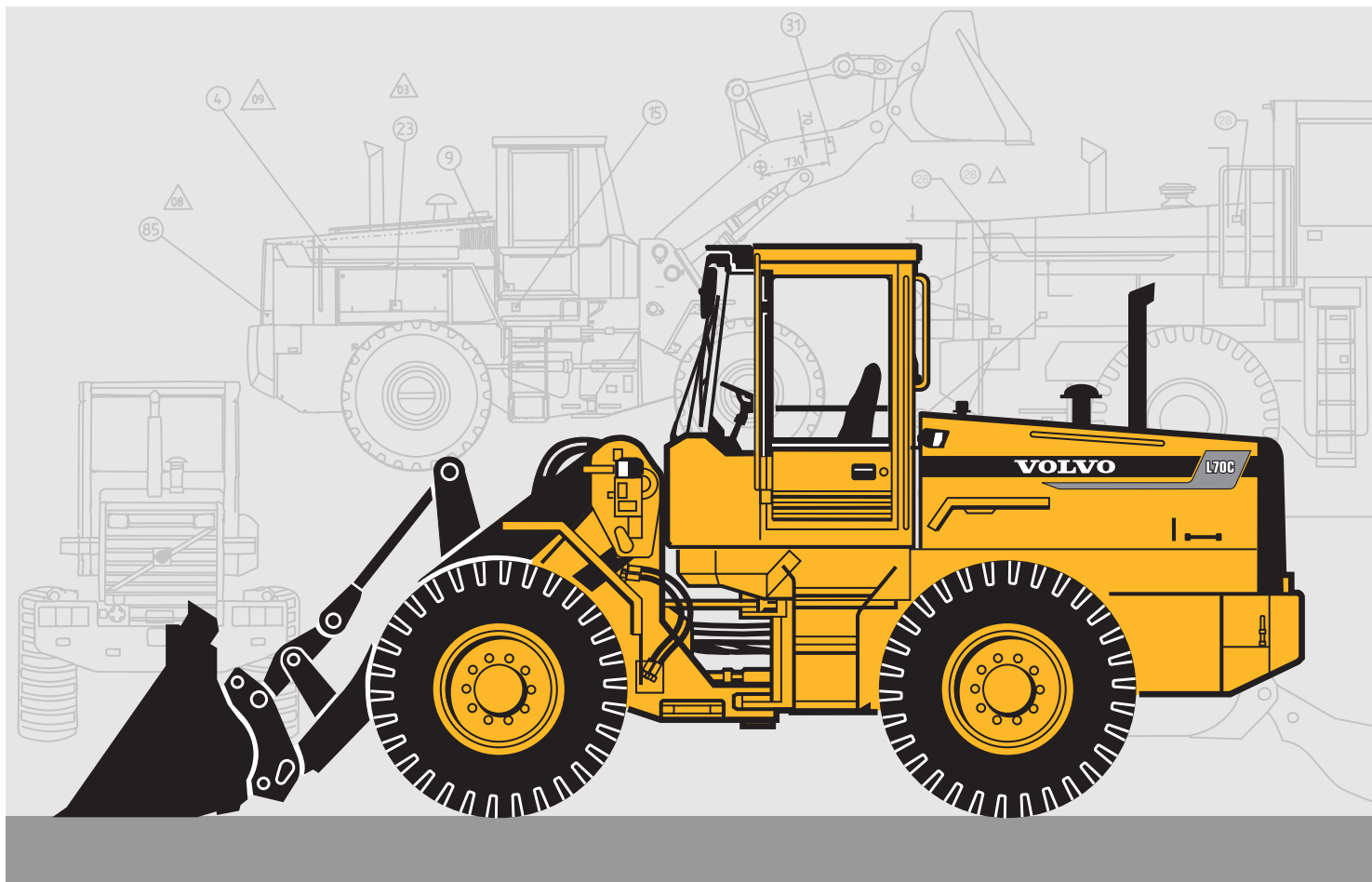


VOLVO WHEEL LOADER

L70C



- **Engine output SAE J1349:**
gross 96 kW (130 hp)
net 90 kW (122 hp)

- **Operating weight:** 10,5–11,8 t

- **Bucket volume:** 1,6–5,0 m³

- **Volvo transmission with APS II**

- 2nd generation Automatic Power Shift with mode selector
- optimises performance

- **Wet disc brakes**

- fully sealed oil-circulation cooled, outboard mounted

- **Torque Parallel Linkage**

- high breakout torque throughout the working range
- excellent parallel lift-arm action

- **Care Cab**

- pressurized cab with high comfort and safety

- **Contronic monitoring system**

- **Load-sensing** working hydraulics and steering system
- Pilot-operated working hydraulics

Optional equipment

- Hydraulic attachment bracket
- Power take-off for hydraulically powered attachments
- Boom Suspension System

VOLVO



SERVICE

Contronic monitoring system provides information on machine condition, routine maintenance schedules and minimizes time required for troubleshooting.

Service accessibility: Large, easy-to-open engine access doors with gas struts. Swing-out radiator grille and radiator.

Fuel tank	190 l	Transmission	17 l
Engine coolant	40 l	Engine oil	16 l
Hydraulic tank.....	65 l	Axle front / rear	24/24 l



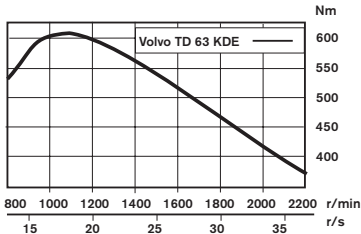
ENGINE

Engine delivers high torque and quick response at 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: High performance, low emission 6-cylinder, in-line, direct-injected, turbocharged, intercooled 4-stroke diesel engine with wet replaceable cylinder liners.

Air cleaning: three-stage.

Engine Volvo TD 63 KDE	
Flywheel output at	35 r/s (2 100 r/min)
SAE J1349 gross	96 kW (130 hp)
SAE J1349 net	90 kW (122 hp)
Max. torque at	18,3 r/s (1 100 r/min)
SAE J1349 gross	615 Nm
SAE J1349 net	610 Nm
Displacement	5,48 l



ELECTRICAL SYSTEM

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

Central warning: Central warning lamp for the following functions: engine oil pressure, engine coolant temperature (with buzzer), hydraulic oil pressure in transmission, transmission oil temperature, brake pressure, parking brake (buzzer), hydraulic oil level.

Voltage	24 V
Batteries	2x12 V
Battery capacity	2x105 Ah
Cold cranking capacity, ea.....	690 A
Reserve capacity, ea	185 min
Alternator rating	1 680 W / 60 A
Starter-motor output	5,4 kW (7,3 hp)



DRIVETRAIN

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

Torque converter: Single-stage

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

Shifting system: Volvo Automatic Power Shift (APS II) with mode selector.

Axles: Volvo, 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 (option).

Transmission	Volvo HT 90
Torque multiplication	2,85:1
Speeds, max forward/reverse	High Low (option)
1	7,0 km/h 1,9 km/h
2	14,0 km/h 3,7 km/h
3	26,0 km/h 7,3 km/h
4 (forward only)	44,0 km/h 13,6 km/h
Measured with tires	20.5 R25* L2
Front axle	Volvo / AWB 15
Oscillation, rear axle	±13°
Ground clearance at 13° oscillation	420 mm



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, dual-circuit system with nitrogen-charged accumulators. Fully hydraulically operated enclosed internal oil circulation-cooled disc brakes. Transmission declutch during braking can be preselected by a switch on the instrument panel.

Parking brake: Mechanically operated drum brake on front axle input shaft.

Secondary brake: Either of the service brake circuits or the parking brake fulfills the safety requirements.

Standards: The brake system complies with the requirements of ISO 3450, SAE J1473

Number of discs/wheel	1
Number of accumulators	3
Volume, each	0,5 l



STEERING SYSTEM

Low-effort steering gives short work cycle times. Power-efficient system provides 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.

Steering cylinders	2
Bore	63 mm
Piston rod diameter	40 mm
Stroke	370 mm
Relief pressure	21 MPa
Max. flow	80 l/min
Articulation	±40°



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 glass areas. Curved windshield of laminated, green-tinted glass. Ergonomically located controls and instruments permit a comfortable operating position.

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

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 belt. The seat is mounted on a bracket on the rear wall. The force from the belt is absorbed by the seat rails.

Standards: 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).

Emergency exits	2
Sound level in cab	
as per ISO 6396,	
max fan position	72 dB (A)
fan position 2	68 dB (A)
Ventilation	10 m ³ /min
Heating capacity	11 kW (37 500 Btu/h)
Air conditioning (optional)	8 kW (27 300 Btu/h)



HYDRAULIC SYSTEM

Load-sensing hydraulics distribute exactly the quantity of oil required for the function used. Load-sensing gives precise control of the hydraulics throughout the lifting range. High pump capacity provides quick movements.

Pump: The load-sensing double axial piston pump adjusts the oil requirements of the function used via indication through a load-sensing line. The flow is directed to the function used via a central valve block. Steering function always has priority.

Valve: Double-acting 2-spool valve. The control valve is actuated by a 2-spool pilot valve.

Lift function: The valve has four functions: raise, hold, lower and float. Inductive/magnetic automatic boom kickout can be switched on and off and is adjustable to any position between maximum reach and full lift height.

Tilt function: The valve has three functions: rollback, hold and dump. Inductive/magnetic automatic bucket positioner, that can be switched on and off.

Cylinders: Double-acting

Filter: Full-flow filtration through 20 µm (absolute) filter cartridge.

Axial piston pump	
Relief pressure	26,0 MPa
Flow	160l/min
at	10 MPa
and engine speed	36,7 r/s (2 200 r/min)
Pilot system	
Relief pressure	3,0 MPa
Cycle times	
Raise*	5,1 s
Dump*	1,3 s
Lower, empty	3,0 s
Total cycle time	9,4 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 equally as good in bucket loading as in work with fork attachments and material handling arms.

Lift cylinder	2
Bore	100 mm
Piston rod diameter	70 mm
Stroke	734 mm
Tilt cylinder	1
Bore	150 mm
Piston rod diameter	80 mm
Stroke	440 mm

OPERATIONAL DATA, VOLVO L70C

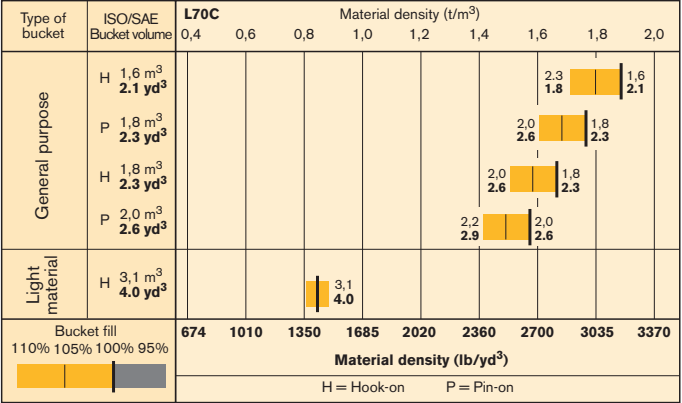
		GENERAL PURPOSE								LIGHT MATERIAL	
Tires 20.5 R25		 Bolt-on edges	 Bolt-on edges	 Bolt-on edges	 Bolt-on edges	 Teeth	 Teeth	 Teeth	 Teeth	 Bolt-on edges	 Bolt-on edges
Volume, heaped ISO/SAE	m³	1,9	1,9	1,7	1,7	1,8	1,8	1,6	1,6	3,1	5,0
Volume at 110% fill factor	m³	2,1	2,1	1,9	1,9	2,0	2,0	1,8	1,8	3,4	5,5
Static tipping load, straight	kg	7640	7180	7730	7260	7770	7310	7860	7390	6870	6960
at 35° turn	kg	6820	6380	6900	6450	6940	6500	7030	6580	6080	6140
at full turn	kg	6570	6130	6650	6210	6690	6250	6780	6330	5830	5890
Breakout force	kN	87,9	80,3	93,6	85,0	92,8	84,3	99,1	89,5	62,0	53,9
A	mm	6890	6980	6810	6910	7000	7090	6920	7020	7330	7550
E	mm	1000	1100	940	1030	940	1030	870	970	1430	1650
H*)	mm	2860	2800	2910	2850	2800	2730	2840	2780	2570	2430
L	mm	5050	5110	4990	5050	5050	5110	4990	5050	5280	5560
M*)	mm	970	1050	920	1000	1080	1160	1040	1100	1310	1500
N*)	mm	1550	1590	1530	1570	1630	1660	1600	1640	1630	1680
V	mm	2500	2500	2500	2500	2500	2500	2500	2500	2550	2650
a ₁ clearance circle	mm	11270	11320	11230	11280	11380	11440	11330	11390	11580	11810
Operating weight	kg	10880	11130	10830	11090	10820	11080	10780	11040	11240	11500
*) at 45° tipping angle		Including counterweight 1									

BUCKET SELECTION CHART

The choice of bucket is determined by the density of the material and the bucket fill factor. The TP Linkage uses a very open bucket design, has very good roll back in all positions plus fills the bucket very well. This means that the actual volume carried is often larger than the rated capacity of the bucket. Bucket fill factor in different materials and how they affect the actual bucket volume are shown below. **Example: Sand and gravel. Fill factor ~ 105%. Density 1,7 t/m³. Result: The 1,8 m³ bucket carries 1,9 m³. For optimum stability always consult the bucket selection chart.**

Material	Bucket fill, %		Material density, t/m³	ISO/SAE bucket volume, m³	Actual volume, m³
Earth/Clay	~ 110		~ 1,8 ~ 1,6 ~ 1,4	1,6 1,8 2,0	~ 1,8 ~ 2,0 ~ 2,2
Sand/Gravel	~ 105		~ 1,9 ~ 1,7 ~ 1,5	1,6 1,8 2,0	~ 1,7 ~ 1,9 ~ 2,1
Aggregate	~ 100		~ 1,9 ~ 1,7 ~ 1,6	1,6 1,8 2,0	~ 1,6 ~ 1,8 ~ 2,0
Rock	≤ 100		~ 1,7	1,6	~ 1,6

The size of rock buckets is optimized for optimal penetration and filling capability rather than the density of the material.



SUPPLEMENTAL OPERATING DATA

		Tires		Counterweight 2	Excl. Counterweight 1	Extended fenders
		17.5 R25* L2	600–26.5			
Width over tires	mm	–90	+175	–	–	–
Ground clearance	mm	–60	–65	–	–	–
Operating weight	kg	–330	–510	+360	–190	+200
Tipping Load, full turn	kg	–190	–380	+570	–330	+245

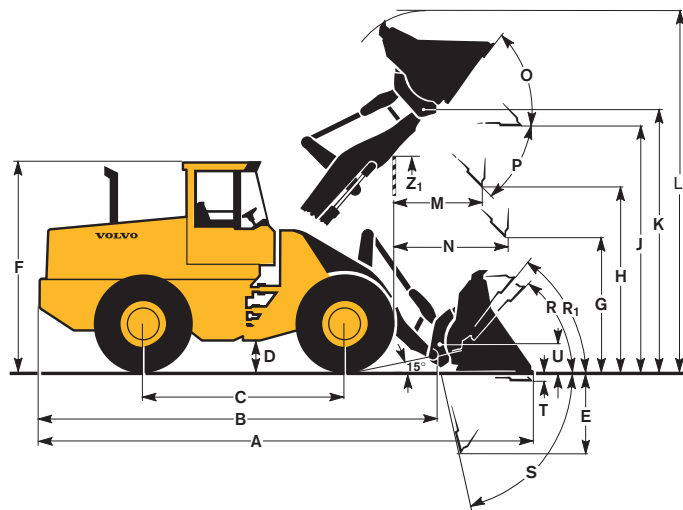
Counterweight 1 may be used in rehandling, pallet and material arms operations.

Counterweight 2, and combinations of counterweight 1 and 2, may be used within pallet and material arms handling arms operations for stabilizing purposes on firm and level ground.

Counterweight 2 replaces hydroinflation of rear tires and must never be combined with tire chains. Counterweight 2 is not allowed in combination with 20.5-25 tires.

Where applicable, specifications and dimensions are in accordance with ISO 7131, SAE J732, ISO 7546, SAE J742, ISO 5998, SAE J818, ISO 8313.

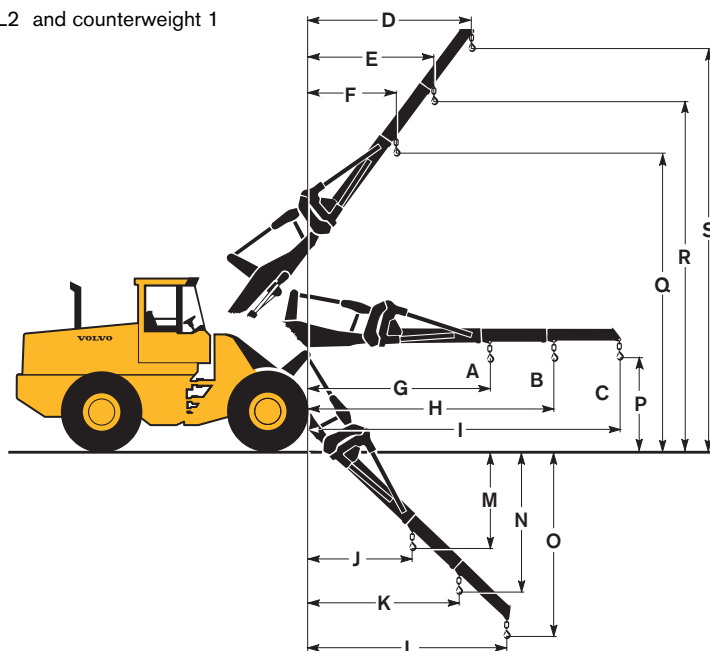
B	5 700 mm
C	2 840 mm
D	450 mm
F	3 180 mm
G	2 135 mm
J	3 610 mm
K	3 860 mm
O	56°
P	45°
R	44°
R ₁ *	48°
S	78°
T	30 mm
U	450 mm
X	1 860 mm
Y	2 390 mm
Z	3 150 mm
a ₂	5 100 mm
a ₃	2 710 mm
a ₄	±40°



MATERIAL HANDLING ARM (Hook on)

A	1 620 kg
B	1 280 kg
C	1 050 kg
D	2 560 mm
E	1 990 mm
F	1 460 mm
G	3 280 mm
H	4 310 mm
I	5 440 mm
J	1 830 mm
K	2 560 mm
L	3 360 mm
M	1 740 mm
N	2 470 mm
O	3 270 mm
P	1 510 mm
Q	5 310 mm
R	6 190 mm
S	7 160 mm

Tires: 20.5 R25* L2 and counterweight 1
Order No: 92 007
Operating weight: 10 710 kg



PALLET FORK (Hook on)

A	810 mm
B	1 540 mm
C	-70 mm
D	1 830 mm
E	3 700 mm
F	680 mm

Tires:	20.5 R25* L2 and counterweight 1
Fork tine order no. (per tine):	97 789
Lenght:	1 225 mm
Fork frame order no:	91 177
Width:	1 500 mm
Rated operating load*:	3 775 kg
at load center distance:	600 mm
Operating weight:	10 700 kg

A side-view diagram of a yellow Volvo wheel loader. The loader is shown with its bucket raised. Several dimensions are indicated with arrows and labels: **A** is the wheelbase (distance between front and rear axles); **B** is the wheel track (distance between the left and right wheels at the rear axle); **C** is the wheel offset (distance from the rear axle to the center of the rear wheel); **D** is the height from the ground to the center of the bucket; **E** is the height from the ground to the top of the bucket; **F** is the width of the bucket; and **R** is the radius of the rear wheel.

STANDARD EQUIPMENT

Engine

Low emission engine
Volvo TD 63 KDE
Air cleaner, dry type,
dual element, exhaust aspirated
precleaner
Coolant level, sight gauge
Muffler, spark arresting
Engine intake manifold
pre-heater

Electrical System

24 V – prewired for optional
accessories
Alternator, 24 V, 60 A
Battery disconnect switch
Fuel gauge
Hourmeter
Horn, electric
Instrument panel with symbols
Lights:
• driving (2-Front), halogen
with high/low beam
• parking lights
• stop/tail combination
(2 rear)
• turn signals with hazard
warning switch
• working lights, halogen
(2 rear)
• Instrument lighting

Contronic monitoring system

Shut down to idle at:
• high engine coolant temp
• low engine oil pressure
• high trans. oil temp
Neutral start feature
Test function for warning &
monitoring lights
Warning & monitoring lights:
• engine oil pressure
• engine coolant temperature
• air cleaner restriction
• alternator malfunction
• working lights
• high beam driving lights
• direction indicator, hazard
• transmission oil pressure
• transmission oil temperature
• brake system pressure
• parking brake applied
• hydraulic oil level
Central warning (with buzzer):
• engine oil pressure
• engine coolant temperature
(buzzer)
• transmission oil pressure
• transmission oil temperature
• brake system pressure (buzzer)
• parking brake applied and
transmission in forward or
reverse (buzzer)
• hydraulic oil level

Drivetrain

Transmission: modulated with single
lever control, Automatic Power
Shift, and operator controlled
declutch
Tires 20.5-25*L2

Brake System

Wet, internal oil circulation cooled
disc brakes, 4-wheel, dual circuit
brake system
Secondary brake system,
accumulator supplied
Parking brake alarm

Cab

ROPS (SAE J1040CC) (ISO 3471),
FOPS (SAE J 231) (ISO 3449).
Acoustical lining
Ashtray
Cigarette lighter
Door lockable (left side access)
Heater/defroster/pressurizer
11 kW 37500 Btu/h with four
speed blower fan
Filtered air
Floor mat
Interior light
Interior rearview mirror
Openable window, right-hand side
Safety glass, tinted
Seat belt (SAE J386)

Seat, ergonomically designed, sus-
pension adjustable
Storage compartment
Sun visor
Windshield wiper, front
Intermittent wiper, front
Cab access steps and handrails
Exterior rear view mirrors, 2

Hydraulic System

Main valve, 2-spool, pilot-operated
Pilot valve, 2-spool
Dual axial piston pump
Hydraulic control lever safety latch
Hydraulic pressure test ports, Quick
connect
Hydraulic fluid level, sight gauge
Hydraulic oil cooler
Boom lowering system

External Equipment

Isolation mounts: cab, engine, trans-
mission
Lifting lugs
Side panels, engine hood
Steering frame lock
Vandalism lock, provision for:
batteries, engine oil

OPTIONAL EQUIPMENT *(Standard in certain markets)*

Service and maintenance

Tool box
Tool kit
Wheel nut wrench kit

Engine

Cold starting aid, engine
coolant pre-heater
Coolant filter
Pre-cleaner, oil bath type

Electrical system

Working lights front, on cab
Working lights front, extra
Working lights rear, extra
Rotating beacon, amber with
collapsible mount
Reverse alarm (SAE J994)
Contronic display

Drivetrain

Forward and reverse switch
Transmission, 8-speed
100 % Differential lock,
front axle

Cab

Installation kit for radio
Hand throttle
Sliding ventilation window
Speedometer
Operator's seat, heated
Air suspended operator's seat
Retractable seat belt
Air conditioner 8 kW,
27 300 Btu/h
Noise reduction kit, cab
Steering wheel, adjustable tilt,
telescopic
Windshield washer, front & rear
Mudguards, front & rear with anti-
skid-tape
Dual service brake pedals

Hydraulic System

Hydraulic control, 3rd function
Hydraulic control, 4th function
Hydraulic controls, 5th/6th function
Hydraulic power take off G.P.
Hydraulic power take off
heavy duty H.D.
Hydraulic single acting lifting
function

Boom Suspension System

Attachment bracket with separate
locking system
Bucket leveler, automatic with posi-
tion indicator, adjustable boom
lever detents
Boom kickout, automatic, adjustable
Biodegradeable hydraulic fluid
Single lever control

External equipment

Mudguards, extended
Mudguards widener
Counterweight 1, 190 kg
Counterweight 2, 360 kg
Drawbar with pin

Other equipment

Comfort Drive Control (CDC)
Slow moving vehicle emblem
Secondary steering
Fuel fill strainer
Electro-hydraulic operated park
brake

Tires

17.5-25 20.5-25
17.5R25* 20.5R25*
600-26.5 Twin

Protective equipment

Protective guards for front running
light
Protective guards for rear working
lights
Protective guards for rear lights

Attachments

Buckets
Fork equipment
Material handling arm
Timber grapples
Diagonal snow blade
Broom
Cutting edge, 3 pc reversible,
bolt-on
Bucket teeth, bolt-on
Bucket spillguard
Bale clamp
Drum rotator
Attachment rib kit

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.

VOLVO

Volvo Construction Equipment Group

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