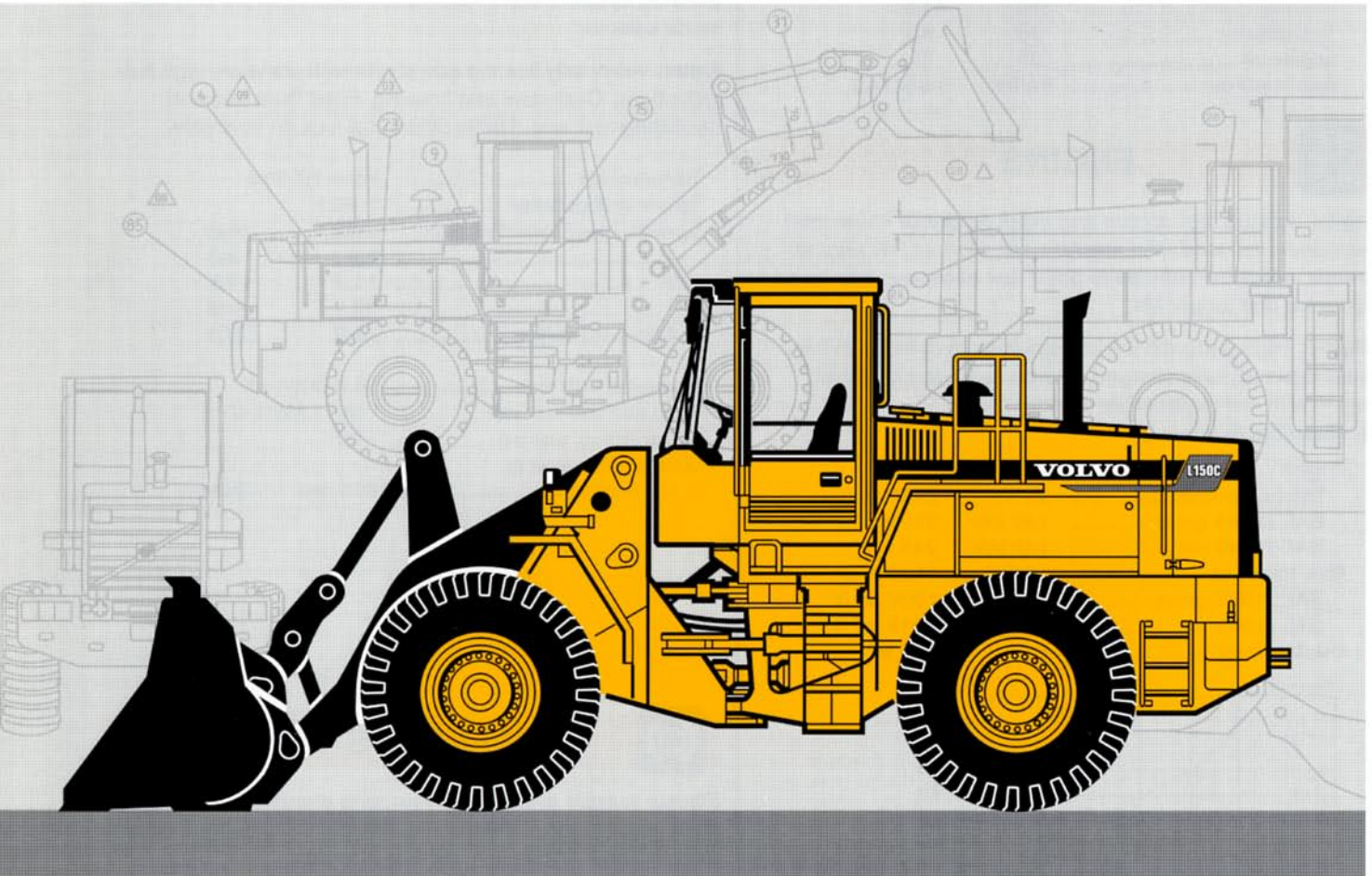


VOLVO WHEEL LOADER

L150C



- **Engine output SAE J1349:**
gross 189 kW 257 hp
net 180 kW 245 hp
 - **Operating weight:** 21,9–25,8 t
48,160 – 55,000 lb
 - **Buckets:** 3,5 – 12,0 m³
4.6 – 15.7 yd³
 - **Volvo High Performance Low Emission engine** with excellent low rpm performance
The engine meets all known regulations regarding exhaust emissions for off road machines until year 2001
 - **Volvo transmission with APS II**, 2nd generation of Automatic Power Shift with mode (shift pattern) selector for optimum performance and fuel consumption
 - **Wet disc brakes**
– Fully sealed oil-circulation cooled wet disc brakes
 - **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 steering system**
 - Pilot-operated working hydraulics
- Optional Equipment**
- Hydraulic attachment bracket
 - Long Boom
 - Boom Suspension System
 - Comfort Drive Control
- Other options, see back page**

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. Hinged radiator grill and swing-out radiator.

Refill capacities	l	USgal
Fuel tank	339	89.6
Engine coolant	65	17.2
Hydraulic tank	165	43.6
Transmission	35	9.2
Engine oil	27	7.1
Axle front/rear	55/54	14.5/14.3



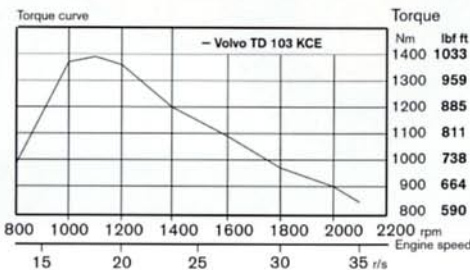
ENGINE

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 103 KCE
Flywheel output at	35 r/s 2100 rpm
SAE J1349 gross	189 kW 257 hp
SAE J1349 net	180 kW 245 hp
Max. torque at	18,3 r/s 1100 rpm
SAE J1349 gross	1390 Nm 1025 lbf ft
SAE J1349 net	1380 Nm 1018 lbf ft
Displacement	9,6 l 586 in³



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. Prewired for optional equipment.

Central warning: Central warning lamp for the following functions: engine oil pressure, engine coolant temperature (with buzzer), transmission oil pressure, transmission oil temperature, brake pressure, parking brake (buzzer), high speed/gear, transmission oil filter, and axle oil temperature. Shut down to idle is standard.

Voltage	24 V
Batteries	2x12 V
Battery capacity	2x160 Ah
Cold cranking capacity, ea	1050 A
Reserve capacity, ea	290 min
Alternator rating	1680 W / 60 A
Starter-motor output	5,4 kW 7.3 hp



DRIVETRAIN

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

Torque converter: Single-stage

Transmission: Volvo Automatic 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.

Axes: 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.

Transmission	Volvo HT 210
Torque multiplication	2,40:1
Speeds, max forward/reverse	km/h mph
1	6,4 4.0
2	11,8 7.3
3	23,3 14.5
4 (forward only)	33,9 21.1
Measured with tires	26.5 R25* L3
Front axle and rear axle	Volvo / AWB 40
Oscillation, rear axle	±15 °
Ground clearance at	
15° oscillation	610 mm 24 in



BRAKE SYSTEM

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

Service brakes: Volvo, dual circuit system with nitrogen-charged accumulators. Fully hydraulically operated enclosed internal oil circulation-cooled outboard mounted wet disc brakes. Transmission declutch during braking can be pre-selected by a switch on the instrument panel.

Parking brake: Enclosed wet multi-disc brake built into the transmission. Spring applied, electro-hydraulic released via a switch on the instrument panel. Applies automatically when the key is turned of.

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

Brake performance test provided by the Contronic system.

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

Number of discs/wheel	1
Accumulators, volume each	3x1,0 l 3x61.0 in³
Accumulator, parking brake	1x0,5 l 1x30.5 in³

OPERATIONAL DATA VOLVO L150C

	STANDARD BOOM							LONG BOOM		
	GENERAL PURPOSE				ROCK		LIGHT MAT'L	GP	LM	
Tires 26.5 R25*L3										
Volume, heaped	m ³ yd ³	3,8 5.0	3,8 5.0	3,8 5.0	3,8 5.0	3,6 4.7	3,5 4.6	- -	3,5 4.6	- -
incl. bolt-on cutting edge	m ³ yd ³	4,0 5.2	4,0 5.2	4,0 5.2	4,0 5.2	- -	- -	6,8 8.9	3,7 4.8	5,7 7.5
Static tipping load, straight	kg lb	16920 37,270	16300 35,940	16900 37,255	16210 35,730	15720 34,650	15520 43,220	16060 35,410	15030 33,140	13820 30,465
at 35° turn	kg lb	15090 33,270	14500 31,970	15060 33,190	14410 31,760	13970 30,800	13780 30,370	14250 31,420	13340 29,410	12160 26,800
at full turn	kg lb	14870 32,780	14290 31,510	14850 32,740	14200 31,300	13760 30,340	13570 29,920	14030 30,930	13140 28,970	11970 26,380
Breakout force	kN lbf	186,4 41,900	174,7 39,270	180,1 40,480	169,0 37,990	190,4 42,800	169,0 37,990	133,0 29,900	183,3 41,210	133,4 29,985
A	mm ft in	8110 26'7"	8200 26'11"	8160 26'8"	8250 27'1"	8320 27'4"	8490 27'10"	8660 28'5"	8580 28'2"	9090 29'9"
E	mm ft in	1130 3'8"	1210 3'11"	1170 3'8"	1250 4'1"	1100 3'7"	1250 4'1"	1610 5'3"	1100 3'7"	1530 5'2"
H*)	mm ft in	3120 10'3"	3060 10'1"	3080 10'1"	3030 9'9"	2980 9'9"	2870 9'5"	2720 8'11"	3720 12'2"	3340 11'0"
L	mm ft in	5890 19'4"	5940 19'5"	5940 19'5"	5990 19'6"	5920 19'5"	5890 19'4"	6100 20'0"	6400 21'0"	6510 21'4"
M*)	mm ft in	1170 3'10"	1240 4'1"	1210 4'0"	1270 4'2"	1330 4'4"	1460 4'10"	1590 5'3"	1120 3'8"	1430 4'8"
N*)	mm ft in	1790 5'9"	1840 6'0"	1810 5'9"	1860 6'1"	1900 6'3"	1980 6'6"	1960 6'5"	2210 7'3"	2360 7'9"
V	mm ft in	3200 10'6"	3200 10'6"	3000 9'8"	3000 9'8"	3200 10'6"	3200 10'6"	3200 10'6"	3200 10'6"	3200 10'6"
a ₁ clearance circle	mm ft in	14730 48'4"	14780 48'6"	14570 47'8"	14620 48'0"	14890 48'10"	14750 48'5"	15030 49'4"	15120 49'7"	15400 50'6"
Operating weight	kg lb	22210 48,960	22470 49,540	22200 48,930	22520 49,630	22150 48,820	22270 49,100	22580 49,780	22930 50,550	23630 53,090

*) at dump angle 45°

Including counterweight 1

Incl. CW1

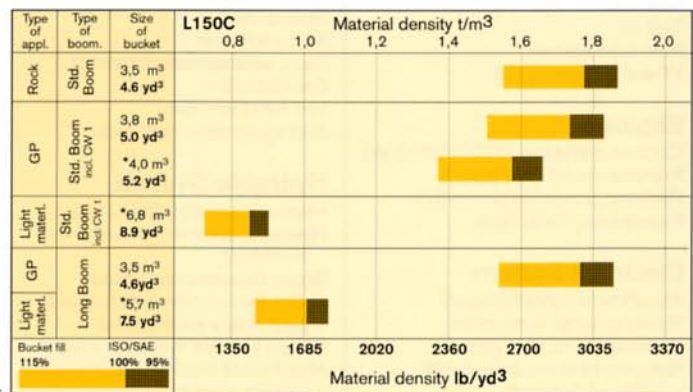
Including counterweight 1+2

Except for the light material buckets specifications don't include bolt-on edge.

BUCKET SELECTION CHART

The volume handled varies with the bucket fill and is often greater than indicated by the bucket's ISO/SAE volume. The table shows optimum bucket choice with regard to the material density.

Material	Bucket fill %	Density t/m ³	Density lb/yd ³
Earth	100-115	1,4-1,6	2360-2700
Clay	110-120	1,4-1,6	2360-2700
Sand	100-110	1,6-1,9	2700-3200
Gravel	100-110	1,7-1,9	2865-3200
Rock	75-100	1,5-1,9	2530-3200



*) Incl. edge saver

SUPPLEMENTAL OPERATING DATA

	Standard Boom							Long Boom					
	23.5 R25* L3		23.5 R25* L5		26.5 R25* L5		30/65 R25 L2	Cw 1	Cw2	*Cw3	26.5 R25* L5	30/65 R25 L2	*Cw3
Width over tires	mm/in		mm/in		mm/in		mm/in	mm/in	mm/in	mm/in	mm/in	mm/in	mm/in
Ground clearance	-40 -1.6		-140 -5.5		+15 +0.6		+175 +6.9	-	-	-	+15 +0.6	+175 +6.9	-
Tipping load, full turn	-70 -2.8		-40 -1.6		+20 +0.8		-70 -2.8	-	-	-	+20 +0.8	-70 -2.8	-
Operating weight	-310 -682		+20 +44		+540 +1188		-20 -44	±740 ±1628	+1180 +2596	+460 +1012	+460 +1012	-20 -44	+410 +902
	-590 -1298		-60 -132		+660 +1452		-120 -264	±375 ±825	+600 +1320	+260 +572	+660 +1452	-120 -264	+260 +572

Counterweight 1 may be used in rehandling and material handling.

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

Counterweight 2 must never be combined with tire chains.

*For the purpose of stabilizing in log operations counterweight 3 may be added to counterweight 1 and 2.

Counterweight 3 must never be used in combination with L5 tires. Combinations of L4 and L5 tires and chains are strictly forbidden.

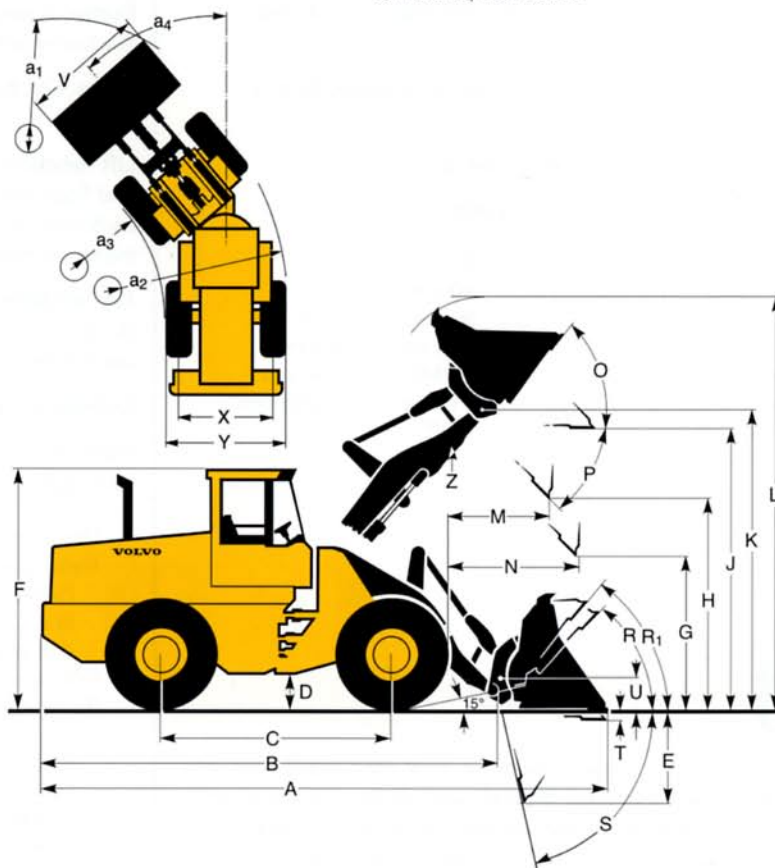
OPERATIONAL DATA & DIMENSIONS

Tires: 26.5 R25* L3

	Standard Boom	Long Boom
B	6710 mm 22'0" in	7210 mm 23'8" in
C	3550 mm 11'8" in	3550 mm 11'8" in
D	480 mm 1'7" in	480 mm 1'7" in
F	3560 mm 11'8" in	3560 mm 11'8" in
G	2135 mm 7'0" in	2135 mm 7'0" in
J	3970 mm 13'0" in	4550 mm 14'11" in
K	4350 mm 14'3" in	4920 mm 16'2" in
O	58 °	59 °
P**	45 °	45 °
R	44 °	47 °
R ₁ *	47 °	52 °
S	66 °	61 °
T	40 mm 1'6" in	90 mm 3'5" in
U	490 mm 1'7" in	620 mm 2'0" in
X	2280 mm 7'6" in	2280 mm 7'6" in
Y	2950 mm 9'8" in	2950 mm 9'8" in
Z	3690 mm 12'1" in	4160 mm 13'8" in
a ₂	6780 mm 22'3" in	6780 mm 22'3" in
a ₃	3830 mm 12'7" in	3830 mm 12'7" in
a ₄	±37 °	±37 °

* Carry position SAE
** P max 49°

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

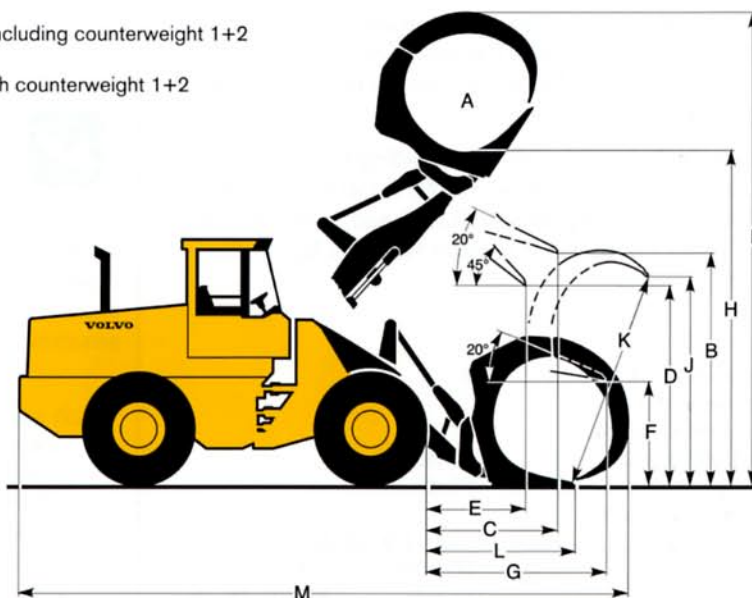


LOG GRAPPLE (hook on)

Tires: 26.5 R25* L3

A	3,1 m ² 33.4 ft ²
B	3660 mm 12'0" in
C	2120 mm 6'11" in
D	2950 mm 9'8" in
E	1660 mm 5'5" in
F	1620 mm 5'4" in
G	2940 mm 9'8" in
H	4990 mm 16'5" in
I	7250 mm 23'9" in
J	3000 mm 9'10" in
K	3280 mm 10'9" in
L	2290 mm 7'6" in
M	9440 mm 30'12" in

Order No: 91724
 Operating weight: 23290 kg including counterweight 1+2
51,345 lb
 Operating load: 7700 kg with counterweight 1+2
16,980 lb





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 with power amplification.

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

Pump: Variable-flow axial piston pump.

Cylinders: Two double-acting cylinders.

Steering cylinder	2	
Bore	90 mm	3.5 in
Piston rod diameter	50 mm	2.0 in
Stroke	418 mm	16.5 in
Relief pressure	21 MPa	3046 psi
Max. flow	91 l/min	24 USgpm
Articulation	± 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 glass areas. Curved windshield of laminated, green-tinted glass. Ergonomically located controls and instruments permit a comfortable operating position.

Instrumentation: All important information is readily visible to the operator. Cab display for Contronic monitoring system.

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 retractable seatbelt. 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 6394,		
SAE J919, max.	75 dB (A)	
Fan position 2	73 dB (A)	
Exterior sound level		
ISO 6393	LwA 109 dB (A)	
Ventilation	10 m ³ /min	353 ft ³ /min
Heating capacity	11 kW	37 500 Btu/h
Air conditioning (optional)	8 kW	27 300 Btu/h



HYDRAULIC SYSTEM

Open center hydraulics with high capacity vane pumps allows precise control and quick movements even at low rpm.

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

Valve: Double-acting 3-spool valve actuated by a 3-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.

Vane pump		
Relief pressure	21,0 MPa	3046 psi
Flow	313 l/min	82.8 USgpm
at	10 MPa	1450 psi
and engine speed	35 r/s	2100 rpm
Pilot system		
Relief pressure	3,0-4,5 MPa	435-653 psi
Cycle times	s	
Raise*	6,7	
Dump*	1,9	
Lower, empty	3,2	
Total cycle time	11,8	

* with load as per ISO 5998 and SAE J818



LIFT ARM SYSTEM

TP Linkage combines high break-out torque throughout the working range with 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	170 mm	6.7 in
Piston rod diameter	80 mm	3.15 in
Stroke	788 mm	31.0 in
Tilt cylinder	1	
Bore	250 mm	9.8 in
Piston rod diameter	120 mm	4.7 in
Stroke	452 mm	17.8 in

STANDARD EQUIPMENT

Engine

High Performance Low Emission
Air cleaner, dry type, dual element,
exhaust aspirated precleaner
Coolant level, sight gauge
Coolant filter
Engine intake manifold preheater
Dual fuel filter
Water trap
Muffler, spark arresting
Fan guard

Electrical System

24 V – prewired for optional
accessories
Alternator, 24 V, 60 A
Back up alarm
Battery disconnect switch
Fuel gauge
Engine coolant temperature
Transmission oil temperature
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 front, 2 rear)
• instrument lighting
• reverse alarm
• Contronic display

Contronic Monitoring System, ECU

Engine shut down to idle
Brake test
Neutral start feature
Test function for warning &
monitoring lights
Information panel (Contronic):
start configuration, setting
language and units, operating
hours, general operating
information, stop watch/trip meter,
cycle counter, service interval
engine
electrical system
transmission
axles/brakes
Warning & monitoring lights:
• air cleaner restriction
• alternator malfunction
• working lights
• high beam driving lights
• direction indicator, hazard
Central warning:
• engine oil pressure
• engine coolant temperature
(buzzer)
• transmission oil pressure
• transmission oil temperature
• brake system pressure
• parking brake applied
• steering pressure
• axle oil temperature
• transmission oil filter
• high speed/gear

Drivetrain

Transmission: modulated with single
lever control, automatic power
shift generation II, and operator
controlled declutch
Forward and reverse switch
Differentials:
front 100%, hydraulic
differential lock
rear, conventional
Tires 23.5-25 (20PR) L3

Brake System

Wet, internal oil circulation cooled
outboard mounted disc brakes,
4-wheel, dual circuit
Brake system, secondary

Cab

ROPS (SAE J1040CC) (ISO 3471),
FOPS (SAE J 231) (ISO 3449).
Acoustical lining
Ashtray
Cigarette lighter
Door lockable (left side access)
Dual service brake pedals
Heater/defroster/pressurizer 11 kW
37500 Btu/h with four speed
blower fan
Filtered air
Floor mat
Interior light
Mirror rear view interior
Mirrors rear view (2), exterior
Openable window, right side
Safety glass, tinted
Retractable seat belt (SAE J386)

Seat, heated, ergonomically
designed, suspension adjustable
Sliding window in door
Storage compartment
Sun visor
Windshield wiper, front & rear
Intermittent wiper, front
Washer front and rear
Cab access steps and handrails
Fenders, front & rear with anti-skid-
tape
Tilttable and telescoping steering
wheel

Hydraulic System

Main valve, 3-spool
Pilot valve, 3-spool
Vane pump
Bucket lever detent
Bucket leveler, automatic with
position indicator, adjustable
Boom lever detents
Boom kickout, automatic, adjustable
Hydraulic control lever safety latch
Hydraulic oil cooler
Boom lowering, stopped engine

External Equipment

Isolation mounts: cab, engine,
transmission, radiator
Lifting lugs
Side panels, engine hood
Steering frame lock
Vandalism lock, provision for:
batteries, engine oil
Fuel Strainer
Drawbar hitch

OPTIONAL EQUIPMENT

Service and maintenance equipment

Tool box
Tool kit
Auto lube system
Wheel nut wrench kit

Engine

Coolant preheater (110 V/1500 W)
Pre-cleaner, oil bath type
Radiator, corrosion protected
Pre-cleaner, Turbo type

Electrical System

Attachment lights(halogen)
Working lights front, extra
Working lights rear, extra
Rotating beacon, amber with
collapsible mount
Alternator, 100 A
Loud horn, electrical

Drivetrain

Limited slip differential, rear axle

Cab

Installation kit for radio
Hand throttle
Speedometer
Air conditioner
Seat, air-suspended, heated
Seat belt, 3 in
Left hand armrest
Sliding window, right side

Hydraulic System

Hydraulic control, 3rd function
Hydraulic control, 4th function,
electrical
Boom Suspension System
Hydraulic function 3rd, hydraulic
pilot hoses preinstalled
Return line 3rd hydraulic control
Attachment bracket with separate
locking system
Power-down/float, detent
Biodegradable hydraulic fluid

External Equipment

Counterweight 1: 375 kg **827 lb**
Counterweight 2: 600 kg **1323 lb**
Counterweight 3: 260 kg **573 lb**
Fenders, axle mounted
Fenders, rear swing out
Fenders, rubber extension

Other Equipment

Comfort Drive Control (CDC)
Secondary steering
External brake oil cooling system
Exterior noise reduction kit
Long Boom
Arctic kit

Protective Equipment

Guards for headlights
Guards for radiator grille
Guards for rear working lights
Guards for side and rear window
Guards for rear lights
Bellyguard front and rear
Muffler guard
Protection plate under cab

Windshield guard
Protection plate, valve front frame

Tires

23.5 R25* / 23.5-25
26.5 R25* / 26.5-25
30/65 R25

Attachments

Buckets
• straight edge, rock
• spade nose, rock
• general purpose
• light material
• hi-dump
Bucket teeth, bolt-on
Cutting edge, 3 pc reversible,
bolt-on
Bucket spillguard
Fork equipment
Material handling arm
Timber grapples
Rib kits

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**

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