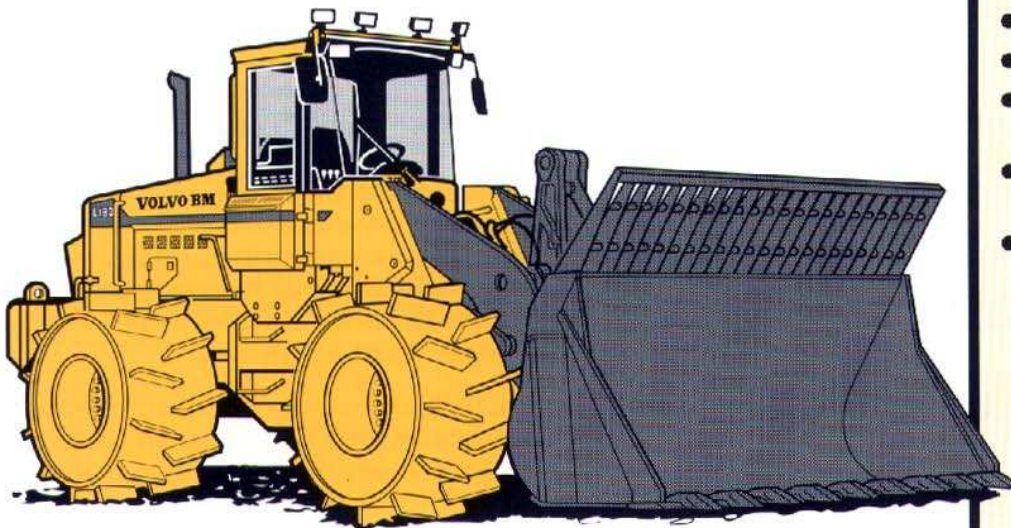




# Volvo BM L180 Compactor



- **Engine:** Volvo TD 122
- **Operating weight:** 28,5 t (62800 lb)
- **Buckets:** 4,6 m<sup>3</sup> (6,0 yd<sup>3</sup>)

***For modern and rational waste handling – built for tough duty***

- *Breaks up, moves and compacts the waste*
- *Digs, carries and spreads the cover material*
- *Large compactor wheels with knife-shaped pads*
- *Effective guards that protect the machine's sides and bottom*
- **Care Cab** – the cab with unbeatable comfort and safety
- **Contronic** monitoring system
- Enclosed wet oil-cooled brakes
- Automatic Power Shift
- Sturdy and easily operated precision steering
- Pilot-operated hydraulic system
- Direct-injection turbocharged Volvo diesel – available in a low-emission high-performance version as an alternative

## **VOLVO BM**





## SERVICE

**Contronic** monitoring system gives: Information on regular service. Minimized time for troubleshooting. Information on the condition of the machine.

**Service accessibility:** Swing-out radiator. Hydraulically openable doors in the underbody protection plates. Inspection doors in the engine's side panels. Long lubrication and oil-change intervals.

Fuel tank	339	l	(74,5 UK gal)
Hydraulic tank	165	l	(36,3 UK gal)



## ENGINE

Engine delivers high and uniform torque even at low rpms. Quick response from low rpms even under full load. Low max. speed contributes to better fuel economy, less noise, less wear and longer life.

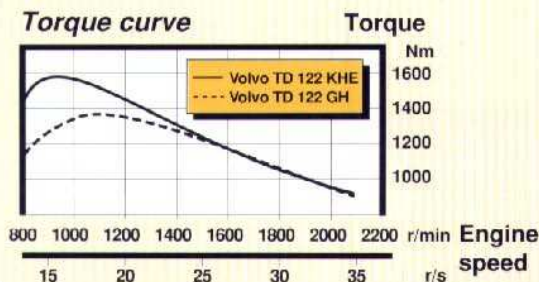
**Engine:** Volvo TD 122, a straight, 6-cylinder, direct-injection, turbocharged 4-stroke diesel engine with wet, replaceable cylinder liners.

**Air cleaning:** three-stage.

Engine	TD 122GH	TD 122KHE <sup>*</sup>		
Gross output at	33,3 (2000)	35,0 (2100)	r/s (r/min)	
SAE J1349	211 (289)	209 (284)	kW (hp)	
Flywheel output at	33,3 (2000)	35,0 (2100)	r/s (r/min)	
SAE J1349 and				
DIN 70020 / 6271	202 (275)	198 (269)	kW (hp)	
Max. torque at	18,3 (1100)	15 (900)	r/s (r/min)	
SAE J1349 Gross	1390(1025)	1580(1165)	Nm (lbf ft)	
Displacement, total	12,0 (733)	12,0 (733)	l (in <sup>3</sup> )	

<sup>\*</sup>) Low-emission high-performance engine

**Torque curve**



## ELECTRICAL SYSTEM

Reliable and service-friendly. Well protected with fuses. Prepared for retrofitting of optional equipment.

**Monitoring system:** **Contronic**, complete information on the status of the machines various systems.

**Central warning:** Central warning lamp for the most important functions.

Voltage	24	V	
Batteries	2x12	V	
Battery capacity	2x140	Ah	
Alternator rating	1680 / 60	W/A	
Starter-motor output	6,6	kW	(9,0 hp)



## DRIVE TRAIN

Well-matched drivetrain and working hydraulics. Dependable design. High tractive force and very good off-road mobility provides effective compaction. The highly rigid torque converter provides higher tractive force in the lower speed range. System-compatible design facilitates service.

**Torque converter:** Single-stage

**Transmission:** VME power shift transmission of counter-shaft type with single-lever control. Fast and smooth forward/reverse shift.

\*Compaction will normally be done operating in 1:st or 2:nd gear at speeds 6-7 km/h. Travel speeds will vary depending on ground conditions and type of compactor wheels.

**Shifting system:** Volvo BM Automatic Power Shift (APS).

**Axes:** VME, fully floating half-shafts with planetary-type hub reduction gears. One-piece cast-steel axle housing. Fixed front axle and oscillating rear axle.

**Differential:** 100% differential lock on front axle.

Transmission	VME / HT 220
Torque converter	2,22 : 1
Speeds	
forward/reverse	
1	4,6 km/h (2,8 mile/h)
2	7,8 km/h (4,8 mile/h)
3	7,5 km/h (4,6 mile/h)
Front and rear axes	VME / AWB 40
Oscillation	±12 °
Ground clearance at 12° oscillation	550 mm (22,0 in)



## BRAKE SYSTEM

Simple, reliable system with few parts ensures high availability and safety. Fully enclosed design, protected against dirt and contamination from the outside. Self-adjusting wet disc brakes give long service intervals. The brake system is connected to Contronic for positive monitoring of the brake functions.

**Service brakes:** VME, dual-circuit system with accumulators. Enclosed wet circulation-cooled disc brakes with all-hydraulic operation. Transmission cut-out upon braking can be pre-selected.

**Parking brake:** Enclosed wet disc brake built into transmission. Spring-loaded application. Hydraulic release.

**Reserve brake:** One of the two circuits or the parking brake will satisfy the safety requirements.

The brake system complies with the requirements of ISO 3450, SAE J1473 and EG 71/320.





## STEERING SYSTEM

*Low-power system for good fuel economy. Prompt response. Good directional stability and smooth ride.*

**Steering system:** Load-sensing hydrostatic articulated steering with power boost.

**System supply:** The steering system is supplied from a separate steering pump.

**Pump:** Variable-flow axial piston pump mounted on a power take-off on the transmission.

**Cylinders:** Two double-acting cylinders.

Working pressure	21	MPa	(3050 psi)
Flow	116,6	l/min	(25,6 UK gal/min)
Max. steering angle	± 37	°	



## CAB

**Care Cab** - the easy-entry cab with the wide door opening. Lined with sound-absorbent material. Sound- and vibration-suppressing suspension.

*Good all-round visibility, large glazed areas. Curved windshield of laminated, green-tinted glass.*

*Ergonomically located controls permit better operating position.*

**Instrumentation:** All information important to the operator is readily visible in front of him. Cab display for **Contronic** monitoring system (optional equipment).

**Heater and defroster:** Heating element with filtered fresh air and four-speed fan. Defroster outlets for all windows.

**Operator's seat:** Sprung, adjustable seat with lap belt. The seat is hung on a bracket on the rear wall. The force from the lap belt is absorbed by the seat rails. A horizontal plane damper which dampens side movements is mounted under the seat.

Emergency exits	3		
Sound level in cab			
as per ISO 6396, max.	-	dB (A)	
Ventilation	10	m <sup>3</sup> /min	(353 ft <sup>3</sup> )
Heating capacity	11	kW	(37500 Btu/h)

Tested and approved as per the following standards: ROPS (ISO/CD 3471-1990, SAE J1040 ), FOPS (ISO 3449, SAE J231). Complies with "Overhead guards for rider lift trucks" (ISO 6055) and "Operator Restraint System" (SAE J386).



## HYDRAULIC SYSTEM

*High pump capacity gives fast movements. Good control in all working positions, even when working with heavy loads. Precision control of attachments.*

**Hydraulic system:** Open center system with pilot-operated hydraulic valve.

**Pump:** A single vane pump mounted on a power take-off on the transmission.

**System supply:** The pilot system is fed from a separate pilot pump, shared by the brake system.

**Valve:** Double-acting 3-spool valve. The control valve is actuated by a 3-spool pilot valve.

**Lift function:** The valve has four positions: Raise, neutral, lower and float. Inductive/magnetic automatic boom kick-out can be switched on and off, adjustable for any position between maximum reach and full lift height.

**Tilt function:** The valve has three positions: Rollback, neutral and dump. Inductive/magnetic automatic bucket positioner can be switched on and off, adjustable to any desired bucket angle.

**Filters:** Full-flow filtration through 10 µm filter cartridge.

### Main pump

Relief pressure	22,5	MPa	(3362 psi)
Flow	313,4	l/min	(68,9 UK gal/min)
at	10	MPa	(1450 psi)
and engine speed	35,0	r/s	(2100 r/min)

### Pilot pump

Relief pressure	3,0-4,5	MPa	(435-652 psi)
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## LIFT-ARM SYSTEM

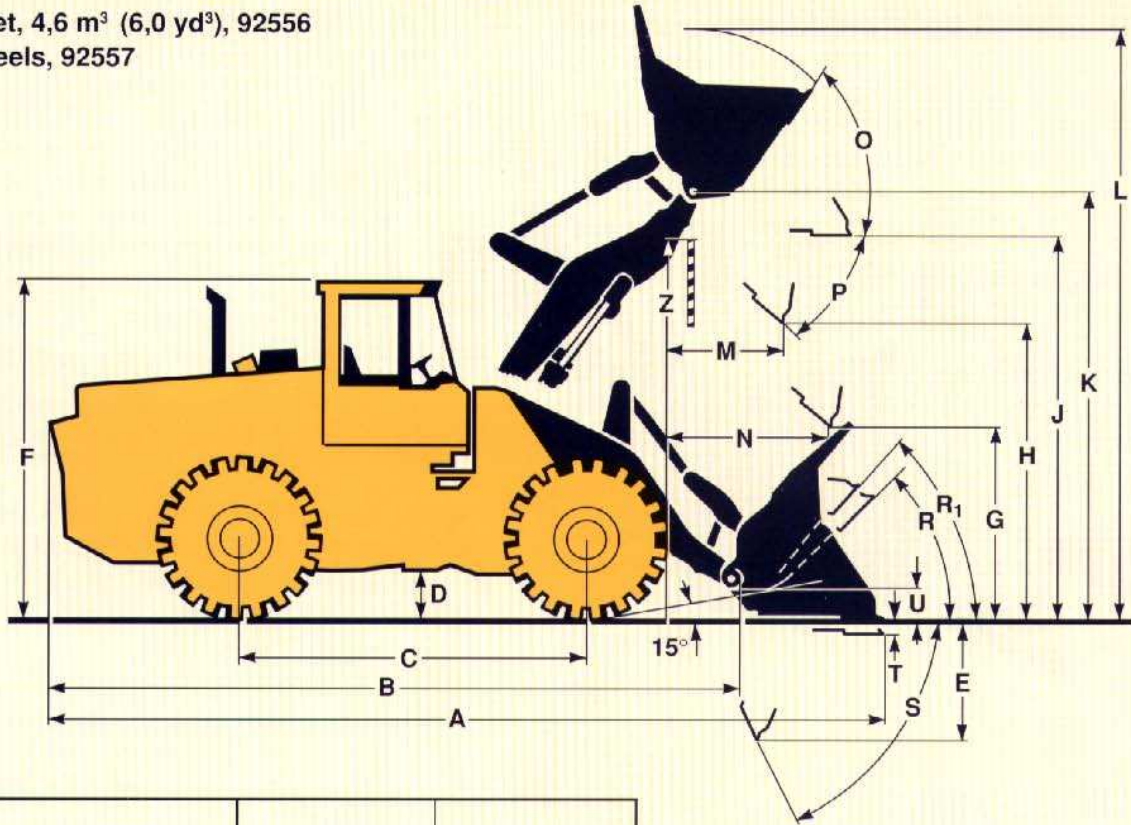
**Torque Parallel Linkage** - with very high breakout force throughout the working range. Good parallel lift-arm action with both level and fully angled-up bucket throughout the entire lifting range.

**Cylinders:** Double-acting. Lift cylinders mounted in line with lift-arms. Tilt cylinder mounted between lift-arms.



## DIMENSIONAL DATA

**Pin-on bucket, 4,6 m<sup>3</sup> (6,0 yd<sup>3</sup>), 92556**  
**Chopper wheels, 92557**



### Buckets

Mounting/Bucket type			*)	*)
Volume, heaped	m <sup>3</sup>	(yd <sup>3</sup> )	4,6	(6,0)

### Performance

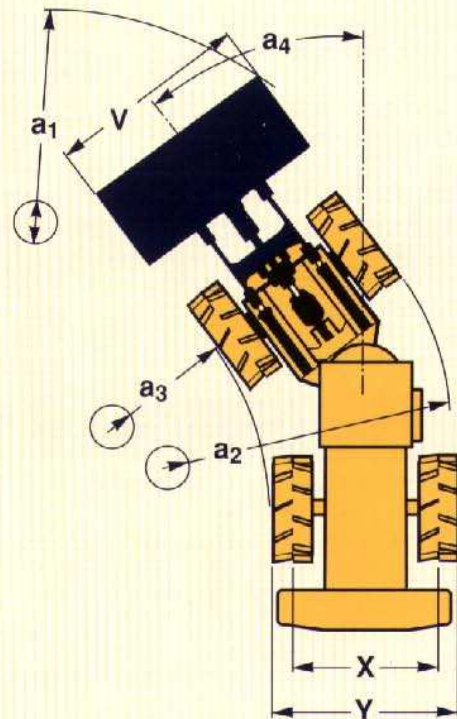
Breakout force	kN	(lbf)	182	(40690)
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### Dimensions

A	mm	(ft in)	8300	(27'3")
B	mm	(ft in)	6800	(22'4")
C	mm	(ft in)	3550	(11'8")
D	mm	(ft in)	520	(1'9")
E	mm	(ft in)	1240	(4'1")
F	mm	(ft in)	3600	(11'10")
G	mm	(ft in)	2135	(7')
H	mm	(ft in)	3230	(10'7")
J	mm	(ft in)	4140	(13'7")
K	mm	(ft in)	4520	(14'10")
L	mm	(ft in)	6700	(21'11")
M	mm	(ft in)	1255	(4'1")
N	mm	(ft in)	1950	(6'5")
O	°		57	57
P	°		45	45
R	°		45	45
R <sub>1</sub> **)	°		48	48
S	°		71	71
T	mm	(ft in)	50	(2")
U	mm	(ft in)	520	(1'9")
V	mm	(ft in)	3500	(11'6")
X	mm	(ft in)	2470	(8'1")
Y	mm	(ft in)	3320	(10'10")
Z	mm	(ft in)	4030	(13'3")
a <sub>1</sub> clearance circle	mm	(ft in)	15100	(49'6")
a <sub>2</sub>	mm	(ft in)	6970	(22'10")
a <sub>3</sub>	mm	(ft in)	3650	(11'11")
a <sub>4</sub>	± °		37	37

### Weight

Weight distribution				
front	kg	(lb)	14700	(32400)
rear	kg	(lb)	13800	(30400)
Operating weight		(lb)	28500	(62800)



\*) Pin-on straight bucket without teeth with pre-drilled cutting edge for assembly of edge savers or teeth with bolted adapters. The bucket is fitted with a high mesh refuse spillguard.

\*\*) Carrying position SAE

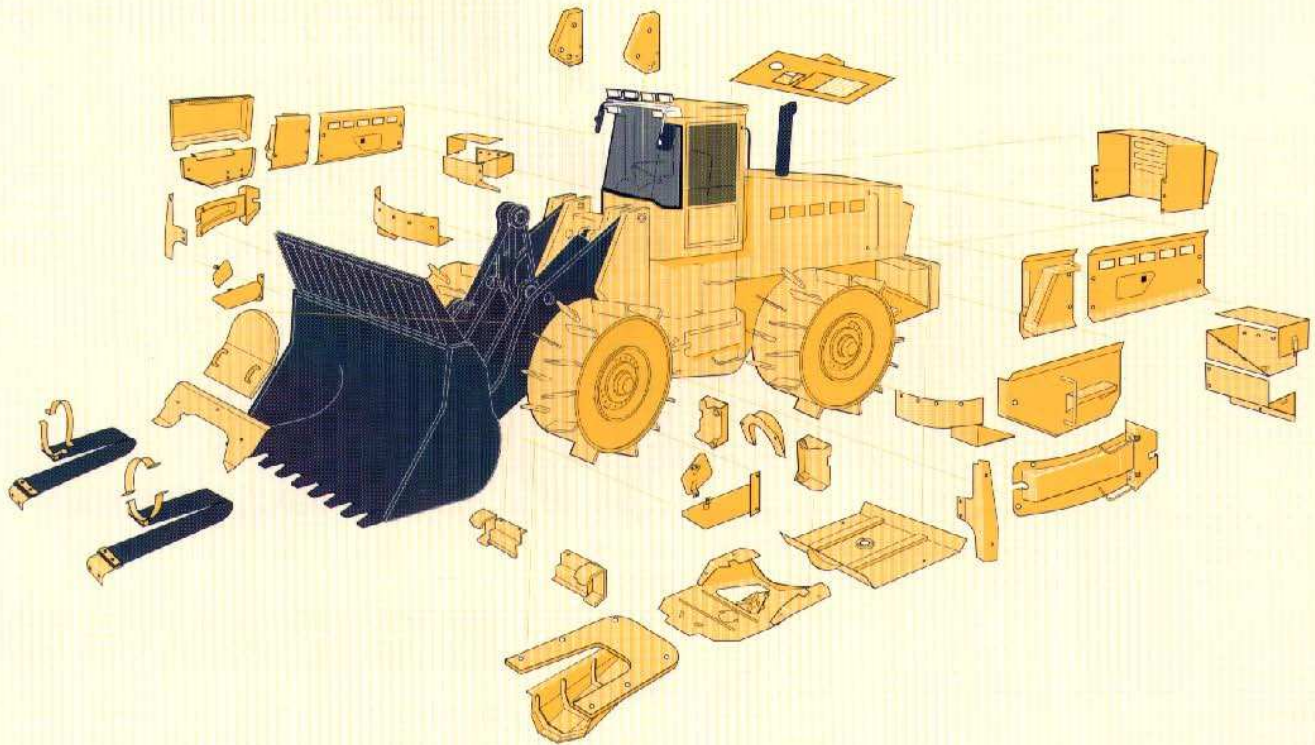
Order No.

92556



## PROTECTION PLATES

*Effective guards boost productivity*



### Protection plates and re-inforced access doors

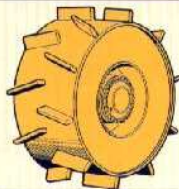
- Guard plates on front frame
- Brake tube guards on front and rear axles
- Sturdier radiator grill and air intake
- Guards for lift cylinders and front frame
- Reinforced battery box and guard for battery box
- Cab guard
- Sturdier access door over cab filter
- Sturdier front access door in front frame

- Sturdier side access doors
- Reinforced protection plate under fuel tank
- Sturdier underbody protection plates with hydraulically openable doors to facilitate cleaning
- Protective grills for rear lights
- Guards for center hinge and propeller shaft
- Guards for steer cylinders, fold-out, with foot-steps
- Protection plates for the compactor's sides, with foot-steps and handles
- Protection plate for upper access door on engine hood

### Other protective measures

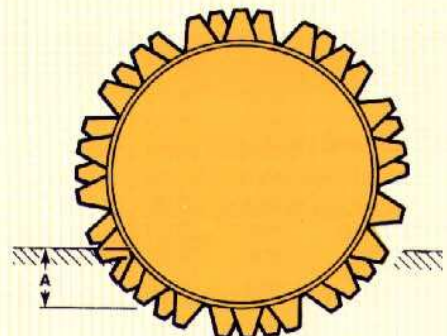
- Diff lock connector removed from front axle
- Lights moved from front frame to holder on front of cab roof

## COMPACTOR WHEELS / GROUND PRESSURE



### Compactor wheels with knife-shaped pads

Order No			92557	
Drum width	mm	(in)	850	(33,4)
Drum diameter	mm	(in)	1400	(55,1)
Pad height	mm	(in)	168	(6,6)
Number of pads			24	
Ground pressure area	cm <sup>2</sup>	(in <sup>2</sup> )	6130	(950)
Ground pressure				
Front*)	kp/cm <sup>2</sup>	(psi)	1,19	(17,0)
Rear*)	kp/cm <sup>2</sup>	(psi)	1,12	(16,0)
Pounds per linear inch	PLI	PLI	472	472



The method of calculating the ground pressure of a compactor in this case involves deducing the projected wheel drum area against the ground at various depths of penetration into the surface and relating the result to the axle loading of that wheel.

\*) Wheels sinking into surface. A = 100 mm (4 in).



## STANDARD EQUIPMENT

### Service and maintenance equipment

Hydraulically openable doors in the underbody protection plates

### Electrical equipment

Contronic monitoring system  
Cable, service display  
Battery disconnect switch  
Alternator  
Temperature gauge, engine  
Temperature gauge, hydraulic  
Fuel gauge

#### Lighting:

working lights, front (two, halogen)  
working lights, rear (two, halogen)  
brake lights  
rear lights  
cab lighting  
instrument lighting  
Hour recorder  
Air cleaner with ejector discharge  
Horn

Control and warning lamps for:  
working lights, front/rear  
charging  
oil pressure, engine  
hydraulic oil pressure, transmission  
differential lock  
parking brake  
brake pressure  
hazard warning flashers  
air cleaner  
hydraulic oil filter, transmission  
rotating beacon

#### Central warning (with buzzer):

oil pressure, engine  
temperature, engine (with buzzer)  
hydraulic oil pressure, transmission  
temperature, transmission  
hydraulic oil filter, transmission  
brake pressure  
temperature/brake cooling, front and rear axles (buzzer)  
parking brake (buzzer)  
secondary steering (optional)

### Transmission equipment

Differential lock, front axle  
Circulation cooling, brakes, front and rear axles  
Power Shift transmission  
Automatic Power Shift (APS)  
Single-lever shift control

### Compactor wheels

Knife-shaped pads (850 mm) (2' 9")

### Cab equipment

ROPS and FOPS cab  
Cab heater with filter-equipped fresh-air intake and defroster  
Tinted glass  
Ergonomically designed and adjustable operator's seat with lap belt  
Horizontal plane damper  
Rear-view mirror, external, 2  
Rear-view mirror, internal, 1  
Utility box in cab  
File holder

Instrument panel with symbol markings  
Sun visor  
Safety start  
Flasher unit, hazard warning  
Windshield wiper, front and rear  
Interval wiper  
Ashtray  
Cigarette lighter  
Opening window, right  
Radio panel, without radio

### Hydraulic equipment

Control valve (3-spool), 2  
Hydraulic oil cooler  
Vane pump

### Protective equipment

See illustration and text under section PROTECTION PLATES

### Other equipment

Lift fittings

## OPTIONAL EQUIPMENT (Standard on certain markets)

### Service and maintenance equipment

Tool kit  
Wheel-nut wrench kit

### Engine equipment

Electric engine heater  
Low-emission version  
Preheating coil  
Coolant filter

### Electrical equipment

Rotating beacon  
Extra working light, rear (two), halogen  
Air horn  
Acoustic back-up alarm  
Extra working light (4) roof mounted, halogen

### Cab equipment

Radio  
Installation kit for radio (loudspeaker, antenna, etc)  
Instructor's seat  
Electrically heated operator's seat  
Air-sprung operator's seat  
Windshield washers, front and rear  
Dual brake pedals  
Hand throttle  
Seatbelt retractable  
Sliding vent window  
Air conditioning  
Tilttable steering wheel

### Information panel (Contronic):

Start picture, settings for language and units, operating hours, general operating information, stopwatch/trip meter, cycle counter, service interval  
engine  
electrical system  
transmission  
axles/brakes

### Hydraulic equipment

3rd hydraulic control

### External equipment

Towing hitch

### Other equipment

Comfort Drive Control (CDC)  
Fueling strainer  
Hydraulic attachment bracket incl. separate attachment locking

We reserve the right to change specifications and design without prior notice. The illustrations do not always show a machine with standard equipment.

Specifications and dimensional data conform in applicable parts to ISO 7131, SAE J732, ISO 7546, SAE J742, ISO 5998, SAE J818.

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