

VOLVO BM 1641 H



Specification Volvo BM 1641 Hi-Lift Grapple

Efficient loader with Hi-Lift Grapple

The 1641 H is a stable and nimble loader for handling pulpwood and timber at sawmills, timber terminals, pulp mills and processing sites.

Manoeuvrability and capacity

The powerful side-arm system is very easy to operate and can work with high stacks. The grapple is rotatable, which together with articulated steering, permits rapid work cycles, even in cramped and difficult positions.

Economy

Duty-tested and robust construction. Reliable and powerful turbocharged Volvo engine.

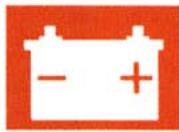




ENGINE

6-cylinder 4-stroke turbocharged diesel engine with wet replaceable cylinder linings and light-alloy pistons.

Designation	Volvo TD 100
Flywheel rating	151 kW at 36.5 rps DIN 70020 (205 hp at 2200 rpm DIN)
Gross rating	176 kW at 36.5 rps SAE J 270 (240 hp at 2200 rpm SAE)
Max. torque	774 Nm at 23.5 rps DIN 70020 (571 lbf ft at 1400 rpm DIN) 860 Nm at 23.5 rps SAE J 270 (634 lbf ft at 1400 rpm SAE)
No. of cylinders	6
Bore	120.65 mm (4.75 in)
Stroke	140 mm (5.5 in)
Total displacement	9.6 dm ³ (586 in ³)
Compression ratio	15:1
Air cleaner	The intake air is cleaned in two stages 1. Multicyclone precleaner with automatic ejection through exhaust. 2. Fine paper filter.



ELECTRICAL SYSTEM

Batteries	Two 12 V (connected in series)
Voltage	24 V
Battery capacity	135 Ah
Alternator	1 250 W (45 A)
Starter motor	4.4 kW (6 hp)



TORQUE CONVERTER

Type	Single-stage
Torque conversion ratio	2.86:1



GEARBOX

Type	Full power-shift with torque booster
Make	ZF
Designation	4 PW 45 H
Gear-changing	Power shift
Number of gears, forward	3
reverse	3



AXLES

Fully floating drive shafts with planetary hub reduction.

Front axle: Make	ZF
Designation	AP 15/R
Rear axle: Make	ZF
Designation	AP 11/L
Oscillation	± 17°



BRAKE SYSTEM

Driving brakes: Air-mechanical dual-circuit drum brakes on all wheels.

Double brake pedals: The left-hand pedal actuates the transmission disengagement valve.

Brake area: Front	1 650 cm ² /wheel (256 in ² /wheel)
Rear	1 225 cm ² /wheel (190 in ² /wheel)
Compressed air tank volume	3 × 20 dm ³ (3 × 5.3 US gal, 3 × 4.8 Imp gal)
Parking brake	Hand-operated mechanical disc brake on front output shaft from dropbox.



TYRES

(Recommended) 26.5—25/20 L3 Crossply



STEERING SYSTEM

Pump: Pump No. 2 in triple pump (see hydraulic system). Articulated steering with hydraulic servoassist and mechanical follow-up.

Steering angle	± 37.5°
Oil pump, type	Gear pump
Output at 7.0 MPa (1 015 psi) and 2 000 rpm	130 l/min (34 US gal/min, 29 Imp gal/min)



HYDRAULIC SYSTEM

Pump, type (working hydraulics)	Triple pump, gear pumps Pump Nos. 1 and 3 to working hydraulics. Pump No. 2 to steering system
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Pump Nos. 1 and 3 in triple pump:	
Output at 7.0 MPa (1 015 psi) and 2 000 rpm	
Pump 1	250 l/min (66 US gal/min, 55 Imp gal/min)
Pump 3	55 l/min (15 US gal/min, 12 Imp gal/min)
Oil filter	Full-flow filter combined with magnet

Directional valves, number	2
Valve 1 serves	Lift, tilt and grip cylinders
Valve 2 serves	Rotator and luffing cylinder
Lifting time without load	10 s
Lowering time without load	6 s
Forward tilt	3.5 s
Backward tilt	5 s



VOLUMES

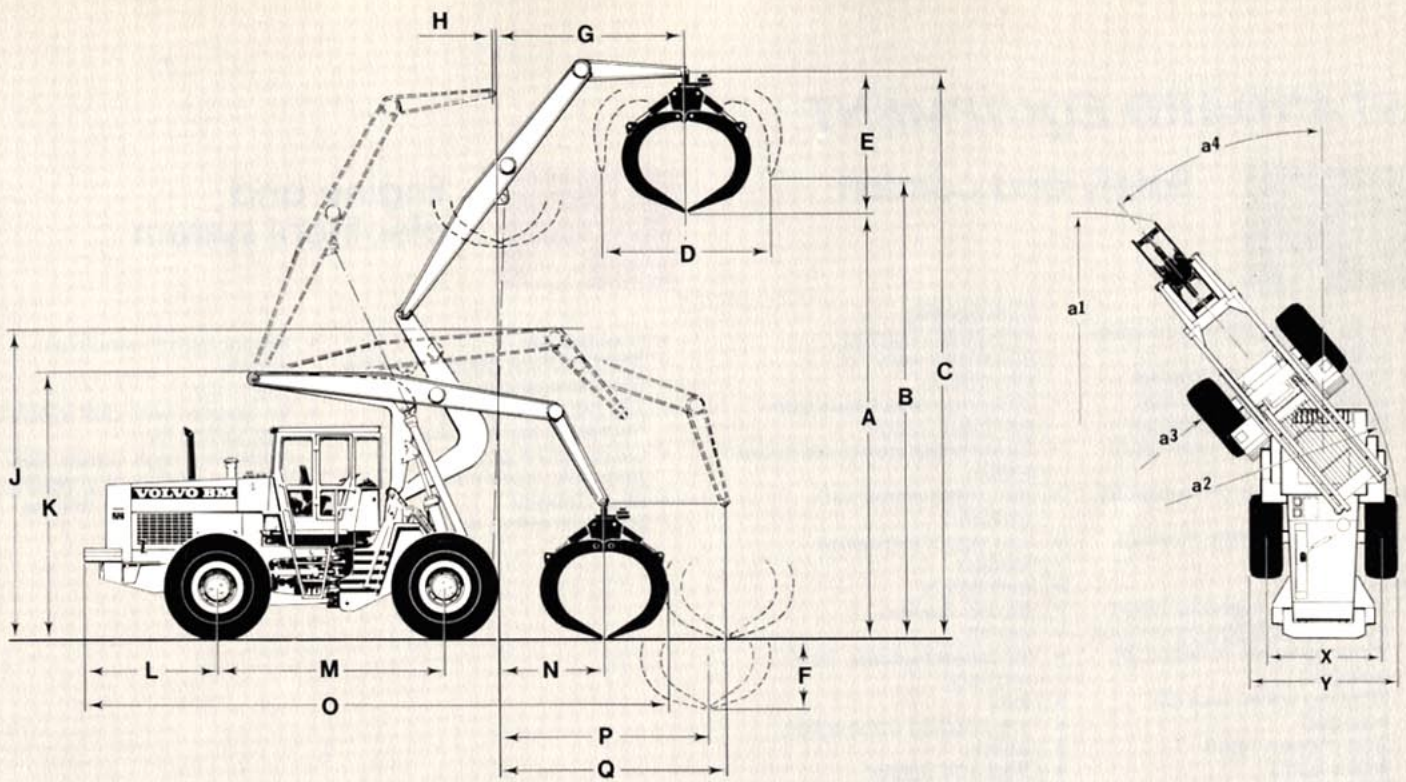
	litre	US gal	Imp gal
Engine:			
Oil volume incl. filter	31	8.2	6.8
Oil volume at change	29	7.7	6.4
Fuel tank	225/245	59/65	49/54
Cooling system	50/60	13/16	11/13
Hydraulic system, total	320	84	70
Hydraulic tank	230	61	51
Transmission and torque converter total	40	10.6	8.8
Transmission and torque converter at change	34	9.0	7.5
Front axle, differential hub reduction/each	25	6.6	5.5
Rear axle, differential hub reduction/each	5	1.3	1.1
Dropbox	22.5	5.9	4.9
	4.3	1.1	0.9
	7	1.8	1.5



CAB

The cab is mounted on rubber pads. It is insulated and weather-tight and has a flat floor with a rubber mat. Tested and approved as a safety cab in accordance with § 45 of the Swedish Workers' Protection Act and SAE ROPS standards.

Heater and defroster	Fresh-air heater with 2-speed fan. Adjustable defroster vents.
Ventilation	Two air changes per minute.
Operator's seat	Boström with adjustable backrest and adjustable seat springs with hydraulic shock absorption. The seat has armrests and is covered with nylon plush.
	Adjustable vertically 25 mm (9.8 in) horizontally 102 mm (40 in).
Number of exits	3 (doors, rear window)



DIMENSIONS

		Pulpwood	Pulpwood	Cut logs	Whole stems		
Grip area m ² (ft ²)		3.25 (35)	2.8 (30)	2.0 (21.5)	0.7 (7.5)		
Length in m (ft)		2 (6'7")	3 (9'10")	4.5-4.8 (14'9"-15'9")	15 (50')		
Kg/m ³ (lb/yd ³)		580 (977)	580 (977)	550 (927)	500 (843)		
A	mm (in)	4690 (185)	4790 (189)	5070 (200)	5070 (200)		
B	mm (in)	5540 (218)	5575 (219)	5730 (226)	5730 (226)		
D	mm (in)	3550 (140)	3400 (134)	2920 (115)	2920 (115)		
E	mm (in)	2880 (113)	2780 (109)	2500 (98)	2500 (98)		
F	mm (in)	1250 (49)	1150 (45)	870 (34)	870 (34)		
O	mm (in)	9430 (371)	9300 (366)	9110 (359)			

mm (in)

C 7570 (298)

K 3800 (150)

P 2700 (106)

α_1 Swept radius 6700 (264)

G 2620 (103)

L 2030 (80)

Q 3300 (130)

α_2 Turning radius 6600 (260)

H 100 (3.9)

M 3470 (137)

X 2310 (91)

α_3 Inner radius 3700 (146)

J 4200 (165)

N 1570 (62)

Y 2910 (115)

α_4 Steering angle 37.50°

Specifications and dimensions apply to a machine equipped with 75 % CaCl₂ in the rear tyres and 1100 kg (2425 lb) extra counterweight.

Tyres 26.5 x 25/20. Firestone SRG.

WEIGHTS

Grip area m ² (ft ²)		3.25 (35)	2.8 (30)	2.0 (21.5)	Whole stem		
Machine weight [*]	kg (lb)	20150 (44420)	20200 (44520)	20150 (44420)	20200 (44520)		
Tipping load, straight machine ^{**}	kg (lb)	7550 (16645)	7600 (16755)	7650 (16865)	7600 (16755)		
Tipping load, articulated machine ^{**}	kg (lb)	6950 (15322)	7000 (15432)	7050 (15540)	7000 (15430)		
Working load	kg (lb)	4650 (10250)	4700 (10360)	4750 (10470)	4700 (10360)		

^{*}) incl. liquid-filled rear tyres 1300 kg (2870 lb), extra counterweight in rear 1100 kg (2425 lb)

^{**}) with grapple in position for max. reach

STANDARD EQUIPMENT



Safety and comfort

- Cab — impact-tested safety cab (ROPS)
- Cab heater with filtered intake air and defroster
- Ergonomically designed and adjustable operator's seat
- Clear symbols on hydraulic controls
- Rear-view mirrors, internal, two
- Lights:
 - Headlights, high/low beam
 - Parking lights (asymmetrical)
 - Working lights, forward (6) halogen
 - Working lights, rear (2) halogen
 - Side marker lights
 - Brake lights
 - Taillights
- Cab lighting
- Instrument lighting
- Automatic vehicle lubrication
- Utility box and glove compartment in cab
- Pressure gauge for air brake system
- Instrument panel with symbols
- Turn signal indicators
- Fenders
- Roof hatch
- Hazard flashers
- Tool kit
- Windshield wipers, front and rear
- Horn
- Tyre inflation connection
- Ashtray
- Cigarette lighter
- Tools



Engine and electrical system

- Fuel gauge
- Temperature gauge, engine
- Oil pressure gauge, engine
- Temperature gauge, hydraulic transmission
- Oil pressure gauge, hydraulic transmission
- Hour counter
- Spark-arresting muffler
- Master switch, electrical system
- Alternator
- Air cleaner with dust ejector
- Pilot lamps for:
 - Charging, high beam, turn signals, engine oil pressure, parking brake, air brakes, air cleaner



Power transmission

Full power shift transmission with torque converter
Valve for disengaging transmission during braking



Hydraulic system

Triple pump — gear pumps for working hydraulics and steering system

OPTIONAL EQUIPMENT

- Working lights (beyond standard)
- Air conditioner
- Extra fuel filter
- ENR equipment
- Cab heater (beyond standard)
- Cooling water filter, engine
- Heavy-duty air cleaner
- Lifting eyes for shipping
- Electric engine block heater
- Emergency steering with road-dependent pump
- Extra counterweights
- Front windshield washer
- Log grapple 2.0 m² (21.5 ft²)
- Pulpwood grapple 3.25 m² (35 ft²)
- Pulpwood grapple 2.8 m² (30 ft²)
- Whole stem grapple 0.2–2 m² (2.2–21.5 ft²)
- Sun visor
- Seat belt
- Safety catch
- Fourth gear lock
- Turbocharging for altitudes > 2 000 m above sea level
- Warning beacon
- Collapsible bracket for warning beacon

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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