

VOLVO BM 5350

For off-road hauling and quarry work



Specification Volvo BM 5350

The Volvo BM 5350 is a new hauler, built for demanding materials haulage with high capacity and good economy. Its design is based on Volvo BM's long experience of haulage vehicles. The 5350 is therefore a profitable investment in most situations.

Powerful Volvo turbodiesel. Fully automatic transmission — 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-smoothing Volvo BM bogie. Large wheels — good floatability.

Comfort

Spacious, luxurious cab with low sound level. The driver can utilize the resources of the machine to the full — for high productivity. Driver's station complies with legislative requirements and is built for the expected requirements of the 1980s.





ENGINE

Make Volvo
Model TD 70 G

Type Direct-injected diesel engine with exhaust-driven turbocharger

Rating 157 kW at 40 rps SAE gross J 270 (213 hp at 2400 rpm)
140 kW at 40 rps DIN 70020* (190 hp at 2400 rpm)

Max. torque 705 Nm at 25 rps SAE gross J 270 (520 lbf ft at 1500 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 44.6 rps (2675 rpm)
Number of cylinders 6
Cylinder diameter 104.77 mm (4.125 in)
Stroke 130 mm (5.12 in)
Displacement 6.73 dm³ (411 in³)
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.

* With cooler fan working at 2400 rpm. — Normally the cooler fan works at 700 rpm, which gives 155 kW (210 hp).



ELECTRICAL SYSTEM

Voltage 24 V
Battery 120 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

Gearbox

Automatic planetary gearbox with manually preselected low gear: 5 gears forward, 1 reverse.

Drop box

Make Volvo BM
Model FL 650
Type Drop-box with differential and power take off

Differential lock 100% locking

Drive Continuous drive on front axle and first axle in bogie in all gears



WHEELS

Rim 17.00 W-25 all wheels
Tyres 20.5–25** radial tyres
Ground pressure: see special table.



BRAKE SYSTEM

Type Dual-circuit brake system
Circuit division One circuit front axle
One circuit bogie

Parking brake Spring-actuated brake on propeller shaft and trailing axle

Driving brakes

Driving axles	Air-hydraulic
Trailing axle	Air-mechanical
Front axle	Double caliper
Diameter of disc	460 mm (18.1 in)
Number of friction pads per brake	4
Rear drive axle	Disc brakes
Type	Single caliper
Diameter of disc	460 mm (18.1 in)
Number of friction pads per brake	2
Trailing axle	Drum brakes
Make	Volvo
Diameter of drum	394 mm (15.5 in)
Number of friction pads per drum	2



AXLES

Front axle

Make Volvo BM
Type FA-N2-80
Differential lock 100% locking

Rear drive axle

Make Volvo BM
Type RA-N2-80
Differential lock 100% locking

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
18.5 MPa (2680 lb/in²)

Working pressure

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
18.5 MPa (2680 lb/in²)

Working pressure

Location Drop-box

Filters:

Return oil filter 2 paper and magnet filters

Filling 2 paper and magnet filters



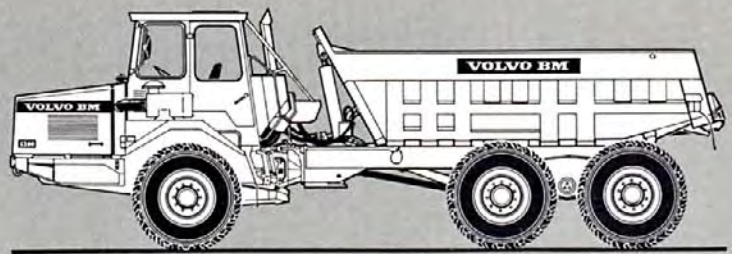
DUMPER BODIES

Standard body

The body is of a robust and heavy-duty design. Abrasion-resistant, quenched-and-tempered steel with particularly high strength. The sides of the body are externally reinforced and stiffened with pressed channel sections. The body is prepared for exhaust gas heating through ducts along the sides.

The body, body length and loading height have been designed for efficient loading by all loaders and excavators on the market. The body volume is based on a density of 1600 kg/m³ in accordance with international practice for the calculation of the payload of dumper bodies.

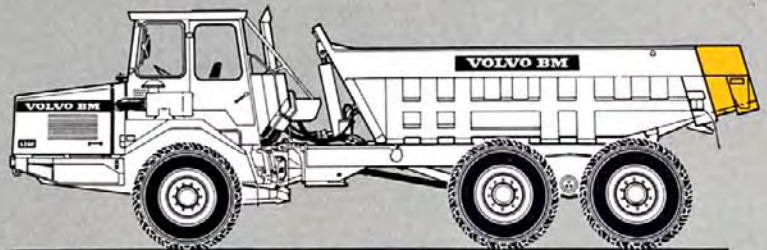
For forced loading of rubble or materials containing stones, the standard body should be equipped with wear plates, which also eliminate the risk of deformation (weight increase 835 kg, 1840 lb).



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 (15.8)	13.0 (17.0)

Extended body (Weight increase 210 kg, 463 lb)

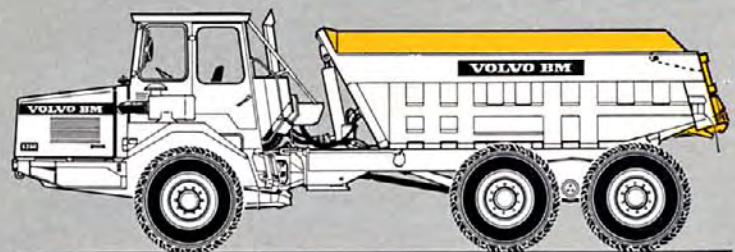
The body extension is 500 mm (20 in) long. It facilitates tipping in confined spaces, e.g. in mines. The body extension partly replaces the tailboard. The body extension cannot be combined with the tailboard. For forced loading of rubble or materials containing stones, the standard body should be equipped with wear plates, which also eliminate the risk of deformation. (Weight increase 1120 kg, 2490 lb).



Body volumes (SAE 2:1*)	
Extended, struck, m ³ (yd ³)	10.4 (13.6)
heaped, m ³ (yd ³)	13.0 (17.0)

Elevated body (Weight increase 290 kg, 639 lb)

The elevated body is 275 mm (11 in) higher than the standard body and is suitable as a light materials body e.g. for crushed material. Body elevation alone is not recommended: it should be combined with body extension or overhung/underhung tailboard.

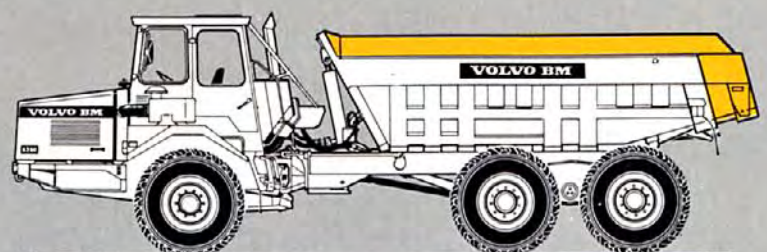


Body volumes (SAE 2:1*)	With underhung/overhung tailboard		
Elevated, struck, m ³ (yd ³)	13.0 (17.0)		
heaped, m ³ (yd ³)	16.0 (20.9)		

Extended and elevated body (Weight increase 518 kg, 1140 lb)

This body is suitable for light materials, such as crushed material.

The body elevation is adapted to the extended body and covers it.



Body volumes (SAE 2:1*)	
Elevated and extended, struck, m ³ (yd ³)	13.5 (17.7)
heaped, m ³ (yd ³)	16.0 (20.9)

**) 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.*



TIPPING MECHANISM

Tipping cylinder:

Type	Single-acting, 6-stage
Tipping time with load	12 s
Lowering time	16 s
Tipping angle	70°
Tipping stop	Automatic



PNEUMATIC SYSTEM

Compressor:

Capacity	425 l/min (15 ft ³ /min) at 2060 rpm
Drive	Gear drive
Outlet for tyre inflation	
Pressure regulator:	
Relief pressure	730–800 kPa (106–116 lb/in ²)
Compressed air reservoir:	
Volume	6+40+2×30 litres = 106 litres (28 US gal, 23 UK gal)



FRAMES

Front and rear frames incorporate closed Volvo BM box sections with "smooth" transitions for minimum stress concentrations.



VOLUMES

	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
Drop-box	6	1.6	1.3
Drive axle, front	25	6.6	5.5
rear	25	6.6	5.5
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 extremely low vibration sensations. The foot-ladder is protected during driving and is automatically dropped down via the hand brake. Filtered air and pressurized cab.

Number of exits:	3 (doors, cab hatch)
Driver's seat	Flameproof upholstery
Extra seat	For rider (optional)
Internal sound level	77 dB (A)



VOLVO BM ON- AND OFF-ROAD SUSPENSION

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



WEIGHTS

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

	Front axle	Bogie	Total weight
Unladen machine, kg (lb)	8500 (18740)	7000 (15430)	15500 (34170)*
Payload, kg (lb)	—	—	20000 (44000)
Total weight, kg (lb)	11000 (24250)	24500 (54000)	35500 (78250)*

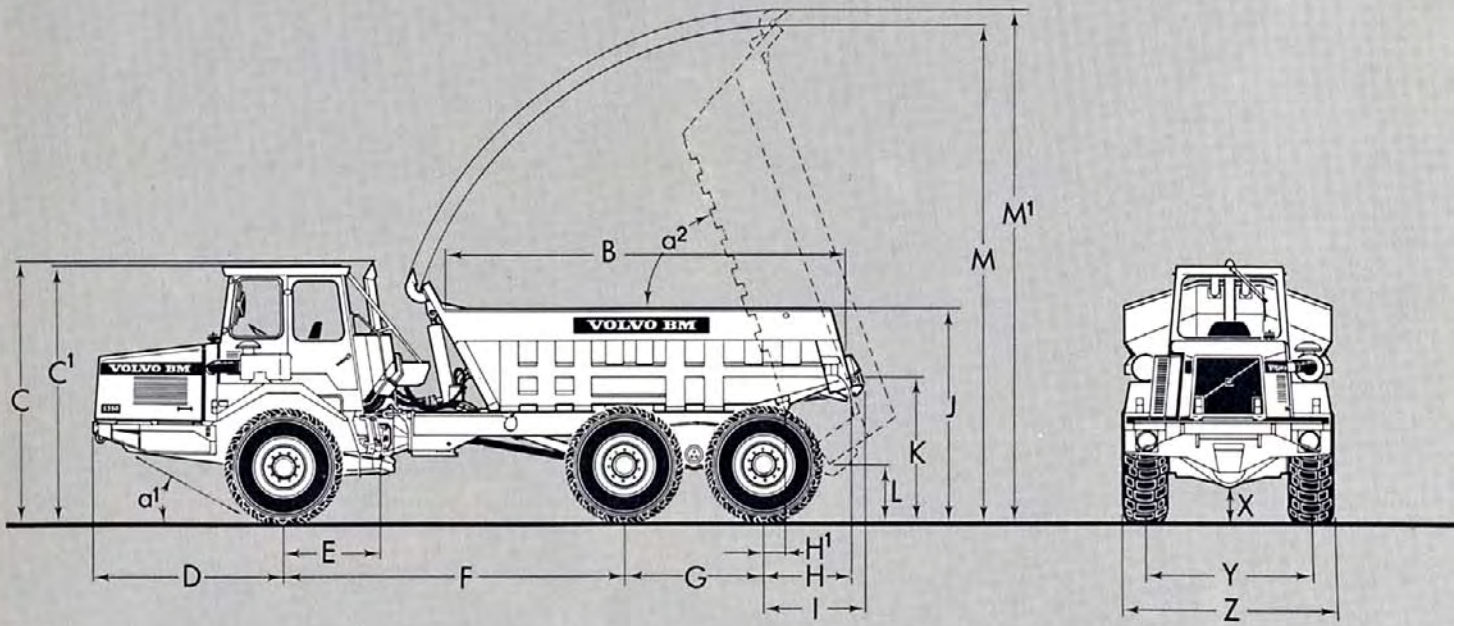


GROUND PRESSURE

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

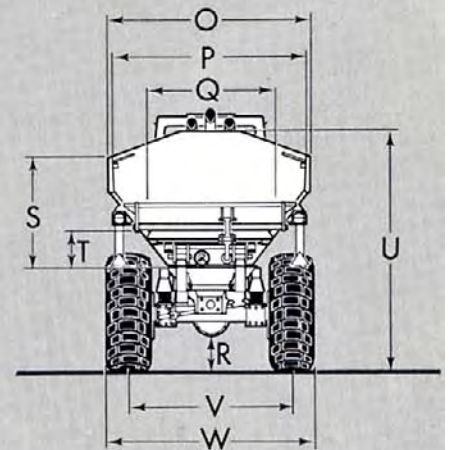
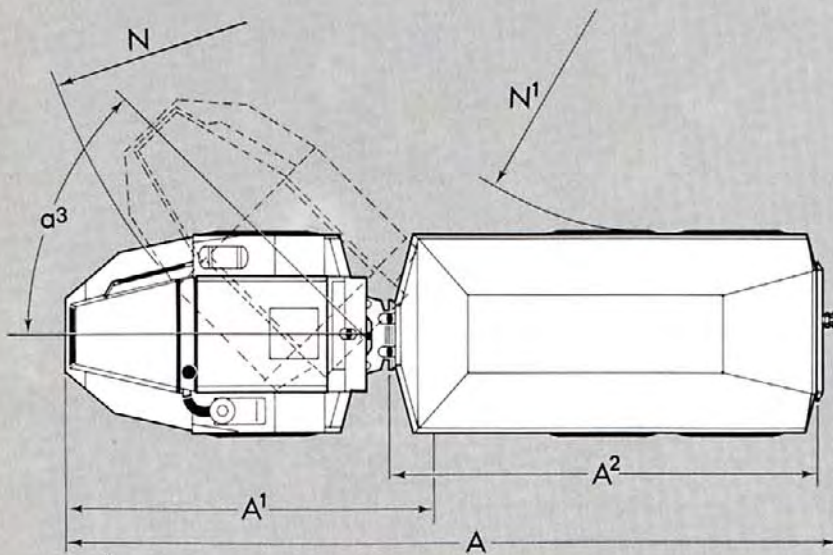
	Tyres	Unladen	With 20 ton load
Front axle, kPa (lb/in ²)	20.5–25	107 (15.5)	138 (20.0)
Bogie, kPa (lb/in ²)	20.5–25	44 (6.4)	154 (22.3)

* Standard body with wear plates



DIMENSIONS 5350 mm (in)

A = 9506 (374)	J = 2484/2540* (97.8/100*)	U = 2834/2890* (112/114*)
A ₁ = 4495 (177)	K = 1620/1675* (63.8/65.9*)	V = 1916 (75.4)
A ₂ = 5538 (218)	L = - / 600* (- /23.6*)	W = 2490 (98.0)
B = 4955 (195)	M = - / 6156* (- /242*)	X = 397/412* (15.6/16.2*)
C = 3150/3185* (124/125*)	M ₁ = 6356* (250*)	Y = 1916 (75.4)
C ₁ = 3100/3135* (122/123*)	N = 7850 (309)	Z = 2490 (98.0)
D = 2415 (95.1)	N ₁ = 4250 (167)	$\alpha_1 = 24.5^\circ$
E = 1200 (47.2)	O = 2480 (97.6)	$\alpha_2 = 70^\circ$
F = 4200 (165)	P = 2380 (93.7)	$\alpha_3 = 45^\circ$
G = 1600 (63.0)	Q = 1491 (58.7)	
H = 1116 (43.9)	R = 397/ 447* (15.6/17.6*)	
H ₁ = 450 (17.7)	S = 1250 (49.2)	* = Unladen machine
I = 1290 (50.8)	T = 380 (15.0)	(Tyres 20.5x25 Cross-ply)



STANDARD EQUIPMENT



SAFETY & COMFORT

- Impact- and pressure-tested safety cab (ROPS)
- Heater with defroster and air filter
- Adjustable, suspended driver's seat
- Windshield wipers
- Windshield washers
- Rear-view mirrors
- Sun visor
- Attachment points for safety belt
- Cigarette lighter and ashtray
- Tinted glass
- Horn
- Main headlights, bright/dim
- Reverse lights
- Direction indicators
- Cab lighting
- Indicator for air cleaner
- Complete tyre inflation unit
- Protective grille for rear window
- Hazard flashers
- Cab hatch
- Tool kit
- Speedometer with tachograph
- Anti-theft lock



INSTRUMENTATION

- Warning lamp, low hydraulic oil level
- Warning lamp, steering function, engine-dependent pump
- Warning lamp, oil level, brakes
- Warning lamp, low brake pressure
- Warning lamp, parking brake
- Warning lamp, oil pressure, engine
- Warning lamp, temperature, gearbox
- Pilot lamp, charging
- Pilot lamp, bright lights
- Pilot lamp, flashers
- Pilot lamp, preheating
- Pilot lamp, longitudinal differential lock
- Warning lamp, air filter
- Warning lamp, engine overrevs
- Central warning lamp
- Gauges for: air pressure engine temperature speedometer or tachograph fuel switch, exhaust brake and exhaust pressure regulator parking and driving lights
- Pilot lamp, steering function, ground-dependent pump

EXTRA EQUIPMENT

- Bogie lift
- Safety belt
- Compressor horn
- Rotating warning beacon
- Air conditioning
- Dumper body heating (exhaust gas)
- Underhung tailboard
- Overhung tailboard
- Headlight washers
- Heated driver's seat
- Seat for rider
- Rear-view mirror heating
- Extra fuel filter
- Radio
- Elevated dumper body
- Extended dumper body
- Wear plates for standard body and extended body
- Warning triangles
- Working lights, front
- Working lights, rear



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 and boulders 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.

ENGELSKA

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