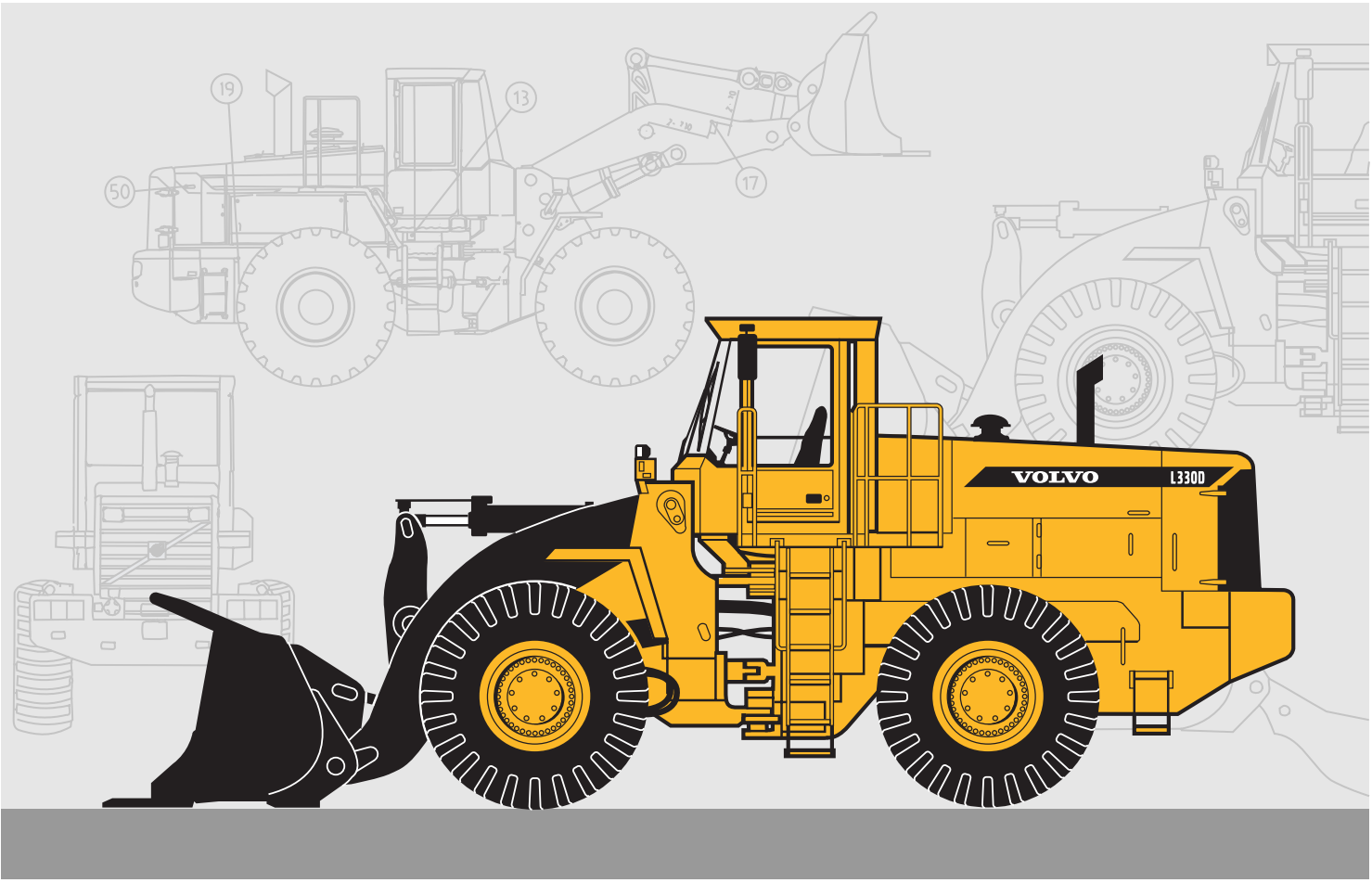
VOLVO WHEEL LOADER

L330D



- **Engine output SAE J1995:** gross 370 kW **(503 hp)** **ISO 9249, SAE J1349:** net 366 kW **(498 hp)**
- **Operating weight:** 48,5–52,0 t **106,900-114,640 lb**
- **Buckets:** 6,1-13,5 m^3 **8.0-17.7 yd^3**
- **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.
- **Wet disc brakes** – fully sealed, forced oil-cooled, outboard mounted.
- **Posi-Torq** limited-slip differentials in front and rear axles.
- **Care Cab II** – pressurized cab with high comfort and safety .
- **Contronic II monitoring system**
- **Load-sensing hydraulic system** – working and steering hydraulics
- **Pilot-operated working hydraulics**

Optional Equipment

- Long Boom
- Boom Suspension System
- Comfort Drive Control

Other options, see back page

VOLVO

SERVICE

The Contronic II monitoring system provides information on scheduled service intervals and machine condition. Minimizes time required for troubleshooting.

Service accessibility: Large, easy-to-open service doors with gas springs. Swing-out radiator grille, fan and radiator. Possibility to log and analyze data to facilitate troubleshooting.

Refill capacities	l	US gal
Fuel tank	693	**183.1**
Engine coolant	90	**23.8**
Hydraulic tank	336	**88.8**
Hydraulic system	552	**145.8**

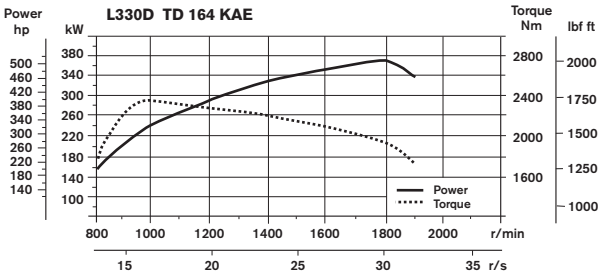
Refill capacities	l	US gal
Engine oil	61	**16.1**
Transmission	92	**24.3**
Wheel hubs, ea.	20,8	**5.5**
Differentials, ea.	68,1	**18.0**
Midmount bearing	4,7	**1.2**

ENGINE

The Volvo engine offers high torque and quick response at low rpm. The machine operates efficiently at low engine speeds, which contributes to good fuel economy, less noise, reduced wear and longer life.

Engine: High performance - Low emission, 4-stroke, 6-cylinder in-line diesel engine with direct injection, turbo charger and intercooler. Wet replaceable cylinder liners.
Air cleaning: three-stage
Cooling system: Hydrostatic fan with separate circuit for the intercooler.

Engine		Volvo TD 164 KAE		
Max power at		30,0	r/s	**1800 rpm**
SAE J1995	gross	370	kW	**503 hp**
ISO 9249, SAE J1349, net		366	kW	**498 hp**
Max. torque at		16,7	r/s	**1000 rpm**
SAE J1995	gross	2370	Nm	**1748 lbf ft**
ISO 9249, SAE J1349, net		2340	Nm	**1726 lbf ft**
Displacement		16,12	l	**984 in³**



ELECTRICAL SYSTEM

Contronic II monitoring system with increased function control and capability to store data for analysis. Electrical system with circuit boards, well protected by fuses. The system is pre-wired for installation of optional equipment.

Central warning system: Central warning light for the following functions, (buzzer with gear engaged): Engine oil pressure, transmission oil pressure, brake pressure, parking brake applied, hydraulic oil level, brake temperature, steering system pressure, coolant temperature, transmission oil temperature, hydraulic oil temperature, overspeeding transmission and low brake pressure.

Voltage	24	V	
Batteries, series/parallel	4x12	V	
Battery capacity, total	240	Ah	
Cold cranking capacity	1250	A	
Reserve capacity	320	min	
Alternator rating	2240	W / 80 A	
Starter-motor output	7,5	kW	**10.0 hp**

DRIVETRAIN

Drivetrain and working hydraulics are well matched to achieve optimum productivity. Dependable well proven design throughout the whole drivetrain.

Torque converter: Single-stage.

Transmission: Power shift, countershaft design with single lever control. Directional and range modulation provide fast and smooth shifting.

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

Axles: Fully floating axle shafts with planetary-type heavy duty hub reductions. Cast-steel axle housing. Fixed front axle and oscillating rear axle. Posi-Torq limited-slip differentials in front and rear axle.

Torque Converter	C9672	
Torque multiplication	2,29:1	
Transmission	C8421H	
Speeds, max forward/reverse	km/h	mph
1 forward/reverse	6,6	**4.1**
2 forward/reverse	11,6	**7.2**
3 forward/reverse	19,9	**12.4**
4 forward/reverse	34,2	**21.3**

Measured with tires	35/65R33 XLD D1*L-4	
Front axle and rear axle	21D 5568	
Rear axle, oscillation	±12 °	
Total	564 mm	**22.2 in**

BRAKE SYSTEM

Simple, reliable system ensures high availability and safety. Self-adjusting, forced oil-cooled, wet disc brakes give long service life.

Service brakes: Fully hydraulic operated system with outboard mounted, oil-cooled, wet disc brakes at each wheel. Filtered and cooled oil circulates through each brake when engine is running. Transmission declutch during braking can be pre-selected by a switch on the instrument panel.

Secondary brake: Dual circuit axle-by-axle system. Actuated by service brake pedal. Low pressure alarm. Dead engine braking capability provided by three nitrogen-charged accumulators.

Parking brake: Dry disc type mounted on front axle input shaft. Spring applied, electro-hydraulically released via a switch on the instrument panel. Applies automatically when the key is turned off.

Pump: Two variable-flow axial piston pumps common with the main hydraulic system.

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

Brake pressure setting	6,55	MPa	**950 psi**
Number of discs/wheel	6		
Number of accumulators	3		
Accumulators, volume 2x	4,0	l	**2.12 US gal**
1x	0,5	l	**1.06 US gal**

STEERING SYSTEM

Low effort steering provides fast work cycles. The power-efficient system results in good fuel economy, good directional stability and a smooth ride.

Steering system: Load-sensing, hydrostatic, articulated steering.

System supply: The steering system has priority feed from a load-sensing axial piston pump.

Pump: Axial piston pump with variable displacement.

Steering cylinders: Two double-acting cylinders.

Steering cylinder	2		
Bore	125 mm	**4.92**	**in**
Piston rod diameter	70 mm	**2.76**	**in**
Stroke	493 mm	**19.4**	**in**
Relief pressure	26,0 MPa	**3770**	**psi**
Max. flow	325 l/min	**85.85**	**US gpm**
Articulation	± 35°		

CAB

Care Cab II with wide door opening and comfortable steps. Inside of cab lined with noise-absorbent materials. Noise and vibration suppressing suspension. Good all-round visibility through large glass areas. Curved front windshield of green-tinted glass. Ergonomically positioned controls and instruments permit a comfortable operating position.

Instrumentation: All important information is centrally located in the operator's field of vision. Display for Contronic II monitoring system, also centrally located.

Heater and defroster: Heater coil and air conditioner with filtered fresh air and fan with four speeds. Defroster vents for all window areas. Cab air can be recirculated.

Operator's seat: Operator's seat with adjustable suspension and retractable seatbelt. The seat is mounted on a bracket on the rear cab wall. The forces from the retractable seatbelt are absorbed by the seat rails. (Meets ISO/DIS 7096–1997)

Standard: The cab is tested and approved according to ROPS (ISO/CD 3471, SAE J1040), FOPS (ISO 3449, SAE J231). Overhead Guards (ISO 6055) and Operator Restraint System (SAE J386).

Emergency exits	2		
Sound level in cab according to ISO 6396	LpA 76dB (A)		
External sound level according to ISO 6395 (meets also EU 2006 requirements)	LwA 110dB (A)		
Ventilation	9 m^3/min	**318**	**ft^3/min**
Heating capacity	11 kW	**37,500**	**Btu/h**
Air conditioning (optional equipment)	8 kW	**27,300**	**Btu/h**

HYDRAULIC SYSTEM

The Load-sensing hydraulics deliver the exact amount of oil required for the function used. At the same time, complete control of the hydraulics is achieved throughout the entire lifting range. The high-capacity of the pumps results in quick and smooth movements.

System supply: Two load-sensing axial piston pumps with variable displacement. The steering function always has priority from one of the pumps.

Valves: Double-acting 2-spool valve. The main valve is controlled by a 2-spool pilot valve.

Lift function: The valve has four positions; 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 lifting height.

Tilt function: The valve has three functions; rollback, hold and dump. Inductive/magnetic automatic tilt can be adjusted to the desired bucket angle.

Cylinders: Double-acting cylinders for all functions.

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

Relief pressure maximum,		
pump 1	26 MPa	**3770 psi**
Flow	340 l/min	**90 US gpm**
at	10 MPa	**1450 psi**
and engine speed	30,0 r/s	**1800 rpm**
Relief pressure, pump 2	26 MPa	**3770 psi**
Flow	250 l/min	**66 US gpm**
at	10 MPa	**1450 psi**
and engine speed	30,0 r/s	**1800 rpm**
Pilot system		
Relief pressure	3,5 MPA	**508 psi**
Cycle times	s	
Raise*	8.3	
Dump*	1.9	
Lower, empty	4.4	
Total cycle time	14.6	

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

LIFT-ARM SYSTEM

The Z-bar system is a dependable linkage with good breakout qualities. Ideal for a primary production unit.

Lift cylinder	2		
Bore	200 mm	**7.9**	**in**
Piston rod diameter	110 mm	**4.3**	**in**
Stroke	1170 mm	**46.0**	**in**
Tilt cylinder	2		
Bore	170 mm	**6.7**	**in**
Piston rod diameter	90 mm	**3.5**	**in**
Stroke	808 mm	**31.8**	**in**

OPERATIONAL DATA VOLVO L330D (STANDARD BOOM)

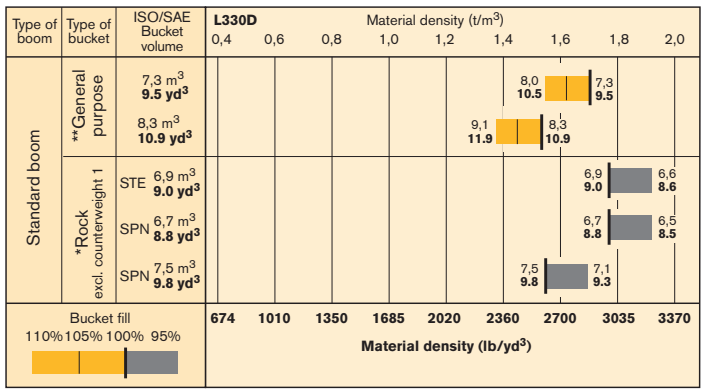
		ROCK HANDLING								MATERIAL HANDLING	
Tires 35/65 R33 RL–5K L5 GY		Straight edge, STE, BOE**	STE with teeth	STE with teeth & segments	Spade nose SPN, BOE**	SPN with teeth	SPN w/teeth & segments	SPN with BOE**	SPN with teeth & segments	Straight edge, STE BOE**	STE with BOE**
Volume, heaped	m^3	6,9	6,6	6,9	6,7	6,6	6,7	7,5	7,5	7,3	8,3
	yd^3	**9.0**	**8.6**	**9.0**	**8.8**	**8.6**	**8.8**	**9.8**	**9.8**	**9.6**	**10.9**
Bucket weight	kg	5 025	4 856	5 235	5 635	5 411	5 790	5 940	6 095	4 700	4 430
	lb	**11,080**	**10,710**	**11,540**	**12,430**	**11,930**	**12,770**	**13,100**	**13,440**	**10,360**	**9,770**
Static tipping load, straight	kg	36 060	36 630	35 890	35 670	35 810	35 310	34 571	34 360	36 520	36 720
	lb	**79,523**	**80,777**	**79,142**	**78,661**	**78,968**	**77,860**	**76,571**	**75,757**	**80,518**	**80,961**
Static tipping load, at full turn	kg	32 140	32 690	31 950	31 720	31 850	31 350	30 830	30 460	32 580	32 800
	lb	**70,864**	**72,075**	**70,456**	**69,942**	**70,233**	**69,137**	**67,978**	**67,160**	**71,831**	**72,319**
Breakout force	kN	469,5	503,2	499,5	370,5	395,4	387,6	345,4	360,2	462,5	448,2
	lbf	**105,566**	**113,139**	**112,311**	**83,314**	**88,911**	**87,157**	**77,666**	**80,998**	**103,988**	**100,767**
A	mm	10 230	10 460	10 500	10 640	10 860	10 940	10 790	11 090	10 250	10 290
	ft in	**33' 7"**	**34' 4"**	**34' 5"**	**34' 11"**	**35' 8"**	**35' 11"**	**35' 5"**	**36' 5"**	**33' 8"**	**33' 9"**
L	mm	7 330	7 330	7 330	7 210	7 210	7 210	7 360	7 350	7 070	7 210
	ft in	**24' 1"**	**24' 1"**	**24' 1"**	**23' 8"**	**23' 8"**	**23' 8"**	**24' 2"**	**24' 2"**	**23' 2"**	**23' 8"**
J	mm	4 700	4 770	4 720	4 700	4 760	4 690	4 690	4 680	4 700	4 730
	ft in	**15' 5"**	**15' 8"**	**15' 6"**	**15' 5"**	**15' 8"**	**15' 5"**	**15' 5"**	**15' 4"**	**15' 5"**	**15' 6"**
H*	mm	3 720	3 580	3 550	3 450	3 320	3 250	3 340	3 150	3 700	3 690
	ft in	**12' 2"**	**11' 9"**	**11' 8"**	**11' 4"**	**10' 11"**	**10' 8"**	**11' 0"**	**10' 4"**	**12' 2"**	**12' 1"**
M	mm	1 680	1 930	1 910	2 000	2 240	2 220	2 100	2 320	1 690	1 750
	ft in	**5' 6"**	**6' 4"**	**6' 3"**	**6' 7"**	**7' 4"**	**7' 3"**	**6' 11"**	**7´7"**	**5´7"**	**5' 9"**
N	mm	2 450	2 670	2 640	2 700	2 900	2 850	2 760	2 920	2 460	2 520
	ft in	**8' 0"**	**8' 9"**	**8' 8"**	**8' 10"**	**9' 6"**	**9' 4"**	**9' 1"**	**9' 7"**	**8' 1"**	**8' 3"**
T	mm	100	40	80	100	40	110	120	120	100	70
	ft in	**0' 4"**	**0' 2"**	**0´3"**	**0' 4"**	**0' 2"**	**0' 4"**	**0' 5"**	**0' 5"**	**0' 4"**	**0' 3"**
E	mm	1 260	1 450	1 480	1 590	1 770	1 830	1 710	1 950	1 280	1 310
	ft in	**4' 2"**	**4' 9"**	**4' 10"**	**5' 3"**	**5' 10"**	**6' 0"**	**5' 7"**	**6' 5"**	**4' 2"**	**4' 3"**
Operating weight	kg	50 490	50 322	50 701	51 100	50 877	51 256	51 405	51 561	50 165	49 895
	lb	**111,331**	**110,960**	**111,795**	**112,676**	**112,183**	**113,019**	**113,349**	**113,691**	**110,615**	**110,019**

** Measured to the tip of the bucket teeth or bolt-on edge at 45° dump angle. Dump height to bucket edge (acc. SAE) + approx. 250 mm.*
*** BOE = Bolt-on edges*
Maximum grading angle = 46°

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	2870-3200
Rock	75–100	1,5–1,9	2530-3200



* includes teeth and segments or bolt-on
** includes bolt-on edges

BUCKET DIMENSIONS

Bucket dimensions		Straight edge, STE, BOE**	STE with teeth	STE with teeth & segments	Spade nose SPN, BOE**	SPN with teeth	SPN w/teeth & segments	SPN with BOE**	SPN with teeth & segments	Straight edge, STE BOE**	STE with BOE**
b	mm	1 830	1 830	1 830	2 230	2 230	2 230	2 365	2 365	1 850	2 000
	ft in	**6' 0"**	**6' 0"**	**6' 0"**	**7' 4"**	**7' 4"**	**7' 4"**	**7´9"**	**7´9"**	**6´1"**	**6' 7"**
c	mm	2 629	2 567	2 608	2 503	2 441	2 507	2 665	2 669	2 347	2 462
	ft in	**8' 8"**	**8' 5"**	**8' 7"**	**8' 3"**	**8' 0"**	**8' 3"**	**8' 9"**	**8' 9"**	**7' 8"**	**8' 1"**
d	mm	1 751	2 033	2 033	2 166	2 432	2 459	2 305	2 598	1 774	1 832
	ft in	**5' 9"**	**6' 8"**	**6' 8"**	**7' 1"**	**8' 0"**	**8' 1"**	**7' 7"**	**8' 6"**	**5' 10"**	**6' 0"**
e	mm	3 900	3 900	3 900	3 900	3 900	3 900	3 900	3 900	3 830	3 830
	ft in	**12' 10"**	**12' 10"**	**12' 10"**	**12' 10"**	**12' 10"**	**12' 10"**	**12' 10"**	**12' 10"**	**12' 7"**	**12' 7"**
V	mm	3 970	3 970	3 970	3 970	3 970	3 970	3 970	3 970	3 970	3 970
	ft in	**13' 0"**	**13' 0"**	**13' 0"**	**13' 0"**	**13' 0"**	**13' 0"**	**13' 0"**	**13' 0"**	**13' 0"**	**13' 0"**
y	mm	65	65	65	65	65	65	65	65	65	65
	ft in	**0' 2.6"**	**0' 2.6"**	**0' 2.6"**	**0' 2.6"**	**0' 2.6"**	**0' 2.6"**	**0' 2.6"**	**0' 2.6"**	**0' 2.6"**	**0' 2.6"**
a_1 clearance circle	mm	17 910	18 040	18 040	18 100	18 220	18 240	18 160	18 310	17 920	17 940
	ft in	**58' 9"**	**59' 2"**	**59' 2"**	**59' 5"**	**59' 9"**	**59' 10"**	**59' 7"**	**60' 1"**	**58' 9"**	**58' 10"**

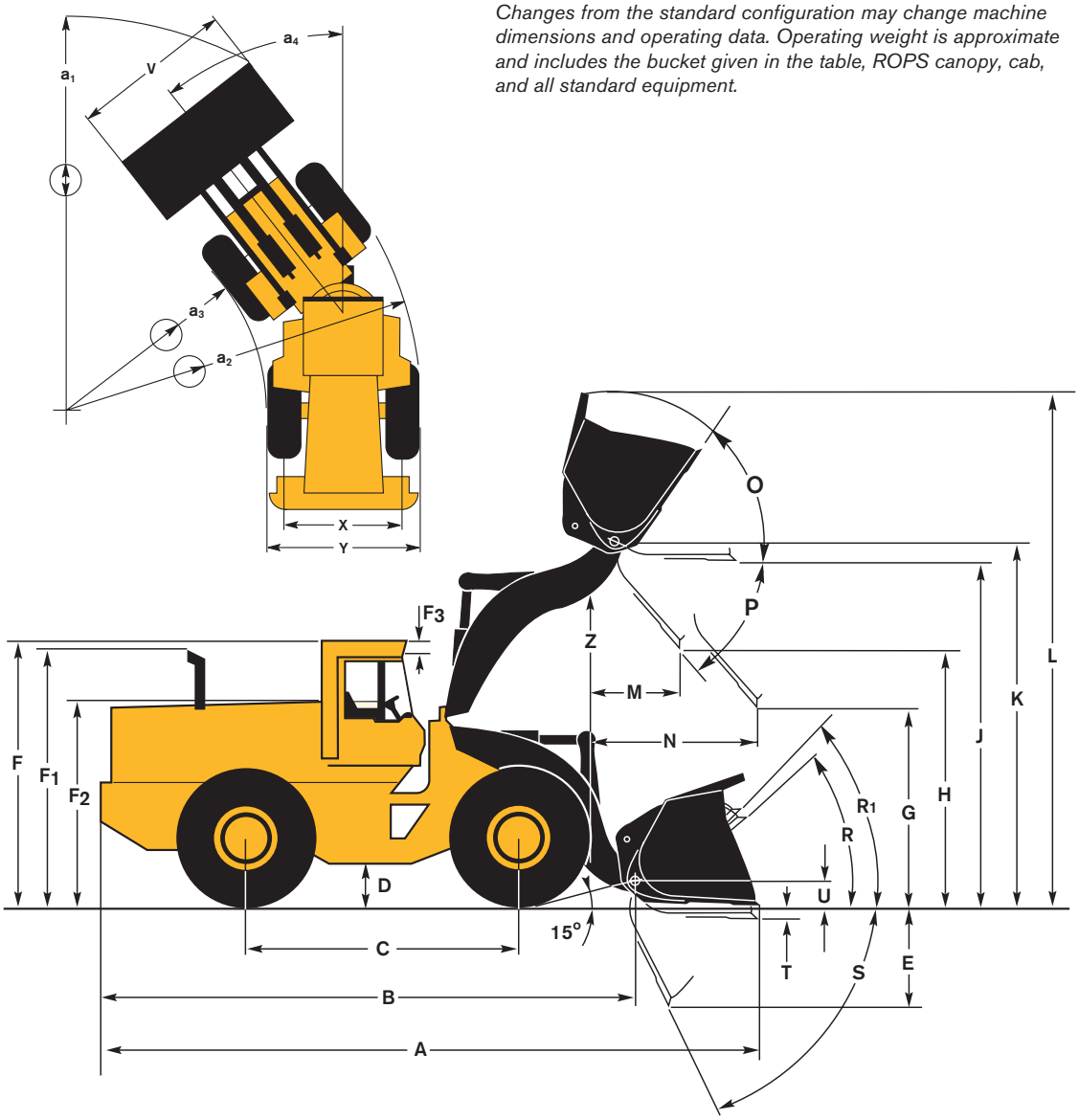
OPERATIONAL DATA & DIMENSIONS (STANDARD BOOM)

Tires 35/65 R33 RL–5K L5 GY

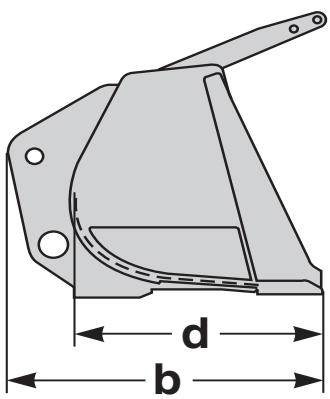
B	8 560	mm	**28' 1"**
C	4 060	mm	**13' 4"**
D	540	mm	**1' 9"**
F	4 190	mm	**13' 9"**
F1	3 850	mm	**12' 8"**
F2	3 160	mm	**10' 4"**
F3	40	mm	**1.6"**
G	2 132	mm	**7' 0"**
K	5 070	mm	**16' 7"**
O	66	°	
P	48	°	
R	47	°	
R_1*	51	°	
S	57	°	
U	660	mm	**2' 2"**
V	3 970	mm	**13' 0"**
X	2 720	mm	**8' 11"**
Y	3 630	mm	**11' 11"**
Z	4 150	mm	**13' 7"**
a_2	8 300	mm	**27' 3"**
a_3	4 570	mm	**15' 2"**
a_4	±35	°	

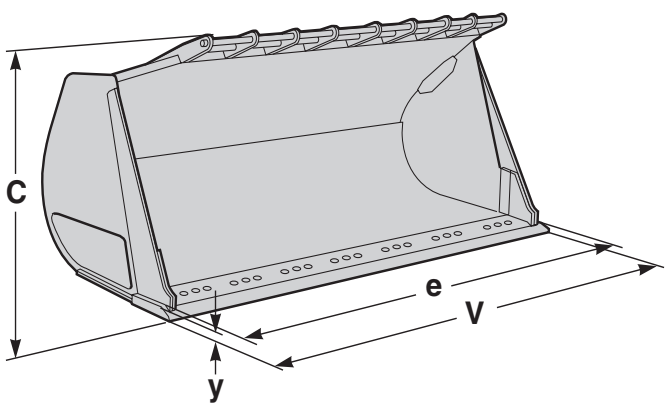
* Carry position SAE

Where applicable, specifications and dimensions are in accordance with ISO 7131, SAE J732, ISO 7546, SAE J742, ISO 5998, SAE J818, and ISO 8313.
Changes from the standard configuration may change machine dimensions and operating data. Operating weight is approximate and includes the bucket given in the table, ROPS canopy, cab, and all standard equipment.



BUCKET DIMENSIONS





SUPPLEMENTAL OPERATING DATA (STANDARD BOOM)

Tires 35/65 R33 RL–5K L5 GY

SUPPLEMENTAL OPERATING WEIGHT		Change in operating weight	Change in static tipping load, straight	Change in static tipping load, full turn
ROPS canopy (removal)	kg	– 760		
(for shipping only)	**lb**	**– 1675**		
Optional tires:				
35/65-33 (30PR) L-4 Firestone	kg	– 580	– 380	– 320
	lb	**– 1280**	**– 840**	**– 705**
35/65-33 (30PR) L-4 Goodyear	kg	– 225	+ 35	+ 80
	lb	**– 495**	**+ 75**	**+ 175**
35/65 R33 XLD D1* L-4 Michelin	kg	– 1 010	– 650	– 600
	lb	**– 2225**	**– 1430**	**– 1320**
35/65 R33 XLD D2* L-5 Michelin	kg	– 365	– 360	– 330
	lb	**– 805**	**– 795**	**– 730**

SUPPLEMENTAL OPERATING DIMENSIONS		Change in height dimensions	Change in width over tires
Optional tires:			
35/65-33 (30PR) L-4 Firestone	mm	+ 36	– 8
	in	**+ 1.4"**	**– 0.3"**
35/65-33 (30PR) L-4 Goodyear	mm	+ 7	+ 2
	in	**+ 0.3"**	**+ 0.1"**
35/65 R33 XLD D1* L-4 Michelin	mm	– 32	+ 9
	in	**– 1.3"**	**+ 0.4"**
35/65 R33 XLD D2* L-5 Michelin	mm	– 8	+ 9
	in	**– 0.3"**	**+ 0.4"**

SUPPLEMENTAL SHIPPING DIMENSIONS		Height dimensions without ROPS canopy	Height dimensions
Lower center hinge – top of cab	mm	3 560	
	ft in	**11' 8"**	
Rear frame – top of cab	mm	3 550	
	ft in	**11' 8"**	
Bottom of planetary – top of cab	mm	3 530	
	ft in	**11' 7"**	
Bottom of differential – top of cab	mm	3 500	
	ft in	**11' 6"**	
Bottom of wooden wheels – top of cab	mm	3 730	
	ft in	**12' 3"**	
Bottom of wooden wheels – planetary	mm		200
	in		**8"**
Bottom of wooden wheels – differential	mm		235
	in		**9.2"**

OPERATIONAL DATA VOLVO L330D (LONG BOOM)

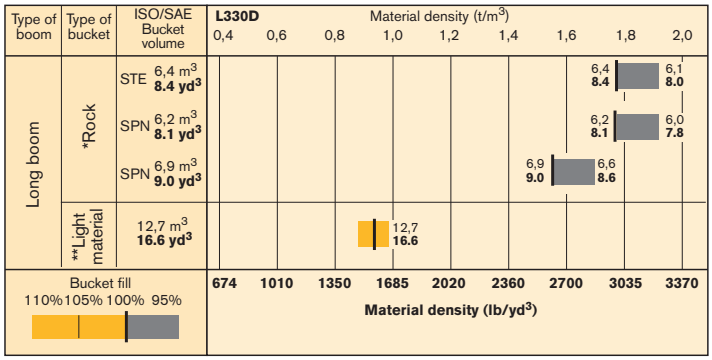
		ROCK HANDLING								Material handling
Tires 35/65 R33 RL–5K L5 GY		Straight edge, STE, BOE**	STE with teeth	STE w/teeth & segments	Spade nose SPN, BOE**	SPN with teeth	SPN w/teeth & segments	SPN with BOE**	SPN w/teeth & segments	STE with BOE**
Volume, heaped	m^3	6,4	6,1	6,4	6,2	6,1	6,2	6,9	6,9	12,7
	yd^3	**8.4**	**8.0**	**8.4**	**8.1**	**8.0**	**8.1**	**9.0**	**9.0**	**16.6**
Bucket weight	kg	4 865	4 676	5 075	5 630	5 406	5 785	5 815	5 970	5 296
	lb	**10,730**	**10,360**	**11,190**	**12,410**	**11,920**	**12,760**	**12,820**	**13,160**	**11,680**
Static tipping load, straight	kg	32 430	33 000	32 160	30 790	30 930	30 450	30 490	30 140	31 100
	lb	**71,515**	**72,767**	**70,914**	**67,897**	**68,190**	**67,145**	**67,220**	**66,454**	**68,578**
Static tipping load, at full turn	kg	28 800	29 340	28 520	27 240	27 370	26 900	26 940	26 590	27 530
	lb	**63,498**	**64,696**	**62,894**	**60,065**	**60,346**	**59,310**	**59,402**	**58,633**	**60,700**
Breakout force	kN	517,3	555,5	552,9	370,7	394,0	387,9	354,5	370,2	376,8
	lbf	**116,310**	**124,914**	**124,317**	**83,342**	**88,593**	**87,210**	**79,705**	**83,236**	**84,714**
A	mm	10 460	10 690	10 720	11 020	11 240	11 320	11 110	11 410	10 970
	ft in	**34' 4"**	**35' 1"**	**35' 2"**	**36' 2"**	**36' 11"**	**37' 2"**	**36' 6"**	**37' 5"**	**36' 0"**
L	mm	7 550	7 560	7 550	7 600	7 600	7 600	7 700	7 690	7 820
	ft in	**24' 9"**	**24' 9"**	**24' 9"**	**24' 11"**	**24' 11"**	**24' 0"**	**25' 3"**	**25' 3"**	**25' 8"**
J	mm	5 090	5 150	5 110	5 070	5 140	5 070	5 060	5 060	5 120
	ft in	**16' 8"**	**16' 11"**	**16' 9"**	**16' 8"**	**16' 10"**	**16' 7"**	**16' 7"**	**16' 7"**	**16' 10"**
H*	mm	4 190	4 060	4 020	3 820	3 690	3 620	3 750	3 560	3 840
	ft in	**13' 9"**	**13' 4"**	**13' 2"**	**12' 6"**	**12' 1"**	**11' 11"**	**12' 4"**	**11' 8"**	**12' 7"**
M	mm	1 660	1 910	1 880	2 080	2 320	2 300	2 140	2 360	2 050
	ft in	**5' 5"**	**6' 3"**	**6' 2"**	**6' 10"**	**7' 7"**	**7' 6"**	**7' 0"**	**7' 9"**	**6' 9"**
N	mm	2 680	2 910	2 880	3 020	3 220	3 180	3 060	3 220	2 960
	ft in	**8' 10"**	**9' 7"**	**9' 5"**	**9' 11"**	**10' 7"**	**10' 5"**	**10' 1"**	**10' 7"**	**9' 8"**
T	mm	100	40	80	120	60	120	130	130	70
	ft in	**0' 4"**	**0' 2"**	**0' 3"**	**0' 5"**	**0' 2"**	**0' 5"**	**0' 5"**	**0' 5"**	**0' 3"**
E	mm	1 090	1 250	1 290	1 510	1 660	1 730	1 580	1 800	1 460
	ft in	**3' 7"**	**4' 1"**	**4' 3"**	**5' 0"**	**5' 5"**	**5' 8"**	**5' 2"**	**5' 11"**	**4' 10"**
Operating weight	kg	50 640	50 472	50 851	51 405	51 182	51 561	51 590	51 746	51 071
	lb	**111,662**	**111,290**	**112,125**	**113,348**	**112,855**	**113,691**	**113,756**	**114,099**	**112,612**

** Measured to the tip of the bucket teeth or bolt-on edge at 45° dump angle. Dump height to bucket edge (acc. SAE) + approx. 250 mm.*
*** BOE = Bolt-on edges*
Maximum grading angle = 46°

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	2870-3200
Rock	75–100	1,5–1,9	2530-3200



* includes teeth and segments or bolt-on edges
** includes bolt-on edges

BUCKET DIMENSIONS

Bucket dimensions		Straight edge, STE, BOE**	STE with teeth	STE w/teeth & segments	Spade nose SPN, BOE**	SPN with teeth	SPN w/teeth & segments	SPN with BOE**	SPN w/teeth & segments	STE with BOE**
b	mm	1 688	1 688	1 688	2 226	2 226	2 226	2 320	2 320	2 400
	ft in	**5' 6"**	**5' 6"**	**5' 6"**	**7' 4"**	**7' 4"**	**7' 4"**	**7' 7"**	**7' 7"**	**7' 10"**
c	mm	2 388	2 326	2 367	2 446	2 384	2 451	2 554	2 558	2 595
	ft in	**7' 10"**	**7' 8"**	**7' 9"**	**8' 0"**	**7' 10"**	**8' 0"**	**8' 5"**	**8' 5"**	**8' 6"**
d	mm	1 625	1 907	1 907	2 181	2 447	2 474	2 269	2 562	2 158
	ft in	**5' 4"**	**6' 3"**	**6' 3"**	**7' 2"**	**8' 0"**	**8' 1"**	**7' 5"**	**8' 5"**	**7' 1"**
e	mm	3 900	3 900	3 900	3 900	3 900	3 900	3 900	3 900	4 370
	ft in	**12' 10"**	**12' 10"**	**12' 10"**	**12' 10"**	**12' 10"**	**12' 10"**	**12' 10"**	**12' 10"**	**14' 4"**
V	mm	3 970	3 970	3 970	3 970	3 970	3 970	3 970	3 970	4 500
	ft in	**13' 0"**	**13' 0"**	**13' 0"**	**13' 0"**	**13' 0"**	**13' 0"**	**13' 0"**	**13' 0"**	**14' 9"**
y	mm	65	65	65	65	65	65	65	65	65
	ft in	**0' 2.6"**	**0' 2.6"**	**0' 2.6"**	**0' 2.6"**	**0' 2.6"**	**0' 2.6"**	**0' 2.6"**	**0' 2.6"**	**0' 2.6"**
a_1 clearance circle	mm	18 140	18 270	18 270	18 410	18 550	18 560	18 460	18 610	18 880
	ft in	**59' 6"**	**59' 11"**	**59' 11"**	**60' 5"**	**60' 10"**	**60' 11"**	**60' 7"**	**61' 1"**	**61' 11"**

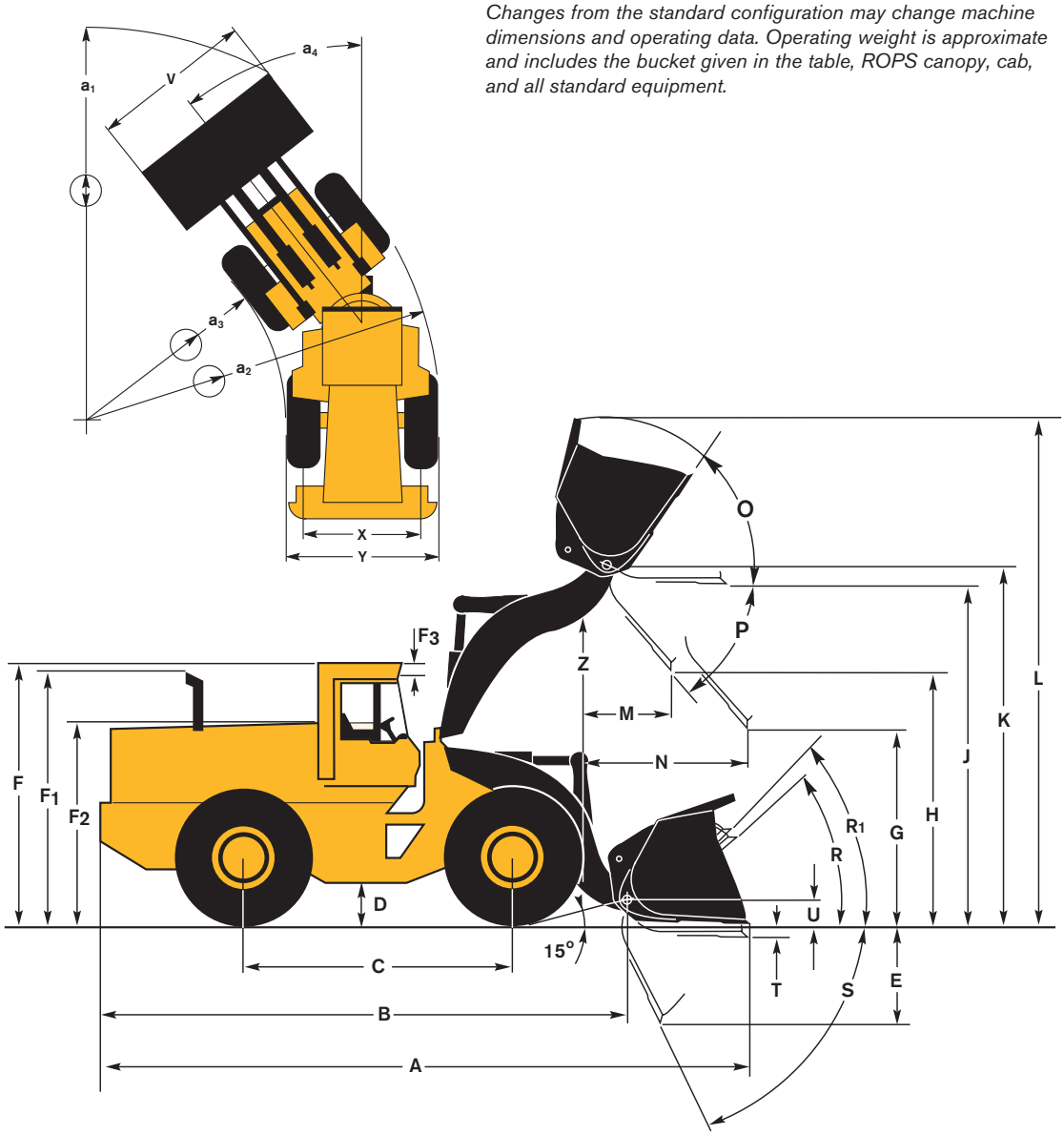
OPERATIONAL DATA & DIMENSIONS (LONG BOOM)

Tires 35/65 R33 RL–5K L5 GY

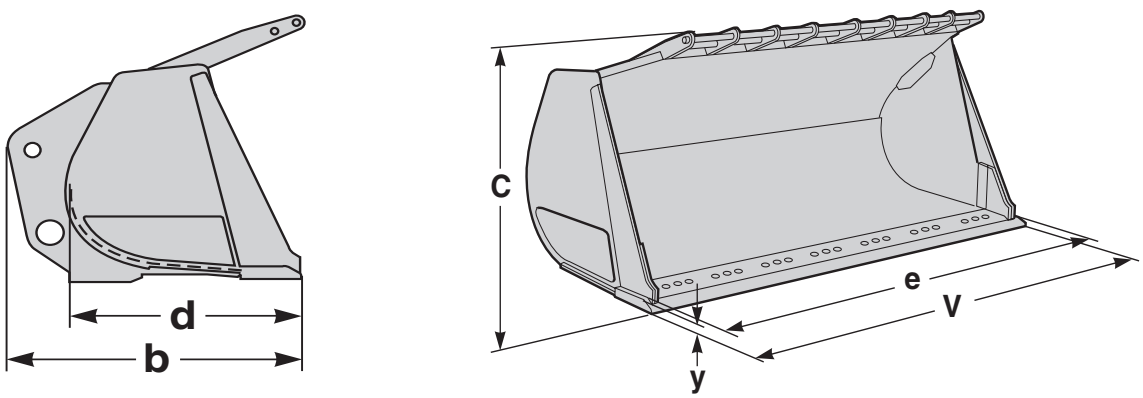
B	8 930	mm	**29' 4"**
C	4 060	mm	**13' 4"**
D	540	mm	**1' 9"**
F	4 190	mm	**13' 9"**
F1	3 850	mm	**12' 8"**
F2	3 160	mm	**10' 4"**
F3	40	mm	**1.6"**
G	2 135	mm	**7' 0"**
K	5 440	mm	**17' 10"**
O	66	°	
P	47	°	
R	47	°	
R_1*	52	°	
S	51	°	
U	770	mm	**2' 6"**
V	3 970/ 4 500	mm	**13' 0"/ 14' 9"**
X	2 720	mm	**8' 11"**
Y	3 630	mm	**11' 11"**
Z	4 340	mm	**14' 3"**
a_2	8 300	mm	**27' 3"**
a_3	4 570	mm	**15' 2"**
a_4	±35	°	

* Carry position SAE

Where applicable, specifications and dimensions are in accordance with ISO 7131, SAE J732, ISO 7546, SAE J742, ISO 5998, SAE J818, and ISO 8313.
Changes from the standard configuration may change machine dimensions and operating data. Operating weight is approximate and includes the bucket given in the table, ROPS canopy, cab, and all standard equipment.



BUCKET DIMENSIONS



SUPPLEMENTAL OPERATING DATA (LONG BOOM)

Tires 35/65R33 XLD D1* L-4 RL–5K L5 GY

SUPPLEMENTAL OPERATING WEIGHT		Change in operating weight	Change in static tipping load, straight	Change in static tipping load, full turn
ROPS canopy (removal) (for shipping only)	kg	– 760		
	lb	**– 1 675**		
Optional tires:				
35/65-33 (30PR) L-4 Firestone	kg	– 585	– 330	– 275
	lb	**– 1 280**	**– 730**	**– 605**
35/65-33 (30PR) L-4 Goodyear	kg	– 225	+ 30	+ 70
	lb	**– 495**	**+ 65**	**+ 155**
35/65 R33 XLD D1* L-4 Michelin	kg	– 1 010	– 610	– 555
	lb	**– 2 225**	**– 1 345**	**– 1 225**
35/65 R33 XLD D2* L-5 Michelin	kg	– 365	– 310	– 290
	lb	**– 805**	**– 685**	**– 640**

SUPPLEMENTAL OPERATING DIMENSIONS		Change in height dimensions	Change in width over tires
Optional tires:			
35/65-33 (30PR) L-4 Firestone	mm	+ 36	– 8
	in	**+ 1.4"**	**– 0.3"**
35/65-33 (30PR) L-4 Goodyear	mm	+ 7	+ 2
	in	**+ 0.3"**	**+ 0.1"**
35/65R33 XLD D1* L-4 Michelin	mm	– 32	+ 9
	in	**– 1.3"**	**+ 0.4"**
35/65R33 XLD D2* L-5 Michelin	mm	– 8	+ 9
	in	**– 0.3"**	**+ 0.4"**

SUPPLEMENTAL SHIPPING DIMENSIONS		Height dimensions without ROPS canopy	Height dimensions
Lower center hinge – top of cab	mm	3 560	
	ft in	**11' 8"**	
Rear frame – top of cab	mm	3 550	
	ft in	**11' 8"**	
Bottom of planetary – top of cab	mm	3 530	
	ft in	**11' 7"**	
Bottom of differential – top of cab	mm	3 500	
	ft in	**11' 6"**	
Bottom of wooden wheels – top of cab	mm	3 730	
	ft in	**12' 3"**	
Bottom of wooden wheels – planetary	mm		200
	in		**8"**
Bottom of wooden wheels – differential	mm		235
	in		**9.2"**

STANDARD EQUIPMENT

Service and Maintenance
Engine oil remote drain and fill
Lubrication manifolds, ground accessible
Radiator remote drain and fill
Transmission remote drain and fill
Pressure test ports: transmission and hydraulic, quick connect, grouped on console for easy access
Fan, hydraulic driven, swing out
Grille, rear, swing out
Fuel strainer

Engine
Multi-cyclon air pre-cleaner, three stage with ejector and safety filter
Coolant filter
Coolant level sight gauge
Engine intake manifold pre-heater
Exhaust rain protection
Flat-round radiator
High performence, low emission

Electrical System
24 volt – prewired for optional equipment
Alternator, 24 volt, 80 amp
Back-up alarm, acoustic
Battery disconnect switch, lockable
Gauges:
- Engine temperature
- Fuel level
- Transmission temperature

Hourmeter
Horn, electric
Lights:
- Driving halogen headlights, 2 fronts, high and low beams
- Instrument lighting
- Parking lights
- Stop/tail combination (2 rear)
- Turn signals with hazard warning (hazard warning with separate switch)
- Working lights, 60 watt halogen (6 front and 2 rear)

Contronic II Monitoring System, ECU
with memory and analysis system
Contronic II display
Engine shut-down to idle in case of:
- High engine coolant temperature
- Low engine oil pressure
- High transmission oil temperature

Neutral start feature
Brake performance test
Test function for warning and indicator lights
Warning and indicator lights:
- Alternator malfunction
- Oil pressure engine
- Oil pressure, transmission
- Brake pressure
- Parking brake applied
- Hydraulic oil level
- Hydraulic oil temp
- Brake temperature
- Primary steering pressure
- Secondary steering activated
- High beams
- Turn signals
- Rotating beacon
- Preheating coil
- Coolant temperature
- Transmission oil temperature
- Brake pressure

Drivetrain
Countershaft transmission with directional and range modulation
Single lever control
Automatic Power Shift (APS II)
Operator controlled declutch
Differentials: Posi-Torq limited-slip front and rear
Switch F/R at hyd. controls
Kickdown to 1st switch on shift lever and hydraulic console

Brake System
Brakes, full hydraulic, wet disc, continuous oil-cooled, 4 wheel dual-circuit, F/R
Parking brake, spring applied dry disc, electric/hydraulic release
Secondary brake system, accumulator supplied

Tires
35/65 R33 XLD D1 MI

Cab and ROPS Canopy
ROPS Canopy (ROPS, SAE J1040, ISO 3471) (FOPS, SAE J231, ISO 3449)
Cab (ROPS, SAE J1040, ISO 3471)
Acoustical lining
Air conditioner
Ashtray
Cigarette lighter
Door lockable (left side access)
Door-open struts
Dual brake pedals
Heater/defroster/pressurizer 11 kW (37,500 Btu/h) with four speed blower fan
Filtered air for cab
Floor mat
Instrument panel with symbols
Interior light
Mirror, rearview interior (2)
Mirror, rearview, exterior (2)
Operator seat, ISRI, air suspension, heated
Safety glass, tinted
Seat belt (SAE J386) retractable
Steering wheel, telescoping, adjustable tilt
Windshield washers front/rear
Beverage holder
Adjustable hydraulic lever console
Storage compartment
Sun visor
Windshield wiper, front and rear
Window sliding, door
Wiper, intermittent, front
Cab access steps, hand rails, service platforms with anti-skid surfaces (SAE J185)

Hydraulic System
Main, load-sensing valve, 2 spool, pilot-operated
Pilot valve, 2 spool
Variable displacement axial piston pumps for:
- Working hydraulic
- Steering system
- Pilot and brake
- Fan motor

Boom and bucket fingertip control levers
Boom lever detents
Boom lowering system
Boom kickout, automatic, adjustable
Bucket lever detents
Bucket leveler, automatic, adjustable
Control lever safety latch
Steer, load-sensing valve Orbitrol, hydrostatic
Hydraulic pressure test ports, quick connect
Hydraulic fluid level sight gauge
Hydraulic oil cooler

External
Drawbar with pin
Isolation mounts: cab, engine, transmission, radiator
Lifting and tie-down lugs
Easy-to-open side panels and engine hood
Steering frame lock
Vandalism lock, provision for, batteries, engine coolant, fuel, hydraulic fluid, transmission/torque converter fluid, engine side panels
Boom to bucket pins with dual double-tapered pre-loaded roller bearings
Fenders, front
Mudflaps

OPTIONAL EQUIPMENT

Service and Maintenance
Tool box, lockable
Automatic lubrication system

Engine Equipment
Engine block heater, 120 V (US)
Engine block heater, 240 V 2500W (US)
Engine block heater, 220 V 1500W (Europe)
Air pre-cleaner, oil bath type
Radiator and hyd. oil cooler, corrosion protected

Electrical System
Rotating beacon
Working lights rear, extra
Battery for extreme cold weather

Tires and Rims
35/65-33 (30 PR) L4 FS
35/65-33 (36 PR) L4 FS
35/65-33 (42 PR) L4 FS
35/65-33 (30 PR) L5 FS
35/65-33 (30 PR) L4 GY
35/65-33 (30 PR) L5 GY
35/65R33 RL-5K* L5 GY
35/65R33 XLD D2* L5 MI
35/65R33 XMINE D2* L5 MI
35/65-33 XRDNA L3 MI
35/65-33 VSDL L5 BR
Wood protected rims
Heavy duty rims

Cab
Armrest (left) for ISRI operator seat
Steering knob
Radio installation kit, incl. power outlet 12 V
3" retractable seatbelt, with extended length
Ventilation filter for asbestos environment
Lunch box holder
Noise reduction kit
Radio with tape recorder
Sliding window right side
Sound reduction kit
Throttle, lockable

Hydraulic System
Attachment locking, without bracket
Biodegradable hydraulic fluid
Boom Suspension System
Hydraulic function, 3rd
Hydraulic function, 4rd
Artic kit

External Equipment
Counterweight for block handling

Protective Equipment
Guards for stop/tail lights
Guards for std. working light rear
Guards for headlights front
Windshield guard
Window guards, side and rear window
Protection plates under cab
Belly guard front and rear
Hose protection for boom cyl. hoses
Radiator sand grid

Other Equipment
Comfort Drive Control, CDC
Long boom
Secondary steering
Logger version

Attachments
Buckets
- Spade nose with/without teeth
- Straight with/without teeth
- Light material

Reversible bolt-on cutting edge, 3 pcs
Segments, reversible

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

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