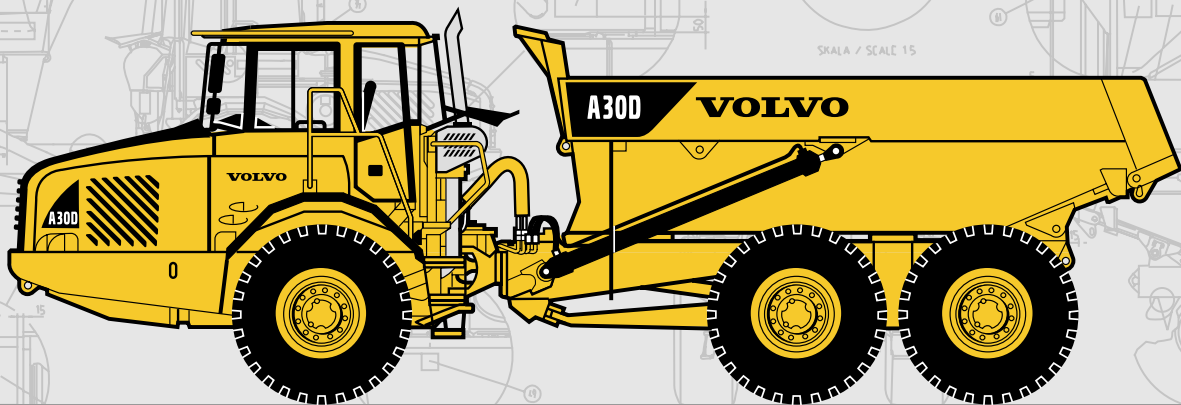


VOLVO ARTICULATED HAULER

A300



- **Engine output:**
SAE J1995, Gross 242 kW, (324 hp)
SAE J1349, Net 241 kW (323 hp)
- **Body volume, heaped:**
17.5 m³ (22.9 yd³)
- **Load capacity:**
28.0 t (30.9 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 three transverse differential locks.
- **Front axle with 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*
Make, model	Volvo D10BABE2**
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.

**) Meets 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 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	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 an integral 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, infinitely variable, integrated in transmission.

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: 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.

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 visibility, 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/mm ² (130000 psi)
Tensile strength	1250 N/mm ² (181000 psi)
Hardness min.	360 HB



WEIGHTS

Operating weight includes all fluids and operator. If equipped with 23.5R25 tires (optional), subtract 200 kg (441 lb) per axle.

Operating weight: with tires 750/65R25.

Unloaded	
Front	12 500 kg (27 557 lb)
Rear	10 560 kg (23 280 lb)
Total	23 060 kg (50 837 lb)
Payload	28 000 kg (61 728 lb)

Total weight

Front	14 990 kg (33 047 lb)
Rear	36 070 kg (79 519 lb)
Total	51 060 kg (112 566 lb)



GROUND PRESSURE

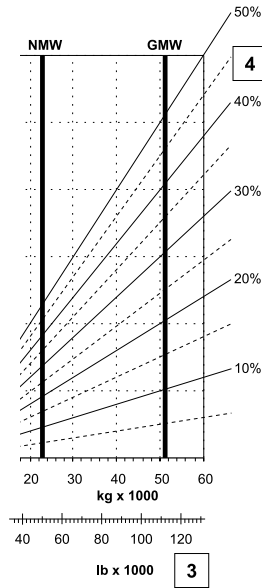
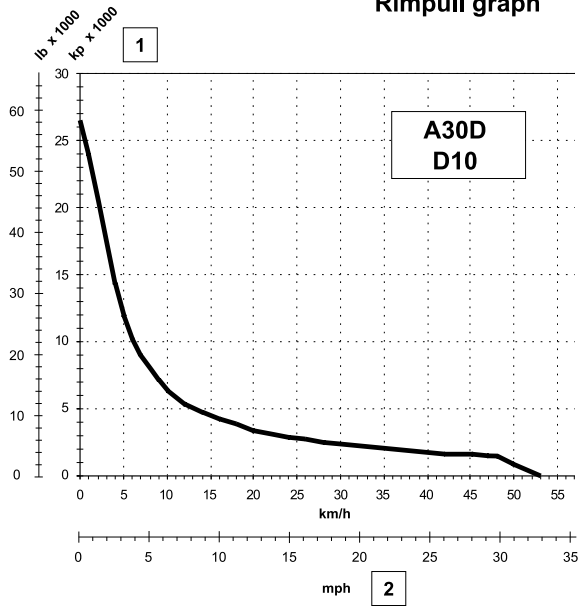
At 15% sinkage of unloaded radius and specified weights.

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

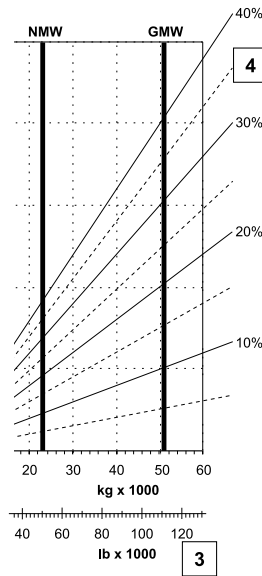
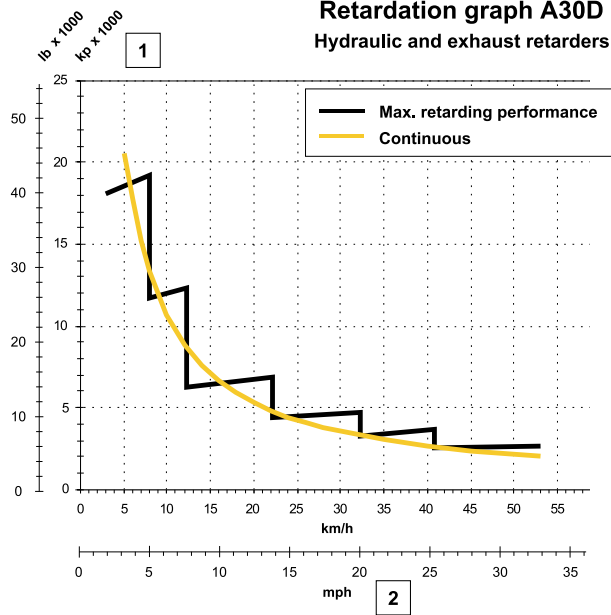
Rimpull graph



RIMPULL

1. Rimpull in metric ton (kp x 1000).
2. Speed in km/h.
3. Machine weight in metric ton.
4. Grade in % + rolling resistance in %.

Retardation graph A30D
Hydraulic and exhaust retarders



RETARDATION PERFORMANCE (Transmission and exhaust retarders)

1. Braking effort in metric ton (kp x 1000).
2. Speed in km/h.
3. Machine weight metric ton.
4. Grade in % - rolling resistance in %.

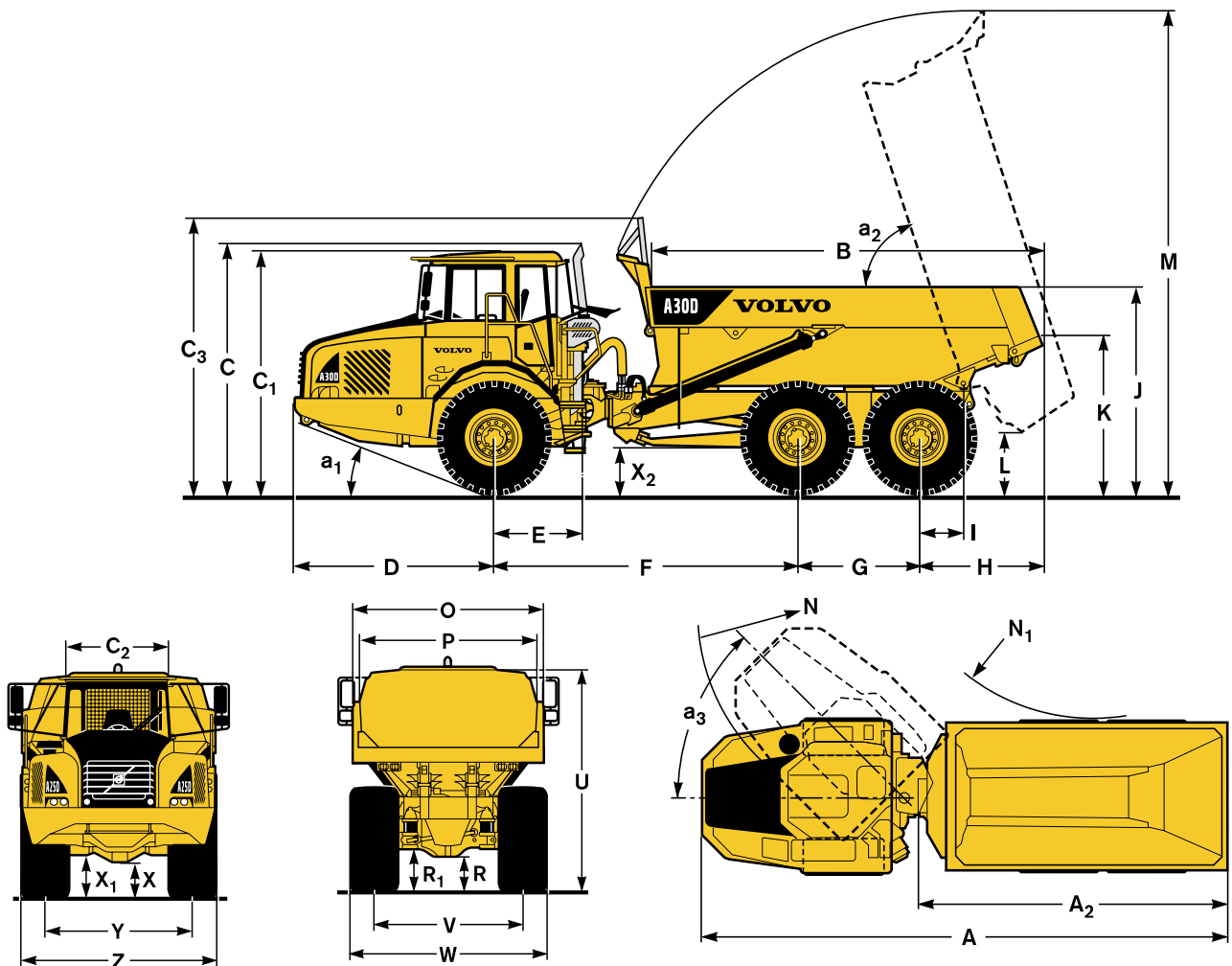
INSTRUCTIONS

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 (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 ₁	4954 mm (16'3")	G	1670 mm (5'6")	P	2706 mm (8'11")	a ₂	70°
A ₂	6032 mm (19'9")	H	1688 mm (5'6")	R	513 mm (1'8")	a ₃	45°
B	5339 mm (17'6")	I	608 mm (2'0")	R ₁	635 mm (2'1")		
C	3428 mm (11'3")	J	2856 mm (9'4")	U	3310 mm (10'10")		
C ₁	3318 mm (10'11")	K	2181 mm (7'2")	V	2216 mm (7'3")		
C ₂	1768 mm (5'10")	L	686 mm (2'3")	W	2941 mm (9'8")		
C ₃	3834 mm (12'7")	M	6592 mm (21'8")	X	456 mm (1'6")		
D	2764 mm (9'1")	N	8105 mm (26'7")	X ₁	582 mm (1'11")		
E	1210 mm (4'0")	N ₁	4037 mm (13'3")	X ₂	659 mm (2'2")		
				Y	2216 mm (7'3")		
				Z	2941 mm (9'8")		

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)

With underhung tailgate
 Body, struck..... 13.8 m³ (18 yd³)
 Body, heaped..... 18 m³ (23.5 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
 Rear view mirrors
 Retractable 3 inch safety belt
 Secondary steering
 Steering joint locking assembly
 Dump body lock
 Windshield wipers with intermittent
 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

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
 • Trouble shooting diagnostics
 • Hour meter
 • Clock
 • Machine settings

Drivetrain

Automatic transmission
 Torque converter with automatic lock-up
 Drop box, 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

Other

Air drier

OPTIONAL EQUIPMENT

Service and Maintenance

Tool kit with tire inflation unit
 Electrical hood opening

Engine

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

Electrical

Work lights, roof-mounted
 Work lights, reverse, fender-mounted
 Rotating beacon, collapsible mount
 Reverse alarm
 Rear vision system
 Anti-theft system (prevents engine start)
 Head lights for left hand side traffic
 Alternator, heavy duty 80 A

Cab

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

Safety

Fire-extinguisher and first aid kit

External

Rear mudflaps

Body

Body exhaust heating kit
 Underhung tailgate, link operated
 Overhung tailgate, wire operated
 Wear plates
 Extra front spillguard
 Upper side extension, 200 mm

Other

Synthetic hydraulic oil (biologically degradable)
 Arctic oil kit
 Toolbox

Tires

23.5R25

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