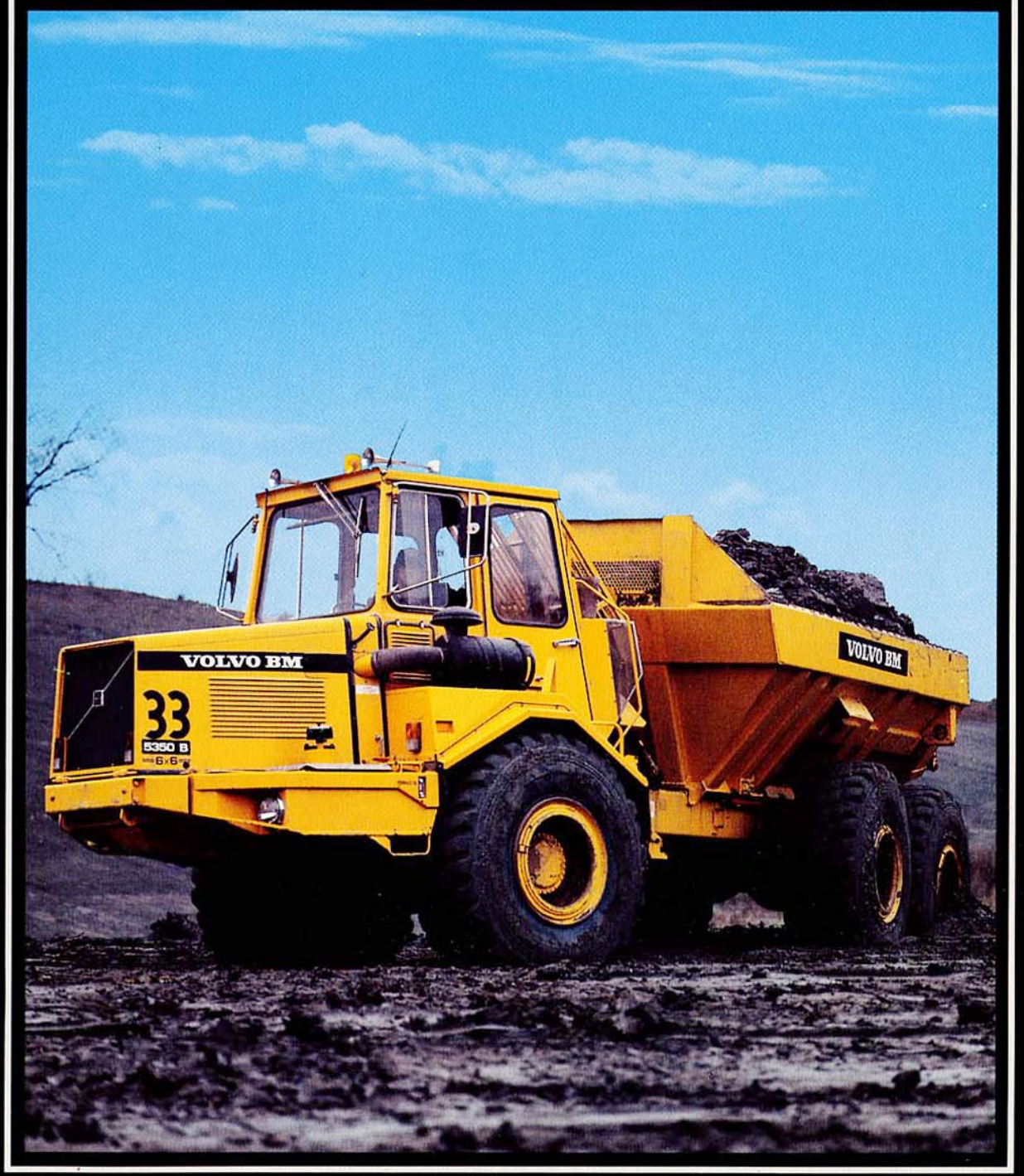
5350 B

6×6

VOLVO BM



6 WHEEL DRIVE 53
– FOR FAST, HIGH V

The Volvo BM 5350 B 6×6 is a flexible machine intended primarily for use on relatively long haulage runs both on and off the road. The articulated 5350 B 6×6 is built for high average speeds, this means that it can move large quantities of bulk material in a short timespan, allowing high productivity to be maintained, without putting high demands on road upkeep.

The features that give the 5350 B its high-speed capability are its suspension system, automatic gear shift, high powered engine and its superb manoeuvrability. The features that keep it rolling on the difficult haul sections are its six large high-flotation wheels, the all-terrain bogie and the longitudinal and transverse diff-locks which can be engaged on-the-move.

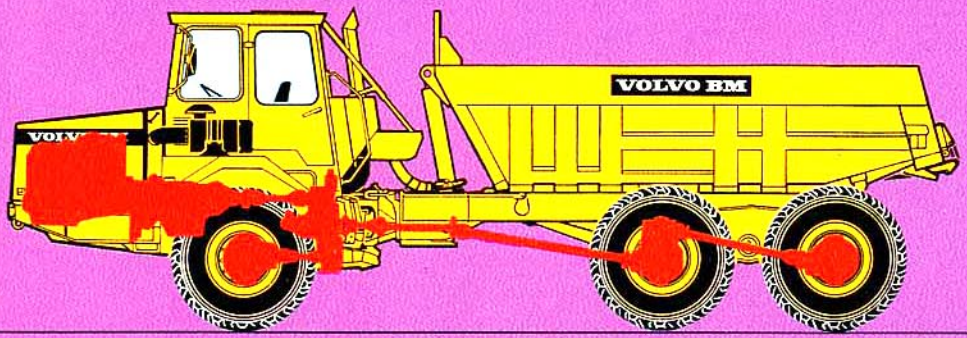
Volvo BM – the world's leading manufacturer of articulated dumptrucks for almost 20 years

So, the Volvo BM 5350 B is an articulated dumptruck with superb off-road characteristics. It is highly manoeuvrable in confined areas, it can back into difficult-to-reach dump sites and is fast over the ground where the surface permits. Driver comfort is given special attention by Volvo BM, to ensure continuous, high levels of performance and maximum utilization of machine resources. The advanced suspension system on the 5350 B 6×6 and the superb cab design, provide the ideal driver environment.

50 B 6×6
VOLUME HAULING

DRIVE TRAIN

The 5350 B 6×6 is powered by the Volvo TD 70 G turbo diesel. This is a modern, lightweight engine combining high power with low fuel consumption. The drive train is composed of well-matched, Volvo manufactured components for long term reliability. Power is transmitted to the six driving wheels via a fully automatic gearbox and a dropbox with built-in differential. lock-up 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 diff-lock, can be engaged and disengaged as required. All axles have transverse diff-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.



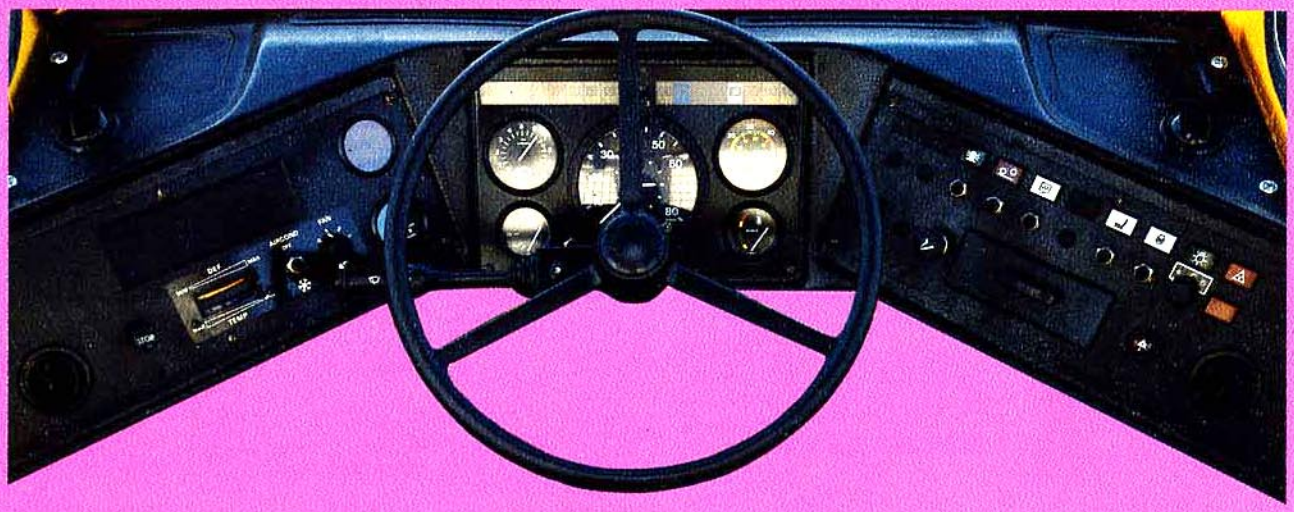
Unique tyre options

The 5350 B 6×6 has a bogie that is designed to allow for different tyre options. Equipped with 23.5–25 tyres, the 5350 B 6×6 has very low ground pressures in combination with good stability.

TERRAIN-BOGIE

Volvo BM's 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. And with 23.5–25 tyres, ground clearance is further increased.

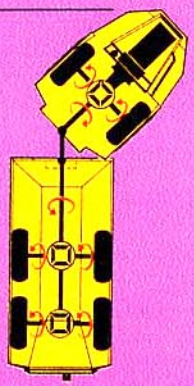
COMFORT



Because the 5350 B 6×6 is designed for high speed operation, the driver 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.

Suspension

Tyres, rubber suspension with shock absorbers, rubber cab mounting and the sprung/damped driver's seat, all interact to give the 5350 B 6×6 excellent driving characteristics both on and off the road. This suspension is also completely maintenance free.



The right characteristics in every situation give high total capacity

The 5350 B 6×6 not only gives you high average speeds combined with incomparable traction over difficult terrain; it also gets you into loading and dumping positions fast. You don't need a lot of room, and the slope and condition of the ground is of almost no importance. Articulated steering, six-wheel drive and the terrain bogie provide the necessary manoeuvrability and mobility.

SIMPLE SERVICE

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

ENGINE

Volvo TD 70 G: 6-cylinder in-line direct-injected turbocharged 4-cycle diesel engine with overhead valves and wet, replaceable cylinder linings.

Gross rating:	157 kW at 40 rps SAE J 270 (213 hp at 2400 rpm SAE)
Flywheel rating:	140 kW at 40 rps DIN 70020 (190 hp at 2400 rpm DIN)*

** With radiator fan working at 40 rpm (2400 rpm). Normally, the fan operates at 20 rps (1200 rpm), which gives 155 kW (210 hp).*

Max. torque	705 Nm at 26.7 rps SAE J 270 (520 lbf ft at 1600 rpm SAE) 633 Nm at 26.7 rps DIN 70020 (467 lbf ft at 1600 rpm DIN)
No. of cylinders	6
Cylinder diameter	104.77 mm (4.125 in)
Stroke	130 mm (5.12 in)
Displacement	6.73 l (411 in³)
Compression ratio	14.5:1
Automatic cold start	Richer fuel mixture and preheater
Air filter	Dry air cleaner
Radiator fan:	Mounted on right-hand side
Type	Hydrostatic drive. Variable speed control, dependent on coolant temperature

ELECTRICAL SYSTEM

Voltage	24 V
Battery	135 Ah
Alternator	1260 W
Starter motor	5 kW (6.8 hp)

TRANSMISSION

Torque converter, type: Single-stage with free-wheeling stator and automatic lock-up
Conversion ratio 1.86:1

Gearbox

The machine has an automatic/manual gearbox with 10 forward gears and 2 reverse gears, divided between a high and a low range with 5 forward and 1 reverse gear in each.

The high/low gear and 1st gear are manual gears.

Speed (max.)	Low	High
1st	5 km/h (3.1 mph)	6 km/h (3.7 mph)
2nd	9 km/h (5.6 mph)	14 km/h (8.7 mph)
3rd	12 km/h (7.4 mph)	20 km/h (12.4 mph)
4th	21 km/h (13 mph)	37 km/h (23.0 mph)
5th	31 km/h (18.6 mph)	51 km/h (31.1 mph)
Reverse	6 km/h (3.7 mph)	9 km/h (5.6 mph)

Dropbox

Designation	Volvo BM FL 652
Type	Dropbox of 2-stage design with differential and power take-off
Differential lock	100 % lock-up (dog clutch)
6×6 Drive	Continuous drive on all axles and longitudinal differential lock engaged the third axle can be disengaged

WHEELS

Rim	17.00–25
Tyres	20.5 R 25**
Rim	19.5–25
Tyres	25/65 R 25**
Rim	19.5–25
Tyres	23.5–25

Ground pressure: see special table.

BRAKE SYSTEM

Driving brakes: Air-hydraulic disc brakes on all axles, dual-circuit system.

Circuit division:	One circuit, front axle One circuit, bogie
Parking brake:	Spring-actuated brake on propeller shaft

AXLES

Fully floating drive axles with planetary gear type hub reduction.

Front axle	
Designation	Volvo BM AH 54 E
Differential lock	100 % lock-up (dog clutch)
Leading bogie axle	
Designation	Volvo BM AH 54 C
Differential lock	100 % lock-up (dog clutch)
Trailing axle	
Designation	Volvo BM AH 54 D
Differential lock	100 % lock-up (dog clutch)

STEERING SYSTEM

Make	Volvo BM
Type	Hydromechanical articulated steering with emergency steering function
Steering gear	Rack and pinion
Lock-to-lock turns	3.4
Steering angle from centreline	45°
Steering cylinders	2 double-acting
Hydraulic pumps	See Hydraulic system

HYDRAULIC SYSTEM

Hydraulic pumps, engine-dependent

Type	Variable piston pump
Number	3
Capacity	100 l/min (26 US gal/min, 22 UK gal/min) at 2400 rpm
Working pressure	18.5 MPa (2680 psi)

Drive system:

Type	Flywheel power take-off
Make	Volvo BM
Number of pump take-offs	4 (3 are utilized)

Hydraulic pump, ground-dependent (for emergency steering)

Type	Variable piston pump
Number	1
Capacity	118 l/min (31 US gal/min, 26 UK gal/min) at 2400 rpm
Working pressure	18.5 MPa (2680 psi)
Location	Dropbox
Filters	2 paper and magnet filters

PNEUMATIC SYSTEM

Compressor:

Capacity	425 l/min (15 ft³/min) at 2060 rpm
Drive	Gear drive
Outlet for tyre inflation	
Automatic antifreeze pump	

Pressure regulator:

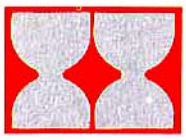
Relief pressure	730–800 kPa (106–116 psi)
Compressed air reservoir:	
Volume	6+30+30 litres = 66 litres (17.4 US gal, 14.5 UK gal)

TIPPING MECHANISM

Tipping cylinder:	Single-acting, 6-stage
Tipping time with load	16 s
Lowering time	22 s
Tipping angle	63°
Tipping stop	Automatic

FRAMES

Front and rear frames incorporate closed box sections with "soft" weld zones around joints to minimize stress concentrations.



VOLVO BM ON- AND OFF-ROAD SUSPENSION

Front axle

Two rubber springs with bottoming absorption on either side. Stabilizer. Two shock absorbers on either side.

SERVICE REFILL CAPACITIES

	litres	US gal	UK gal
Engine oil, incl. filter, total	18.5	4.9	4.1
at change	16	4.2	3.5
Cooling system	30	8.0	6.6
Fuel tank	280	74	62
Gearbox, total	23	6.1	5.1
Dropbox	6	1.6	1.3
Front axle	35	9.2	7.7
Leading bogie axle	38	10.0	8.4
Trailing bogie axle	35	9.2	7.7
Hydraulic system	160	42	35
Brake fluid tank	3×0.5	3×0.13	3×0.10

CAB

Volvo BM safety cab, tested and approved in accordance with ROPS and the impact test method. Meets requirements for trucks, tractors and construction machines. The cab is mounted on rubber pads, which contributes towards low vibration sensations. Filtered air and pressurized cab.

Number of exits:	3
Driver's seat	Flameproof upholstery
Extra seat	For rider
Internal noise level	77 dB(A)

WEIGHTS

Working weights (body with wear plates)

23.5–25 wheels		Front axle	Bogie	Total weight
Working weight	kg (lb)	8,500 (18,740)	7,400 (16,314)	15,900 (35,054)
Load capacity	kg (lb)	–	–	22,500 (49,602)
Total weight	kg (lb)	11,200 (24,691)	27,200 (59,965)	38,400 (84,656)

GROUND PRESSURE

At 15 % slump of unladen diameter and weights as above.

	Tyres	Unladen	With 22.5 ton load
Front axle, kPa (lb/in²)	20.5–25 25/65–25 23.5–25	109 (15.8) 93 (13.5) 93 (13.5)	142 (20.6) 122 (17.7) 122 (17.7)
Bogie, kPa (lb/in²)	20.5–25 25/65–25 23.5–25	46 (6.7) 39 (5.6) 39 (5.6)	172 (25) 148 (21.5) 148 (21.5)
Cone penetrometer value at a depth of 250 mm (9.8 in)	20.5–25 25/65–25 23.5–25		84 65 62

UNDERHUNG TAILBOARD

The equipment consists of an underhung tailboard with operating mechanism which automatically opens the tailboard when the body is tipped. If the tailboard is subjected to an excessively high load, a gas spring is released and the tailboard opens. When the load is reduced, the tailboard closes automatically.
A tailboard should always be used for haulage on public roads in order to prevent spillage.

Underhung tailboard cannot be combined with body extension.

The tailboard increases the weight of the body by 100 kg (220 lb).

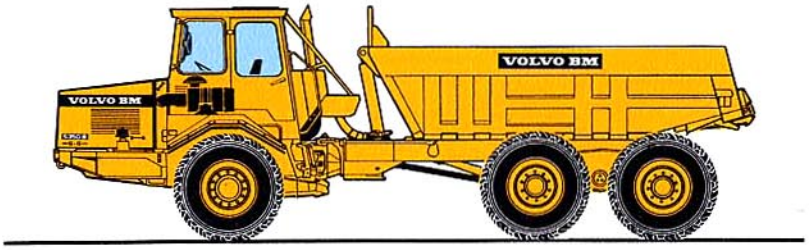
OVERHUNG TAILBOARD

Machines equipped with underhung tailboard can also be fitted with an upper tailboard which, together with a lower tailboard, closes off the entire opening on the dumper body. This extra tailboard is intended to be used for hauling gravel, sand and fluid materials. The design of the tailboard does not permit rock, boulders or clay to be carried. For such haulage, the tailboard should be removed.

Overhung tailboard cannot be combined with body extension.

The tailboard increases the weight of the body by 130 kg (287 lb).

DUMPER BODIES
*Standard body***

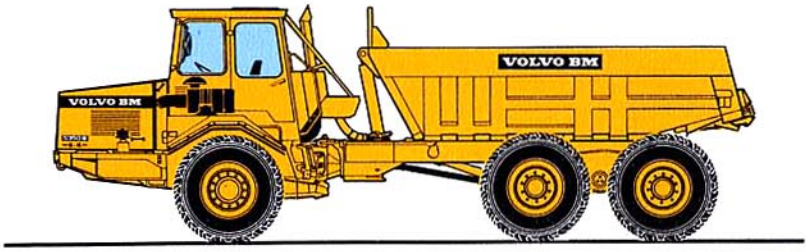


The body is of a robust and heavy-duty design for loading of loose materials. To reduce the weight of the machine and thereby increase payload capacity, a hardened steel plate with high impact strength is used. This grade of plate retains its strength even at low temperatures.
For operator safety, the headboard is the same height and width as the cab. The headboard also incorporates a viewing window, giving the driver a clear rear view to facilitate positioning, for example in relation to a loader.
The sides are reinforced externally with pressed channel sections welded to the body. Body volume, payload capacity, body length and loading height have been optimized for efficient loading by all loaders and excavators on the market. Load volume calculations have been based on a full load of ordinary, loose excavation material.

Body volumes SAE 2:1*	Without tailboard	With underhung tailboard	With underhung/ overhung tailboard
Struck, m^3 (yd^3)	9.4 (12.3)	9.6 (12.6)	9.9 (12.9)
Heaped, m^3 (yd^3)	12.0 (15.7)	12.5 (16.4)	13.0 (17.0)

*** This body cannot be equipped with exhaust gas heating*

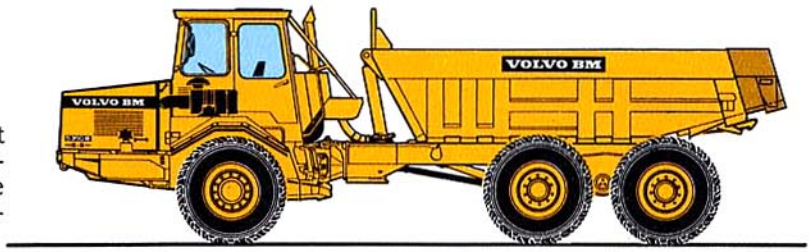
Standard body equipped with wear plates and exhaust gas ducts
(weight increase 855 kg, 1,885 lb)



The standard body with wear plates is designed for the haulage of rock or other abrasive material. The wear plates extend the life of the body and reduce maintenance costs.
The sides and wear plates have a yield strength of 90 kgf/mm^2 and a hardness of 360–440 HB.
The body is prepared for exhaust gas heating through ducts along the body floor.

Body volumes SAE 2:1*	Without tailboard	With underhung tailboard	With underhung/ overhung tailboard
Struck, m^3 (yd^3)	9.4 (12.3)	9.6 (12.6)	9.9 (12.9)
Heaped, m^3 (yd^3)	12.0 (15.7)	12.5 (16.4)	13.0 (17.0)

Extended body with wear plates and exhaust gas ducts
(weight increase 1,155 kg, 2,546 lb)

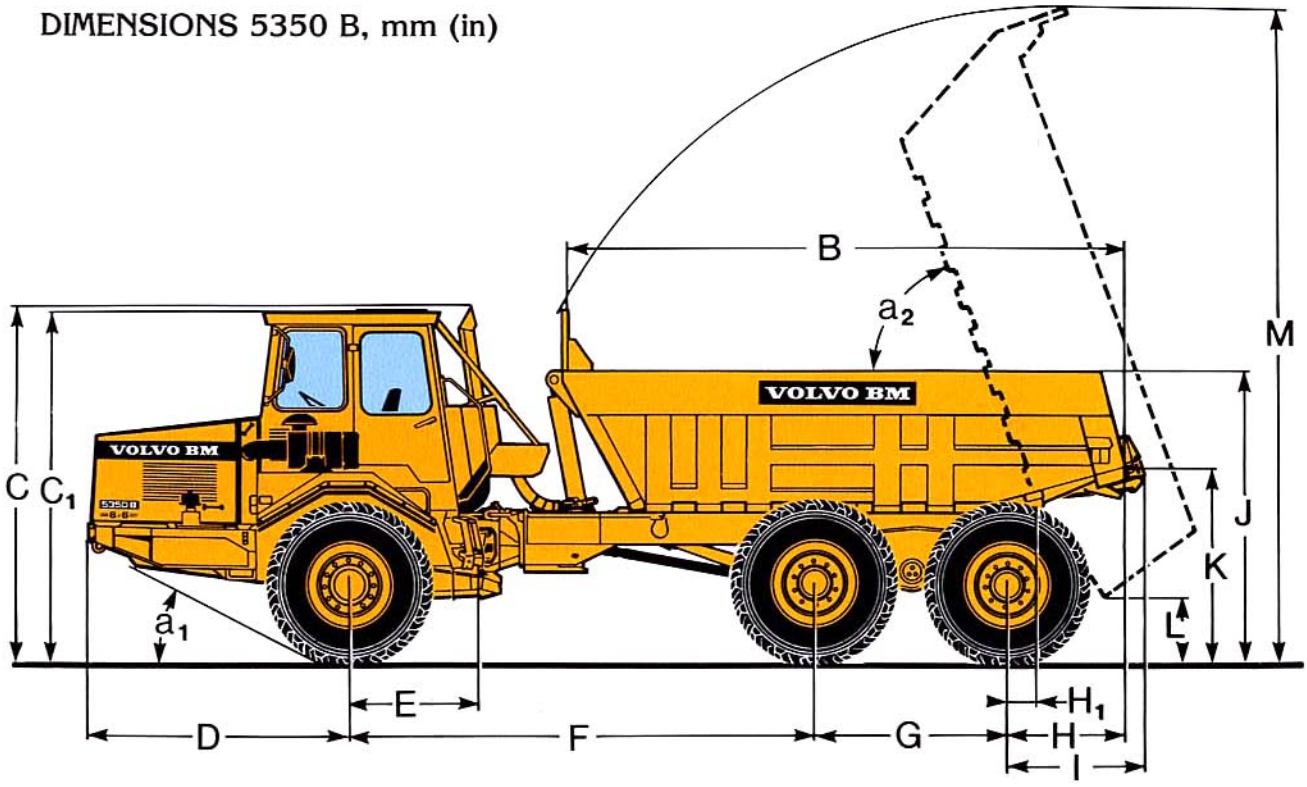


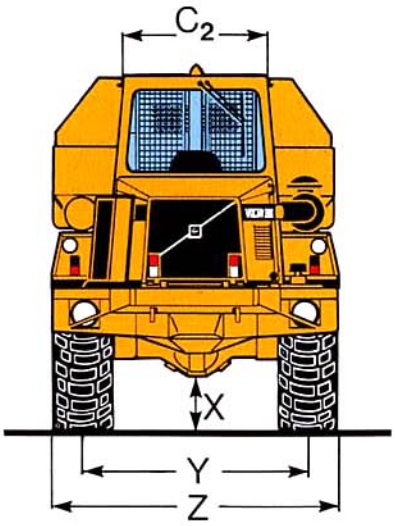
The body extension is 500 mm (20 in) long. It facilitates tipping into shafts and tipping pockets. The body extension partly replaces the tailboard. The body extension cannot be combined with the tailboard.
The extended body has wear plates of the same grade as the wear plates for the standard body with a yield strength of 90 kgf/mm^2 and a hardness of 360–440 HB.
The body is prepared for exhaust gas heating through ducts along the floor.

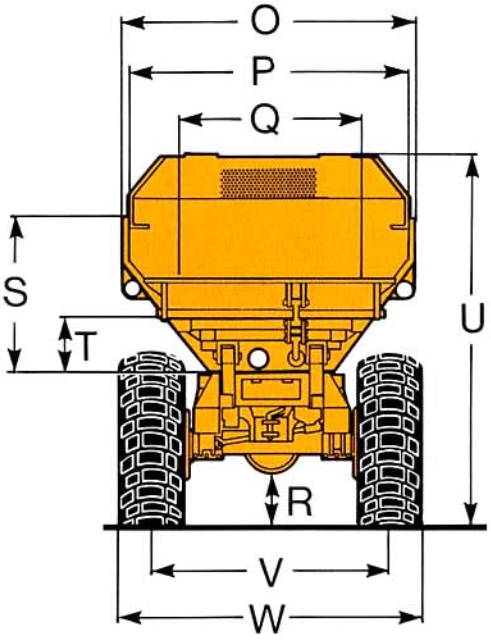
Body volumes SAE 2:1*, extended	
Struck, m^3(yd^3)	10,4 (13,6)
Heaped, m^3(yd^3)	13,0 (17,0)

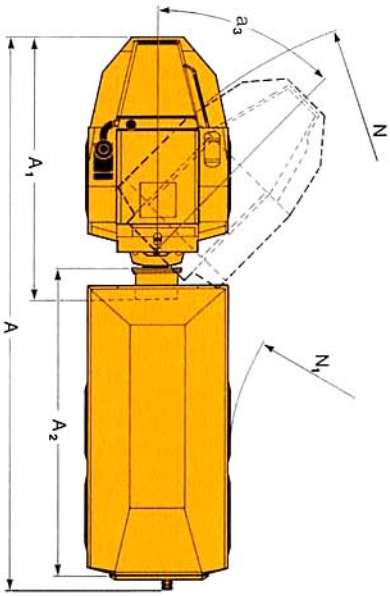
** In the case of bodies with struck volumes of less than 10 m^3 (13 yd^3), heaped volume is given to the nearest half m^3. In the case of bodies with struck volumes of 10 m^3 (13 yd^3) or more, heaped volume is given to the nearest whole m^3. Struck volume is given in m^3 (yd^3) to one decimal place.*

DIMENSIONS 5350 B, mm (in)









mm (in)	mm (in)	mm (in)	mm (in)
A = 9,505 (374)	F = 4,175 (164)	M = –/6,100* (–/240*)	U = 3,160/3,205* (124/126*)
A_1 = 4,495 (177)	G = 1,650 (65)	N = 7,850 (309)	V = 2,150 (84.6)
A_2 = 5,540 (218)	H = 1,115 (43.9)	N_1 = 4,250 (167)	W = 2,795 (110) Off-road driving (23.5–25)
B = 4,955 (195)	H_1 = 425 (16.7)	O = 2,480 (97.6)	X = 450/465* (17.7/18.3*)
C = 3,200/3,240* (126/127*)	I = 1,290 (50.8)	P = 2,320 (91.3)	Y = 2,150 (84.6)
C_1 = 3,150/3,190* (124/126*)	J = 2,535/2,600 (100/102*)	Q = 1,490 (58.7)	Z = 2,795 (110) Off-road driving (23.5–25)
C_2 = 1,320 (52)	K = 1,800/1,865* (70.8/73.4*)	R = 450/505* (17.7/19.9*)	a_1 = 26°
D = 2,415 (95.1)	L = –/650* (–/25.5*)	S = 1,265 (49.8)	a_2 = 63°
E = 1,200 (47.2)		T = 510 (20.0)	a_3 = 45°

* Unladen machine (Tyres 23.5–25)


VOLVO BM
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5350 B
6x6

STANDARD EQUIPMENT

SAFETY & COMFORT

- ROPS cab
- Cab heater with defroster and filtered fresh air intake
- Ergonomically designed and adjustable driver's seat
- Windshield wipers
- Windshield washers
- Rear-view mirrors
- Sun visor
- Attachment points for safety belt
- Cigarette lighter and ashtray
- Tinted glass
- Horn
- Lights:
  headlights,
  main/dipped/asym.
  parking lights
  reverse lights
  direction indicators
  side marker lights
  brake lights
  tail lights
  cab lighting
  instrument lighting
- Headlight washers
- Indicator for air cleaner
- Complete tyre inflation kit
- Protective grille for rear window
- Roof hatch
- Tool box
- Speedometer, miles
- Tachometer
- Anti-theft lock
- Rider seat
- Hazard flashers
- Fenders
- Fender wideners, forward

Body Equipment

- Exhaust gas heating
- Body with wear plates
- Underhung tailboard

DRIVE TRAIN

- Torque converter
- Automatic gearbox
- Automatic lock-up
- Dropbox with high/low gear unit
- Longitudinal differential lock
- Transverse differential lock
- Tyres 23.5–25

ENGINE & ELECTRICAL SYSTEM

- Electrical outlet
- Main power switch
- Electrical system
- Alternator
- Central warning lamp:
  hydraulic oil level,
  fault in steering system,
  brake fluid level,
  brake pressure,
  coolant level,
  engine oil pressure,
  engine overrevs,
  air filter,
  charging,
  gearbox temperature
- Pilot lamps for:
  charging, main beams,
  direction indicators,
  preheating,
  longitudinal diff-lock,
  steering function,
  ground-dependent pump
- Warning lamps for:
  low hydraulic oil level,
  steering function,
  engine-dependent pump,
  brake oil level,
  low brake pressure,
  parking brake,
  engine oil pressure,
  engine overrevs,
  gearbox temperature,
  air filter
- Gauges for:
  air pressure,
  engine temperature,
  fuel,
  speed recorder
  or tachograph

EXTRA EQUIPMENT

(Standard equipment on certain markets)

- Safety belts
- Compressor horn
- Rotating warning beacon
- Heated rear-view mirror
- Extra fuel filter
- Radio
- Extended dumper body
- Working lights, front
- Working lights, rear
- Fender wideners
- Alternative tyres 25/65 R 25**
- Tow hitch
- 30 km/h variant
- Elevated body
- Extended and elevated body
- Overhung tailboard
- Protective canopy FOPS
- Low-emission engine
- Mine and tunnel version
- Automatic fuse
- Foot-step bumper
- Heated driver's seat
- Air conditioning
- Tool kit
- Oil bath air cleaner
- Lock-up valve for downhill driving
- Headlight, left-hand, asymmetrical
- Body heating (exhaust gas)

VOLVO BM

VOLVO BM AB ESKILSTUNA SWEDEN

Under our policy of continual product improvement, we reserve the right to change specifications and design without notice. The illustrations do not necessarily show the standard version of the machine.

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