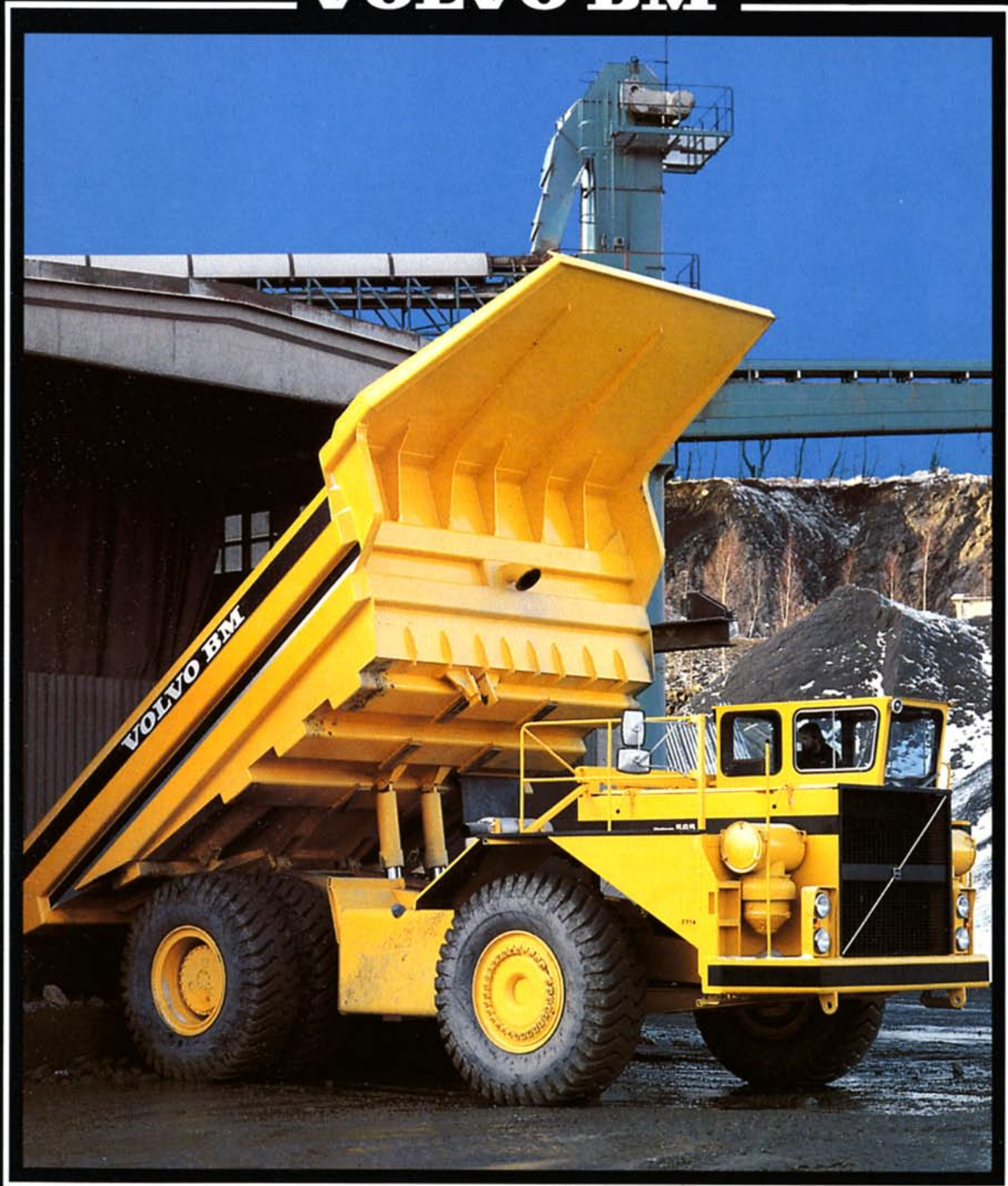


Kockum 565

VOLVO BM



THE BIG MUSCLE **THE BIG HAULAGE**

Weighing in at 65 tonnes, the Kockum 565 is the biggest truck in the Volvo BM range. It's new, advanced design gives the vehicle a remarkably low ratio of tare weight to payload capacity for a truck of its size. This enables maximum use to be made of the vehicle's power resources for useful work. This in turn means economy and reliability due to low fuel consumption, less tyre wear and lower stresses on axles and frame. Though the 565 is a large vehicle, it is easy to drive due to the excellent visibility from its forward-built cab. Its low centre of gravity makes it particularly stable whilst the retarder-backed dual braking system makes for increased operational safety.

The cab is roomy and well-designed to provide a pleasant working environment.

THE 565 GIVES YOU:

- Very high payload in relation to tare weight – economy and capacity.
- Rock body as standard – low maintenance; high reliability; long working life.
- Comfort and safety – increases driver efficiency.
- Easy access for servicing – more time on the job.
- Fast work cycles – low load profile; small turning circle; simple to load; easy to drive.

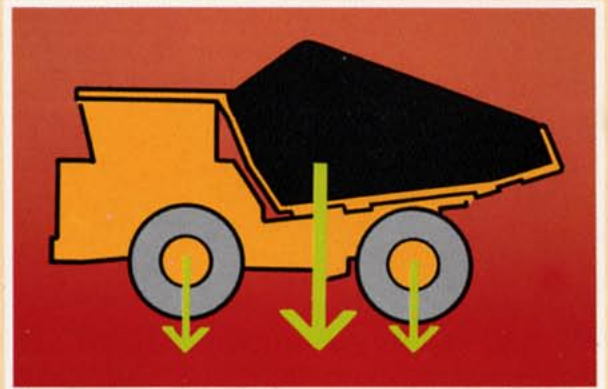


THE MACHINE FOR BIG JOBS



HIGH PAYLOAD CAPACITY

The remarkably high payload capacity and the very low tare weight of the Kockum 565 has resulted in a particularly high load factor – 1.52. This means that the vehicle carries a payload of 1.52 tonnes per tonne of tare weight, and this is achieved mainly by the design of the frame and the rock body. Using advanced computer-aided design techniques we have determined all the static and dynamic stresses; we have modified, retested and finally achieved the current low-weight, high-strength design.



ROCK BODY AS STANDARD

The new design of the rock body, using a particularly high-quality steel plate, has meant that, although the body is lighter, it still meets the material requirements for wear resistance (HB 360) and strength (110 kg/mm^2). Stress concentrations are eliminated and therefore also the risk of cracking.

Low load profile

The design of the body has resulted in a compact, high volume unit with low loading weight and low centre of gravity.



A SUPERB WORKING ENVIRONMENT

The driver has excellent visibility from his driving position. The cab is light and airy with a clear view across the full width of the vehicle.

Roomy and easy to work in

The cab is roomy and well-planned in detail. The seat is fully adjustable according to the driver's weight and height. It is hydraulically sprung and damped and fitted with armrests. The cab is snug, with walls and appointments covered with soft, cushioning material.

Compact and manoeuvrable

The 565 is easy to drive. It is agile and efficient both on poor surfaces and steep grades. It is fast – 65 km/h – on a level road.

The engine

The vehicle has a good power/weight ratio, 496 kW (674 hp) SAE. This power is utilised very efficiently through the power-shift gearbox with torque convertor and the lock-up.

The brake system

The dual-circuit brake system has a retarder fitted between the torque convertor and the gearbox. Safe, proven and effective.

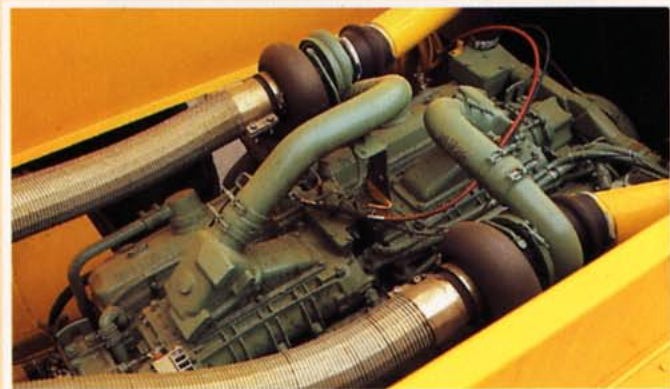
The steering system

Steering is hydromechanical, i.e. full power steering in combination with complete mechanical coupling between the steering wheel and the road wheels. This system provides a good "feel" for the surface and sure manoeuvring.



Suspension unit
Hydropneumatic
suspension units
all around.

EASY TO SERVICE



Easily accessible engine

Both engine and gearbox are easily accessible through large side panels and bonnet. Extensive standardization means that very few tools are required for maintenance.

Simple maintenance of the suspension units

The four hydropneumatic suspension units are identical. Their design is simple with removable end covers. No welded joints whatsoever.

Tightly grouped electrical system

The electrical system is based on printed circuit boards which can all be reached in one part of the cab. This means fewer contact points, easier fault tracing and greater reliability.



ENGINE

Standard

Detroit Diesel 16 V 71 TV 70, 2-stroke direct-injected turbocharged diesel engine

Gross rating	496 kW at 35 rps SAE J270 (674 hp at 2100 rpm SAE)
Flywheel rating	460 kW at 35 rps DIN 70020 (625 hp at 2100 rpm DIN)
Max. torque	2492 Nm at 27 rps SAE J270 (1839 lbf ft at 1600 rpm SAE) 2363 Nm at 20 rps DIN 70020 (1744 lbf ft at 1200 rpm DIN)
No. of Cylinders	16
Bore	108 mm (4.25 in)
Stroke	127 mm (5 in)
Displacement	18.6 litres (1 135 in ³)
Compression ratio	17:1
Automatic cold start	Automatic ether injection
Air filter	Cyclone cleaner, primary and secondary filter of paper type
Radiator fan	Engine-mounted suction fan

ENGINE

Option

Cummins VTA 1710-C 675, 4-stroke direct-injection turbocharged engine

Gross rating	497 kW at 35 rps SAE J270 (675 hp at 2100 rpm SAE)
Max. torque	2754 Nm at 25 rps SAE J270 (2033 lbf ft at 1500 rpm SAE)
Displacement	28 litres (1708 in ³)



ELECTRICAL SYSTEM

Voltage	24 V
Battery capacity	150 Ah
Alternator	1560 W
Starter motor	9.6 kW (13 hp)



TRANSMISSION

Torque converter, type	Allison TC 680 with lock-up
Torque multiplication ratio	Max. 2.24:1
Gearbox	Allison CLBT 6061 with electrical shift and built-in retarder: braking effort 600 hp at 2100 rpm

Speed (max.) at 2100 rpm

Gear	Top speed km/h	mph	ratio
1st	10.8	6.7	4.000:1
2nd	16.1	10.0	2.684:1
3rd	21.5	13.3	2.013:1
4th	32.0	19.9	1.351:1
5th	43.3	26.9	1.000:1
6th	64.5	40.0	0.671:1
Reverse	8.5	5.3	5.120:1



BRAKE SYSTEM

Retarder incorporated in transmission and air-hydraulic operated brakes.
Front: disc brakes
Rear: drum brakes

Service brake 1	Hydrodynamic retarder incorporated in gearbox
Service brake 2	Dual-circuit air-hydraulic operated wheel brakes
Circuit division	Circuit 1 supplies the front brakes Circuit 2 supplies the rear brakes
Parking brake	Spring-actuated, mounted on propeller shaft



WHEELS

Rims 17.00 × 35
Tyres 24.00 × 25

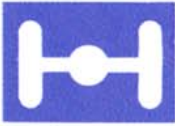


TIPPING MECHANISM

Tipping cylinder

Two 3-stage telescopic cylinders
The last two stages are double-acting

Tipping time with load 15 s
Lowering time 15 s
Tipping angle 55°
Tipping stop Incorporated in tipping cylinders



AXLES

Fully floating drive axle with planetary hub reduction.

Front axle

Welded box beam carried in hydropneumatic suspension units

Rear axle

Welded axle bridge carried in hydropneumatic suspension units

Reduction ratio, total in rear axle

17.48:1



STEERING SYSTEM

Hydraulic power steering with mechanical return

Make

ZF

Lock-to-lock turns

3.5

Steering cylinder, type

2 double-acting

Hydraulic pumps

Gear pump, drive by power take-off type SAE 8 from gearbox

Filter

1 paper filter with magnetic core

Manoeuvring data

Minimum turning radius

8920 mm (29 ft 3 in)

Minimum sweep radius

Left turn

9960 mm (32 ft 8 in)

Right turn

10100 mm (33 ft 2 in)



HYDRAULIC SYSTEM

Hydraulic pump, engine-dependent

Type

Gear pump driven by SAE 8 power take-off from gearbox

Number Capacity

1
5.08 l/s (1.1 UK gal/s, 1.3 US gal/s) at 43 rps = 305 l/min (67 UK gal/min, 81 US gal/min) at 2570 rpm

Working pressure

21 MPa (3045 psi)

Drive system

Type
Make
Number of pump take-offs
Filter

Gearbox-mounted power take-off
Type SAE 8

2 (2 are utilized)

1 paper filter with magnetic core



PNEUMATIC SYSTEM

Compressor: Capacity

9.5 l/s (2.1 UK gal/s, 2.5 US gal/s) at 35 rps = 570 l/min (125 UK gal/min, 150 US gal/min) at 2100 rpm

Drive
Automatic frost protection pump
Pressure regulator:
Relief pressure

Driven directly from engine

Actuate 6.6 bar (96 psi) Relief 7.6 bar (110 psi)

Compressed air reservoir: Volume

60 + 60 + 20 = 140 litres (31 UK gal, 37 US gal)



FRAME

Kockum's unique frame construction is based on welded box beams which run from front bumper to rear axle with no intermediate joints.



SUSPENSION

Front and rear axles

Hydropneumatic suspension units. Same suspension for all four wheels.



SERVICE REFILL CAPACITIES

Engine oil, including filter total
at change
Cooling system
Fuel tank
Gear box, total
at change
Drive axle
Hydraulic system
Brake fluid tank

Litres	UK gal	US gal
75	16.5	19.8
75	16.5	19.8
142	31.2	37.5
1100	242	291
80	17.6	21.1
45	10	12
75	16.5	19.8
250	55	66
2.5	0.6	0.7



CAB

Steel cab, mounted on rubber pads. Heat and sound insulated. Heating and defroster system. Adjustable driver's seat with armrests and lap belt.

Number of exits	One door and emergency exit via window
Driver's seat	Seat adjustable to driver's weight with armrests and lap belt
Extra seat	Seat for passenger
Internal sound level	Approx. 80 dB (A)



WEIGHTS

Working weight (driver, oils, coolant, full fuel tank and rock body)

	Front axle	Rear axle	Total
Unladen machine, kg (lb)	19700 (43431)	19000 (41888)	38700 (85319)
Payload, kg (lb)	12900 (28440)	46100 (101632)	59000 (130073)
sh. tons			65.0
Total weight, kg (lb)	32600 (71871)	65100 (143521)	97700 (215391)

$$\text{Load factor} = \frac{\text{Payload}}{\text{Unladen weight}} = \frac{59000}{38700} = 1.52$$



DUMPER BODY

Basic body

Body volumes (SAE 2:1*)

Volume struck, m ³ (cu. yd.)	29.7 (38.8)
Volume heaped, m ³ (cu. yd.)	40.4 (52.8)

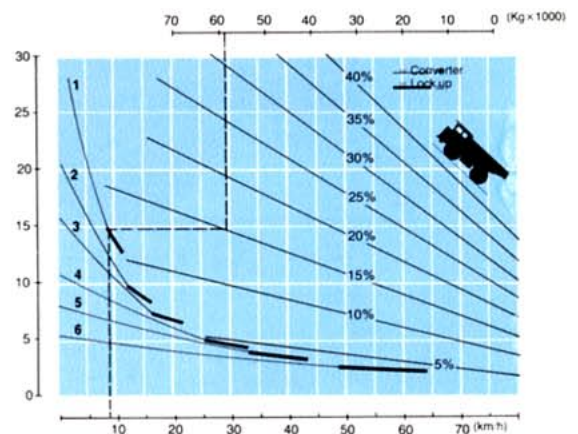
Material

Hardened and tempered abrasion-resistant steel plate with yield strength of 110 kg/mm²
Hardness min. 360 HB

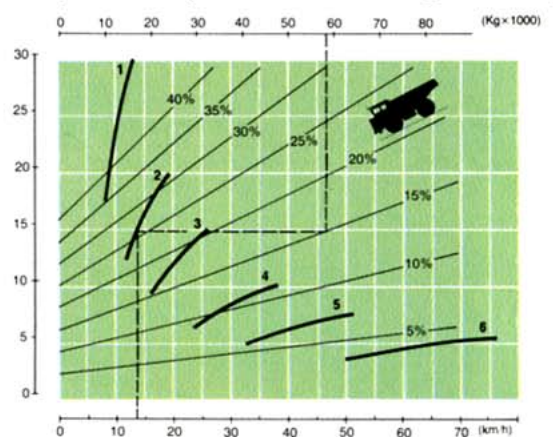
Plate thickness	in bottom	20 mm (0.8 in)
	in sides	10 mm (0.4 in)
	in front	10 mm (0.4 in)
Weight		10 000 kg (22046 lb)

*) Volumes below 10 m³ are given to one decimal place.
Volumes of 10 m³ are rounded off to the nearest 0.5 m³.

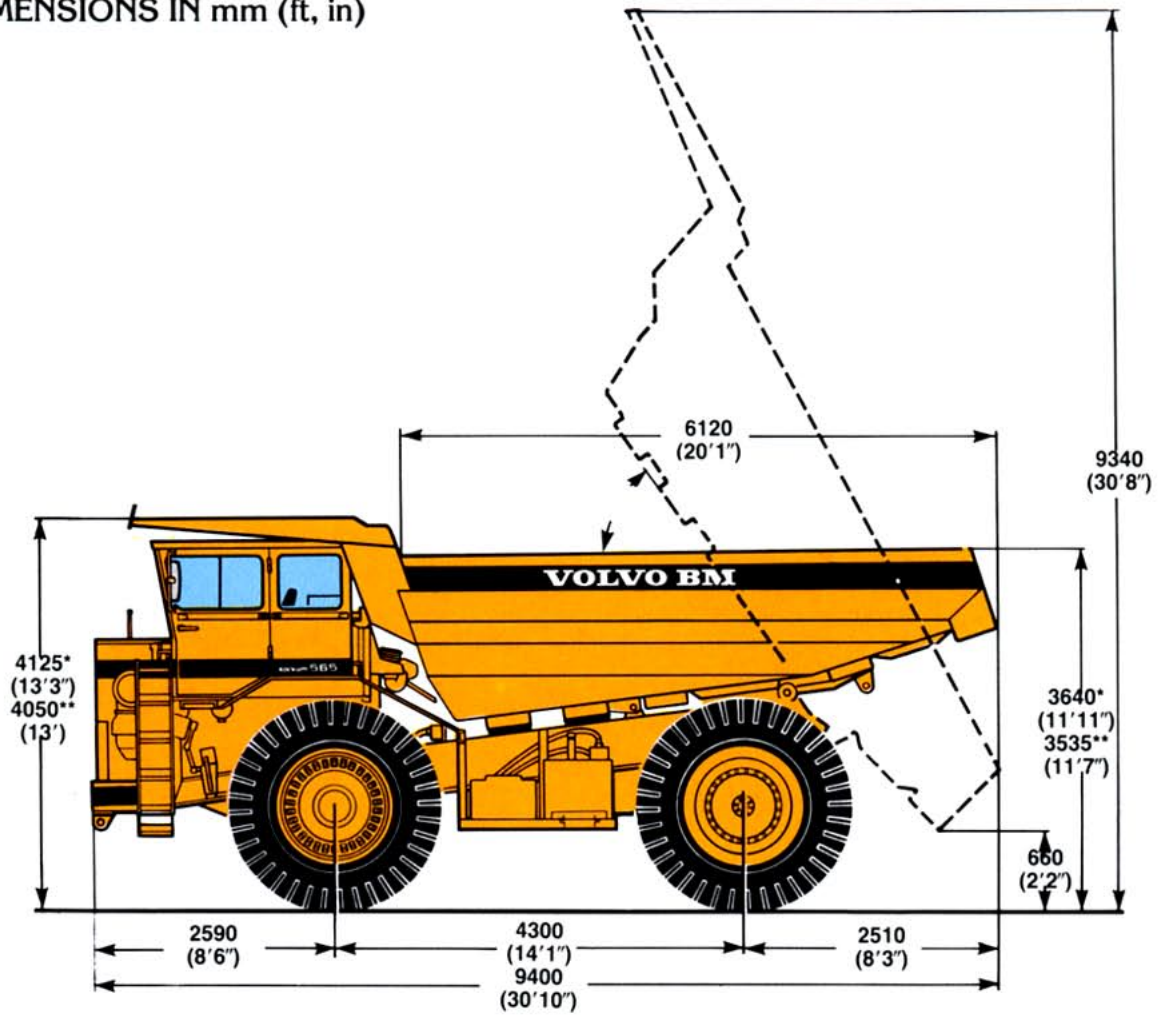
Tractive force graph (excl. rolling resistance)



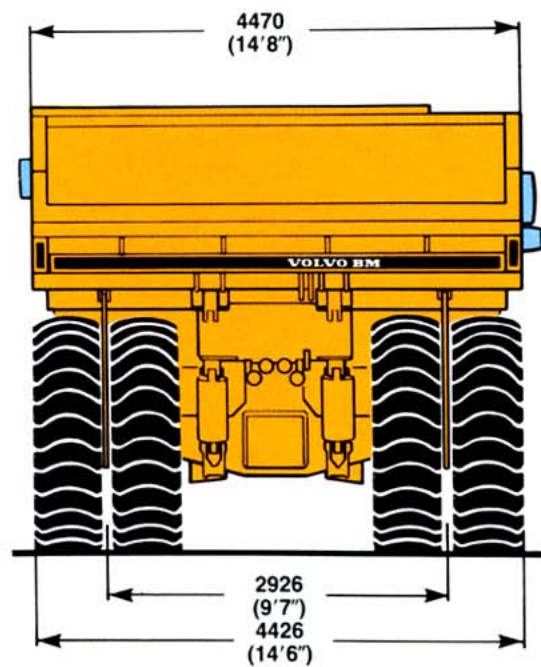
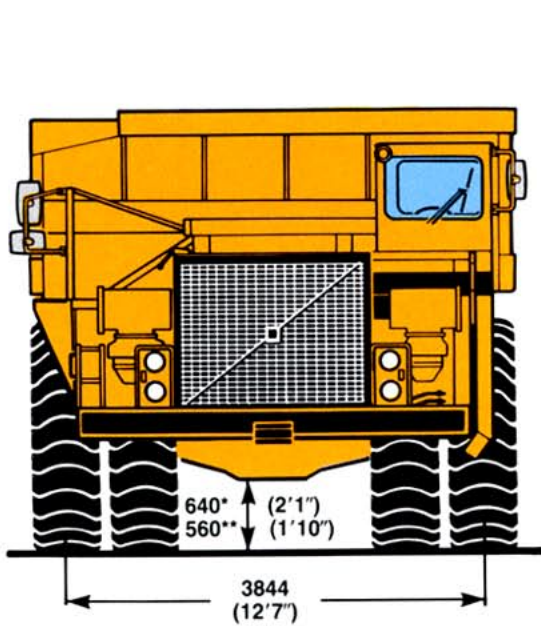
Breaking effort graph (excl. rolling resistance, incl. engine brake)



DIMENSIONS IN mm (ft, in)



* Unladen
 ** Laden



STANDARD EQUIPMENT



SAFETY & COMFORT

- Cab heating with filtered fresh air intake and defroster
- Ergonomically designed and adjustable driver's seat
- Windshield wipers
- Windshield washers
- Rear-view mirrors
- Sun visor
- Lap belt
- Cigarette lighter and ashtray
- Tinted glass
- Horn
- Lights: headlights, bright/dim/asymmetric curve and fog lights
- parking lights
- reversing lights
- direction indicators
- reverse beams
- brake lights
- tail lights
- cab lighting
- instrument lighting
- Indicator for air cleaner
- Complete tyre inflation kit
- Speedometer
- Tachometer
- Anti-theft lock
- Passenger seat
- Hazard flashers
- Rock ejectors



ENGINE & ELECTRICAL SYSTEM

- Alternator
- Pilot lamps for: parking light, bright lights, hazard flashers, charging, engine oil pressure, body down, lock-up, lap belt
- Instruments: hour counter, air pressure gauge (2 circuits), engine oil pressure gauge, coolant temperature gauge, gearbox oil pressure gauge, gearbox oil temperature gauge, tachometer, speedometer



BODY EQUIPMENT

- Body heating (exhaust gas)
- Rock body
- Lock in tip position



TRANSMISSION

- Torque converter
- Power-shift gearbox
- Automatic lock-up

EXTRA EQUIPMENT

(Standard equipment on certain markets)

- Heated rear-view mirrors
- Heated driver's seat
- Air conditioning
- Tachograph
- Fenders
- Radio
- Electric engine preheater
- Elevated body
- Rubber-lined body
- Emergency steering
- Spare wheel
- Silencer
- Reversing alarm

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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