
 Seat belt
 Secondary steering
 Speedometer
 Steering joint locking assembly
 Windshield wipers with interval
 Windshield washers

Comfort

Adjustable steering wheel
 Ashtray
 Cab heater with filtered fresh air and defroster
 Cigarette lighter
 Cup holder
 Radio/Contronic console in ceiling
 Sun-visor
 Tinted glass

Engine

Exhaust brake
 Volvo Venturi scrubber exhaust gas treatment system
 Intercooler
 Low emission engine
 Oil drainage hose
 Preheating
 Turbocharger

Electrical system

Alternator
 Battery disconnect switch
 Electrical outlet
Gauges for:
 • Air pressure
 • Engine temperature
 • Engine revolutions
 • Fuel
 • Hours
 • Transmission oil temperature

Lights:

• Headlights, main/dipped
 • Parking lights
 • Direction indicators
 • Rear lights
 • Back-up lights
 • Brake lights
 • Cab lighting
 • Instrument lighting
 • Control panel lighting

Pilot lamps for:

• Exhaust brake
 • Direction indicators
 • Front axle diff-lock
 • Longitudinal diff-lock
 • Lights
 • Main beam
 • Preheating
 • High/low gear

Warning lamps for:

• Air cleaner, engine
 • Battery charging
 • Body up
 • Brake pressure
 • Brake failure
 • Engine oil pressure
 • Engine overspeed
 • Engine-dependent steering pump
 • Ground-dependent steering pump
 • Hydraulic oil level
 • Parking brake
 • Transmission temperature
 • Water level, Venturi scrubber

Central warning:

• Air cleaner, engine
 • Air pressure
 • Battery charging
 • Brake failure
 • Engine oil pressure
 • Engine overspeed
 • Engine temperature
 • Hydraulic oil level
 • Steering function

Drivetrain

Torque converter with automatic lock-up
 Automatic transmission
 Hydraulic variable retarder
 Drop box with high/low gear
 Longitudinal diff-lock
 Differential lock front axle
 Differential lock first bogie axle
 Differential lock second bogie axle

Brakes

Air-hydraulic disc brakes
 Two circuits
 Parking brake on all wheels
 Retarder activation in brake pedal
 Load and dump brake

Body

Body heating
 Body with exhaust ducts and wear plate on the chute

Tires

23.5R25

OPTIONAL EQUIPMENT

Service and Maintenance

Tool kit with tyre inflation unit
 Tool box
 Central lubrication

Engine

Extra fuel filter
 Oil-bath air cleaner
 Coolant filter

Electrical

Work lights, roof mounted
 Rotating beacon with collapsible mount
 Side direction indicators
 Headlights for left-hand traffic

Cab

Air conditioning
 Airsuspended electrically heated operator's seat
 Contronic display
 Electrically heated rear-view mirrors
 Extra seat for trainer
 Radio
 Kit for radio installation
 Speedometer, miles
 Tachograph (Europe)

Safety

Fire-extinguisher and first aid cushion

External

Brake protection, front axle
 Mudguard wideners, front, 2,7 m
 Rear mudflaps, 2,7 m
 Side flaps over Venturi scrubber

Body

Overhung tailgate, wire
 Overhung tailgate, link
 Underhung tailgate
 Wear plates, separate delivery
 Upper side extensions, 200 mm
 Extra front spill guard

Tyres

20.5R25

Other

Synthetic hydraulic oil (biologically degradable)
 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

Volvo Construction
 Equipment Group

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