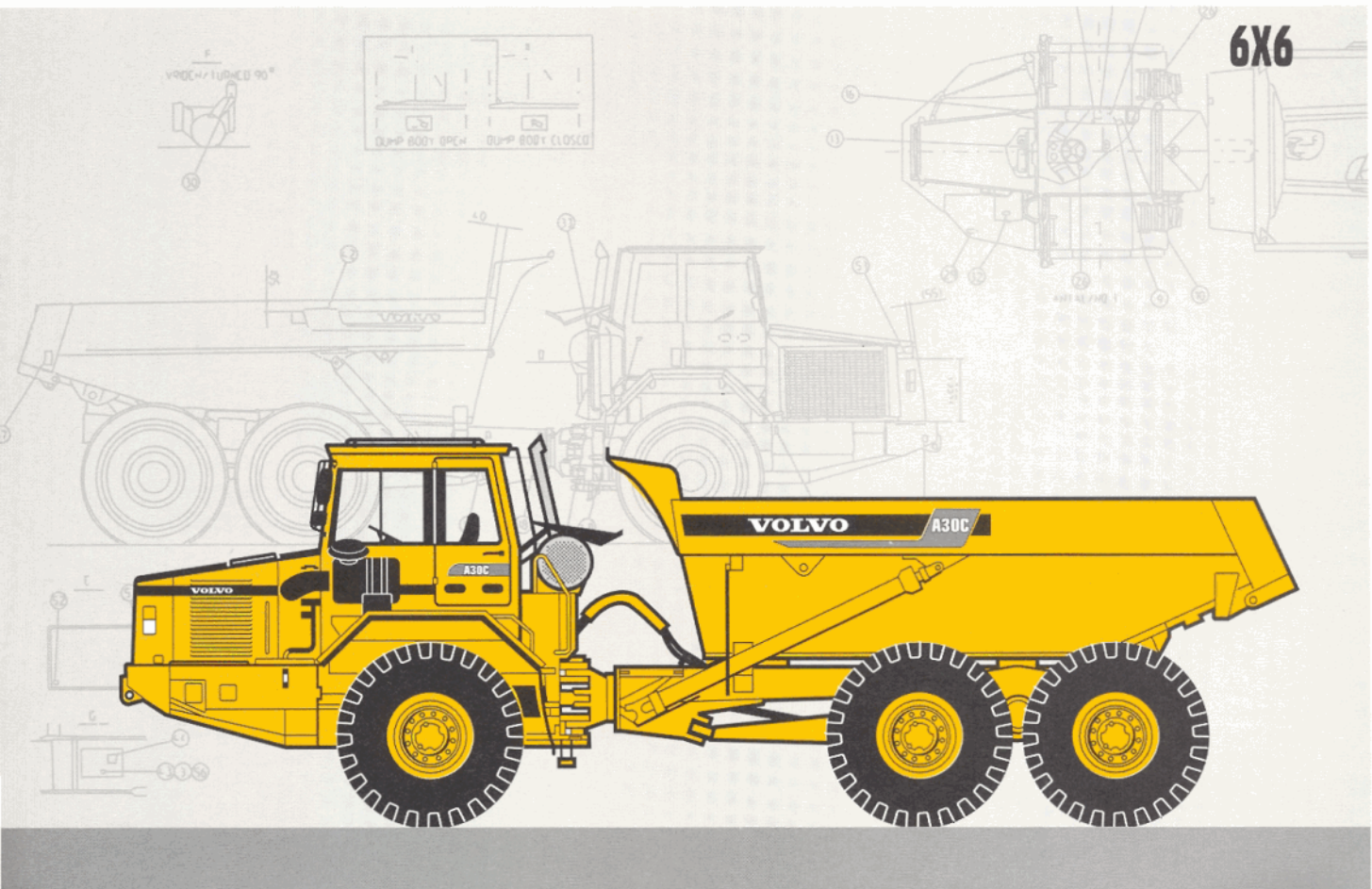


VOLVO ARTICULATED HAULER

A30C



- **Engine output SAE J1349:**
Net 213 kW 285 hp
Gross 216 kW 289 hp
- **Body volume:**
16,5 m³ 21.6 yd³
- **Load capacity:**
27 t 30 sh ton
- **Volvo High-performance, low-emission** direct-injected, inter-cooled, turbocharged engine as standard.
- **Electronically controlled, fully automatic powershift transmission.**
- **Variable hydraulic retarder** as standard.
- **100% lock-up diff. locks.** One longitudinal and three transverse diff. locks.
- **Volvo rough terrain suspension,** high ground clearance and individually oscillating bogie and front axle.
- **Low interior noise level.**
- **Adjustable steering wheel.**

VOLVO



ENGINE

Volvo 6-cylinder, in-line, direct-injected, turbocharged, inter-cooled 4-cycle low-emission diesel engine with overhead valves and wet replaceable cylinder linings.

Meets USA (EPA), California off-road regulation 1996 and European off-road regulation 1997.

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

Make.....	Volvo	
Model.....	TD103 KBE	
Max power at.....	36,7 r/s	2200 rpm
SAE J1349 Gross.....	216 kW	289 hp
Flywheel power at.....	36,7 r/s	2200 rpm
SAE J1349 Net.....	213 kW	285 hp
DIN 6271*.....	213 kW	285 hp
Max torque at.....	16,6 r/s	996 rpm
SAE J1349 Gross.....	1365 Nm	1007 lbf ft
SAE J1349 Net.....	1360 Nm	1003 lbf ft
DIN6271**.....	1360 Nm	1003 lbf ft
Displacement total.....	9,6 l	586 in³
Bore.....	120 mm	4.7 in
Stroke.....	140 mm	5.5 in
Compression ratio.....	18:1	

* with fan at normal speed. With fan operating at full speed the flywheel power is 199 kW **267 hp**, which corresponds to DIN 70020.

** with fan at normal speed. With fan operating at full speed the maximum torque is 1190 Nm, **878 lbf ft**, which corresponds to DIN 70020



ELECTRICAL SYSTEM

Voltage.....	24 V	
Battery capacity.....	2x170 Ah	
Alternator.....	1,68 kW	60 A
Starter motor.....	6,6 kW	8.8 hp



SERVICE CAPACITIES

Crankcase.....	23 l	6.1 US gal
Fuel tank.....	360 l	95.1 US gal
Cooling system.....	52 l	13.7 US gal
Transmission total.....	41 l	10.8 US gal
Dropbox.....	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.....	194 l	51.3 US gal
Hydraulic tank.....	175 l	46.2 US gal



DRIVETRAIN

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

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

Drop box: Volvo single-stage, power takeoff and 100% differential locking.

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

Differential locks: One longitudinal and three transverse. All with 100% locking capability.

Torque converter.....	2.42:1
Transmission.....	Volvo PT 1663
Dropbox.....	Volvo FL 650B
Axles.....	Volvo AH 63

Speeds with tires 30/65 R 25 and 23.5 R 25

Forward		
1	8,2 km/h	5.1 mph
2	11,9 km/h	7.4 mph
3	21,5 km/h	13.4 mph
4	31,1 km/h	19.3 mph
5	39,5 km/h	24.5 mph
6	52,3 km/h	32.7 mph
Reverse		
1	7,6 km/h	4.7 mph
2	13,1 km/h	8.1 mph



SUSPENSION

Volvo suspension system

Front axle: One rubber spring with bottoming absorption on each side. Stabilizer. Two shock absorbers on each side. The front axle is suspended at three points, allowing oscillation in rough terrain.

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



BRAKE SYSTEM

Air-hydraulic disc brakes on all axles. Two circuits. Designed to comply with ISO 3450 and SAE J1473 at gross machine weight.

Circuit division: One 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.

Compressor: Gear-driven by engine transmission.

Retarder: Hydraulic, infinitely variable, integrated in transmission as standard.

Exhaust retarder: Standard.

For retarding capability, including hydraulic transmission retarder, engine and exhaust retarder, see graph on page 4.



HYDRAULIC SYSTEM

Pumps: Four engine-dependent, variable piston pumps mounted on flywheel power takeoffs. One ground-dependent hydraulic pump for supplementary steering mounted on drop box.

Filter: Filtration of oil through two paper filters with magnetic cores.

Pump capacity per pump at shaft speed	36 r/s 109 l/min	2160 rpm 28.8 US gal/min
Working pressure.	19 MPa	2758 psi



CAB

Volvo cab, tested and approved according to ROPS standard ISO 3471 and SAE J1040/APR 88, FOPS standard ISO 3449 and SAE J231. Mounted on rubber pads which effectively reduce vibrations. Adjustable steering wheel. Radio/Contronic console in ceiling.

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

Operator's seat: Ergonomically designed adjustable seat with air suspension, electric heating and flameproof upholstery.

Trainer's seat: Standard.

Number of exits	2
Internal sound level acc. to ISO 6394 at max. speed . . .	76 dB (A)



STEERING SYSTEM

Hydromechanical articulated steering. 3,4 turns lock-to-lock.

Cylinders: Two double-acting steering cylinders.

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

Steering angle: $\pm 45^\circ$



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	14 s	
Lowering time	13 s	
Body, plate thickness		
Front	8 mm	5/16 in
Side	12 mm	1/2 in
Bottom/chute	14 mm	9/16 in
Yield strength.	1000 N/mm ²	145,000 psi
Tensile strength	1250 N/mm ²	181,000 psi
Hardness min.	360-440 HB	



WEIGHTS

Operating weight includes all fluids and operator.

Operating weight with tires 23.5 R 25

Front	11500 kg	25,350 lb
Rear	9400 kg	20,720 lb
Total	20900 kg	46,080 lb
Payload	27000 kg	59,520 lb
Total weight		
Front	15250 kg	33,620 lb
Rear	32650 kg	71,980 lb
Total	47900 kg	105,600 lb

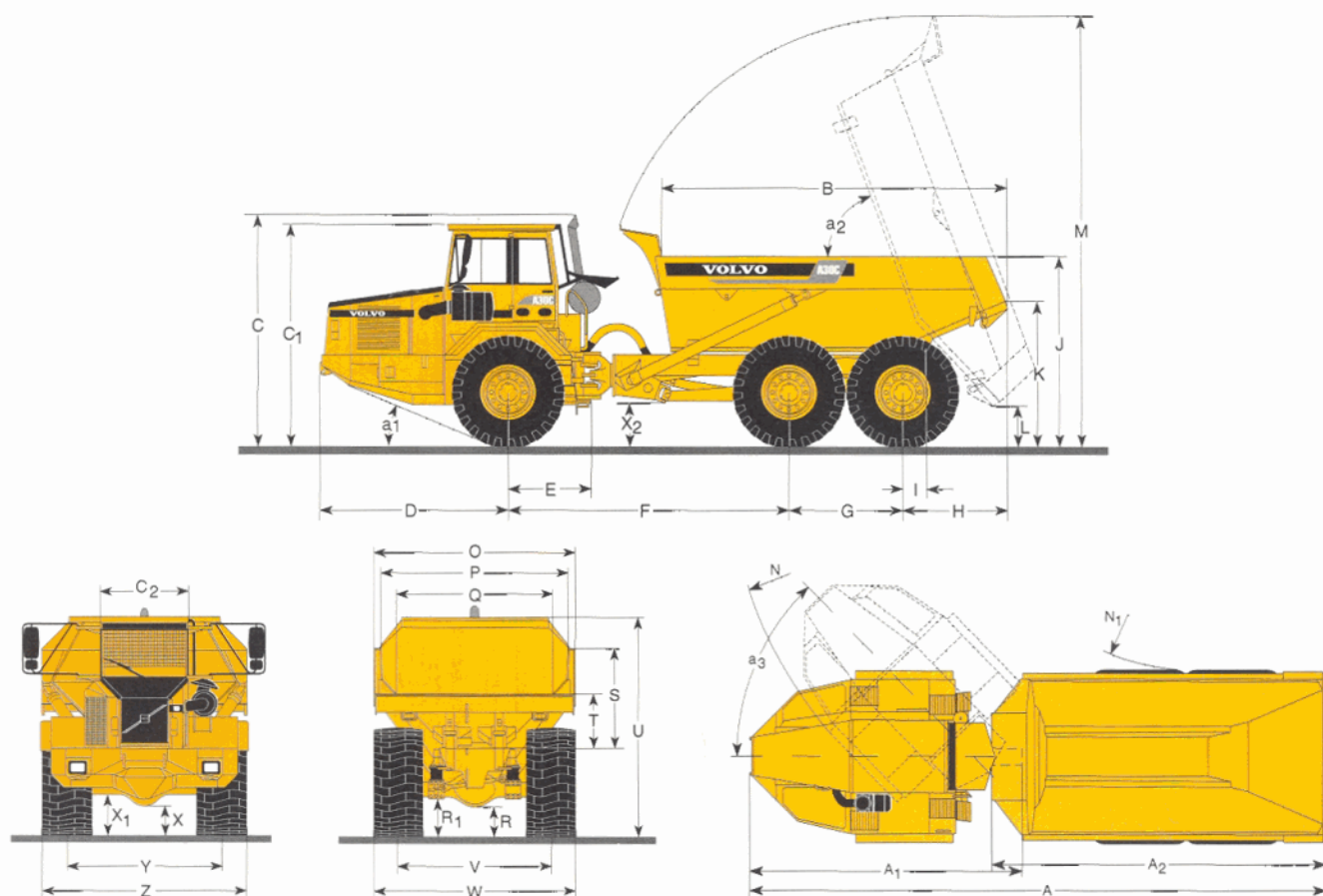
A30C equipped with 30/65 R 25 tires, add 200 kg 440 lb per axle.



GROUND PRESSURE

At 15% sinkage of unloaded radius and specified weights.

With tires:	23.5 R 25	30/65 R 25
Unloaded		
Front	112 kPa 16.2 psi	94 kPa 13.6 psi
Rear	46 kPa 6.7 psi	40 kPa 5.8 psi
Loaded		
Front	150 kPa 21.7 psi	124 kPa 18.0 psi
Rear	164 kPa 23.8 psi	135 kPa 19.6 psi



DIMENSIONS Volvo A30C 6x6 (unloaded)

A	10200 mm	33'6"	F	4173 mm	13'8"	O	2932 mm	9'7"	W	2820 mm	9'3"
A1	4862 mm	15'11"	G	1670 mm	5'6"	P	2720 mm	8'11"	W*	2980 mm	9'9"
A2	5856 mm	19'3"	H	1587 mm	5'2"	Q	2286 mm	7'6"	X	485 mm	1'7"
B	5167 mm	16'11"	I	430 mm	1'5"	R	530 mm	1'9"	X1	522 mm	1'8"
C	3410 mm	11'2"	J	2834 mm	9'4"	R1	567 mm	1'10"	X2	670 mm	2'2"
C1	3260 mm	10'8"	K	2180 mm	7'2"	S	1464 mm	4'10"	Y	2216 mm	7'3"
C2	1331 mm	4'4"	L	594 mm	1'11"	T	810 mm	2'8"	Z	2820 mm	9'3"
D	2770 mm	9'1"	M	6494 mm	21'4"	U	3305 mm	10'10"	Z*	2980 mm	9'9"
E	1210 mm	4'	N	8047 mm	26'5"	V	2216 mm	7'3"	a1	23°	
C*	3802 mm	12'6"	N1	4021 mm	13'2"				a2	70°	
with optional spill guard in upright position											
									a3	45°	

* with tires 30/65 R 25

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

US body load capacity	27000 kg	30 sh tn
Body, struck	12,9 m³	16.9 yd³
heaped	16,5m³	21.6 yd³

With overhung tailgate (optional)			
Body, struck	13,2 m³	17.3 yd³	
heaped	17,2 m³	22.5 yd³	

STANDARD EQUIPMENT

Safety and comfort

ROPS/FOPS cab
Anti-slip material on fenders and hood
Back-up warning alarm
Hazard flashers
Horn
Protective grille for rear window
Cab heater with filtered fresh air and defroster
Contronic information panel
Ergonomically designed and adjustable operator's seat with air suspension and electric heating
Trainer's seat
Windshield wipers with interval
Windshield washers
Rearview mirrors
Seat belt
Sun visor
Tinted glass
Cigarette lighter
Ashtray
Lights:
• Headlights, high/low beam
• Parking lights
• Rear lights
• Turn signals
• Back-up lights
• Brake lights
• Cab lighting
• Instrument lighting

Adjustable steering wheel
Steering joint locking assembly
Radio/Contronic console in ceiling
Secondary steering
Speedometer

Engine and electrical system

Low-emission engine
Turbocharger
Exhaust retarder
Intercooler
Oil drainage hose
Alternator
Preheating coil
Battery disconnect switch
Electrical outlet
Gauges for:
• Air pressure
• Engine temperature
• Engine rpm
• Fuel
• Hours
• Transmission oil temperature
Pilot lamps for:
• Battery charging
• Turn signals
• Bogie axles diff. lock
• Front axle diff. lock
• Longitudinal diff. lock
• Lights
• Main beam
• Preheating coil

Warning lamps for:

- Air cleaner, engine
- Body up
- Brake pressure
- Brake failure
- Coolant level
- Engine oil pressure
- Engine temperature
- Engine-dependent steering pump
- Ground-dependent steering pump
- Parking brake
- Transmission malfunction

Central warning for:

- Air pressure
- Battery charging
- Brake failure
- Body up
- Engine oil pressure
- Engine overspeed
- Engine temperature
- Steering function
- Transmission malfunction

Drivetrain

Torque converter
Fully automatic transmission
Drop box, single stage
Automatic lock-up
Hydraulic retarder, variable
Longitudinal differential lock
Differential lock front axle
Differential lock first bogie axle
Differential lock second bogie axle

External

Rear mudflaps
Mudguard wideners, front 9' 9"

Body

Body with exhaust ducts

Tires

23.5 R 25

OPTIONAL EQUIPMENT

Service and maintenance

Toolbox
Central lubrication

Engine

Coolant filter
Oil-bath air cleaner
Engine coolant preheater, 120 V

Electrical

Work lights, roof-mounted

Cab

Air-conditioning
Electrically heated rearview mirrors
Kit for radio installation

External

Fender wideners

Body

Body heating
Extra front spill guard
Overhung tailgate, wire-operated
Rock liner

Tires

30/65 R 25

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

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