Volvo BM L150

- ***Motoreffekt brutto:***
  SAE J1349 180 kW (245 hk)
- ***Maskinvikt:***
  20,6-25,4 t (45 500-56 000 lb)
- ***Skopor:***
  3,5-12,0 m³ (4,6-15,7 yd³)

Kapacitetslastaren för de tuffa jobben

- *Torque Parallel Linkage – Kraftfullt lyftarmssystem med:*
  - *unikt brytmoment*
  - *utmärkt parallellföring*
  - *stor lyfthöjd och lång räckvidd*
- *Direktinsprutad turbomatad Volvodiesel*
- *Automatic Power Shift*
- *Kapslade våta cirkulationskylda bromsar*
- *Care Cab – hytten med hög komfort och säkerhet*
- *Stabil och lättmanövrerad precisionsstyrning*
- *Contronic övervakningssystem*
- *Pilotmanövrerat hydraulsystem*
  - *Hydrauliskt redskapsfäste*

VOLVO BM

SERVICE

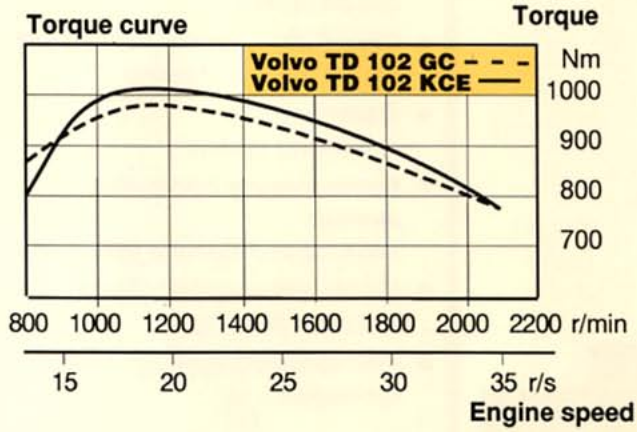
Contronic *monitoring system gives: Information on regular service. Minimized time for troubleshooting. Information of the condition of the machine.*
Service accessibility: Large, easy-to-open engine access panels with gas struts. Hinged radiator grill and radiator.

Fuel tank	**339**	**l**	(94,1 UK gallon)
Hydraulic tank	**165**	**l**	(45,8 UK gallon)

ENGINE

Engine delivers high torque even at low rpm. Quick response from low rpm even under full load.
The machine can work at low engine speeds, which contributes to good fuel economy, less noise, less wear and longer life.
Engine: Volvo TD 102 GC or Volvo TD 102 KCE*), 6-cylinder, in line, direct-injected, turbocharged 4-stroke diesel engine with wet replaceable cylinder liners.
Air cleaning: three-stage.
**) Low-emission high-performance engine*

Engine			**TD 102 GC**		**TD 102 KCE**	
Flywheel output at	**r/s**	(r/min)	**35,0**	(2100)	**35,0**	(2100)
SAE J1349/ISO 9249 net	**kW**	(hp)	**170**	(231)	**172**	(234)
Max. torque at	**r/s**	(r/min)	**20**	(1200)	**18,3**	(1100)
SAE J1349/ISO 9249 net	**Nm**	(lbf ft)	**980**	(727)	**1010**	(745)
Displacement	**l**	(in^3)	**9,6**	(586)	**9,6**	(586)



ELECTRICAL SYSTEM

Contronic *monitoring system with complete information on the status of the machine's various systems. Electrical system with circuit board well protected by fuses. Prepared for retrofitting of optional equipment.*

Voltage	24	V	
Batteries	2x12	V	
Battery capacity	2x140	Ah	
Alternator rating	1680 / 60	W / A	
Starter motor output	**5,4**	**kW**	(7,3) (hp)

DRIVE TRAIN

Drivetrain and working hydraulics well-matched to each other. Dependable design. Quick acceleration boosts productivity. Volvo BM system-compatible design facilitates service.

Torque converter: Single-stage

Transmission: Volvo BM Power Shift transmission of countershaft type with single-lever control. Fast and smooth forward/reverse shifting.

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

Axles: Volvo BM, fully floating axle shafts with planetary-type hub reductions. Cast-steel axle housing. Fixed front axle and oscillating rear axle. 100% differential lock on front axle.

Tires: Alternative tires are available for different work operations.

Torque multiplication			2,4:1		
Transmission, make			Volvo BM		
Model			HT 210		
Speeds					
forward/reverse					
1	**6,4**	**km/h**	(4,0)	(mile/h)	
2	**11,8**	**km/h**	(7,3)	(mile(h)	
3	**23,3**	**km/h**	(14,5)	(mile/h)	
4F	**33,9**	**km/h**	(21,0)	(mile/h)	
Measurement with tires			26.5 - 25		
Front axle, make			Volvo BM		
Model			AWB 40		
Rear axle, make			Volvo BM		
Model			AWB 40		
Oscillation	±°		15		
Ground clearance at 15° oscillation	**610**	**mm**	(24,0)	(in)	

BRAKE SYSTEM

Simple, reliable system with few parts ensures high availability and safety. Self-adjusting internal oil circulation-cooled disc brakes give long service intervals.

Service brakes: Volvo BM fully hydraulically operated, enclosed wet circulation oil-cooled disc brakes. Transmission disengagement during braking pre-selected via a switch on the instrument panel.

Secondary brake: Dual-circuit system with rechargeable accumulators. One circuit or the parking brake fulfills the requirements.

Parking brake: Enclosed wet multi-disc brake built into the transmission. Spring-loaded application. Hydraulic release via a lever to the left of the operator.

Number of discs/wheel	1			
Accumulators,	3			
volume, each	**3**	**l**	(183)	(in^3)
Accumulator,	1			
volume, each	**0,5**	**l**	(30,5)	(in^3)

BUCKETS

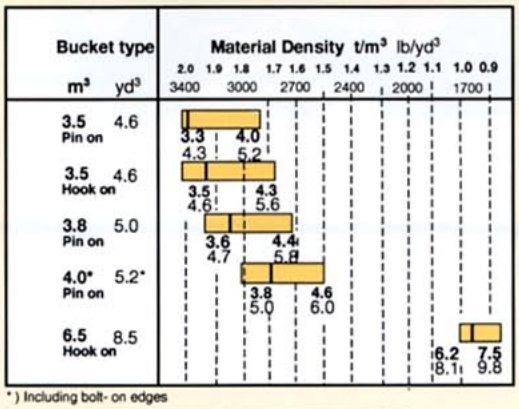
Specifications with 26,5 R25* and counter-weight 1		Standard buckets							High tip	Coal/snow Wood chips
										
Volume, heaped	m^3 (yd^3)	**4,0** (5,2)	**3,8** (5,0)	**3,8** (5,0)	**3,8** (5,0)	**3,5** (4,6)	**3,5** (4,6)	**3,5** (4,6)	**3,5** (4,6)	**6,5** (8,5)
Wolume, with bolt-on edges	m^3 (yd^3)	**–** –	**–** –	**4,0** (5,2)	**4,0** (5,2)	**–** –	**–** –	**–** –	**3,7** (4,8)	**6,8** (8,9)
Tipping load, straight	kg (lb)	**15990** (35,250)	**16040** (35,360)	**16220** (35,760)	**15590** (34,370)	**16170** (35,650)	**15530** (34,240)	**15760** (34,740)	**14470** (31,900)	**14630** (32,250)
at 35° turn	kg (lb)	**14190** (31,280)	**14240** (31,390)	**14420** (31,790)	**13820** (30,470)	**14370** (31,680)	**13760** (30,340)	**13950** (30,750)	**12730** (28,060)	**12880** (28,400)
at full turn	kg (lb)	**13980** (30,820)	**14030** (30,930)	**14210** (31,330)	**13610** (30,000)	**14160** (31,220)	**13550** (29,870)	**13730** (30,270)	**12530** (27,620)	**12670** (27,930)
Breakout force	kN (lbf)	**165** (37,090)	**177** (39,790)	**178** (40,010)	**166** (37,320)	**184** (41,360)	**171** (38,440)	**156** (35,070)	**145** (32,600)	**117** (26,300)
A	mm (ft in)	**8450** (27'9")	**8350** (27'5")	**8110** (26'7")	**8200** (26'11")	**8300** (27'3")	**8380** (27'6")	**8490** (27'10")	**8380** (27'6")	**8740** (28'8")
L	mm (ft in)	**5960** (19'7")	**5890** (19'4")	**5895** (19'4")	**5940** (19'6")	**5820** (19'1")	**5880** (19'3")	**5890** (19'4")	**6680** (21'11")	**6160** (20'3")
V	mm (ft in)	**3000** (9'10")	**3200** (10'6")	**3200** (10'6")	**3200** (10'6")	**3200** (10'6")	**3200** (10'6")	**3200** (10'6")	**3200** (10'6")	**3200** (10'6")
a_1 clearance circle	mm (ft in)	**14780** (48'9")	**14900** (48'11")	**14730** (48'4")	**14780** (48'9")	**14880** (48'10")	**14930** (49'0")	**14750** (48'5")	**14870** (48'9")	**15080** (49'6")
E	mm (ft in)	**1210** (4'0")	**1130** (3'8")	**1125** (3'8")	**1205** (3'11")	**1080** (3'7")	**1160** (3'10")	**1250** (4'0")	**1370** (4'6")	**1690** (5'7")
H	mm (ft in)	**2900** (9'6")	**2960** (9'9")	**3120** (10'3")	**3060** (10'0")	**3000** (9'10")	**2940** (9'8")	**2870** (9'5")	**4620** (15'2")	**2700** (8'10")
M	mm (ft in)	**1420** (4'8")	**1360** (4'6")	**1175** (3'10")	**1240** (4'1")	**1320** (4'4")	**1390** (4'7")	**1470** (4'8")	**1370** (4'6")	**1650** (5'5")
N	mm (ft in)	**1950** (6'5")	**1910** (6'3")	**1795** (5'11")	**1840** (6'0")	**1890** (6'2")	**1930** (6'4")	**1975** (6'6")	**1920** (6'4")	**1990** (6'3")
Operating weight	kg (lb)	**21800** (48,060)	**21800** (48,060)	**21700** (47,900)	**22000** (48,500)	**21700** (47,840)	**22000** (48,500)	**22000** (48,500)	**22600** (49,820)	**22400** (49,380)

CHANGE IN DIMENSIONAL DATA

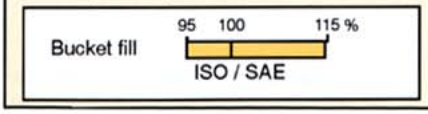
	Width mm (in)	Ground clearance mm (in)	Tipping load at full load kg (lb)	Operating weight kg (lb)
Tires 23.5-2525 XHA L3	**-164** (6,5)	**- 76** (3,0)	**-456** (1005)	**-548** (1210)
Without counterweight 1		– –	**-735*)** (1620)	**-375** (830)
Counterweight 2	– –	– –	**+1260** (2780)	**+600** (1320)

BUCKET SELECTION CHART

The volume of material handled is often greater than the bucket's ISO/SAE classification.
Refer to the material densities and bucket fill factor table prior to bucket selection.



*) Including bolt- on edges



***) Counterweight 1 = 375 kg** (830 lb) may be used in all handling.*
****) Counterweight 2 = 600 kg** (1320 lb) may only be used for stabilizing purposes within timber and pallet handling on a flat surface. Counterweight 2 replaces hydro-inflation of rear tires.*
***Combination of counterweights 1+2** may only be used in extreme cases for stabilizing purposes within timber and pallet handling with fork attachments. Only when working on a firm and flat surface.*

Material densities and bucket fill factor

Operating		Earth	Clay	Sand	Gravel	Rock
Bucket fill	%	100-115	110-120	100-110	100-110	75-100
Density	t/m³	**1.4-1.6**	**1.4-1.6**	**1.6-1.9**	**1.7-1.9**	**1.5-1.9**
Density	(lb/yd³)	2400-2700	2400-2700	2700-3200	2900-3200	2500-3200

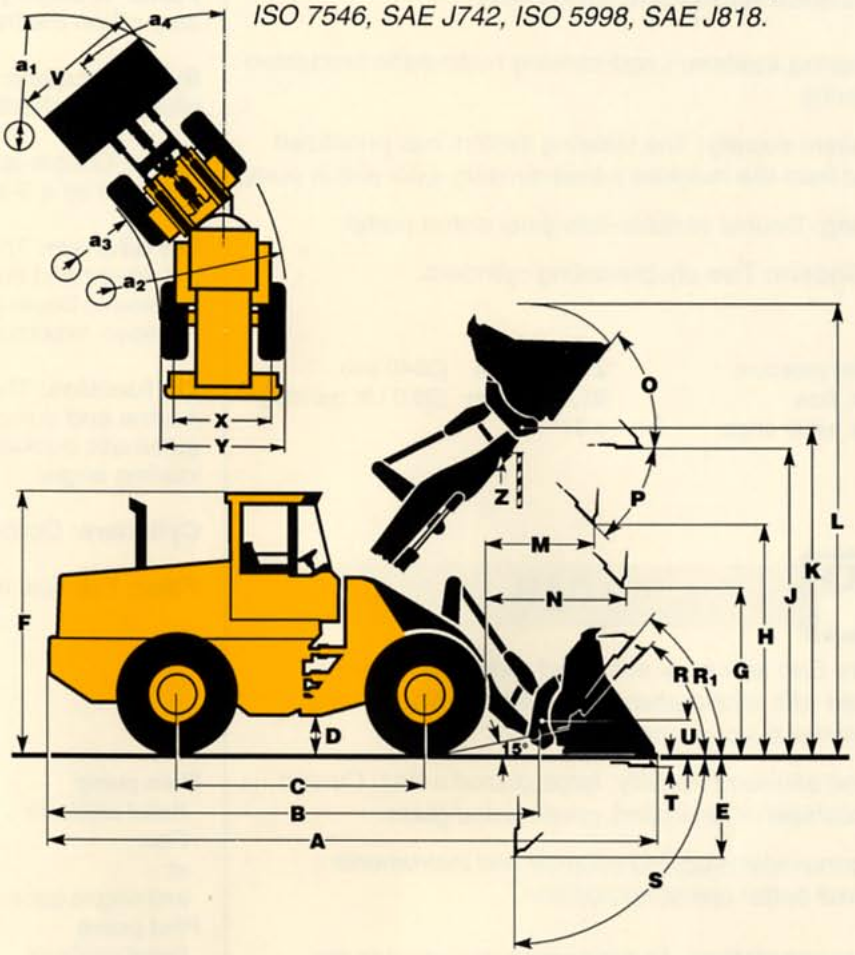
DIMENSIONS VOLVO BM L150

B	**6713**	**mm**	(ft in)	(22')
C	**3550**	**mm**	(ft in)	(11'8")
D	**480**	**mm**	(ft in)	(1'7")
F	**3560**	**mm**	(ft in)	(11'8")
G	**2135**	**mm**	(ft in)	(7')
J	**3945**	**mm**	(ft in)	(12'11")
K	**4531**	**mm**	(ft in)	(14'3")
O	**58**	°		
P	**45**	°		
R	**44**	°		
R_1	**47**	°		
S	**66**	°		
T	**72**	**mm**	(ft in)	(0'3")
U	**363**	**mm**	(ft in)	(1'2")
X	**2280**	**mm**	(ft in)	(7'6")
Y	**2953**	**mm**	(ft in)	(9'8")
Z	**3920**	**mm**	(ft in)	(12'10")
a_2	**6781**	**mm**	(ft in)	(22'3")
a_3	**3828**	**mm**	(ft in)	(12'7")
a_4	**37**	±°		

*Carrying position SAE

Tires: 26.5 R 25*

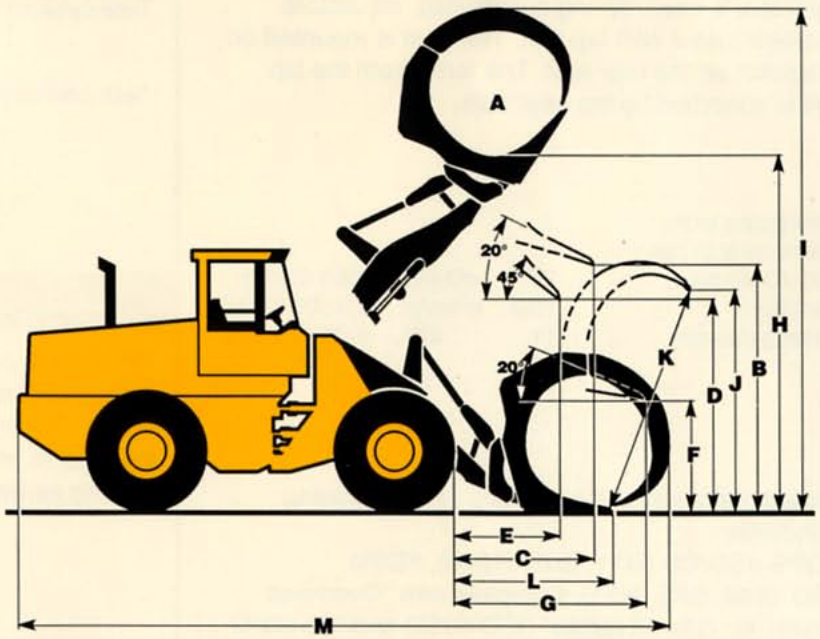
Where applicable, specifications and dimensions are in accordance with ISO 7131, SAE J732, ISO 7546, SAE J742, ISO 5998, SAE J818.



SORTING GRAPPLE

A	**2,9**	**m²**	(ft in²)	(31)
B	**3660**	**mm**	(ft in)	(12'0")
C	**2120**	**mm**	(ft in)	(6'11")
D	**2950**	**mm**	(ft in)	(9'8")
E	**1660**	**mm**	(ft in)	(5'5")
F	**1620**	**mm**	(ft in)	(5'4")
G	**2940**	**mm**	(ft in)	(9'8")
H	**5000**	**mm**	(ft in)	(16'5")
I	**7250**	**mm**	(ft in)	(23'9")
J	**3000**	**mm**	(ft in)	(9'10")
K	**3280**	**mm**	(ft in)	(10'9")
L	**2290**	**mm**	(ft in)	(7'6")
M	**9440**	**mm**	(ft in)	(31')

Operating weight **21260 kg** (46870 lb)



STEERING SYSTEM

Low-effort steering gives short work cycle time. Power-efficient system for good fuel economy. Good directional stability and smooth ride.

Steering system: Load-sensing hydrostatic articulated steering.

System supply: The steering system has prioritized feed from the machine's load-sensing axial piston pump.

Pump: Double variable-flow axial piston pump.

Cylinders: Two double-acting cylinders.

Relief pressure	**21**	**MPa**	(3040 psi)
Max. flow	**91,4**	**l/min**	(20,0 UK gal/min)
Max. steer ange	± 37		

CAB

Care Cab with easy entry and 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 and instruments 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: Spring suspended, adjustable operator's seat with lap belt. The seat is mounted on a bracket on the rear wall. The force from the lap belt is absorbed by the seat rails.

Emergency exits	3		
Sound level in cab (ISO 6396) max.	**75**	**dB (A)**	(353 ft³/min)
Ventilation	**10,3**	**m³/min**	(37500 Btu/h)
Heating capacity	**11**	**kW**	(24000 Btu/h)

Tested and approved according to the following standards:
ROPS (ISO/CD 3471, 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

Open centre system with pilot-operated hydraulic valve.

Pump: A single pump (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 positons: Raise, neutral, lower and float. Disengageable inductive/magnetic automatic boom kick-out, adjustable for any position between maximum reach and full lift height.

Tilt function: The valve has three positions: Rollback, neutral and dump. Disengageable inductive/magnetic automatic bucket positioner, adjustable to any desired loading angle.

Cylinders: Double-acting.

Filter: Full-flow filtration through 10µm. filter cartridge.

Main pump			
Relief pressure	**21**	**MPa**	(3046 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)
Flow	**25,1**	**l/min**	(5,5 UK gal/min)
at	**10**	**MPa**	(1450 psi)
and engine speed	**35,0**	**r/s**	(2100 r/min)

Cycle times		
Raise time*	**6,7**	s
Dump time*	**1,9**	s
Lower time (empty)	**3,2**	s
Total cycle time	**11,8**	s

**with load as per ISO 5998 and SAE J818*

LIFT-ARM SYSTEM

TP Linkage combines high breakout torque throughout the working range with nearly exact parallel lift-arm action. These features, together with high lift height and long reach, make the lift-arm system ideal inbucket loading as well as in wood handling.

STANDARD EQUIPMENT

Safety & comfort

ROPS and FOPS cab
Cab heating with filtered fresh air intake and defroster
Tinted glass
Ergonomically designed and adjustable operator's seat with seat belt
Rear-view mirrors, external, two
Rear-view mirror, internal, one
Lighting:
- headlights, full and dipped beam, asymmetrical, halogen
- parking lights
- working lights, front (two), halogen
- working lights, rear (two), halogen
- brake lights
- rear lights
- cab lighting
- instrument lighting
- direction indicators

Utility box in cab
File holder
Instrument panel with symbols
Sun visor
Safety start
Lever lock for hydraulic levers
Mudguards
Hazard flashers
Windshield wipers, front and rear windows
Intermittent wipers, front
Horn
Cigarette lighter
Lifting lugs
Openable window, right
Radio console without radio
Extended lube points

Engine & electrical system

Contronic monitoring system, ECU
Battery disconnect switch
Alternator
Air cleaner with ejector discharge
Engine temperature gauge
Hydraulic transmission temperature gauge
Hour recorder
Fuel gauge
Tell-tale and warning lamps for:
- working lights, front/rear
- charging
- full-beam headlights
- direction indicators
- engine oil pressure
- transmisison oil pressure
- differential lock
- parking brake
- brake pressure
- hazard flashers
- air cleaner
- transmission hydraulic oil filter

Central warning (with buzzer):
engine oil pressure
brake pressure
parking brake (with buzzer)
engine temperature (with buzzer)
transmission temperature
transmission oil pressure
temperature front and rear axle/brake cooling (with buzzer)
secondary steering (optional)
transmission hydraulic oil filter

Drivetrain

Power Shift transmission
Automatic Power Shift (APS) (4F/3R)
Single-lever shift control
Differential lock, front axle
Internal circulation brake cooling, front and rear axle
Tires 26.5 R 25

Hydraulic system

Control valve (3-spool)
Pilot valve (3-spool)
Tilt position indicator
Boom kickout
Bucket positioner
Hydrualic oil cooler
Vane pump

OPTIONAL EQUIPMENT *(Standard on certain markets)*

Service and maintenance equipment
Tool kit
Wheel nut wrench set
Lockable tool box

Engine equipment
Electrical engine block heater
Low-emission version
Suction fan
Preheating coil
Oil-bath pre-cleaner
Cyclone pre-cleaner, "Turbo"
Coolant filter
Radiator, corrosion protected

Electrical equipment
Contronic Display
Rotating beacon with collapsible mount
Left-hand asymmetrical headlights (halogen)
Loud horn, electrically operated
Extra working lights, front (two), halogen
Extra working lights, rear (two), halogen
Attachment lights (halogen)
Back-up alarm
Light registration plate

Transmission equipment
Switch, forward/reverse shifting
Three speed version

Cab equipment
Radio
Assembly kit, radio (loudspeaker, antenna etc.)
Instructor's seat
Heated operator's seat
Air suspended operator's seat
Windshield washers, front/rear
Dual brake pedals
Hand throttle
Sliding vent window
Air conditioning
Speedometer
Tiltable steering wheel
Seat belt, retractable

Hydraulic equipment
3rd hydraulic control
Return line, 3rd hydraulic control
Electrical cable kit for 4th hydraulic control
Hydraulic attachment bracket incl. separate attachment locking
Boom lowering system
Boom Suspension System
Biodegradable hydrualic fluid

External equipment
Towing hitch
Covering mudguards
Counterweight 1
Counterweight 2

Protective equipment
Protective grilles for headlights
Prot, grilles for rear working lights
Protective grilles for rear lights
Screen for suction fan
Muffler guard
Windshield guard
Radiator fan cover
Radiator cover quard
Belly guard front, Belly guard rear
Protection guard under cab
Valve cover, front frame
External noise reduction kit

Other equipment
Secondary steering
Comfort Drive Control (CDC)
Fueling strainer
External brake oil cooling system, front and rear axles
Loadtronic

Tyres
26.5 R25
30/65 R25
23.5 R25

ATTACHMENTS, *for further information, see attachment catalogue*

Buckets
Straight bucket
Spade nose bucket
Rock bucket
Light materials bucket
High-dump light materials bucket

Timber grapples
Unloading grapple
Sorting grapple
General purpose grapple
Tree length grapple
Tropical timber grapple
Heel/kickout
Log pusher

Forks Equipment
Fork holder
Fork tines
Combination forks
Fork attachments with fixed tines
Materials handling arm

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