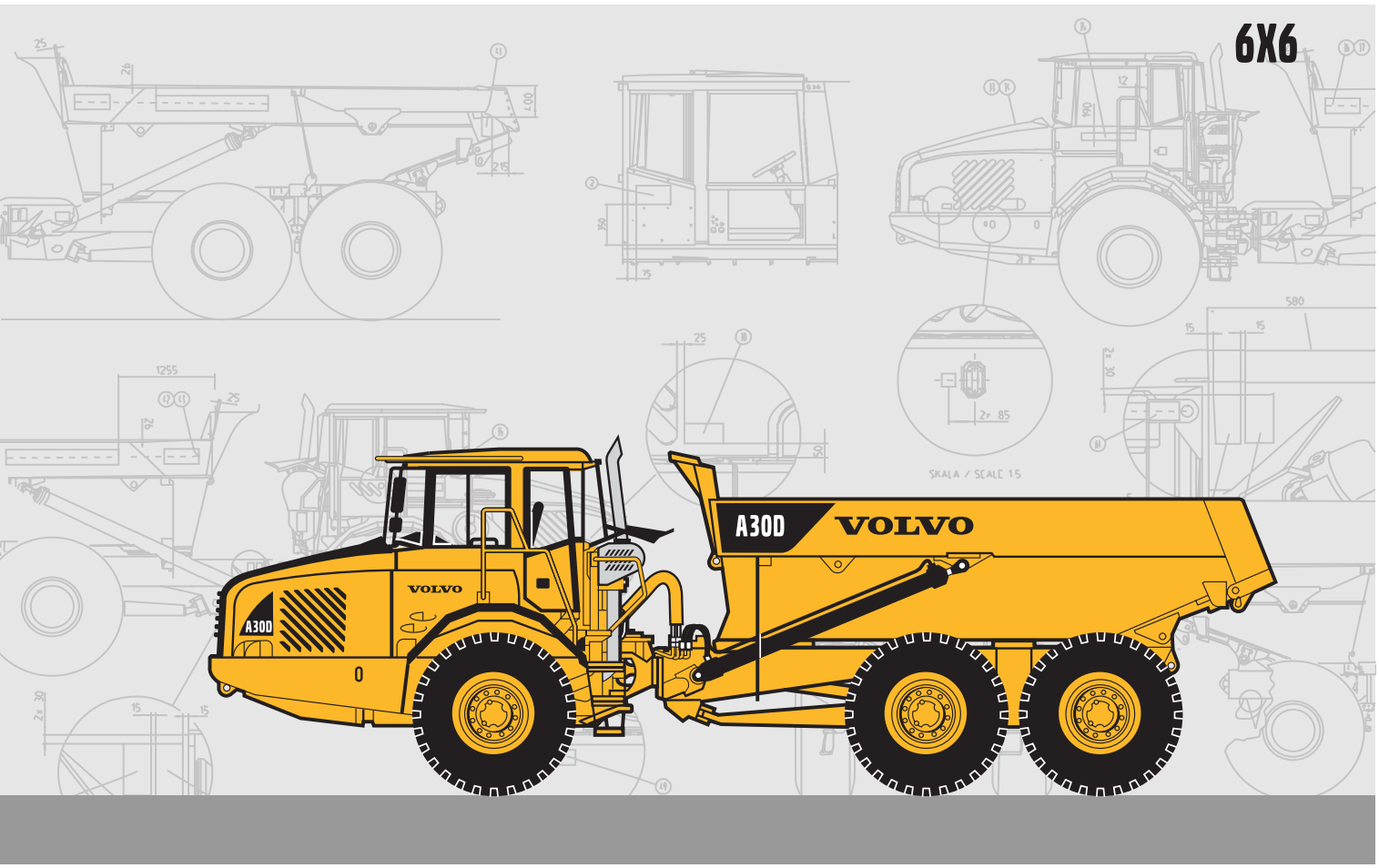
VOLVO ARTICULATED HAULER

A30D

6X6



- **Engine output:**
  SAE J1995, Gross 242 kW (324 hp)
  SAE J1349, Net 241 kW (323 hp)
- **Body volume, heaped:**
  17.5 m^3 (22.9 yd^3)
- **Load capacity:**
  28.0 t (30.9 sh tn)
- **Volvo cab designed** for high operator visibility, ergonomics and comfort.
- **Reduced maintenance.** No daily or weekly greasing, 250h grease points, 500h engine/1000h transmission oil change interval.
- **Contronic Communication System.**
- **Volvo high performance – low emission** electronically controlled direct injected, turbocharged, intercooled diesel engine.
- **Fully automatic planetary transmission,** electronically controlled.
- **Hydraulic transmission retarder.**
- **Dropbox with longitudinal differential lock.**
- **100% lock-up differentials.** One longitudinal and three transverse differential locks.
- **Front axle with maintenance free, three-point suspension.**
- **Volvo terrain bogie,** individually oscillating axles and high ground clearance.
- **Low profile tires 750/65R25.**
- **Volvo Load & Dump brake.**

VOLVO

ENGINE

Volvo inline 6-cylinder, direct injected electronic controlled, turbocharged, intercooled 4-cycle low emission diesel engine with wet replaceable cylinder linings.

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

Engine brake: Exhaust retarder.

Make, model	Volvo D10BAAE2*
Max power at	33.3 r/s (2000 r/min)
SAE J1995 Gross	242 kW (324 hp)
Flywheel power at	33.3 r/s (2000 r/min)
SAE J1349 Net, DIN 6271***	241 kW (323 hp)
Max torque at	22.5 r/s (1350 r/min)
SAE J1995 Gross	1420 Nm (1047 lb ft)
SAE J1349 Net, DIN 6271***	1410 Nm (1040 lb ft)
Displacement total	9.6 l (586 in^3)
Bore	120 mm (4.8 in)
Stroke	140 mm (5.5 in)

*) 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 228 kW (306 hp) and maximum torque is 1321 Nm (974 lbf ft) 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 watertightness as necessary.

Voltage	24 V
Battery capacity	2x170 Ah
Alternator	1,54 kW (55 A)
Starter motor	6.6 kW (8.8 hp)

SERVICE

The Contronic 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 drains and drain hose and swing out radiator for easy cleaning.

Fill capacities

Crankcase	38 l (10 US gal)
Fuel tank	400 l (105.7 US gal)
Cooling system	80 l (21.1 US gal)
Transmission total	48 l (12.7 US gal)
Dropbox	8.5 l (2.2 US gal)
Hub	5 l (1.3 US gal)
Front axle	38 l (10 US gal)
First bogie axle	40 l (10.6 US gal)
Second bogie axle	38 l (10 US gal)
Brake hydraulics	2 l (0.53 US gal)
Hydraulics system	260 l (68.7 US gal)
Hydraulics tank	180 l (47.6 US gal)

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 variable hydraulic retarder.

Dropbox: Volvo design, single stage. Power take-off and differential with 100% lock-up function.

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

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

Configuration: 6x4 or 6x6 drive, operator selectable on the move.

Torque converter	2.37:1
Transmission	Volvo PT 1560
Dropbox	Volvo IL 1
Type of tires	750/65R25
Axles	AH 64

Speed

Forward	
1	8 km/h (5 mph)
2	12 km/h (7.5 mph)
3	22 km/h (13 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 mph)
2	13 km/h (8.1 mph)

SUSPENSION

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

Front axle: One rubber spring with bottoming absorption on each side. Two shock absorbers on each side.

Bogie: Volvo's unique terrain bogie, which permits individual oscillation between the axles. High axle displacement keeps the body level, retaining the load.

BRAKE SYSTEM

Dual circuit system with air-hydraulic disc brakes. Complies with 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 bogie axles.

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 transmission retarder, infinitely variable.

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

HYDRAULIC SYSTEM

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

Pumps: Five engine driven pumps mounted on flywheel power take-off. One ground-dependent piston pump for supplementary steering mounted on the dropbox.

Filtration: Through one glass fiber filter with magnetic core.

Capacity per pump	
Engine dependent	105 l/min (27.7 US gpm)
Ground dependent	142 l/min (37.5 US gpm)
At shaft speed	52.5 r/s (3150 r/min)
Working pressure	25 MPa (3628.4 psi)

CAB

Volvo cab, designed for high operator visibilty, ergonomics and comfort. Wide threshold-free door opening and ergonomic instep. Isolation 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.

Internal sound level, ISO 6394	74 dB (A)

STEERING SYSTEM

Hydromechanical self-compensating articulated steering for safe and accurate high speed hauling. Fast acting, low effort steering with 3.4 lock-to-lock turns for slow speed maneuverability.

Cylinders: Two double-acting steering cylinders.

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

Steering angle: ± 45°

BODY

Load and dump brake: With the engine running, the service brakes on bogie axles are applied and transmission shifted to neutral.

Body: Hardened and tempered steel body, flat plate design fabricated from Hardox 400.

Cylinders: Two single stage double acting cylinders.

Tipping angle	70°
Tipping time with load	12 s
Lowering time	9 s
Body, plate thickness	
Front	8 mm (0.31 in)
Sides	12 mm (0.47 in)
Bottom	14 mm (0.55 in)
Chute	14 mm (0.55 in)
Yield strength	900 N/mm² (130000 psi)
Tensile strength	1250 N/mm² (181000 psi)
Hardness min.	360 HB

WEIGHTS

Operating weight includes all fluids and operator. If equipped with 750/65R25 tires (optional), add 200 kg (441 lb) per axle.

Operating weight: with tires 23.5R25.

Unloaded	
Front	12 300 kg (27 116 lb)
Rear	10 360 kg (22 839 lb)
Total	22 660 kg (49 956 lb)
Payload	28 000 kg (61 728 lb)

Total weight:

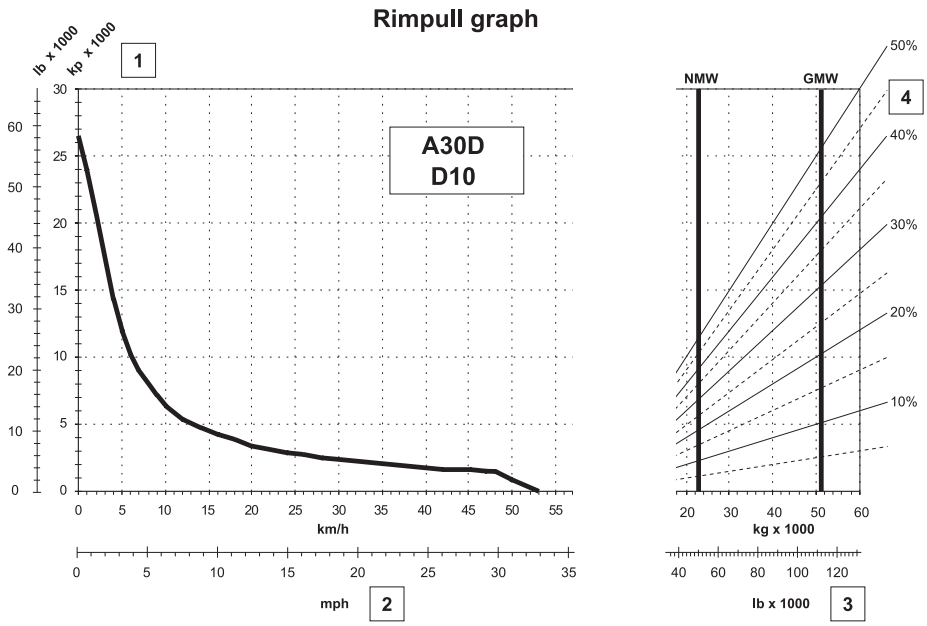
Front	14 790 kg (32 606 lb)
Rear	35 870 kg (79 078 lb)
Total	50 660 kg (111 684 lb)

GROUND PRESSURE

At 15% sinkage of unloaded radius and specified weights.

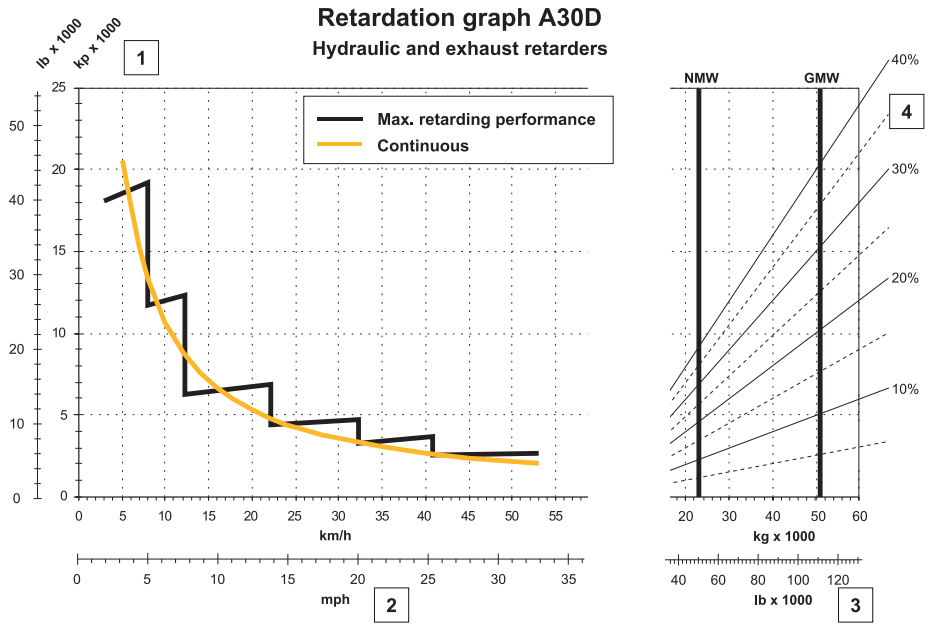
With tires:	**750/65R25**	**23.5R25 (optional)**
Unloaded		
Front	101 kPa (14.6 psi)	127 kPa (18.4 psi)
Rear	43 kPa (6.2 psi)	54 kPa (7.8 psi)
Loaded		
Front	121 kPa (17.5 psi)	152 kPa (22.0 psi)
Rear	146 kPa (21.2 psi)	183 kPa (26.5 psi)

RIMPULL & RETARDATION Volvo A30D 6x6



RIMPULL

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



RETARDATION PERFORMANCE (Transmission and exhaust retarders)

1. Braking effort in kp (lbf).
2. Speed in km/h (mph).
3. Machine weight 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 tires and gearing, unless otherwise stated.

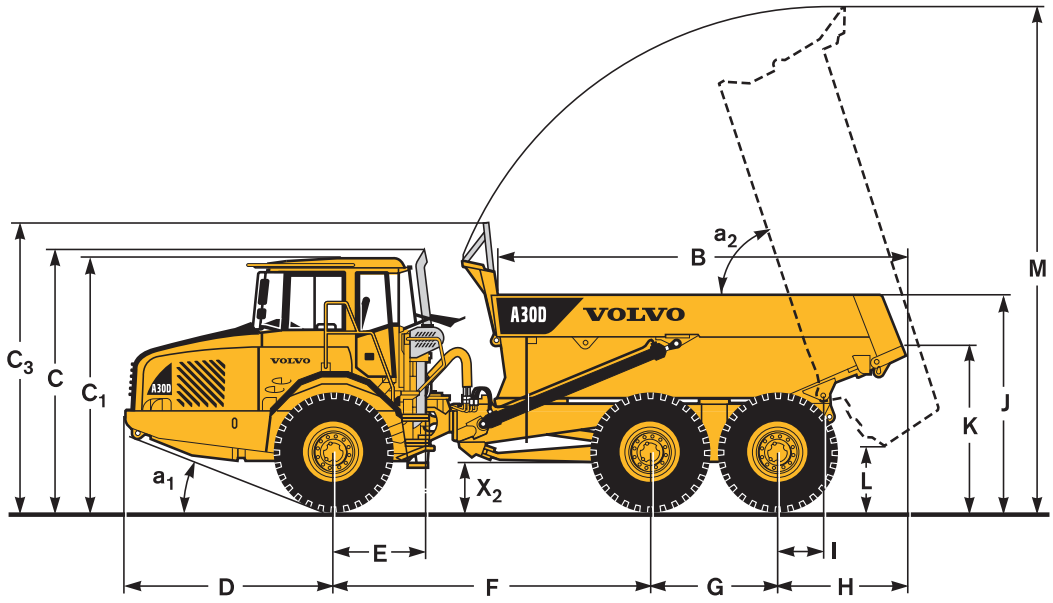
A. Find the diagonal line with the appropriate total resistance on the right-hand edge of the chart.

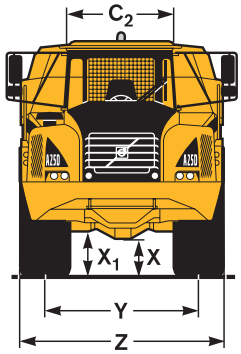
B. Follow the diagonal line downward until it intersects the actual machine weight line, NMW or GMW.

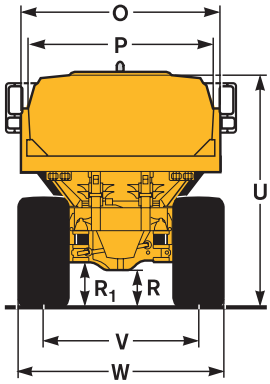
C. Draw a new line horizontally to the left from the point of intersection until the new line intersects the rimpull or retardation curve.

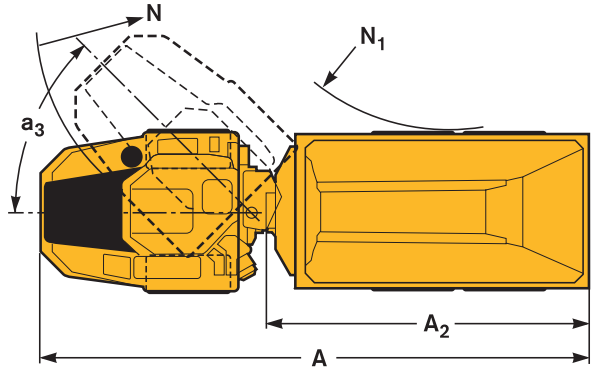
D. Read down for vehicle speed.

DIMENSIONS Volvo A30D 6x6 (unloaded with 750/65R25 tires)









A	10394 mm	(34'1")	F	4175 mm	(13'8")	O	2900 mm	(9'6")	a_1 23.5°
A_2	6032 mm	(19'9")	G	1670 mm	(5'6")	P	2706 mm	(8'11")	a_2 70°
B	5339 mm	(17'6")	H	1688 mm	(5'6")	R	513 mm	(1'8")	a_3 45°
C	3428 mm	(11'3")	I	608 mm	(2'0")	R_1	635 mm	(2'1")	
C_1	3318 mm	(10'11")	J	2856 mm	(9'4")	U	3310 mm	(10'10")	
C_2	1768 mm	(5'10")	K	2181 mm	(7'2")	V	2216 mm	(7'3")	2258 mm (7'5")*
C_3	3834 mm	(12'7")	L	686 mm	(2'3")	W	2941 mm	(9'8")	2859 mm (9'5")*
D	2764 mm	(9'1")	M	6592 mm	(21'8")	X	456 mm	(1'6")	
E	1210 mm	(4'0")	N	8105 mm	(26'7")	X_1	582 mm	(1'11")	
			N_1	4037 mm	(13'3")	X_2	659 mm	(2'2")	
						Y	2216 mm	(7'3")	2258 mm (7'5")*
						Z	2941 mm	(9'8")	2859 mm (9'5")*

*with 23.5R25 Tire

LOAD CAPACITY (body volume according to SAE 2:1)

Load capacity	28 000 kg (31 sh tn)
Body, struck	13.6 m³ (17.8 yd³)
Body, heaped	17.5 m³ (22.9 yd³)

With overhung tailgate

Body, struck	14 m³ (18.3 yd³)
Body, heaped	18.1 m³ (23.7 yd³)

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
Dump body lock
Windshield wipers with intermittent
Windshield washers
Reverse alarm

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
Electrically heated rearview mirrors
Air conditioning
Radio installation kit
Radio, AM/FM Cassette

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

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

Operator information interface
Gauges:
- Speedometer
- Tachometer
- Brake pressure
- Fuel
- Transmission oil temperature

Pilot lamps for all switches
Warning lamps 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
Automatic transmission
Torque converter with automatic lock-up
Dropbox, single stage
Hydraulic variable retarder
6x4 or 6x6 operator selectable drive modes
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
750/65R25 or 23.5R25

Other
Air drier
Electrical hood opening
Rear mudflaps
Toolbox

OPTIONAL EQUIPMENT

Service and Maintenance
Tool kit with tire inflation unit

Engine
Engine coolant pre-heater (120V or 240V)
Extra long life service free endurance air filter
External emergency engine stop
Delayed engine stop
High idle speed

Electrical
Work lights, roof-mounted
Work lights, reverse, fender-mounted
Rotating beacon, collapsible mount
Rear vision system – monochrome or color display
Anti-theft system (prevents engine start)
Alternator, heavy duty 80 A

Cab
Cable kit for cab heater 120V
Radio with CD player
Electric heated mirrors
Vandalism protection

External
Front mudguard wideners (for 750/65R25)

Body
Body exhaust heating kit
Exhaust body heating, front exit
Overhung tailgate, wire operated
Wear plates
Extra front spillguard

Other
Synthetic hydraulic oil (biologically degradable)
Arctic oil kit
Towing hitch
Lifting tools
Brake guards

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 North America, Inc.
One Volvo Drive, Asheville, NC 28803-3447
www.volvoce.com

Ref. No. 22 1 669 4153 English
Printed in USA 01/03 – 5,0
Volvo, Asheville