



**324D/
324D L**

Hydraulic Excavator



Engine

Engine Model	Cat® C7 with ACERT™ Technology
Net Flywheel Power	140 kW

Weights

Operating Weight – Std. Undercarriage	24 240 kg
Operating Weight – Long Undercarriage	25 560 kg

Engine

Engine Model	Cat C7 with ACERT Technology
Net Flywheel Power	140 kW
Net Power – ISO 9249	140 kW
Bore	110 mm
Stroke	127 mm
Displacement	7.2 L

- Net power advertised is the power available at the flywheel when the engine is equipped with fan, air cleaner, muffler and alternator.
- No engine derating needed up to 2300 m.

Weights

Operating Weight – Std. Undercarriage	24 240 kg
Operating Weight – Long Undercarriage	25 560 kg

- Reach boom, R2.95CB1 Stick, 1.0 m³ Bucket, 600 mm Shoes
- Reach boom, R2.95CB1 Stick, 1.1 m³ Bucket, 800 mm Shoes

Track

Standard w/Standard Undercarriage	600 mm
Standard w/Long Undercarriage	800 mm
Optional – Triple Grouser	600 mm
Optional	700 mm
Optional – Double Grouser	600 mm

Swing Mechanism

Swing Speed	9.6 rpm
Swing Torque	73.4 kN•m

Drive

Maximum Drawbar Pull	227 kN
Maximum Travel Speed	5.5 km/h

Hydraulic System

Main Implement System – Maximum Flow (2x)	235 L/min
Max. Pressure – Equipment	35 000 kPa
Max. Pressure – Travel	35 000 kPa
Max. Pressure – Swing	24 500 kPa
Pilot System – Maximum Flow	32.4 L/min
Pilot System – Maximum Pressure	3900 kPa
Boom Cylinder – Bore	135 mm
Boom Cylinder – Stroke	1305 mm
Stick Cylinder – Bore	140 mm
Stick Cylinder – Stroke	1660 mm
B1 Family Bucket Cylinder – Bore	120 mm
B1 Family Bucket Cylinder – Stroke	1104 mm
CB1 Family Bucket Cylinder – Bore	130 mm
CB1 Family Bucket Cylinder – Stroke	1156 mm
DB Family Bucket Cylinder – Bore	150 mm
DB Family Bucket Cylinder – Stroke	1151 mm

Service Refill Capacities

Fuel Tank Capacity	520 L
Cooling System	30 L
Engine Oil	30 L
Swing Drive	10 L
Final Drive (each)	6 L
Hydraulic System (including tank)	300 L
Hydraulic Tank	145 L

Sound Performance

Performance	ANSI/SAE J1166 APR 90
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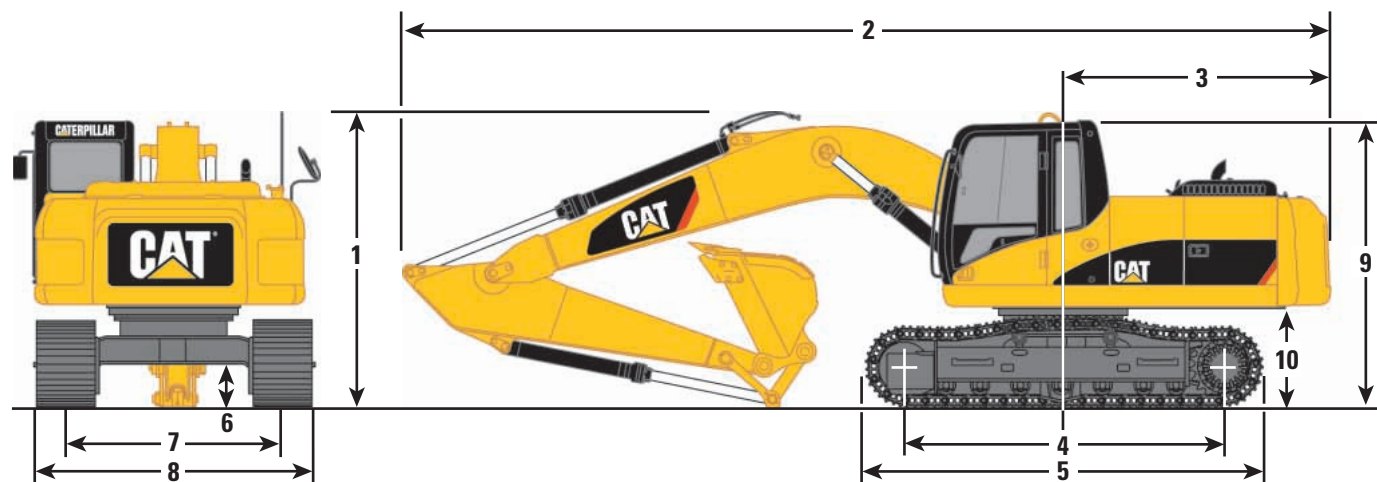
- When properly installed and maintained, the cab offered by Caterpillar, when tested with doors and windows closed according to ANSI/SAE J1166 OCT 98, meets OSHA and MSHA requirements for operator sound exposure limits in effect at time of manufacture.
- Hearing protection may be needed when operating with an open operator station and cab (when not properly maintained or doors/windows open) for extended periods or in noisy environment.

Standards

Brakes	SAE J1026 APR90
Cab/FOGS	SAE J1356 FEB88

Dimensions

All dimensions are approximate.



Boom Options		Reach Boom 5.9 m		Mass Boom 5.3 m	
Stick Options		R3.6B1	R2.95CB1	R2.5CB1	M2.5DB M2.0DB
1	Shipping height**	3430 mm	3170 mm	3300 mm	3450 mm 3320 mm
2	Shipping length	10 050 mm	10 060 mm	10 100 mm	9480 mm 9610 mm
3	Tail swing radius	2940 mm	2940 mm	2940 mm	2940 mm 2940 mm
Undercarriage		Fixed Gauge		Long Fixed Gauge	
4	Length to center of rollers	3450 mm		3830 mm	
5	Track length	4250 mm		4630 mm	
6	Ground clearance***	470 mm		470 mm	
7	Track gauge	2390 mm		2590 mm	
8	Track width*	2990 mm		3390 mm	
9	Cab height**	2980 mm		2980 mm	
10	Counterweight clearance***	1060 mm		1060 mm	

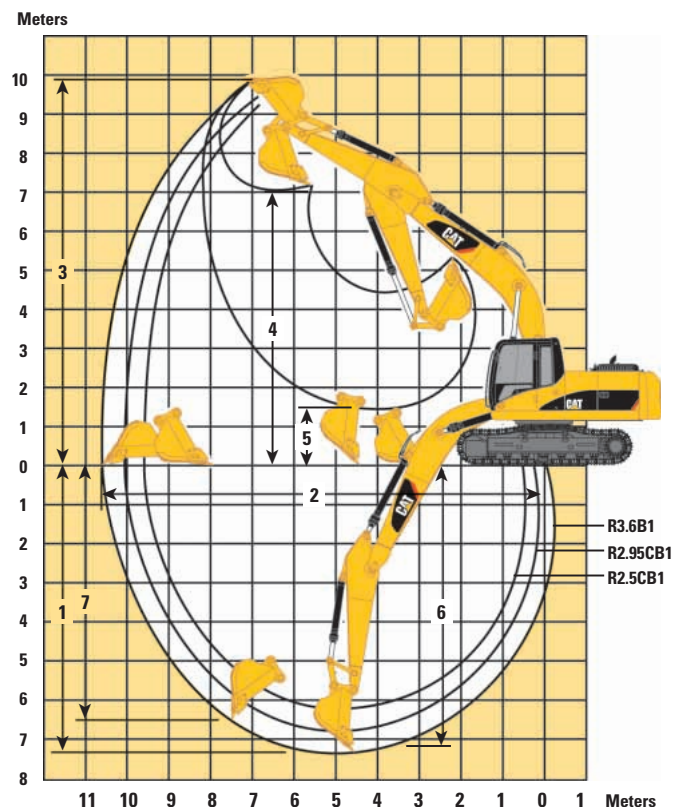
* Track width shown is for 600 mm track shoes for Fixed Gauge and 800 mm for Long Fixed Gauge.

** Includes 30 mm shoe lug height.

*** Without 30 mm shoe lug height.

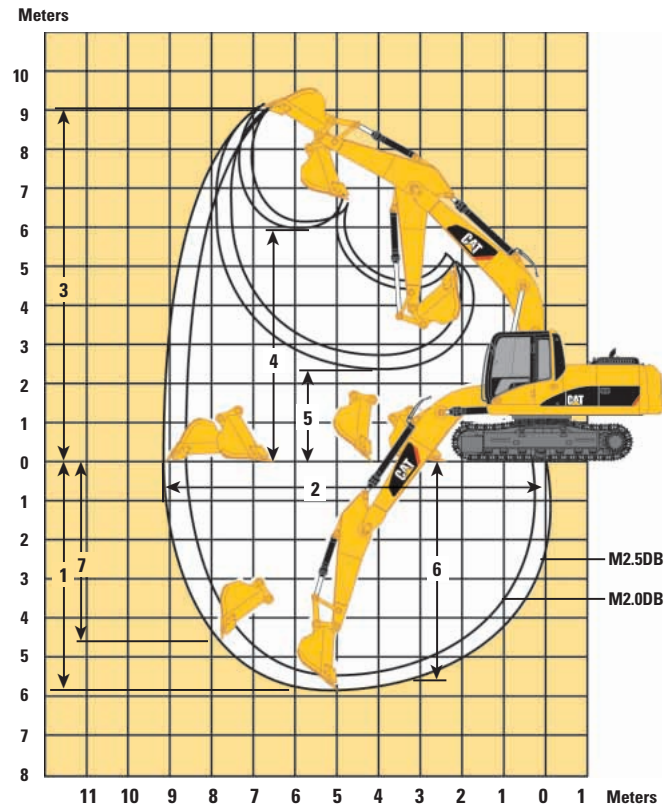
Reach Excavator Working Ranges

Reach (R) boom configuration



Mass Excavator Working Ranges

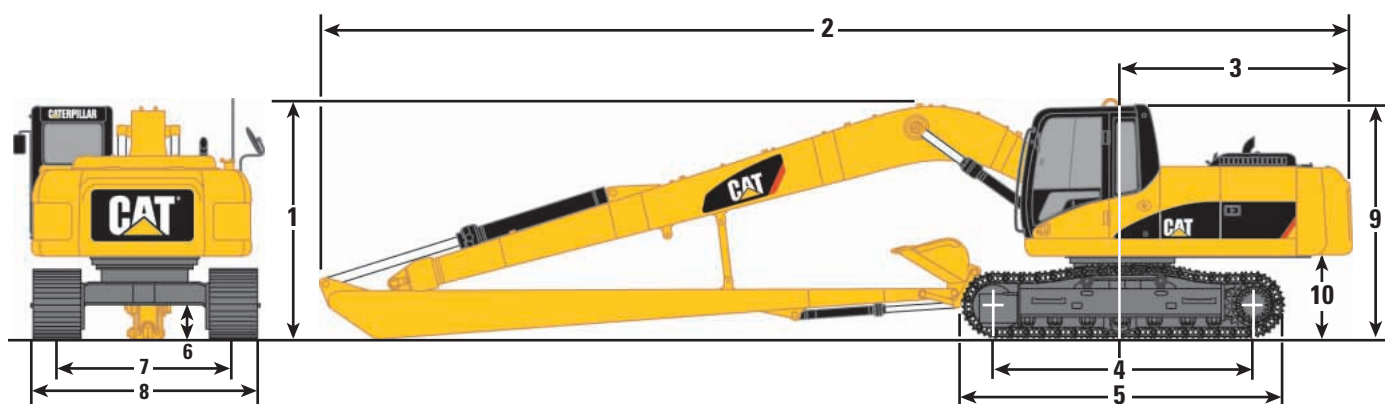
Mass (M) boom configuration



Boom Options		Reach Boom			Mass Boom	
Stick Options		R3.6B1	R2.95CB1	R2.5CB1	M2.5DB	M2.0DB
1	Maximum digging depth	7300 mm	6740 mm	6290 mm	5910 mm	5410 mm
2	Maximum reach at ground level	10 550 mm	10 030 mm	9620 mm	9110 mm	8650 mm
3	Maximum cutting height	9880 mm	9660 mm	9460 mm	9060 mm	8830 mm
4	Maximum loading height	7070 mm	6700 mm	6500 mm	5970 mm	5750 mm
5	Minimum loading height	1910 mm	2470 mm	2930 mm	2360 mm	2860 mm
6	Maximum depth cut for 2240 mm level bottom	7140 mm	6560 mm	6080 mm	5720 mm	5190 mm
7	Maximum vertical wall digging depth	6540 mm	5830 mm	5390 mm	4590 mm	4120 mm
Bucket digging force (SAE) (ISO)		131 kN	154 kN	154 kN	198 kN	198 kN
		149 kN	174 kN	174 kN	222 kN	222 kN
Stick digging force (SAE) (ISO)		105 kN	118 kN	138 kN	135 kN	154 kN
		108 kN	122 kN	143 kN	140 kN	160 kN

Dimensions

All dimensions are approximate.



Boom Options

Super Long Reach Boom 10.2 m

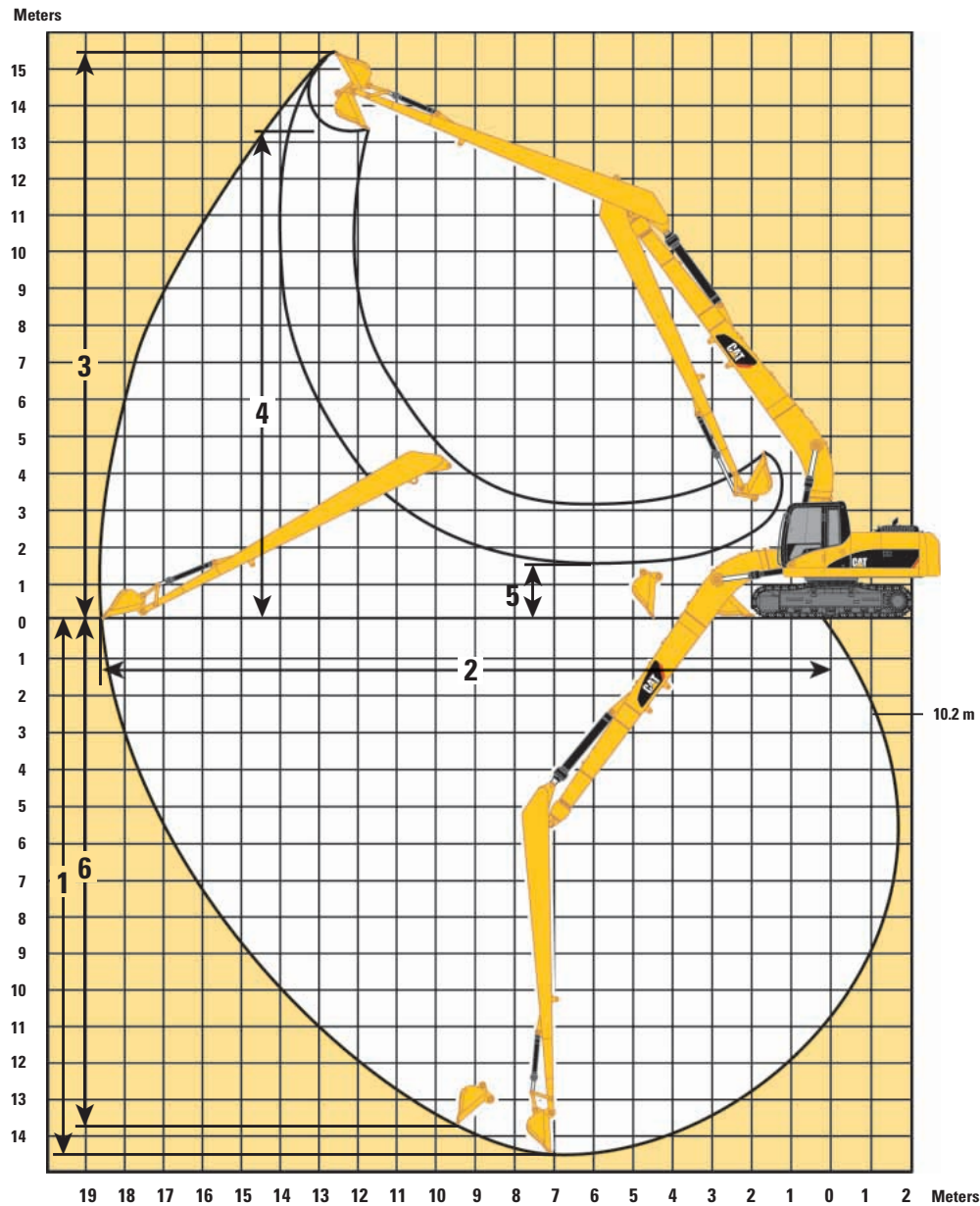
Stick Options

7.85 m

1	Shipping height	3150 mm
2	Shipping length	14 340 mm
3	Tail swing radius	3000 mm
4	Length to center of rollers	3830 mm
5	Track length	4630 mm
6	Ground clearance	440 mm
7	Track gauge	2590 mm
8	Transport width	
	800 mm shoes (standard)	3390 mm
	700 mm shoes (optional)	3290 mm
	600 mm shoes (optional)	3190 mm
9	Cab height	2980 mm
10	Counterweight clearance	1060 mm

Reach Excavator Working Ranges

Reach (R) boom configuration



Boom Options	Super Long Reach Boom
	10.2 m
Stick Options	7.85 m
Bucket Options	DC 0.61 m³
1 Maximum digging depth	14 594 mm
2 Maximum reach at ground level	18 603 mm
3 Maximum cutting height	15 411 mm
4 Maximum loading height	13 285 mm
5 Minimum loading height	1 483 mm
6 Maximum vertical wall digging depth	13 922 mm

Major Component Weights

		kg
Base machine with counterweight and 800 mm shoes (without front linkage)	With 600 mm shoe	19 450
	With 800 mm shoe	20 740
Two boom cylinders (each)		227
Counterweight		
Non-removal type		4520
Boom (includes lines, pins and stick cylinder)		
Reach boom		2033
Mass boom		2138
Stick (includes lines, pins, bucket cylinder and linkage)		
R3.6B1		1199
R2.95CB1		1208
R2.5CB1		1149
M2.5DB		1470
M2.0DB		1385
Track roller frame [includes frame, rollers, idlers, steps, guards, final drive, 800 mm shoes] – each	With 600 mm shoe	7950
	With 800 mm shoe	9240

324D Bucket Specifications and Compatibility

	Capacity*	Width	Tip Radius	Weight (w/o tips)	Teeth	Total Weight		Reach Stick		Mass Stick	
	m ³	mm	mm	kg	Qty	kg	R3.6B1	R2.95CB1	R2.5CB1	M2.5DB	M2.0DB
B1 Buckets											
Excavation	0.9	1092	1488	647	5	647	●	●	●	—	—
CB1 Buckets											
Excavation	1.0	1232	1555	822	5	822	⊖	●	●	—	—
	1.1	1320	1555	857	5	857	○	⊖	⊖	—	—
	1.2	1420	1555	896	5	896	○	○	⊖	—	—
DB Buckets											
Excavation	1.4	1472	1660	1124	5	1124	—	—	—	○	●
	1.5	1559	1660	1167	5	1167	—	—	—	○	⊖

324D L Bucket Specifications and Compatibility

	Capacity*	Width	Tip Radius	Weight (w/o tips)	Teeth	Total Weight		Reach Stick		Mass Stick	
	m ³	mm	mm	kg	Qty	kg	R3.6B1	R2.95CB1	R2.5CB1	M2.5DB	M2.0DB
B1 Buckets											
Excavation	0.9	1092	1488	647	5	647	●	●	●	—	—
CB1 Buckets											
Excavation	1.0	1232	1555	822	5	822	●	●	●	—	—
	1.1	1320	1555	857	5	857	⊖	●	●	—	—
	1.2	1420	1555	896	5	896	⊖	⊖	●	—	—
DB Buckets											
Excavation	1.4	1472	1660	1124	5	1124	—	—	—	⊖	●
	1.5	1559	1660	1167	5	1167	—	—	—	⊖	⊖

Assumptions for maximum material density rating:

1. Front linkage fully extended at ground line
2. Bucket curled
3. 100% bucket fill factor

* Based on SAE J296, some calculations of capacity specs fall on borderlines. Rounding may allow two buckets to have the same English rating, but different metric ratings.

- 2100 kg/m³ max material density
- ⊖ 1800 kg/m³ max material density
- 1500 kg/m³ max material density
- ∴ 1200 kg/m³ max material density
- Not Available

324D/324D L Work Tool Matching Guide

Boom Options	Reach Boom 5.9 m			Mass Boom 5.3 m	
Stick Options	R3.6CB	R2.95CB	R2.5CB	M2.5DB	M2.0DB
Hydraulic Hammer	H115Cs/ H120Cs/ H130Ds	H115Cs/ H120Cs/ H130Ds	H115Cs/ H120Cs/ H130Ds	H115Cs/ H120Cs/ H130Ds	H115Cs/ H120Cs/ H130Ds
Vibratory Plate Compactor	CVP110	CVP110	CVP110	CVP110	CVP110
Multi-Processor	MP20	MP20	MP20	n/a	n/a
360 Scrap Shear	S320	S320	S320	n/a	n/a
Trash Grapple	2.7 m ³	2.7 m ³	2.7 m ³	3.1 m ³	3.1 m ³
Contractors' Grapple	yes	yes	yes	n/a	n/a
Hydraulic Thumb	yes	yes	yes	n/a	n/a
Dedicated Quick Coupler	yes	yes	yes	yes	yes
Pin-Grabber Quick Coupler	yes	yes	yes	yes	yes

Reach Boom Lift Capacities



Load Point
Height



Load Radius
Over Front



Load Radius
Over Side



Load at
Maximum Reach

R2.95B1 STICK – 2950 mm
BUCKET – 1.1 m³

UNDERCARRIAGE – Long
SHOES – 600 mm triple grouser

BOOM – 5900 mm

		1.5 m		3.0 m		4.5 m		6.0 m		7.5 m				m
														
7.5 m	kg											*2900	*2900	8.12
6.0 m	kg									*4900	4100	*2850	*2850	9.04
4.5 m	kg							*6250	6050	*5700	4050	*2900	2550	9.58
3.0 m	kg					*9650	9100	*7350	5700	6200	3900	*3050	2350	9.81
1.5 m	kg					*11 850	8350	*8550	5350	6000	3700	*3300	2300	9.76
Ground Line	kg			*5500	*5500	*13 150	7900	8350	5100	5850	3550	*3700	2400	9.43
-1.5 m	kg	*5700	*5700	*9450	*9450	*13 350	7750	8200	4950	5750	3500	*4400	2700	8.80
-3.0 m	kg	*10 000	*10 000	*14 850	*14 850	*12 600	7800	8250	4950			5550	3400	7.77
-4.5 m	kg			*15 050	*15 050	*10 700	8050	*7600	5150			*5350	5150	6.16

* Limited by hydraulic capacity rather than tipping load. The above loads are in compliance with SAE hydraulic excavator lift capacity rating standard J1097. They do not exceed 87% of hydraulic lifting capacity or 75% of tipping capacity. Weight of all lifting accessories must be deducted from the above lifting capacities.

R2.5B1 STICK – 2500 mm
BUCKET – 1.2 m³

UNDERCARRIAGE – Long
SHOES – 600 mm triple grouser

BOOM – 5.9 m

		3.0 m		4.5 m		6.0 m		7.5 m				m
												
7.5 m	kg					*5800	*5800			*4000	*4000	7.60
6.0 m	kg					*5950	*5950			*3900	3200	8.59
4.5 m	kg			*8050	*8050	*6700	5950	*6050	3950	*3950	2750	9.16
3.0 m	kg			*10 400	8900	*7800	5600	6150	3850	*4150	2550	9.40
1.5 m	kg			*12 400	8150	8600	5250	5950	3700	4100	2500	9.35
Ground Line	kg			*13 300	7800	8350	5050	5800	3550	4350	2600	9.00
-1.5 m	kg	*9900	*9900	*13 200	7750	8250	4950	5800	3500	4950	3000	8.33
-3.0 m	kg	*16 300	16 250	*12 150	7850	8300	5000			*5500	3900	7.22
-4.5 m	kg	*13 400	*13 400	*9750	8200					*7350	5750	5.64

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R2.95B1 STICK – 2950 mm
BUCKET – 1 m³

UNDERCARRIAGE – Standard
SHOES – 600 mm triple grouser

BOOM – 5900 mm

		1.5 m		3.0 m		4.5 m		6.0 m		7.5 m				m
														
7.5 m	kg											*2950	*2950	8.12
6.0 m	kg									*4950	3650	*2850	2600	9.04
4.5 m	kg							*6250	5400	5350	3600	*2900	2250	9.58
3.0 m	kg					*9650	8050	*7400	5050	5200	3450	*3050	2050	9.81
1.5 m	kg					11 650	7300	7250	4700	5000	3250	3200	2000	9.76
Ground Line	kg			*5500	*5500	11 150	6900	6950	4450	4850	3100	3350	2100	9.43
-1.5 m	kg	*5750	*5750	*9450	*9450	10 950	6750	6800	4350	4800	3050	3750	2350	8.80
-3.0 m	kg	*10 050	*10 050	*14 850	13 700	11 050	6800	6850	4350			4650	3000	7.77
-4.5 m	kg			*15 050	14 200	*10 700	7050	7000	4500			*5400	4550	6.16

* Limited by hydraulic capacity rather than tipping load. The above loads are in compliance with SAE hydraulic excavator lift capacity rating standard J1097. They do not exceed 87% of hydraulic lifting capacity or 75% of tipping capacity. Weight of all lifting accessories must be deducted from the above lifting capacities.

Always refer to the appropriate Operation and Maintenance Manual for specific product information.

Mass Boom Lift Capacities



Load Point
Height



Load Radius
Over Front



Load Radius
Over Side



Load at
Maximum Reach

M2.5DB STICK – 2500 mm
BUCKET – 1.4 m³

UNDERCARRIAGE – Long
SHOES – 600 mm triple grouser

BOOM – 5300 mm

	1.5 m		3.0 m		4.5 m		6.0 m		7.5 m				m
7.5 m kg											*3500	*3500	6.95
6.0 m kg							*6000	5900			*3300	*3300	8.05
4.5 m kg							*6500	5750	*4700	3650	*3300	2800	8.66
3.0 m kg					*9600	8950	*7500	5450	5850	3550	*3500	2550	8.92
1.5 m kg					*11 700	8150	8450	5100	5700	3400	*3800	2500	8.87
Ground Line kg			*8550	*8550	*12 900	7700	8200	4850	5600	3300	*4350	2650	8.49
-1.5 m kg	*7950	*7950	*14 200	*14 200	*12 950	7550	8050	4750			*5300	3150	7.75
-3.0 m kg	*14 250	*14 250	*17 000	16 050	*11 700	7700	8150	4850			*5850	4450	6.50
-4.5 m kg					*8200	8150					*7450	7450	4.76

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Super Long Reach Boom Lift Capacities



Load Point
Height



Load Radius
Over Front



Load Radius
Over Side



Load at Maximum
Reach – Bucket Curled

BOOM – 10.2 m
STICK – 7.85 m

BUCKET – 1142 mm
0.60 m³
291 kg

SHOES – 800 mm triple grouser
UNDERCARRIAGE – Long
HEAVY LIFT – On

	6.0 m		7.5 m		9.0 m		10.5 m		12.0 m		13.5 m		15.0 m				m
12.0 m kg															*980	*980	15.24
10.5 m kg											*1630	*1630	*1710	*1710	*930	*930	16.16
9.0 m kg											*1610	*1610	*1680	*1680	*900	*900	16.89
7.5 m kg											*1730	*1730	*1710	*1710	*870	*870	17.01
6.0 m kg											*1820	*1820	*1790	1680	*870	*870	17.62
4.5 m kg									*2070	*2070	*1960	*1960	*1890	1600	*880	*880	17.99
3.0 m kg					*2860	*2860	*2530	*2530	*2300	*2300	*2130	1910	*2010	1510	*910	880	18.22
1.5 m kg	*5290	*5290	*4060	*4060	*3330	*3330	*2860	2820	*2540	2230	*2300	1780	*2140	1420	*930	860	18.32
Ground Line kg	*6250	5670	*4690	4220	*3770	3260	*3180	2580	*2770	2060	*2480	1660	*2270	1330	*950	850	18.28
-1.5 m kg	*6950	5140	*5220	3830	*4160	2980	*3470	2370	*2990	1910	*2650	1550	2240	1260	*1000	860	18.12
-3.0 m kg	*7400	4820	*5600	3570	*4470	2770	*3710	2210	3090	1790	2580	1460	2180	1200	*1080	890	17.82
-4.5 m kg	*7650	4670	*5850	3410	4550	2640	3650	2100	3000	1710	2520	1400	2140	1160	*1180	960	17.36
-6.0 m kg	*7710	4630	5840	3340	4480	2570	3590	2040	2950	1660	2480	1370	2130	1150	*1310	1090	16.74
-7.5 m kg	*7600	4670	5850	3350	4460	2550	3570	2030	2950	1650	2490	1380	2160	1180	*1500	1230	15.94
-9.0 m kg	*7310	4800	*5780	3420	4510	2600	3610	2060	2990	1690	2550	1440			*1770	1480	14.92
-10.5 m kg	*6800	4990	*5420	3550	*4430	2710	*3670	2160	*3010	1800					*2200	1870	13.63
-12.0 m kg	*5970	5280	*4780	3770	*3870	2890	*3090	2350							*2590	*1930	11.96
-12.0 m kg	*4620	*4620	*3630	*3630	*2700	*2700											

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Always refer to the appropriate Operation and Maintenance Manual for specific product information.

Standard Equipment

Standard equipment may vary. Consult your Caterpillar dealer for details.

Upper Structure

Electrical

- Alternator, 80A
- Light, storage box mounted (one)
- Signaling/Warning horn

Engine

- Cat C7 with ACERT Technology
- 2300 m altitude capability with no deration
- Air intake heater
- Automatic engine speed control
- Radial seal air filter
- Water separator in fuel line
- Waved fin radiator with space for cleaning
- 2 micron fuel filter
- Automatic swing parking brake
- Boom drift reducing valve
- Boom lowering device for back-up
- Caterpillar one key security system
- Counterweight
- Door locks and cap locks
- Mirrors, rearview (frame-right, cab-left)
- Regeneration circuit for boom and stick
- Reverse swing damping valve
- Stick drift reducing valve
- Two speed travel

Operator Station

Cab

- Adjustable armrest
- Ashtray with lighter
- Beverage holder
- Bi-Level air conditioner (automatic) with defroster
- Bolt-on FOGS capability
- Capability of installing two additional pedals
- Coat hook
- Front windshield glass split 70/30
- Interior lighting
- Literature holder
- Mounting for two stereo speakers (two locations)
- Neutral lever (lock out) for all controls
- Openable front windshield with assist device
- Openable skylight
- Pillar mounted upper windshield wiper and washer
- Pressurized cab (positive filtered ventilation)
- Radio mounting (DIN size)
- Rear window, emergency exit
- Removable lower windshield with in-cab storage bracket
- Seat with integrated, adjustable console
- Seat belt, retractable (50.8 mm width)
- Sliding upper door window
- Storage compartment suitable for lunch box
- Travel control pedals with removable hand levers
- Utility space for magazine
- Washable floor mat

Monitor

- Economy mode
- Full time clock
- Language display – Full color and graphical display
- Machine condition, error code and tool mode setting
- Start-up level check for hydraulic oil, engine oil and coolant
- Warning information, filter/fluid change information and working hour

Undercarriage

- Grease lubricated GLT2, resin seal
- Idler and center section track guiding
- 800 mm triple grouser track shoe (324D L)
- 600 mm triple grouser track shoes (324D)

Optional Equipment

Optional equipment may vary. Consult your Caterpillar dealer for details.

Front Linkage

- Bucket linkage, B1-family with lifting eye
- Bucket linkage, CB1-family with lifting eye
- Bucket linkage, DB-family with lifting eye
- Heavy-duty 5.9 m reach boom (with left and right side light)
- Heavy-duty 2.95 m stick for heavy-duty reach boom
- Reach boom 5.9 m with left and right side light
 - R3.6B1 3600 mm stick
 - R2.95CB1 2950 mm stick
 - R2.5CB1 2500 mm stick
- Mass boom 5.3 m with left and right side light
 - M2.5DB 2500 mm stick
 - M2.0DB 3200 mm stick

Track

- Standard undercarriage
 - 700 mm triple grouser shoes
 - 800 mm triple grouser shoes
- Long Undercarriage
 - 600 mm triple grouser shoes
 - 700 mm triple grouser shoes

Guards

- FOGS, bolt-on
- Guard, cab front
- Guard, cab top
- Guard, full length for long undercarriage (two piece)
- Guard, heavy-duty bottom, 4 mm, with out swivel guard and travel motor protection
- Guard, track end guide for long undercarriage
- Guard, track end guide for standard undercarriage
- Guard, vandalism
- Heavy-duty swivel protection, 16 mm, swivel guard only
- Heavy-duty travel motor protection
- Net for front guard (full net, one piece)
- Net for front guard (half net, one piece)
- Swivel protection, 6 mm, swivel guard only

Auxiliary Hydraulics and Lines

- Additional circuit
 - Hammer return filter circuit
- Boom and stick lines
 - Cat quick coupler line (high and medium pressure capable)
 - Drain line
 - High pressure line
 - Medium pressure line
- Quick coupler
 - Quick coupler for high pressure
- Tool control system
 - Configuration 1 (hammer 1), foot pedal operated 1P, one-way circuit
 - Configuration 2 (common), foot pedals operated 1/2P, common circuit
 - Configuration 3 (hammer 2), foot pedal operated 2P, one-way circuit

Operator Station

- Tempered glass windows
- Polycarbonate windows
- Power supply, 12V-7A (1)
- Power supply, 12V-7A (2)
- Rear window emergency exit
- Seat, high-back air suspension
- Seat, high-back air suspension with heater
- Seat, high-back mechanical suspension
- Seat, low-back suspension without headrest
- Headrest
- Sunscreen
- Windshield wiper, lower with washer
- Working lights, cab mounted
- Rain protector for front windshield
- Sun visor
- AM/FM radio
- Control pattern quick-changer, two way
- Control pattern quick-changer, four way
- Cat MSS (anti-theft device)
- Lunch box with cover
- Water level indicator for water separator

Other Optional Equipment

- Additional gear train for auxiliary pump
- Air pre-filter
- Cooling package, high ambient with VSF
- Cooling package, semi-high ambient
- Electric refueling pump with auto shut off
- Fine swing
- Starting kit, cold weather, -32° C
- Travel alarm