

VOLVO BM

646 BACKHOE/LOADER



New!

4-wheel drive and power shift

Particularly effective over difficult terrain.
Ample tractive force – loads well. Highly versatile.

Backhoe unit

Powerfully built with laterally deflectable bucket arm.
Good digging and break-out forces. Agile and easy to operate.

Capacity and reliability

Heavy-duty hydraulics provide plenty of power for rapid digging.
Volvo standard components featuring heavy-duty design and reliable construction.

The Volvo BM 646 is a 4-wheel-driven backhoe



The new Volvo BM 646

The Volvo BM 646 is a new 4-wheel-driven backhoe/loader from Volvo BM. It is based on the tried-and-tested "allrounder chassis" with large wheels, 4-wheel drive, differential lock and power shift gearbox. These features enable the Volvo BM 646 to perform its assignments efficiently, even over the most difficult terrains. The backhoe unit enables you to handle the most complicated jobs with ease. The unit is designed in such a manner that the bucket arm can be steplessly angled off to the side of the boom. The backhoe unit also generates high digging and break-out forces. It is optimally adapted for the machine to provide maximum capacity and strength. For efficient loading work as well, the 646 is equipped with a loader unit which combines good lifting height with generous outreach. The 646 has a cab which provides the operator with optimum working comfort. It has a low sound level, a comfortable seat and conveniently located, easy-to-operate controls. The Volvo BM 646 is truly a backhoe/loader built to meet high demands on versatility and capacity.



Heavy-duty driven front axle with large wheels



Non-skid footsteps for safe inspection



Torque converter automatically increases penetration force



Well-insulated, spacious with comfortable, adjustable operator's seat

Backhoe/loader with numerous advantages

- Easy to dig with – two-lever-operated backhoe unit with stepless lateral deflection
- Manœuvrable and easy to operate – small turning radius
- Ample tractive effort during grading and backfilling work
- Easy to load with – single-lever-operated loader unit
- Excellent mobility on building construction sites, road work sites, civil engineering projects, power line construction projects and trenching work
- Stable and sure-footed during transport on and off the road
- Muscular engine and power shift gearbox



Ample tractive effort ensures efficient excavation and grading work



Generous outreach and a favorable carrying angle facilitate loading



Stable and strong – good for power line erection



Laterally deflectable backhoe unit with powerful hydraulics

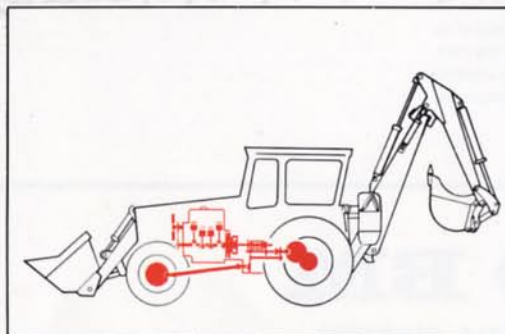
The advanced backhoe unit enables you to dig deep, reach far and load efficiently. Outreach is all of 5.9 m (19 ft 4 in) and the bucket arm can be angled 30° to either side of the boom. This lateral deflection function is operated steplessly and hydraulically by means of a foot pedal. The backhoe unit works rapidly and with high precision thanks to the ample power delivered by the hydraulic system.



Spacious cab
Stable terrain



Large clearance angles – good on bumpy terrain



4-wheel drive and well-balanced power shift transmission



Disengageable 4 wheel drive

SPECIFICATIONS FOR THE VOLVO BM 646 BACKHOE/LOADER

GENERAL DATA

Total weight	9 750 kg (21 500 lb)
Wheelbase	2.35 m (7 ft 8 in)
Turning radius	5.40 m (17 ft 8 in)
Front tyres	
Rear tyres	
Ground clearance	0.41 m (2 ft 1 in)
Bucket volume	325-425 l (72-94 UK gal)

Engine

4-cylinder Volvo BM D42 diesel engine
Max. output at 38.4 rev/s (2300 rev/min) is 62 kW (84 hp) SAE

Transmission

Converter with free-wheel stator and hydro-mechanical gearbox with power shift
Two speed ranges with 4-gears forward and reverse
Speed range 0-29.7 km/h
(0-18.5 mph)
Torque converter ratio . . . 3.65:1

Backhoe unit

Excavation depth 427 cm (14 ft)
(I.E.M.C.)
Outreach 584 cm (19 ft 2 in)
Loading height 363 cm (12 ft)
Break-out force at bucket lip 5000 kgf
(11 000 lbf)
Bucket volume 325-425 l
(72-94 UK gal)
Slew with laterally angled bucket arm 170° + 2x30°

Loader

Lifting force to top position in attachment bracket . . . 2300 kgf (5070 lbf)

Break-out force at bucket lip 3900 kgf (8600 lbf)
Max. lifting height
under level bucket 359 cm (11 ft 8 in)
Max. clearance under tipped bucket 309 cm (10 ft 1 in)
Min. distance between tipped bucket at top position and front of loader . . . 52 cm (20 in)
Break-out angle 35°
Tipping angle at 2.44 m (8 ft) tipping height 35°

STANDARD EQUIPMENT

One inside rear-view mirror
Two outside rear-view mirrors
Main headlights, bright/dim beams
Two front working lights
Two rear working lights
Parking/position lights, front and rear
Taillights and brake lights
Side lights
Blinkers front and rear with warning flashers
Rotating warning beacon
Socket for inspection lamp
Inspection lamp
Cigarette lighter
Central warning indicators in digging position for vital machine functions
Battery partition in cab
Horn
Instrument lighting
Cab lighting
Front wings (fenders)
Lifting hook
Ashtray
Wipers for front and rear windows

Specifications, construction and design subject to alteration without notice.

Optional equipment

Underbody protection plates, front and rear
Third hydraulic function
Cab ventilator with or without heating
Floating position (half) on loader
ENR equipment
Electric engine heater

All buckets and attachments are mounted to the attachment bracket by means of a snap-on coupling.

Buckets and attachments

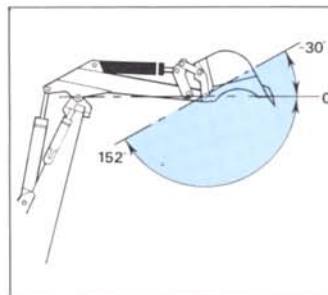
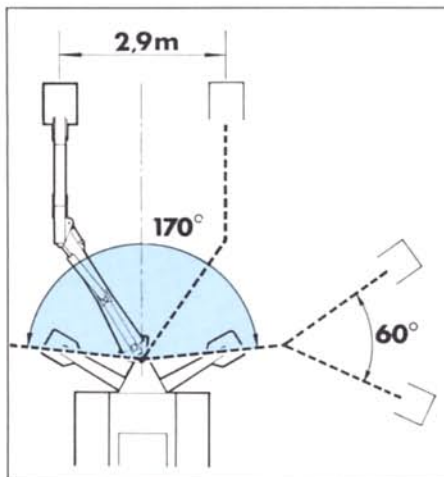
Backhoe unit	Litres (UK gal)
Excavation bucket	425 (94)
Excavation bucket	380 (84)
Excavation bucket	325 (72)
Cable bucket	135 (30)
Cable bucket with ejector	120 (26)
Posthole bucket	50 (11)
Posthole bucket	70 (15)
Trench-cleaning bucket	360 (79)
Road trenching bucket	275 (61)
Forest trenching bucket	380 (84)

Asphalt cutter
Crane jib
Pole-raising unit

Loader

Haulage and grading bucket
Gravel bucket, straight without teeth
Gravel bucket, straight with teeth
Snow bucket
High-tipping light materials bucket
Combination bucket

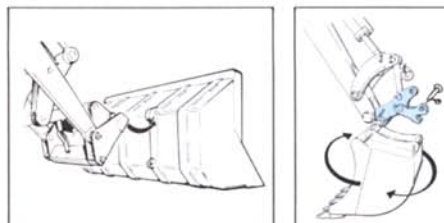
The above attachments are merely a sampling. All attachments in the Allrounder range are available for the Volvo BM 646.



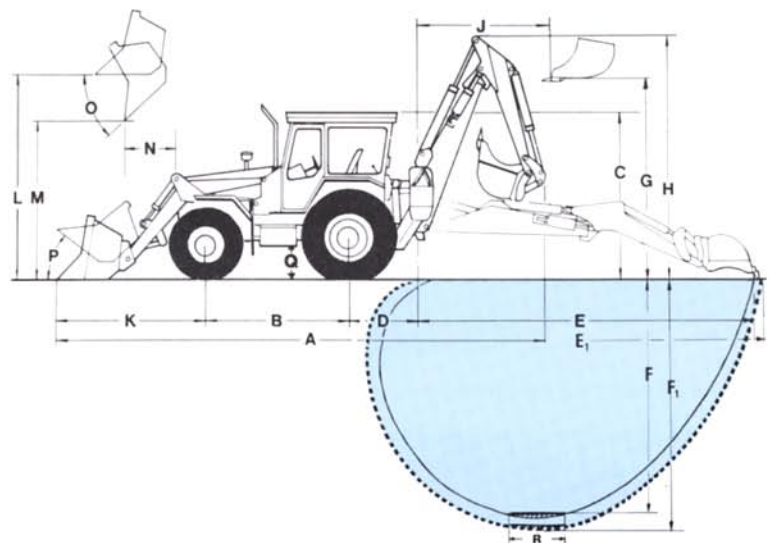
Dimensions

A	806 cm (316 in)	J	242 cm (95 in)
B	255 cm (93 in)	K	232 cm (91 in)
C	286 cm (112 in)	L	359 cm (141 in)
D	109 cm (43 in)	M	309 cm (122 in)
E*	584 cm (230 in)	N	52 cm (20 in)
E ₁	586 cm (231 in)	O	35°
F*	427 cm (168 in)	P	35°
F ₁	440 cm (173 in)	Q	41 cm (16 in)
G	363 cm (143 in)	R*	60 cm (24 in)
H	405 cm (159 in)		

*) as per I.E.M.C. (Industrial Equipment Manufacturers' Council)



Lateral deflection of the bucket arm gives the 646 a wide range of applications. The dimension drawing shows the range of operation permitted by the hydraulic lateral deflection system. With snap-on coupling for both the backhoe and loader units, the 646 also gives you a machine which can switch attachments quickly for optimum performance at new tasks.



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