

VOLVO BM

A 25

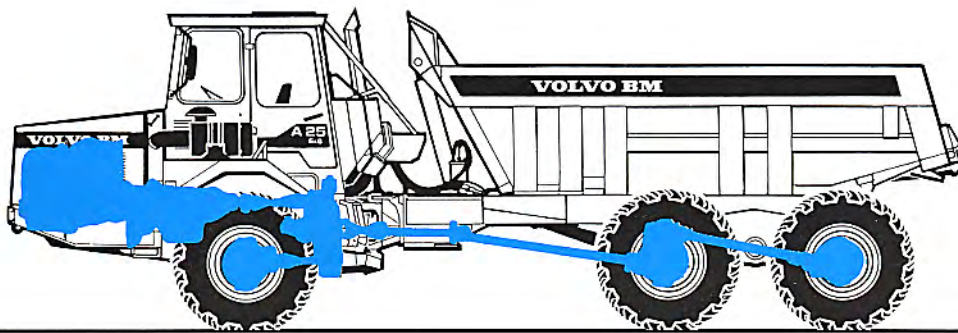
6x6



6 WHEEL DRIVE A25 6x6- FOR FAST HIGH - VOLUME HAULING

The Volvo BM A25 6x6 is a flexible 25 ton machine intended primarily for use on relatively long haulage runs and in severe terrain. The articulated A25 6x6 is built for high average speeds. This means that it can move large quantities of bulk material in a short time span, allowing high productivity to be maintained, without putting high demands on haulroad upkeep.

The features that give the A25 6x6 its high-speed capability are its suspension system, automatic gear shift, high powered engine and its superb maneuverability. The features that keep it rolling on the difficult haul sections are its six large high-flotation tires the all-terrain bogie and the longitudinal and transverse differential-locks which can be engaged on-the-move.



DRIVETRAIN

The A25 6x6 is powered by the Volvo TD 71 K turbo diesel with intercooler. This is a modern, lightweight engine combining high power with low fuel consumption.

The drivetrain is composed of well-matched, components for long term reliability. Power is transmitted to the six driving wheels via a fully automatic transmission with lock-up and a dropbox with built-in differential and high/low gear unit.

The dropbox distributes power between the front axle and the bogie axles. Drive to the trailing bogie axle, together with the longitudinal differential-lock, can be engaged and disengaged on the move as required.

All axles have transverse differential-locks with 100 % lock up. This superb system enables you to select the right drive combination to give optimum traction and offroad mobility in bad conditions and fast, economic hauling when conditions are good.

ALL-TERRAIN BOGIE

Volvo BM's all-terrain bogie has independent axle suspension and ample ground clearance. This gives each pair of wheels a high degree of individual movement with good ground contact. This ensures a smooth, "floating" ride over uneven terrain. Volvo BM's bogie design provides optimum distribution of the drive power under all operating conditions.

The A25 6x6 has a bogie that is designed to allow for different tire options. Equipped with 23.5-25 tires, the A25 6x6 also has very low ground pressure and rolling resistance for unexcelled off-road mobility.





COMFORT AND SAFETY

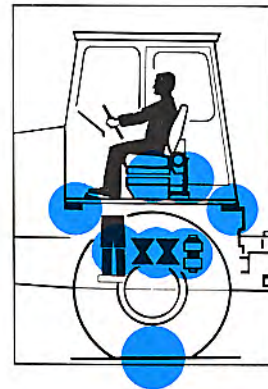
Because the A25 6x6 is designed for high-speed operation, the operator is comfortably seated, even during hard driving over bumpy surfaces. The cab is spacious with low noise levels and has well arranged controls and instrumentation for safe, effortless driving.

The cab is tested and ROPS/FOPS-approved. The dual-circuit brake system has disc-brakes on all axles. This gives security during transports of big loads.



SUSPENSION

Tires, rubber suspension with shock absorbers, rubber cab mounting and the suspended operator's seat, all interact to give the A25 6x6 excellent driving characteristics. This suspension is also completely maintenance-free.



SIMPLE SERVICE

Simple, fast servicing procedures give you more productive operating hours from the machine and your operator. Lube points are easily accessible, and there are only a few which need daily attention. The hood can be tilted forward, completely exposing the engine compartment for routine checks and maintenance.



ENGINE

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

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

Max. power at	rps	rpm	40	2400
SAE J 1349 Gross	kW	hp	180	244
Flywheel power at	rps	rpm	40	2400
SAE J 1349 Net / DIN 6271*	kW	hp	177	240
Max. torque at	rps	rpm	27	1600
SAE J 1349 Gross	Nm	lbf ft	815	601
SAE J 1349 Net / DIN 6271**	Nm	lbf ft	800	590,1
Displacement, total	dm ³	in ³	6,73	411
Bore	mm	in	104,77	4,125
Stroke	mm	in	130	5,12
Compression ratio			15,5:1	

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

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



ELECTRICAL SYSTEM

Voltage	V	24
Battery capacity	Ah / No	135 / 2
Generator rating	W / A	1540 / 55
Starter motor power	kW hp	5 6,8



DRIVETRAIN

Torque converter : single stage with free-wheeling stator and automatic lock-up.

Transmission : Planetary transmission, electronically controlled fully automatic gear-shifting.

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

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

Axles: All axles are of Volvo BM design. The driving axles have fully floating axle shafts with planetary gear type hub reduction.

Torque converter				2,4 :1
Transmission				ZF 5 HP 500
Speeds (Tires 23.5 R 25)				
Low gear, forward	1	km / h	mph	6 3,7
	2	km / h	mph	9 5,6
	3	km / h	mph	15 9,3
	4	km / h	mph	22 13,7
	5	km / h	mph	31 19,3
Low gear, reverse	1	km / h	mph	7 4,3
High gear, forward	1	km / h	mph	9 5,6
	2	km / h	mph	15 9,3
	3	km / h	mph	25 15,5
	4	km / h	mph	36 22,4
	5	km / h	mph	51 31,2
High gear, reverse	1	km / h	mph	11 6,8
Dropbox				FL 652
Front axle, type				AH 54 E
First bogie axle, type				AH 54 C
Second bogie axle, type				AH 54 D



TIRES

Tires, front, radials
Tires, bogie, radials

23,5 R 25*
23,5 R 25*



BRAKE SYSTEM

Dual-circuit system with air-hydraulic disc-brakes, designed to comply with ISO 3450. and SAE J1473 at total weight 39700 kg - 87530 lb.

Circuit division: one circuit for front axle and one for bogie.

Parking brake: The parking brake is a spring actuated brake on the propeller shaft, designed to hold a loaded machine on a grade up to 18%.

Compressor: The pneumatic system is driven by a gear driven compressor

Exhaust brake retarder: standard.



STEERING SYSTEM

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

Supplementary steering: Supplementary steering function as standard. Complies with ISO 5010 at total weight 39700 kg - 87530 lb.

Cylinders: Two double-acting cylinders.

Steering angle: ± 45°



SUSPENSION VOLVO BM SUSPENSION SYSTEM

Front axle: Two rubber springs with bottoming absorption on either side. Stabilizer. Two shock-absorbers on either side.



CAB

Volvo BM cab, tested and approved in accordance with ROPS standard ISO 3471/SAE J1040C and FOPS ISO 3449/SAE J 231.

The cab is mounted on rubber pads, which reduces vibrations at the operators station.

Heater and defroster: Filtered air and pressurized cab.

Operator's seat: Operator's seat with flameproof upholstery. Extra seat for trainer.

Number of exits (includes door)		2
Internal noise level	dB (A)	77



HYDRAULIC SYSTEM

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

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

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

* = pump 1,2,3

** = ground-dependent hydraulic pump

Pump capacity	dm ³ (l) /min	100* / 118**
	US gal/min	26,4* / 31,2**
at	rps rpm	40 2400
Working pressure	MPa psi	18,5* 2680*
	MPa psi	18,5** 2680**



BODY

Cylinder: One single-acting, 6-stage-hoist cylinder with automatic tipping stop.

Body: Body made of hardened-and-tempered steel with particularly high impact strength.

Tipping angle	°	63
Tipping time with load	s	16
Lowering time	s	22
Body plate thickness		
front/sides	mm in	6 0,24
bottom/chute	mm in	10 0,39
Wear plates	mm in	8 0,31
Body and wearplates		
Yield strength	kp/mm ² psi	90 128 000
Tensile strength	kp/mm ² psi	125 178 000
Hardness min.	HB	360-440



WEIGHTS

Service weight includes body with wear plates, oil, fuel and water.

Service weight				
Front	kg	lb	8800	19400
Rear	kg	lb	8400	18520
Total	kg	lb	17200	37920
Payload				
Total	kg	lb	22500	49610
Total weight				
Front	kg	lb	11200	24700
Rear	kg	lb	28500	62830
Total	kg	lb	39700	87530



GROUND PRESSURE

At 15% slump of unloaded diameter and specified weights. Cone penetrometer value at depth of 250 mm (9,8 in).

Unloaded				
Front	kPa	psi	97	14,0
Rear	kPa	psi	43	6,23
Loaded				
Front	kPa	psi	124	18,0
Rear	kPa	psi	151	21,9
Cone penetrometer value			66	



LOAD CAPACITY

Body volumes according to SAE 2:1.

Load capacity	kg	sh tons	22500	25
Body volumes, struck	m ³	yd ³	10,4	13,6
heaped	m ³	yd ³	13,0	17,0

In the case of bodies with struck volumes of less than 10 m³ (13 yd³), heaped volume is given to the nearest half m³.

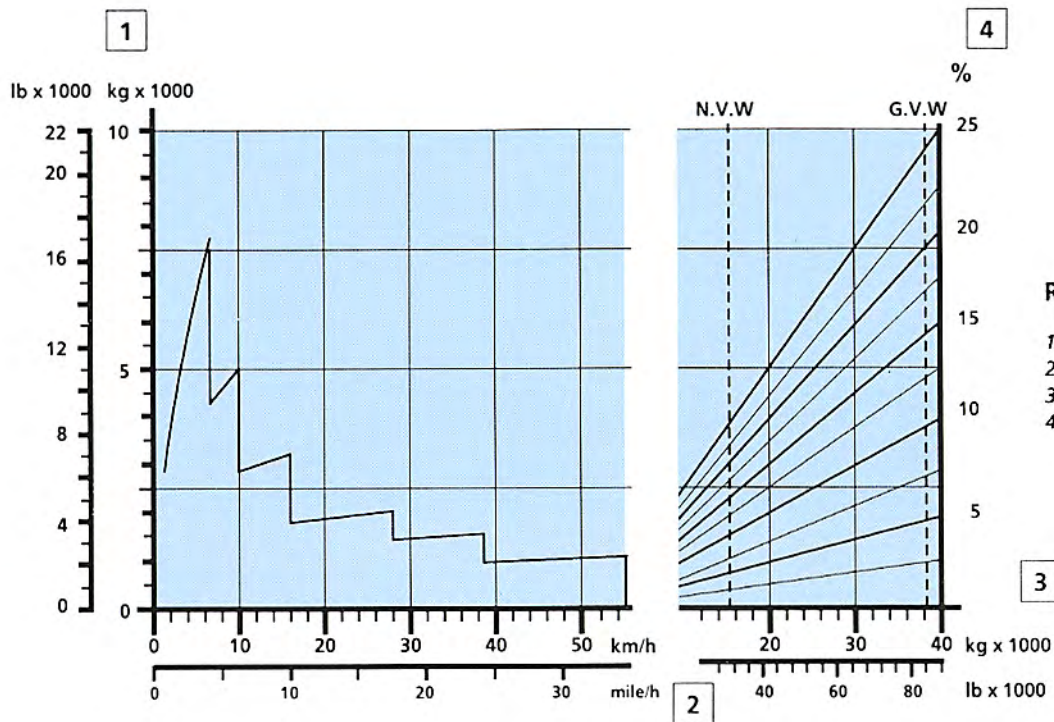
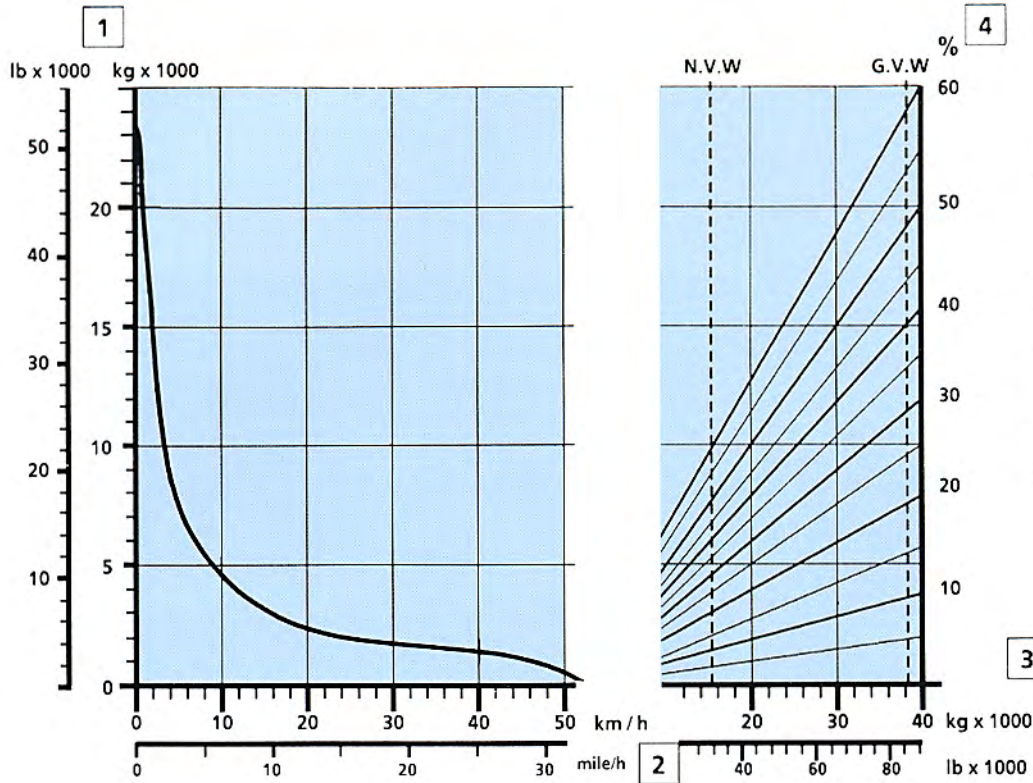
In the case of bodies with struck volumes of 10 m³ (13 yd³) or more, heaped volume is given to the nearest whole m³.

Struck volume is given in m³ (yd³) to one decimal place.



SERVICE REFILL CAPACITIES

Crankcase	dm ³ (l)	US gal	24	6,3
Fuel tank	dm ³ (l)	US gal	280	74
Cooling system	dm ³ (l)	US gal	30	8,0
Transmission total	dm ³ (l)	US gal	16	4,2
Dropbox	dm ³ (l)	US gal	6	1,6
Front axle	dm ³ (l)	US gal	35	9,2
First bogie axle	dm ³ (l)	US gal	33	8,7
Second bogie axle	dm ³ (l)	US gal	35	9,2
Hydraulic system	dm ³ (l)	US gal	160	42
Hydraulic tank	dm ³ (l)	US gal	145	38,3



INSTRUCTIONS:

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

1. Find the total resistance on diagonal lines on righthand border of performance or retarder chart.
2. Follow the diagonal line downward and intersect the NVW or GVW weight line.
3. From intersection, read horizontally left to intersect the performance or retarder curve.
4. Read down for vehicle speed.

VOLVO BM A25 6x6

STANDARD EQUIPMENT

Safety and comfort

ROPS/FOPS cab
Cab heater with filtered fresh air and defroster
Ergonomically designed and adjustable operator's seat
Windshield wipers
Windshield washers
Rear-view mirrors
Sun visor
Attachment points for seat belt
Trainer seat
Cigarette lighter
Ashtray
Horn
Seat belt
Protective grille for rear window
Hazard flashers
Tinted glass
Fender step with work platform
Mudguard wideners, front, 2,7 m
Mud flaps
Lights:
headlights
main/dipped/asym.
parking lights
reverse lights
Work lights

direction indicators
brake lights
cab lighting
instrument lighting
Tool box
Steering joint locking assembly

Engine and electrical system

Turbocharger
Intercooler
Extra fuel filter
Alternator
Preheating
Secondary steering
Battery disconnect switch
Electrical outlet
Indicator for aircleaner
Speedometer
Gauges for:
brake pressure
fuel
engine temperature
revolutions and hours
Pilot lamps for:
battery charging
main beam
direction indicators
Automatic cut-outs

Warning lamps for:
low hydraulic oil level
steering function
engine-dependent pump
brake hydraulics
low brake pressure
parking brake
engine oil pressure
transmission temperature
air filter
engine overspeed
Central warning:
hydraulic oil level
steering function
brake fluid level
brake pressure
radiator coolant level
engine oil pressure
engine overspeed
airfilter
battery charging
transmission temperature

Drivetrain

Torque converter
Automatic gear-shifting
Dropbox with high/low gear
Automatic lock-up
Longitudinal differential lock
Differential lock, front axle
Differential lock, first bogie axle
Differential lock, second bogie axle

Body with wear plates and exhaust gas ducts

Tires

Front / Rear
23,5 R 25* / 23,5 R 25*

OPTIONAL EQUIPMENT

Electrical equipment

Rotating beacon with collapsible mount

Body equipment

Body heating

Cab

Air conditioning

Towing shackle

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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