Volvo BM A25B 6X6

ENGINE OUTPUT: SAE J1349 NET 240 hp (177 kW)

BODY VOLUME: 17.7 yd³ (13,5 m³)

LOAD CAPACITY: 25 TONS (22,5 TONNES)

DIRECT-INJECTED, TURBO-CHARGED VOLVO DIESEL WITH INTERCOOLER

ELECTRONICALLY CON-TROLLED FULLY AUTO-MATIC TRANSMISSION. HIGH AND LOW DROP BOX RANGES.

ONE LONGITUDINAL AND THREE TRANSVERSE DIFF-LOCKS. ALL WITH 100% LOCK-UP.

FRONT AXLE WITH 3-POINT MECHANICAL MAINTENANCE-FREE SUSPENSION SYSTEM

VME ROUGH TERRAIN BOGIE WITH INDIVIDUAL OSCILLATING AXLES AND HIGH GROUND CLEARANCE

VOLVO BM

ENGINE

Volvo TD 71 K: 6-cylinder, in-line, direct-injected turbocharged intercooled 4-cycle diesel engine with overhead valves and wet replaceable cylinder linings.

Fan: Variable speed, hydrostatic driven, thermostatically controlled, radiator fan consuming power only when needed.

Max. power @ 2400 rpm (40 rps)			
SAE J1349 Gross	244	hp	(180 kW)
Flywheel power @ 2400 rpm (40 rps)			
SAE J1349 Net	240	hp	(177 kW)
DIN 6271*	240	hp	(177 kW)
Max. torque @ 1600 rpm (27 rps)			
SAE J1349 Gross	601	lb-ft	(815 Nm)
SAE J1349 Net	590	lb-ft	(800 Nm)
DIN 6271**	590	lb-ft	(800 Nm)
Displacement, total	411	in^3	(6,73 l)
Bore	4.125	in	(104,77 mm)
Stroke	5.12	in	(130 mm)
Compression ratio	15.5:1		

* with fan at normal 1200 rpm (20 rps). With fan operating at 2400 rpm (40 rps) the flywheel power is 218 hp (160 kW) which corresponds to DIN 70020.

** with fan at normal 1200 rpm (20 rps). With fan operating at 2400 rpm (40 rps) the maximum torque is 524 lb-ft (710 Nm) which corresponds to DIN 70020.

ELECTRICAL

Voltage	24	V	
Battery capacity	2 x 135	Ah	
Alternator rating	1,680	W	(1,68 kW)
Starter motor	6.8	hp	(5 kW)

SERVICE REFILL CAPACITIES

	Gallons	(Litres)
Crankcase	6.3	(24)
Fuel tank	74	(280)
Cooling system	7.9	(30)
Transmission total	4.2	(16)
Dropbox	1.6	(6)
Front axle	9.2	(35)
First bogie axle	8.7	(33)
Second bogie axle	9.2	(35)
Hydraulic system	42.0	(160)
Hydraulic tank	38.3	(145)

DRIVETRAIN

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

Transmission: Electronically controlled fully automatic planetary transmission.

Dropbox: Volvo BM dropbox with 2-stage design, power take-off and differential.

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

Torque converter	2.4:1
Transmission	ZF 5 HP 500
Dropbox	FL 652

Axles: Volvo BM. The axles have fully floating axle shafts with planetary gear type hub reduction.

Speeds with standard 23.5R25 tires:

Speeds		mph	(km/h)
Low gear, forward	1	3.7	(6,0)
	2	5.6	(9)
	3	9.3	(15)
	4	13.7	(22)
	5	19.3	(31)
Low gear, reverse	1	4.3	(6,5)
High gear, forward	1	5.6	(9)
	2	9.3	(15)
	3	15.5	(25)
	4	22.4	(36)
	5	31.2	(51)
High gear, reverse	1	6.8	(11)

SUSPENSION

VOLVO BM SUSPENSION SYSTEM

Front axle: Two rubber springs, two shock absorbers and one rubber stabilizing pad on each side.

Bogie: Volvo BM unique rough terrain bogie with independent axle suspension.

BRAKING

Dual circuit system with air over hydraulic disc brakes, designed to 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: The parking brake is a driveline mounted spring actuated brake.

Compressor: Engine mounted gear driven compressor.

Exhaust retarder: Standard.

HYDRAULICS

Pump: Engine-dependent variable piston pumps mounted on the flywheel power take-offs. Three of four power take-offs are used.

One ground-dependent variable piston pump for supplementary steering mounted on the dropbox.

Filtration: Filtration of oil through 2 paper and magnet filters.

Pump capacity	26.4*/31.2** g/m	(100*/118** l/m)
at shaft speed	2050 rpm	(34 rps)
Working pressure max.	2828* psi	(19,5* MPa)
	2828** psi	(19,5** MPa)

* = pump 1,2,3
** = ground-dependent hydraulic pump

CAB

Volvo BM cab, tested and approved in accordance with ROPS standard ISO 3471/SAE J1040C.
The cab is mounted on rubber pads, which reduces vibrations at operator's station.

Heater and defroster: Filtered air and pressurized cab, with three-speed fan.

Operator's seat: Operator's seat equipped with flameproof upholstery. Extra seat for instructor.

Number of exits (includes door)	2
Internal noise level	80 dB (A)

STEERING

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

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

Cylinders: Two double-acting cylinders.

Steering angle: ± 45°

BODY

Body: Hardened and tempered steel with high impact strength.

Cylinders: Two double-acting single stage hoist cylinders.

Tipping angle	70°		
Tipping time with load	15	s	
Lowering time	12	s	
Body plate thickness			
Front	0.31	in	(8 mm)
Sides	0.47	in	(12 mm)
Bottom	0.55	in	(14 mm)
Chute	0.55	in	(14 mm)
Yield strength	128,000	psi	(883 N/mm²)
Tensile strength	178,000	psi	(1226 N/mm²)
Hardness	360-440	HB	

WEIGHTS

Service weight includes all fluids.

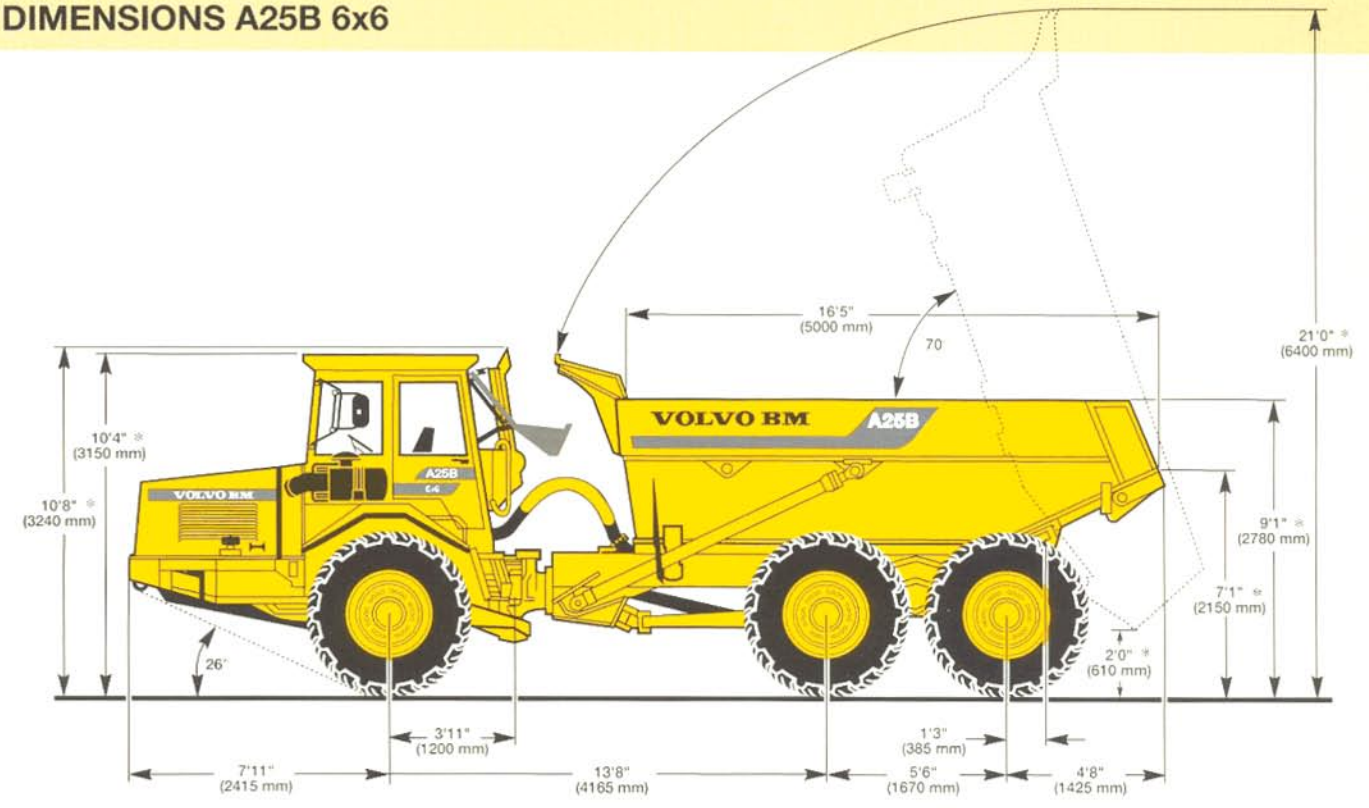
Net machine weight	lb	(kg)
Front	19,400	(8800)
Rear	18,960	(8600)
Total	38,360	(17 400)
Payload	49,610	(22 500)
Gross machine weight		
Front	24,910	(11 300)
Rear	63,060	(28 600)
Total	87,970	(39 900)

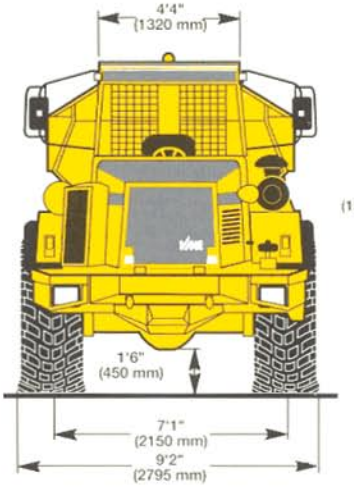
GROUND PRESSURE

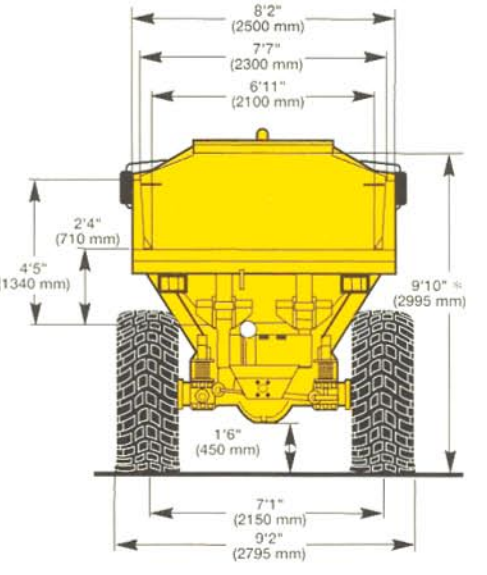
Ground pressure measured at 3 inch penetration and at 5 mph.

Unloaded with tires 23.5-25	psi	(kPa)
Front	10.9	(75)
Rear	5.3	(37)
Loaded		
Front	14.1	(97)
Rear	17.8	(123)

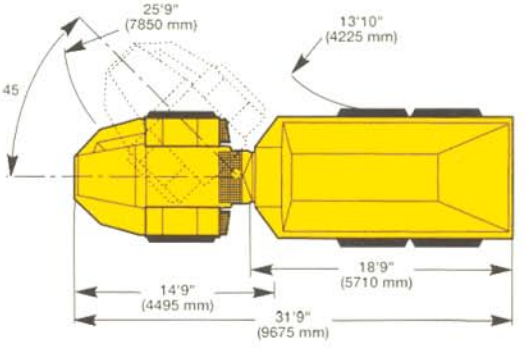
DIMENSIONS A25B 6x6





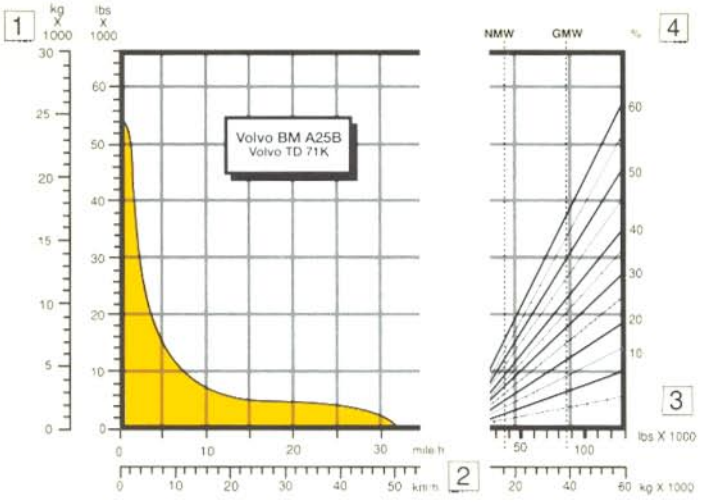


All measurements are for a loaded machine except where denoted by * indicating unloaded measurement.



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

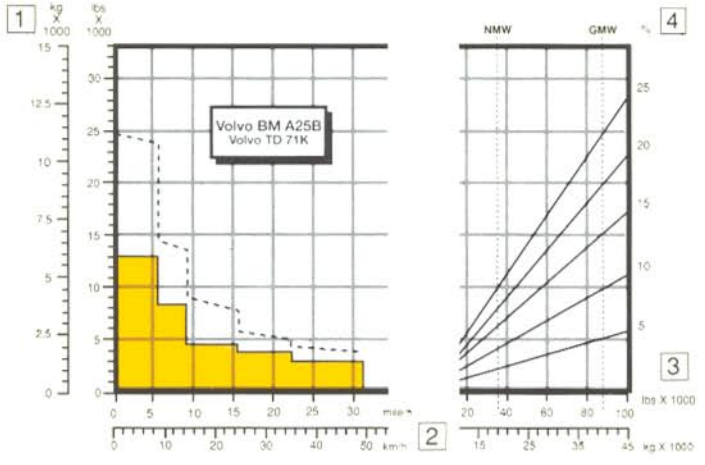
Load capacity	25	tons	(22 500 kg)
Body, struck	13.9	yd^3	(10,6 m^3)
heaped	17.7	yd^3	(13,5 m^3)



RIMPULL

Rimpull graph based on practically measured values. Dumper weight and ground slope + rolling resistance gives rimpull requirement and speed.

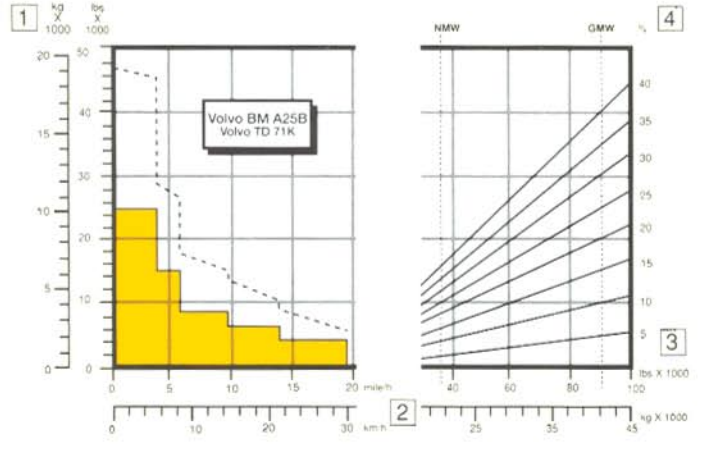
1 Rimpull in lb (kg)
2 Speed in mph (km/h)
3 Dumper weight in lb (kg)
4 Rolling resistance + grade resistance in %.



RETARDATION
HIGH RANGE

1 Braking effort in lb (kg)
2 Speed in mph (km/h)
3 Dumper weight in lb (kg)
4 Rolling resistance - grade resistance in %.

------ Optional hydraulic & exhaust retarder
—— Standard exhaust retarder



RETARDATION
LOW RANGE

1 Braking effort in lb (kg)
2 Speed in mph (km/h)
3 Dumper weight in lb (kg)
4 Rolling resistance - grade resistance in %.

------ Optional hydraulic & exhaust retarder
—— Standard exhaust retarder

INSTRUCTIONS

Diagonal lines represent the total resistance (Grade % plus rolling resistance %).
Charts based on 0% rolling resistance, standard tires and gearing unless otherwise stated.

A. Find the total resistance on diagonal lines on righthand border of performance or retarder chart.
B. Follow the diagonal line downward and intersect the NMW or GMW weight line.
C. From intersection, read horizontally left to intersect the performance or retarder curve.
D. Read down for machine speed.

STANDARD EQUIPMENT

AIR CLEANER
ALTERNATOR
ANTI-SLIP MATERIAL
AUTOMATIC LOCK-UP
BATTERY DISCONNECT SWITCH
BODY WITH EXHAUST DUCTS
CAB, ROPS/FOPS:
- Ash tray, cigar lighter
- Heater with filtered fresh air & defroster
- Mirrors, rearview
- Protective grill for rear window
- Safety glass, tinted
- Seat belts
- Seat, operator, adjustable
- Seat, trainer
- Sun visor
- Windshield washer & wiper

CENTRAL WARNING:
- Battery charging
- Brake hydraulics
- Engine air cleaner
- Engine oil pressure
- Engine overspeed
- Engine temperature
- Low brake pressure
- Low hydraulic fluid
- Steering function
- Transmission temperature

COLD STARTING AIDS:
- Preheating

DRIVETRAIN:
- Automatic lock-up
- Differential lock, first bogie axle
- Differential lock, front axle
- Differential lock, second bogie axle
- Dropbox with high/low gear
- Fully automatic transmission
- Longitudinal diff-lock
- Torque converter

ELECTRICAL OUTLET
FUEL TANK
INSTRUMENTS/GAUGES, ILLUMINATED:
- Brake pressure
- Engine coolant
- Fuel gauge
- Hourmeter
- Intercooler
- Speedometer
- Tachometer

LIGHTS:
- Brake lights
- Cab lighting
- Directional indicators
- Hazard flashers
- Headlights
- Instrument lighting
- Main/Brights
- Parking lights
- Reverse lights

MUD GUARD IN FRONT OF TANDEM
PILOT LAMPS FOR:
- Directional indicators
- High beams
- Main beam

RETARDER, EXHAUST
STEERING JOINT LOCKING ASSEMBLY
STEERING, SECONDARY
TIRES:
- Front: 23.5R25
- Rear: 23.5R25

TOOL BOX
TOW HOOKS
TURBOCHARGER
WARNING ALARMS:
- Backup warning alarm
- Horn, electric

WARNING & MONITORING LIGHTS:
- Battery charging
- Brake hydraulics
- Brake pressure
- Engine air cleaner
- Engine oil pressure
- Engine overspeed
- Engine temperature
- Ground-dependent pump
- Hydraulic fluid level
- Parking brake
- Steering function
- Transmission temperature

OPTIONAL EQUIPMENT

Body equipment
Body heating
Wear plates

Cab equipment
Air conditioning
Radio panel

Drivetrain
Hydraulic retarder

Electrical equipment
Rotating beacon with collapsible mount
Working lights

Engine
Engine block heater
Oil-bath air cleaner

External equipment
Towing hitch

Under our policy of continuous 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.

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