

VOLVO BM 5350



Specification Volvo BM Dumptruck 5350B

The Volvo BM 5350 Dumptruck with its high capacity and good economy is built to meet the heavy demands of continuous materials haulage. This machine is the product of Volvo BM's vast experience in off-road dumptruck design and represents a highly profitable investment for our customers.

High haulage speed

Powerful Volvo turbodiesel. Fully automatic transmission incorporating preselected high and low gears ensures optimum torque and tractive force. Smooth ride, thanks to a well-matched spring suspension.

Excellent off-road mobility

Continuous 4-wheel drive (Volvo BM cross-country drive). Differential locks. Terrain-leveling Volvo BM dumptruck bogie. Large wheels — good floatation.

Comfort

Spacious cab with low noise level. Driver can utilize the productivity resources of the machine to the full. Driver's station complies with legislative directives and is built to meet the requirements of tomorrow.





ENGINE

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

Type	Direct-injected diesel engine with exhaust-driven turbocharger
Rating	157 kW at 40 rps SAE gross J 270 (213 hp at 3400 rpm)
Rating at flywheel	140 kW at 40 rps DIN 70020* (190 hp at 2400 rpm)
* With cooler fan working at 2400 rpm — normally the cooler fan works at 1200 rpm, which gives 155 kW (210 hp).	
Max. torque	705 Nm at 26.7 rps SAE gross J 270 (520 lbf ft at 1600 rpm) 633 Nm at 26.7 rps DIN 70020 (467 lbf ft at 1600 rpm)
Low idling speed	8.3 rps (500 rpm)
High idling speed	44.5 rps (2675 rpm)
Number of cylinders	6
Cylinder diameter	104.77 mm (4.125 in)
Stroke	130 mm (5.12 in)
Displacement	6.73 dm ³ (411 in ³)
Compression ratio	14.5:1
Cold start	Richer fuel mixture and preheater
Air filter	Dry air cleaner

Radiator fan:

Mounted on right-hand side.

Type Hydrostatically driven. Stepless speed control, dependent upon 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	2.43:1

Gear box

The machine has an automatic and manual gearbox with 10 forward gears and 2 reverse gears distributed in a high and low stage with 5 forward and 1 reverse gear in each.

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

Speed (max.)	Low	High
1	5 km/h (3.1 mph)	6 km/h (3.7 mph)
2	9 km/h (5.6 mph)	13 km/h (8.1 mph)
3	12 km/h (7.4 mph)	18 km/h (11.1 mph)
4	21 km/h (13 mph)	34 km/h (21.1 mph)
5	30 km/h (18.6 mph)	46 km/h (28.5 mph)
Reverse	6 km/h (3.7 mph)	9 km/h (5.6 mph)

Drop box

Model	Volvo BM FL652
Type	Drop-box with differential and power take-off in 2 stage design.
Differential lock	100 % locking (dog clutch)
Drive	Continuous drive on front axle and first axle in bogie in all gears



WHEELS

Rim	17.00—25 all wheels
Tyres	20.5—25** radial tyres
Rim	20.00—25
Tyres	25/65—25** radial tyres

Ground pressure: see special table.



BRAKE SYSTEM

Driving brakes: Air hydraulic controlled 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	
Model	Volvo BM AH 54A
Differential lock	100 % locking (dog clutch)
Rear drive axle	
Model	Volvo BM AH 54B
Differential lock	100 % locking (dog clutch)
Trailing axle	
Make	Volvo BM



STEERING SYSTEM

Make	Volvo BM
Type	Hydromechanical articulated steering with emergency steering

Steering gear	Rack
Turns of wheel between locks	3.4
Steering angle from centreline	45°
Steering cylinders, type	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	Room for 4 power take-offs (3 hydraulic pumps 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	Drop-box
Filters	2 paper and magnet filters



PNEUMATIC SYSTEM

Compressor:	
Capacity	425 l/min (15 ft ³ /min) at 2060 rpm
Drive	Gear drive
Outlet for tyre inflation	
Automatic anti-freeze pump	
Pressure regulator:	
Relief pressure	730—800 kPa (106—116 psi)
Compressed air reservoir:	
Volume	6 + 2 × 30 litres = 66 litres (17.4 US gal, 14.5 UK gal)



TIPPING MECHANISM

Tipping cylinder:
Type
Tipping time with load
Lowering time
Tipping angle
Tipping stop

Single-acting, 6 stage
12 s
16 s
63°
Automatic



FRAMES

Front and rear frames incorporate closed Volvo BM box sections. These fabrications are designed to absorb stress loadings evenly throughout the frame.



VOLVO BM ON- AND OFF-ROAD SUSPENSION

Front axle

Two rubber cushions with bottoming absorption on each side. Stabilizer. Two shock absorbers on each side.



VOLUMES

Engine oil, incl. filter total
at change
Cooling system
Fuel tank
Gearbox, total
Drop-box
Drive-axle, front
rear
Hydraulic system
Brake fluid tank

	Litres	US gal	UK gal
Engine oil, incl. filter total at change	18.5	4.9	4.1
Cooling system	16	4.2	3.5
Fuel tank	30	8.0	6.6
Gearbox, total	280	74	62
Drop-box	23	6.1	5.1
Drive-axle, front	6	1.6	1.3
rear	35	9.2	7.7
Hydraulic system	35	9.2	7.7
Brake fluid tank	160	42	35
	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 extremely low vibration sensations. Filtered air and pressurized cab.

Number of exits:
Driver's seat
Extra seat
Internal noise level

3 (doors, cab hatch)
Flameproof upholstery
For rider (optional)
77 dB (A)



WEIGHTS

Working weights (oils, coolant, full fuel tank, driver, standard tyres and standard body with wear plates).

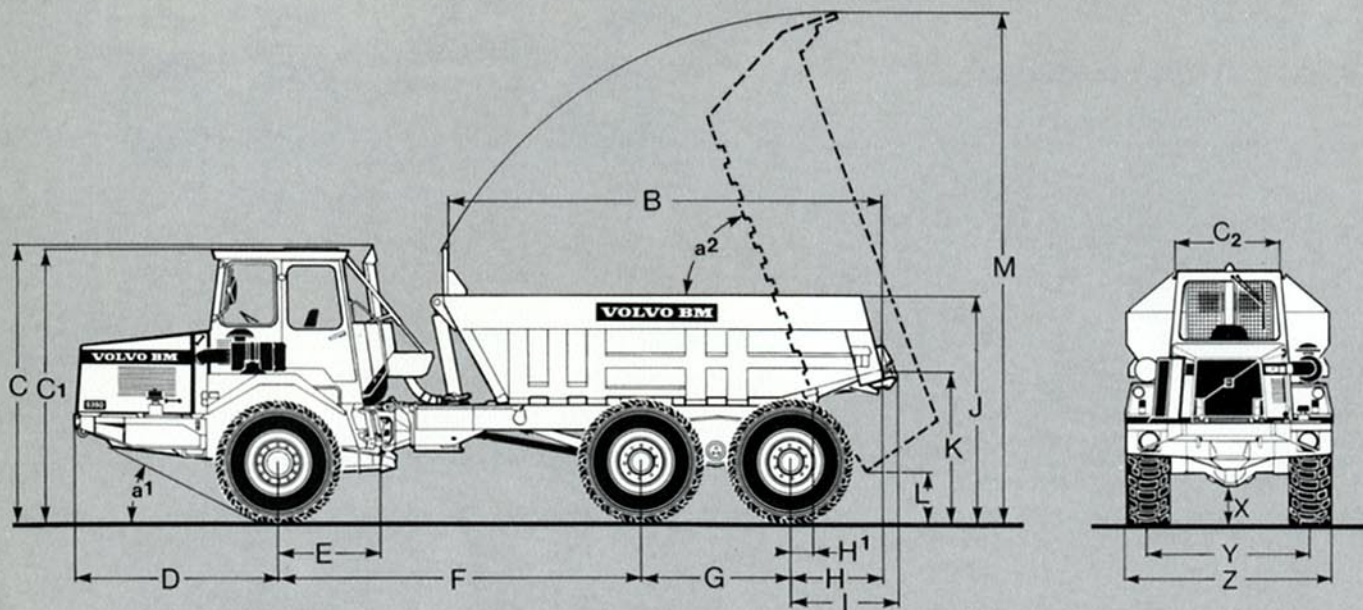
20.5–25 wheels		Front axle	Bogie	Total weight
Unladen machine,	kg (lb)	8500 (18740)	7200 (15873)	15700 (34612)
Payload,	kg (lb)	—	—	22500 (49604)
Total weight,	kg (lb)	11200 (24091)	27000 (59524)	38200 (84216)
26/65–25 wheels				
Unladen machine,	kg (lb)	8570 (18893)	7330 (16160)	15900 (35053)
Payload,	kg (lb)	—	—	22500 (49604)
Total weight,	kg (lb)	11200 (24691)	27200 (59965)	38400 (84657)



GROUND PRESSURE

Ground pressure at 15 % sinkage of unladen diameter and weights as above.

	Tyres	Unladen	With 22.5 ton load
Front axle, kPa (lb/in ²)	20.5–25 25/65–25	109 (15.8) 93 (13.5)	142 (20.6) 122 (17.7)
Bogie, kPa (lb/in ²)	20.5–25 25/65–25	46 (6.7) 39 (5.6)	172 (25) 148 (21.5)
Cone penetrometer value	20.5–25 25/65–25		84 at a depth of 25 cm 65 at a depth of 25 cm



DIMENSIONS 5350 mm (in)

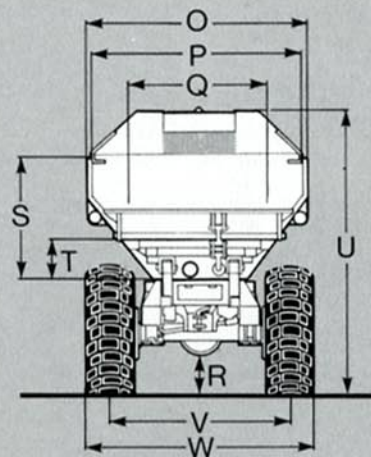
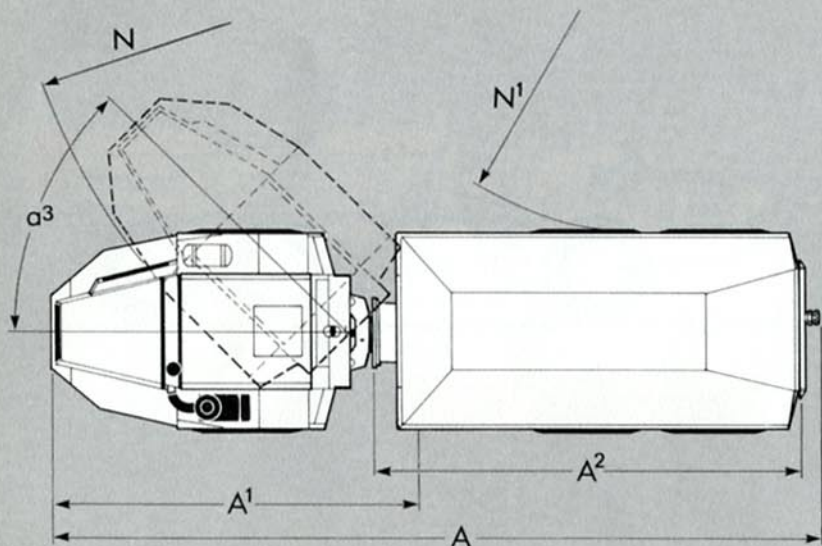
A = 9505 (374)
 A₁ = 4495 (177)
 A₂ = 5540 (218)
 B = 4955 (195)
 C = 3150/3185* (124/125*)
 C₁ = 3100/3135* (122/123*)
 C₂ = 1320 (52)
 D = 2415 (95.1)
 E = 1200 (47.2)
 F = 4200 (165)
 G = 1600 (63.0)
 H = 1115 (43.9)
 H₁ = 450 (17.7)

I = 1290 (50.8)
 J = 2485/2540* (97.8/100*)
 K = 1620/1675* (63.9/65.9*)
 L = - / 600* (-/23.6*)
 M = - / 6040* (-/238*)
 N = 7850 (309)
 N₁ = 4250 (167)
 O = 2480 (97.6)
 P = 2320 (91.3)
 Q = 1490 (58.7)
 R = 400/450 (15.7/17.7)
 S = 1250 (49.2)
 T = 380 (15.0)

U = 3110/3145 (122/124)
 V = 1930 (76)
 W = 2490 (98) Highway driving (20.5-25)
 2600 (102) Off-road driving (20.5-25)
 2740 (108) Off-road driving (25/65-25)
 X = 420/435 (16.5/17)
 Y = 1930 (76)
 Z = 2490 (98) Highway driving (20.5-25)
 2600 (102) Off-road driving (20.5-25)
 2740 (108) Off-road driving (25/65-25)

$\alpha_1 = 24.5^\circ$
 $\alpha_2 = 63^\circ$
 $\alpha_3 = 45^\circ$

* = Unladen machine
 (Tyres 20.5x25 Radial)





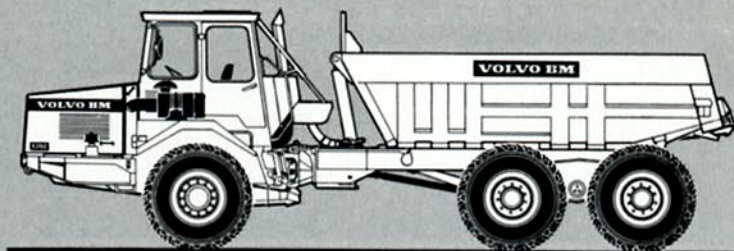
DUMPER BODIES Standard body**

The body is of robust and heavy-duty design for forced loading of loose materials. To reduce the weight of the machine and thus increase carrying capacity, a special hardened steel plate with high impact strength is used. This grade of plate retains its strength even at low temperatures.

For operator safety the body headboard is the same height and width as the cab. The headboard also incorporates a viewing window giving the operator clear vision to the rear of the machine to facilitate loading.

The sides of the body are reinforced externally with pressed channel sections.

Body volume, load capacity, body length and loading height have been designed for efficient loading by all loaders and excavators on the market. Body volume calculations have been based on a full load of ordinary, loose fill material.



Body volumes (SAE 2.1*)	Without tailboard	With underhung tailboard	With underhung/overhung tailboard
Body volume 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 fitted with exhaust gas heating.

Standard body fitted with wear plates and exhaust gas ducts (Weight increase 855 kg, 1885 lb)

The standard body with wear plates is designed for use in connection with forced loading of rock or other abrasive material. The wear plates extend the life of bodies used for forced loading and reduce maintenance costs.

The sides and wear plates possess an ultimate yield strength of 90 kgf/mm² and a hardness of 360–440 HB.

The body is designed for exhaust gas heating through ducts along the bottom.



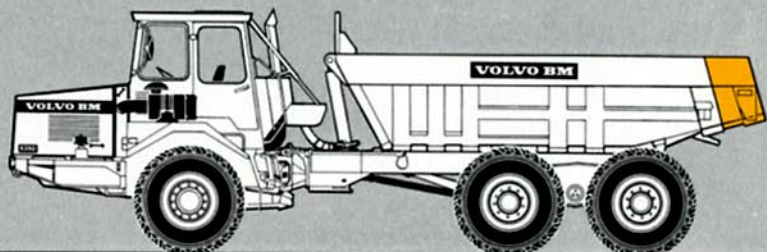
Body volumes (SAE 2.1*)	Without tailboard	With underhung tailboard	With underhung/overhung tailboard
Body volume struck, m ³ (yd ³)	9.4 (12.3)	9.6 (12.6)	9.9 (12.9)
heaped, m ³ (yd ³)	12.0 (15.7)	12.5 (16.4)	13.0 (17.0)

Extended body with wear plates and exhaust gas ducts (Weight increase 1155 kg, 2546 lb)

The body extension is 500 mm (20 in) long. It facilitates tipping into shafts and over tip faces etc. The body extension partly replaces the tailboard. The body extension cannot be combined with the tailboard.

The extended body incorporates wear plates of the same grade as the wear plates for the standard body with an ultimate yield strength of 90 kgf/mm² and a hardness of 360–440 HB.

The body is designed for exhaust gas heating through ducts along the bottom.



Body volumes (SAE 2.1*)	
Elevated 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 volumes are specified to the nearest 0.5 m³.

In the case of bodies with struck volumes of 10 m³ (13 yd³) or more, heaped volumes are specified to the nearest m³.

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

STANDARD EQUIPMENT



SAFETY AND COMFORT

- Impact and pressure-tested safety cab (ROPS)
- Heater with defroster and air filter
- Ergonomically designed and adjustable driver's seat
- Safety belt
- Windshield wipers
- Windshield washer
- Rearview 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
- position lights
- brake lights
- cab lighting
- instrument lighting
- Indicator for air cleaner
- Complete tyre inflation kit
- Protective grille for rear window
- Cab roof hatch
- Tool kit
- Speedometer with tachograph
- Anti-theft lock
- Rider seat
- Hazard flashers

BODY EQUIPMENT

- Dumptruck body with wear plates
- Underhung tailboard



ENGINE AND ELECTRICAL SYSTEM

- Electric plug outlet
- Main switch
- Electrical system
- Alternator
- Central warning lamp: hydraulic oil level, fault in steering system, brake fluid level, brake pressure, anti-freeze level, engine oil pressure, engine overrevs, air filter, charging, gearbox temperature
- Pilot lamps for: charging, main beams, flashers, preheating, longitudinal differential lock, steering function, ground-dependent pump
- Warning lamps for: low hydraulic oil level, steering function, ground-dependent pump, brake fluid level, low brake pressure, parking brake, engine oil pressure, engine overrevs, gearbox temperature, air filter
- Gauges for: air pressure, engine temperature, fuel, speedometer or tachograph



DRIVE COMPONENTS

- Torque converter
- Automatic gearbox
- Automatic Lock-up
- Drop box with high and low gears
- Longitudinal differential lock
- Lateral differential lock
- Tyres 20.5—25", radials
- Tyres 25/65—25", radials

EXTRA EQUIPMENT

(Standard equipment on certain markets)

- Safety belt
- Compressor horn
- Rotating warning beacon
- Overhung tailboard
- Rearview mirror heating
- Extra fuel filter
- Radio
- Extended dumper body
- Working lights, front
- Working lights, rear
- Headlight washers
- Air conditioning
- Warning triangles
- Heated driver's seat
- Wings
- Retractable step
- Tachographs
- Dumper body heating (exhaust gas)



UNDERHUNG TAILBOARD

An underhung tailboard with operating mechanism which automatically opens the tailboard when the body is tipped.

If the tailboard is subjected to excessively high load, a gas spring is released and the tailboard opens. When the load is relieved, the tailboard closes automatically.

A tailboard should always be used for road haulage in order to prevent spillage.

The tailboard cannot be combined with the body extension.

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



OVERHUNG TAILBOARD

All machines equipped with an underhung tailboard can also be fitted with an upper tailboard which, together with the 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 stones or clay to be carried. For such haulage, the tailboard should be removed.

An overhung tailboard cannot be combined with the body extension.

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

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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ENGELSKA

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