

4200 B



**VOLVO BM**





# **THE UNIQUE LOAD PERFORMANCE - VOLVO BM 4200**

Wherever high demands are made on economy, versatility and power, the Volvo BM 4200B has no equal. It is built to get the most out of every working hour with minimum service requirements and low fuel consumption.

The Volvo BM 4200B is the Allrounder that is able to handle most jobs thanks to its manoeuvrability and access to a unique range of attachments. The machine has a 4-speed transmission and is available with dual circuit hydraulics making it ideal for working with hydraulic-powered attachments. We manufacture all the major components to ensure a precise balance of power and performance with rugged, reliable, economic operation.

The effective loader unit gives you good lift height and reach, plus good horizontal handling thanks to the parallel side-arm action. This, together with a small turning radius and compact dimensions, makes the machine extremely effective in confined work areas.

The cab is in a class of its own. The operator works in spacious comfort with a low noise level. So when you need to change quickly from one job to another and require high capacity and low running costs, you need the *VOLVO BM 4200B*.





**DER WITH BIG**

**DB**





# DRIVE TRAIN

A great deal of attention has been devoted to component co-ordination and design solutions to ensure long intervals between services. This gives you an economical machine, reliable in every detail.

The direct-injection diesel engine developing 62 kW (84 hp) DIN, the transmission and axles, are all manufactured by Volvo BM. You also have the option of Volvo BM AUTOMATIC POWER SHIFT. With this unique system, a specially programmed computer selects the correct gear in every situation, allowing the operator to concentrate totally on the handling task. Result: higher capacity and better fuel economy.

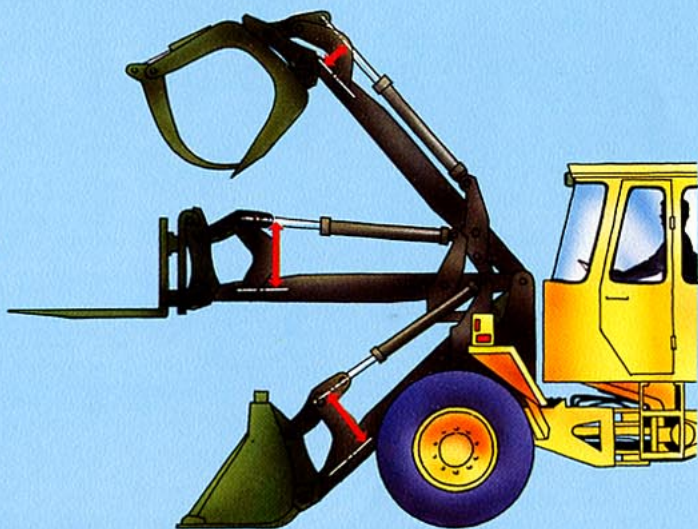
*The 4200B is also ideally suited for use with hydraulic-powered attachments. In this case a special version is supplied with dual-circuit hydraulics.*



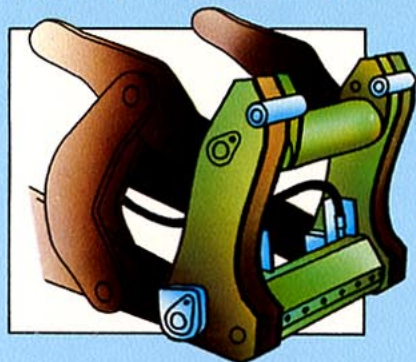
# LOADER UNIT

The efficiency of the loader unit is a crucial factor in determining capacity. The 4200B is not only a superior bucket loader, but also an accomplished All-rounder. Volvo BM's ultra-modern loader unit offers the following advantages:

- Long reach/high lift.
- High point of attachment (side-arms horizontal during loading/unloading of trucks).
- Good breakout forces over the entire lifting range.
- Level handling of the load.
- "Open construction" for good visibility.
- Effective bucket angles.



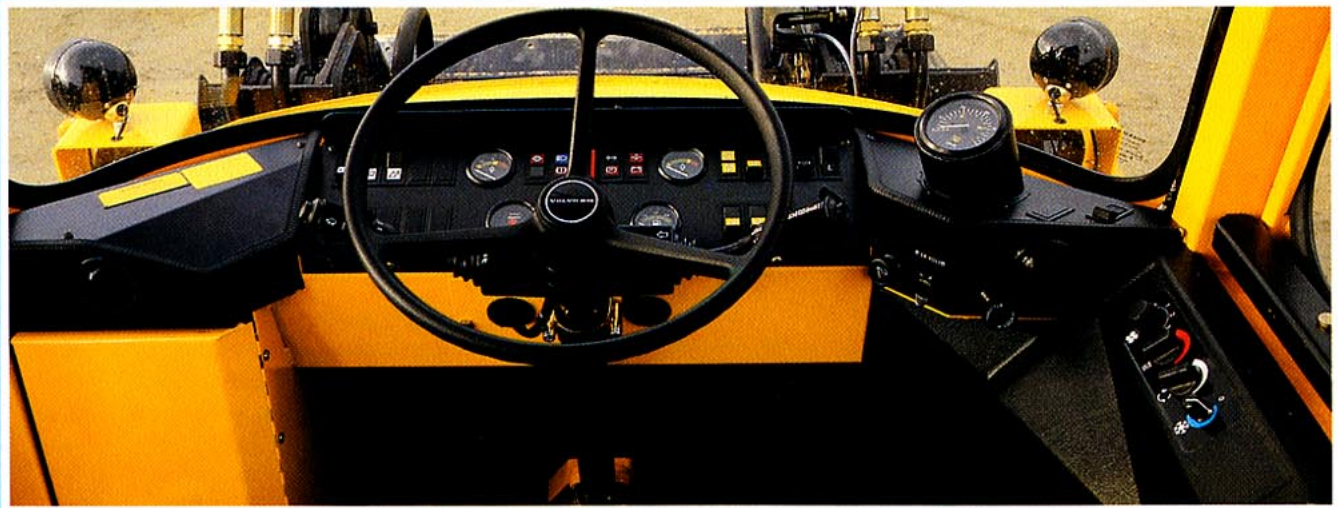
# HYDRAULIC ATTACHMENT BRACKET



*A few seconds*, – that's how long it takes to change attachments and jobs with the 4200B. The hydraulic attachment bracket is a wide, sturdily built piece of equipment, easy to guide onto the attachment. This saves time – no delays. It also makes you a specialist at most jobs. You can choose the right combination of attachments for your particular needs from a range of about 70 different units. The 4200B is a superb general-service Allrounder, ideal wherever the demand on work-rate is high.



# A GOOD PLACE TO WORK



*In this picture, the 4200B is equipped with optional speedometer.*

The cab is your place of work, where you should be equipped to carry out your job skillfully and quickly. The superb operator environment in the 4200B is the result of meticulous research, advanced ergonomic engineering and practical testing.

- Comprehensive and clear instrumentation
- Very comfortable operator's seat with a wide range of adjustments to suit each individual operator.
- Superb steering system and small turning radius.
- Heating and ventilation system with filtered fresh air.
- Snug, cosy and quiet.
- Tested and approved according to ROPS and FOPS.

## FLEXIBLE & EFFECTIVE



*Long reach, a smooth underside and high side-arm attachment enables you to load wide vehicles and wagons from one side.*

*Good horizontal handling of the load makes the 4200B well suited for handling palletized and fragile goods.*

*You have a choice of two tilt speeds. The slow action is used for precision manoeuvring and difficult lifts. The loader unit works safely, with good breakout moment throughout the lifting range.*

*In confined spaces, the 4200B works efficiently thanks to its manoeuvrability. It has compact dimensions and small turning radius.*

*It's also easy to work with the 4200B on difficult terrain. It has 4-wheel drive, differential locks and low ground pressure.*







## ENGINE

Volvo BM D 45 B 4-cylinder, direct-injected, 4-stroke diesel engine with replaceable cylinder linings.

Flywheel rating	62 kW at 36.7 rps DIN 70020 (84 hp at 2200 rpm DIN)
Gross rating	66 kW at 36.7 rps SAE J 270 (90 hp at 2200 rpm SAE)
Max. torque	310 Nm at 20 rps/DIN 70020 (228 lbf ft at 1200 rpm DIN) 315 Nm at 20 rps SAE J 270 (232 lbf ft at 1200 rpm SAE)
No. of cylinders	4
Bore	105.57 mm (4.2 in)
Stroke	128 mm (5.0 in)
Displacement	4.48 litres (273 in <sup>3</sup> )
Compression ratio	16.5:1
Air cleaning in three stages	1. Cyclone precleaner with exhaust ejection 2. Paper filter 3. Catch-all safety filter



## ELECTRIC SYSTEM

Batteries	2×12 V (connected in series)
Voltage	24 V
Battery capacity	105 Ah
Alternator	1540 W (55 A)
Starter motor	5.4 kW (7.3 hp)

Central warning lamp for following functions:

### *(For certain markets only)*

Engine oil pressure.  
Brake pressure.  
Parking brake.  
Engine temperature.  
Transmission temperature.



## TORQUE CONVERTER

Type: Single-stage  
Torque multiplication ratio 3.1:1



## TRANSMISSION

Type: Power-shift  
Designation: Volvo BM HT 90

Number of gears forward/reverse 4/4

Speeds:	1. 0–7 km/h (0–4.3 mph)
(tyres 15.5–25)	2. 0–13 km/h (0–8.0 mph)
	3. 0–25 km/h (0–15.5 mph)
	4. 0–42 km/h (0–26.1 mph)



## AXLES

Fully floating axle shafts with planetary hub reductions.

Front axle:	Designation	Volvo BM AH 31 A
	Differential lock	Automatic
Rear axle:	Designation	Volvo BM AH 31 B
	Oscillation	±12° (350 mm = 13.8 in)
	Differential lock	Automatic



## BRAKES

Service brakes: Fully hydraulically operated disc brakes in dual circuit system.

Brake area:	Front 208 cm <sup>2</sup> (32.2 in <sup>2</sup> )/wheel
	Rear 208 cm <sup>2</sup> (32.2 in <sup>2</sup> )/wheel

Oil reservoir volume	3×0.5 litres (3×0.1 UK gal)
Parking brake	Disc brake on front axle pinion's drive flange

Parking area:	70 cm <sup>2</sup> (10.9 in <sup>2</sup> )
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## TYRES

15.5–25



## STEERING

Load-sensing hydrostatic steering.

Steering angle	±40°
Lock-to-lock turns of wheel	4.2
Steering cylinder, bore/stroke	63/425 mm (2.5/16.7 in)
Piston rod diameter	32 mm (1.3 in)
Oil pump, type	Variable flow axial piston pump
Output at 10 MPa (1450 psi) and 36.7 rps (2200 rpm)	97 l/min (21.3 UK gal/min)
Relief pressure	13 MPa (1885 psi)



## HYDRAULIC SYSTEM

Pump, type (working hydraulics)  
Vane pump

Output at 10 MPa (1450 psi) and 36.7 rps (2200 rpm)	160 l/min (35.2 UK gal/min)
Relief pressure	16 MPa (2320 psi)

### Oil filter:

Full-flow filtration through 10 µm filter cartridge with magnetic core.

### Hydraulic cylinders:

Lift – bore/stroke	100/995 mm (3.9/39.2 in)
Piston rod diameter	50 mm (2 in)
Tilt cylinder – bore/stroke	90/970 mm (3.5/38.2 in)
Piston rod diameter	50 mm (2 in)

### Loader unit:

Loader unit with hydraulic cylinders mounted in line with side-arms. Good parallel side-arm action, extremely good dump angle.

Raise with SAE workload	5.5 s
Lower, without load	3.4 s
Dump high/low speed	1.3 s/2.2 s



## SERVICE REFILL CAPACITIES

	Litres	UK gal	US gal
Crankcase	10	2.2	2.6
Fuel tank	160	35.2	42.3
Cooling system	27	5.9	7.1
Hydraulic system, total	125	27.5	33.0
Hydraulic tank	75	16.5	19.8
Transmission and torque converter total	18	4.0	4.8
Front axle differential and hubs	22.5	5.0	5.9
Rear axle differential and hubs	22.5	5.0	5.9



## CAB

Tested and approved as a safety cab in accordance with Article 3 Section 8 of the Swedish Environment Protection Act and meets 3471–1980, ROPS (SS783), ISO 3449–1980 FOPS (SS782) and SS/ISO 6055 "Overhead guards for lift-truck". The cab is mounted on 4 rubber pads and is well insulated and weathertight. All windows have bronze-tinted glass. The windshield is of laminated safety glass, all other windows have tempered glass.

Heater and defroster: Heating element with filtered fresh air and 3-speed fan plus defroster for windshield, rear and side windows.

Operator's seat	ISRI GI 6000/575
Mountings for seat belts	Yes

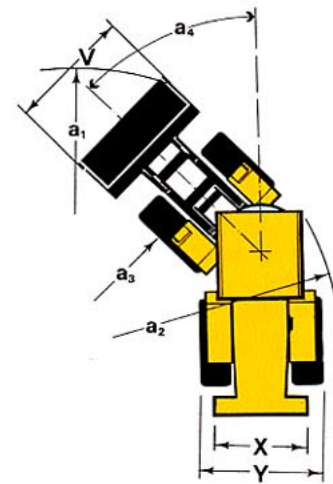
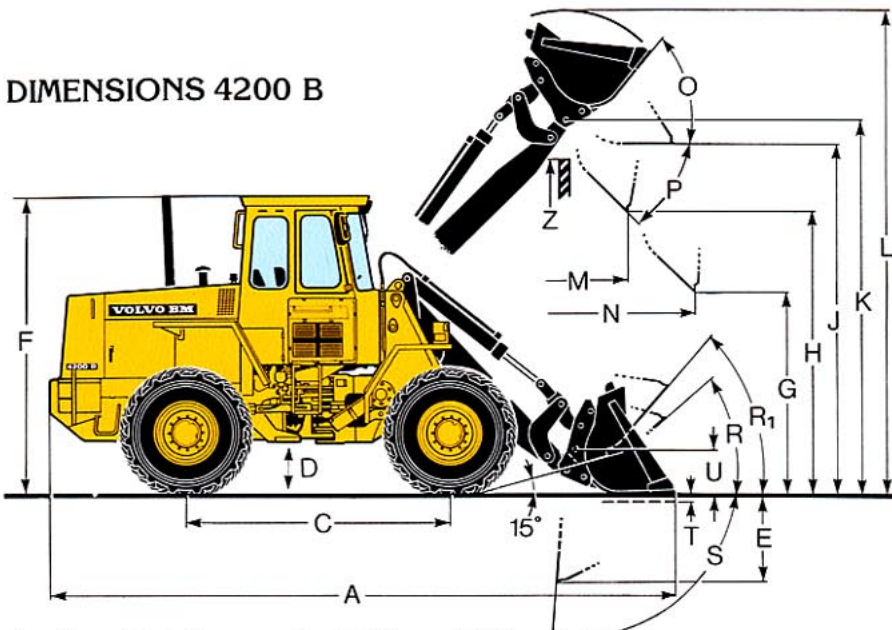
## OPTIONAL EQUIPMENT

(Standard equipment on certain markets)

- 24 V Inspection lamp
- Electrical equipment Norway
- Speedometer with tachometer
- Vent, left side
- Hand brake alarm
- Passenger seat
- Extra working lights front (2) halogen
- Extra working lights rear (2) halogen
- Air conditioning
- Heated operator's seat
- Service lights, left-hand asymmetric (halogen)
- Loud horn
- 4th hydraulic control
- Heating flange
- Screen for extractor fan
- Extractor fan
- Tropical version
- Reversing alarm
- Hand brake alarm as per ASS 94
- Hydraulic attachment bracket
- Electric engine block heater 750 W
- Rain guard for exhaust pipe
- Intermittent wiper
- Washers for front and rear windows
- Dual brake pedals
- Radio panel without radio
- Return line, 3rd hydraulic control
- 5th hydraulic control
- Lever interlock
- Hydraulic oil cooler
- Outlet for hydraulic-powered hand tools
- Automatic lift and tilt
- Single-acting lifting function
- Industrial hitch
- Tool kit
- Wheel nut wrench set
- Dual circuit hydraulics
- Hydraulic outlet, rear, for hydraulic motor
- Hydraulic lift hitch
- Rotating beacon with collapsible mount
- Full-coverage fenders
- LGF plate
- Automatic Power Shift (APS)
- Transmission, 8-speed



# DIMENSIONS 4200 B



- A = See table below
- A = 5245 mm (17'2") without attachment
- C = 2700 mm (8'10")
- D = 385 mm (1'3")
- E = 850 mm (2'9")
- F = 2935 mm (9'8")
- G = 2000 mm (6'6")
- H = See table below
- J = 3495 mm (11'6")
- K = 3710 mm (12'2")
- L = See table below
- M = See table below
- N = See table below
- O = 52°
- P = 46°
- R = 42°
- R<sub>1</sub> = 46° Carry position
- S = 93°
- T = 95 mm (3.7")
- U = 340 mm (1'1")
- V = See table below
- X = 1750 mm (5'9")
- Y = 2150 mm (7'1")
- Z = 3450 mm (11'4")

- a<sub>1</sub> = Clearance circle
- See table below
- a<sub>2</sub> = turning radius
- 4780 mm (15'8")
- a<sub>3</sub> = inner radius
- 2630 mm (8'8")
- a<sub>4</sub> = steering angle ±40°

Attachment		Bucket pin on without teeth	Bucket hook-on without teeth	Bucket pin on without teeth	Bucket hook-on without teeth	Bucket hook-on without teeth	Bucket hook-on without teeth
Capacity	m <sup>3</sup> (yd <sup>3</sup> )	1.15 (1.5)	1.15 (1.5)	1.25 (1.6)	1.25 (1.6)	1.4 (1.8)	2.5 (3.3)
Density	kg m <sup>3</sup> (lb yd <sup>3</sup> )	1 800 (3033)	1 800 (3033)	1 600 (2596)	1 600 (2596)	1 500 (2528)	700 (1180)
(H) Dump clearance at full lift and 45° discharge	mm (ft in)	2 910 (9'4")	2 840 (9'4")	2 910 (9'4")	2 840 (9'4")	2 770 (9'1")	2 560 (8'5")
(M) Reach at full lift and 45° discharge	mm (ft in)	780 (2'9")	835 (2'9")	780 (2'9")	835 (2'9")	910 (3')	1 145 (3'9")
(N) Reach at 45° discharge and 7 ft high	mm (ft in)	1 470 (4'11")	1 500 (4'11")	1 470 (4'11")	1 500 (4'11")	1 540 (5'1")	1 645 (5'5")
(A) Overall length	mm(ft in)	6 070 (19'11")	6 110 (20')	6 070 (19'11")	6 110 (20')	6 210 (20'4")	6 420(21'1")
(L) Overall height with attachment	mm(ft in)	4 650 (15'6")	4 720 (15'6")	4 780 (15'10")	4 850 (15'11")	4 830 (15'10")	4 950(16'3")
(a <sub>1</sub> ) Clearance circle	mm(ft in)	10 540 (34'7")	10 540 (34'7")	10 540 (34'7")	10 540 (34'7")	10 600 (34'9")	10 180 (35'8")
(V) Width (over bucket)	mm(ft in)	2 300 (7'7")	2 300 (7'7")	2 300 (7'7")	2 300 (7'7")	2 300 (7'7")	2 430 (8')
Breakout force	kgf(lbf)	7 130 (10692)	6 450 (14220)	7 130 (14220)	6 450 (14220)	5 780 (12743)	4 320 (9524)
Static tipping load, straight	kg(lb)	5 200 (10692)	4 850 (10692)	5 200 (10692)	4 850 (10692)	4 700 (10362)	4 475 (9866)
Static tipping load, 35° turn	kg(lb)	4 640 (9480)	4 300 (9480)	4 640 (9480)	4 300 (9480)	4 175 (9204)	3 950 (8708)
Static tipping load, at full turn	kg(lb)	4 480 (9127)	4 140 (9127)	4 480 (9127)	4 140 (9127)	4 020 (8863)	3 800 (8378)
Operating load at full turn	kg(lb)	2 070 (4564)	2 070 (4564)	2 070 (4564)	2 070 (4564)	2 010 (4431)	1 900 (4189)
Hydraulic lifting force at ground level	kgf/lbf	9 900 (21958)	9 900 (21958)	9 900 (21958)	9 900 (21958)	9 900 (21958)	9 900 (21958)
Hydraulic lifting force at max. height	kgf/lbf	3 350 (6900)	3 130 (6900)	3 350 (6900)	3 130 (6900)	3 070 (6758)	2 940 (6482)
Operating weight	kg(lb)	7 600 (17086)	7 750 (17086)	7 600 (17086)	7 750 (17086)	7 800 (17196)	7 950 (17527)
Weight distribution front	kg(lb)	3 265 (7661)	3 475 (7661)	3 265 (7661)	3 475 (7661)	3 550 (7826)	3 775 (8322)
Weight distribution rear	kg(lb)	4 335 (9425)	4 275 (9425)	4 335 (9425)	4 275 (9425)	4 250 (9369)	4 175 (9204)

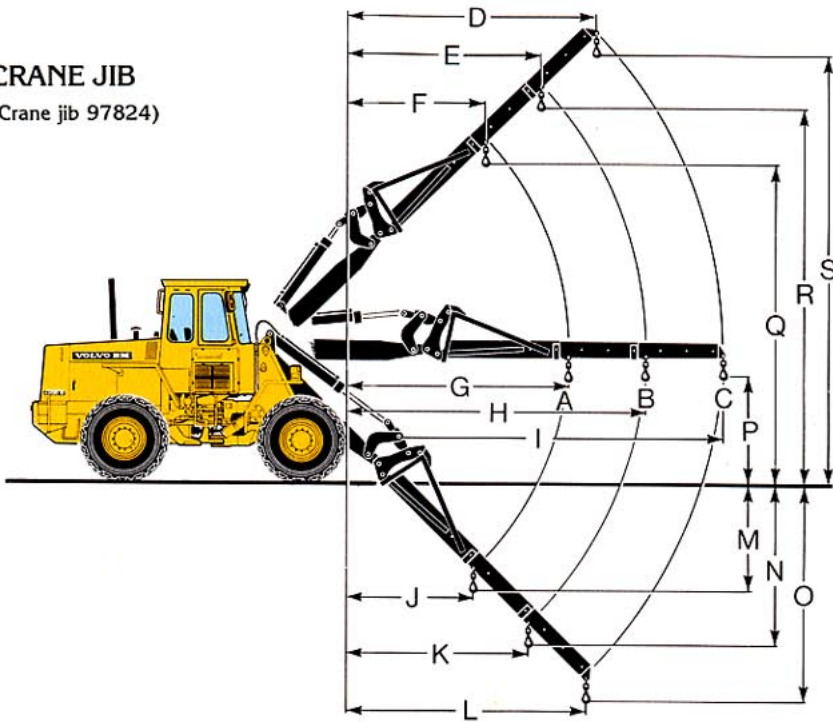
Specifications are based on a machine equipped with a 1.15 m<sup>3</sup> (1.5 yd<sup>3</sup>) hook-on bucket without teeth and 15.5-25 SGL Cross-ply tyres. Wherever applicable, specifications are in accordance with SAE Standard J 732 c, J 742 b and J 818 b.

CaCl<sub>2</sub> in rear tyres is only recommended for stabilizing purposes in log grapple and pallet fork handling on hard and flat ground.

Alternative tyres for CaCl <sub>2</sub> filling	Change in basic data		Change in operating weight kg (lb)	Change in static tipping load at full turn kg (lb)	
	Width over tyres	Ground clearance		Pin on	Hook on
15.5R25*	mm (in)	mm (in)	+115	+115	+115
	±0	±0	(+254)	(+254)	(+254)



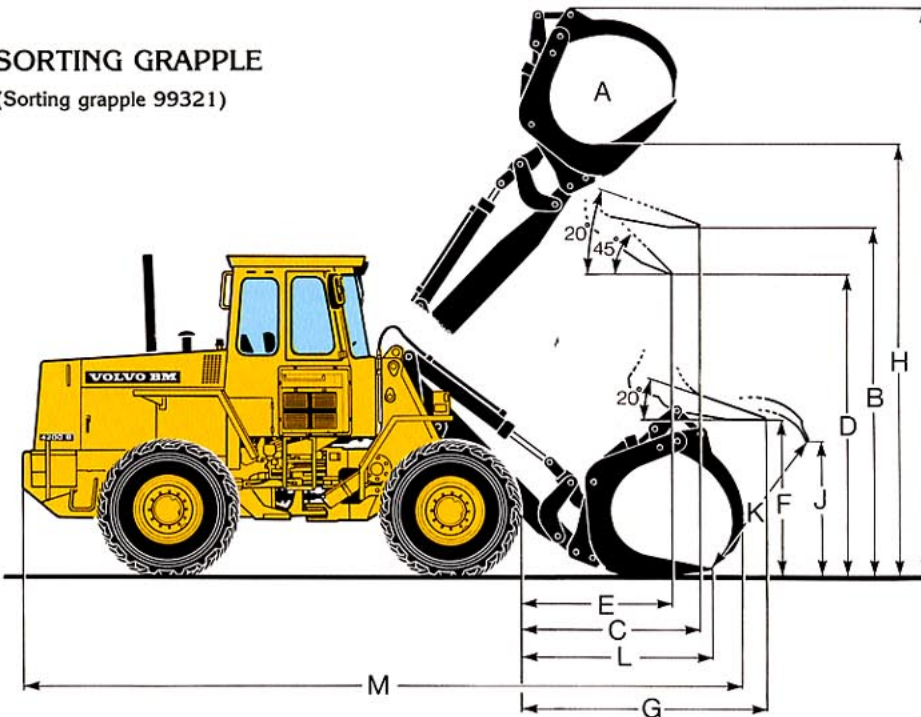
**CRANE JIB**  
(Crane jib 97824)



- A = 1120 kg (2469 lb)
- B = 940 kg (2072 lb)
- C = 750 kg (1653 lb)
- D = 2705 mm (8'10")
- E = 2085 mm (6'10")
- F = 1495 mm (4'11")
- G = 3245 mm (10'8")
- H = 4310 mm (14'2")
- I = 5440 mm (17'10")
- J = 920 mm (3')
- K = 935 mm (3'1")
- L = 950 mm (3'1")
- M = 2275 mm (7'6")
- N = 3440 mm (11'3")
- O = 4475 mm (14'8")
- P = 1520 mm (5')
- Q = 5100 mm (16'9")
- R = 5985 mm (19'8")
- S = 6925 mm (22'7")

Operating weight:  
7610 kg (16777 lb)

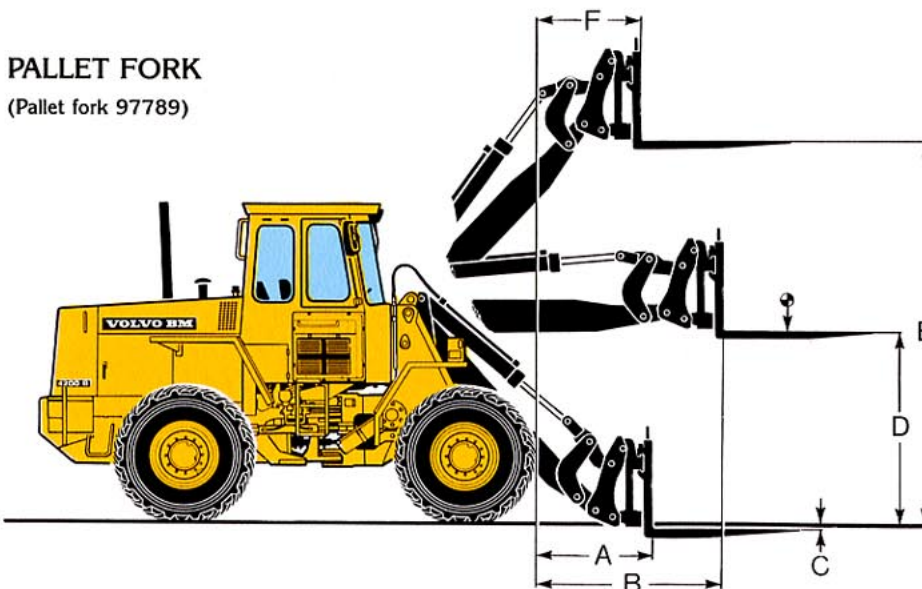
**SORTING GRAPPLE**  
(Sorting grapple 99321)



- A = 0.9 m<sup>2</sup> (9.7 ft<sup>2</sup>)
- B = 3360 mm (11')
- C = 1470 mm (4'10")
- D = 2910 mm (9'7")
- E = 1230 mm (4')
- F = 1545 mm (5'1")
- G = 2345 mm (7'8")
- H = 4070 mm (13'4")
- I = 5400 mm (17'9")
- J = 1810 mm (5'11")
- K = 1910 mm (6'3")
- L = 1645 mm (5'5")
- M = 6650 mm (21'10")

Operating load:  
2265 kg (4993 lb)  
Operating weight:  
8050 kg (17747 lb)

**PALLET FORK**  
(Pallet fork 97789)



- Length 1225 mm (4')
- Fork carriage (97792)
- Width 1500 mm (4'11")
- A = 685 mm (2'3")
- B = 1540 mm (5'1")
- C = 30 mm (1.2")
- D = 1770 mm (5'10")
- E = 3585 mm (11'9")
- F = 665 mm (2'2")

Max. permissible load 3000 kg  
(6614 lb) at centre-of-gravity  
distance 600 mm (2')  
Operating weight 7635 kg  
(16832 lb)



# STANDARD EQUIPMENT



## SAFETY AND COMFORT

- ROPS- and FOPS cab
- Cab heating with filtered fresh air intake and defroster
- Openable window
- Safety glass, windshield
- Tinted glass
- Ergonomically designed and adjustable operator's seat
- Rear-view mirrors, external, 2
- Rear-view mirror, internal, 1
- Lights: Headlights, high/low/asym, halogen  
parking lights  
Working lights forward (2) halogen  
Working lights rear (2) halogen
- Side marker lights
- Brake lights
- Tail lights
- Cab lighting
- Instrument lighting
- Direction indicators
- Mounting for seat belt
- Seat belt
- Utility box in cab
- Instrument panel with symbols
- Sun visor
- Safety start
- Fenders
- Hazard flashers
- Windshield wipers, front and rear
- Horn
- Ashtray
- Cigarette lighter
- Lifting lugs
- Lockable tool box



## ENGINE AND ELECTRICAL SYSTEM

- Fuel gauge
- Temperature gauge, engine
- Temperature gauge, hydraulic transmission
- Hour meter
- Pilot lamps for: working lights front and rear, battery charging, high beam, direction indicators, engine oil pressure, transmission oil pressure, parking brake, brake pressure, hazard flashers, air cleaner, cold start (heating flange), high-speed tilting
- Electrical outlet 24 V
- Battery disconnect switch
- Alternator
- Air cleaner with ejector

### For certain markets only

- Central warning lamp: Brake pressure, engine oil pressure, engine temperature, transmission temperature, parking brake



## HYDRAULIC SYSTEM

- Control valve (3 spools)
- High and low bucket tilt speeds
- 3rd hydraulic control
- Bucket position indicator
- Vane pump



## POWER TRANSMISSION

- Full Power Shift transmission
- Transmission cut-out valve
- Single-lever gear control
- Tyres 15.5–25
- Automatic differential lock front/rear axle

# VOLVO BM

VOLVO BM AB ESKILSTUNA SWEDEN

*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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ENGELSKA

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