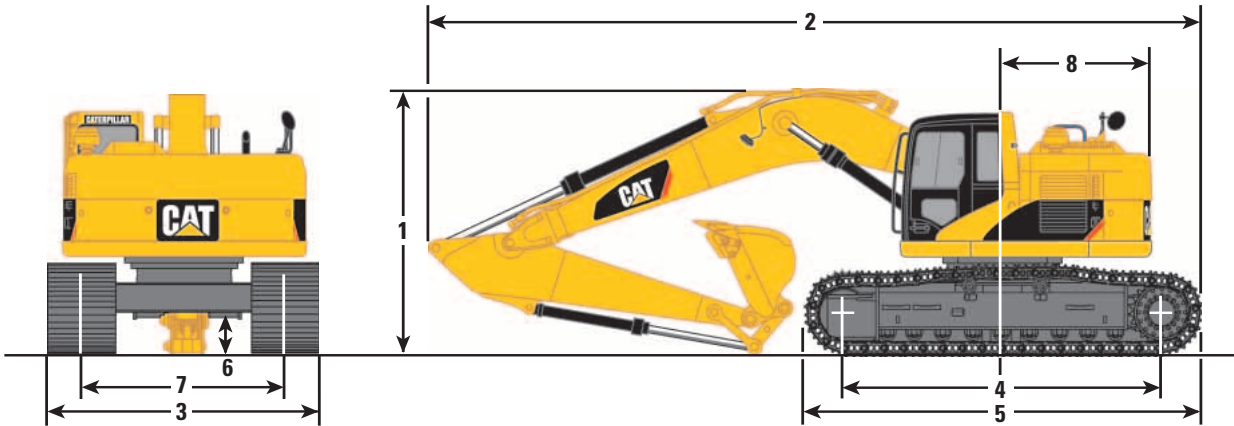


321D LCR Hydraulic Excavator

Dimensions

All dimensions are approximate.

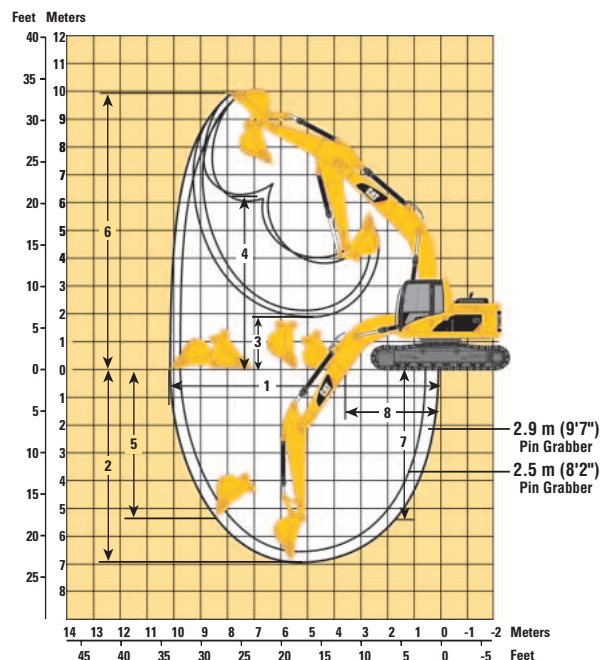
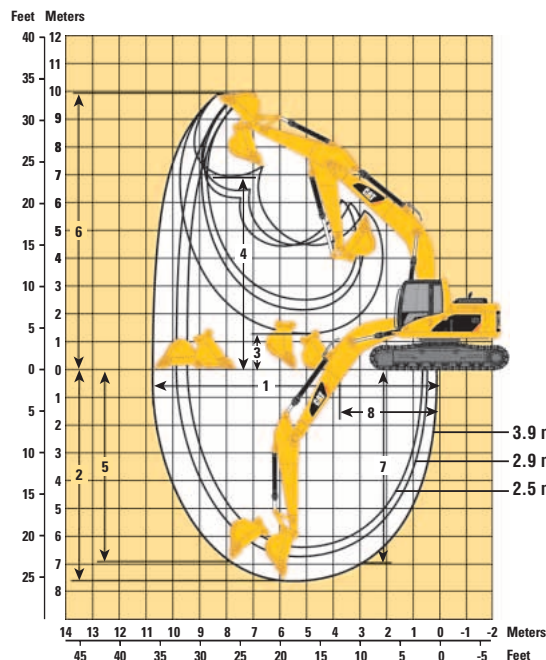


Boom Options	Reach — 5.68 (18'7") Stick	Reach — 5.68 (18'7") Stick
Stick Options	R2.9B1 m (9'7") Std/SA	R2.5B1 m (8'2") Std/SA
1 Shipping Height	3030 mm (9'11")	3030 mm (9'11")
2 Shipping Length	8880 mm (29'2")	8880 mm (29'2")
3 Tail Swing Radius	1676 mm (5'6")	1676 mm (5'6")
4 Length to Center of Rollers		
Long	3650 mm (12'0")	3650 mm (12'0")
5 Track Length		
Long	4455 mm (14'7")	4455 mm (14'7")
6 Ground Clearance	450 mm (1'6")	450 mm (1'6")
7 Track Gauge		
Long	2380 mm (7'10")	2380 mm (7'10")
8 Transport Width	800 mm Shoes	600 mm Shoes
Long	3180 mm (10'5")	2980 mm (9'9")
9 Cab Height	2980 mm (9'9")	2980 mm (9'9")
10 Counterweight Clearance	980 mm (3'3")	980 mm (3'3")

Note: All numbers are approximate

321D LCR Hydraulic Excavator

Working Ranges



Boom	Reach 5.68 m (18'7")	Reach 5.68 m (18'7")	Reach 5.68 m (18'7")
Stick Length	R3.9B1 m (12'8")	R2.9B1 m (9'7")	R2.5B1 m (8'2")
Bucket	1.0 m³ (1.31 yd³)	1.0 m³ (1.31 yd³)	1.0 m³ (1.31 yd³)
1 Maximum Reach at Ground Level	10 760 (35'4")	9860 (32'4")	9460 (31'0")
2 Maximum Digging Depth	7660 (25'2")	6720 (22'1")	6300 (20'8")
3 Minimum Loading Height	1230 (4'0")	2170 (7'1")	2590 (8'6")
4 Maximum Loading Height	6940 (22'9")	6490 (21'4")	6290 (20'8")
5 Maximum Vertical Wall Digging Depth	6970 (22'10")	6060 (19'11")	5650 (18'6")
6 Maximum Cutting Height	9940 (32'7")	9490 (31'2")	9290 (30'6")
7 Maximum Depth Cut for 2440 m (8') Level Bottom	6970 (22'10")	6060 (19'11")	5650 (18'6")
8 Minimum Front Swing Radius	3790 (12'5")	3660 (12'0")	3710 (12'2")

Boom	Reach 5.68 m (18'7")	Reach 5.68 m (18'7")
Stick Length	R2.9B1 m (9'7")	R2.5B1 m (8'2")
Bucket	Pin Grabber Quick Coupler with 1.0 m³ (1.31 yd³)	Pin Grabber Quick Coupler with 1.0 m³ (1.31 yd³)
1 Maximum Reach at Ground Level	10 120 (33'2")	9730 (31'11")
2 Maximum Digging Depth	6980 (22'11")	6560 (21'6")
3 Minimum Loading Height	1910 (6'3")	2330 (7'8")
4 Maximum Loading Height	6230 (20'5")	6030 (19'9")
5 Maximum Vertical Wall Digging Depth	5380 (17'8")	4990 (16'4")
6 Maximum Cutting Height	9720 (31'11")	9520 (31'0")
7 Maximum Depth Cut for 2440 m (8') Level Bottom	5380 (17'8")	4990 (16'4")
8 Minimum Front Swing Radius	3660 (12'0")	3710 (12'2")

Note: All numbers are approximate

321D LCR Hydraulic Excavator

Bucket and Stick Forces

Bucket and Stick force are calculated with different buckets than those calculated for working range.

General Purpose Buckets	R2.9B1 Stick	R2.9B1 Stick w/Coupler	R2.5B1 Stick	R2.5B1 Stick w/Coupler
Bucket Digging Force (ISO)	140 kN (31,361 lb)	116 kN (26,145 lb)	140 kN (31,361 lb)	116 kN (26,145 lb)
Bucket Digging Force (SAE)	125 kN (28,079 lb)	108 kN (24,189 lb)	125 kN (28,079 lb)	108 kN (24,189 lb)
Stick Digging Force (ISO)	106 kN (23,897 lb)	100 kN (22,436 lb)	118 kN (26,460 lb)	110 kN (24,706 lb)
Stick Digging Force (SAE)	103 kN (23,223 lb)	98 kN (22,009 lb)	114 kN (25,628 lb)	107 kN (24,144 lb)

Power Buckets	R2.9B1 Stick	R2.9B1 Stick w/Coupler	R2.5B1 Stick	R2.5B1 Stick w/Coupler
Bucket Digging Force (ISO)	163 kN (36,711 lb)	124 kN (27,809 lb)	163 kN (36,711 lb)	124 kN (27,809 lb)
Bucket Digging Force (SAE)	144 kN (32,417 lb)	113 kN (25,493 lb)	144 kN (32,417 lb)	113 kN (25,493 lb)
Stick Digging Force (ISO)	109 kN (24,482 lb)	102 kN (22,863 lb)	121 kN (27,202 lb)	112 kN (25,224 lb)
Stick Digging Force (SAE)	106 kN (23,717 lb)	99 kN (22,301 lb)	117 kN (26,235 lb)	109 kN (24,527 lb)

Heavy Duty/Rock Buckets	R2.9B1 Stick	R2.9B1 Stick w/Coupler	R2.5B1 Stick	R2.5B1 Stick w/Coupler
Bucket Digging Force (ISO)	140 kN (31,563 lb)	117 kN (26,258 lb)	140 kN (31,563 lb)	117 kN (26,258 lb)
Bucket Digging Force (SAE)	125 kN (28,079 lb)	107 kN (24,144 lb)	125 kN (28,079 lb)	108 kN (24,212 lb)
Stick Digging Force (ISO)	106 kN (23,920 lb)	100 kN (22,458 lb)	118 kN (26,505 lb)	110 kN (24,729 lb)
Stick Digging Force (SAE)	103 kN (23,200 lb)	98 kN (21,964 lb)	114 kN (25,606 lb)	107 kN (24,100 lb)

Major Component Weights

Base machine with counterweight and shoes (without front linkage)		
Long undercarriage with 800 mm shoes	20 200 kg	44,533 lb
Two boom cylinders	344 kg	758 lb
Counterweight	6100 kg	13,448 lb
Boom (includes lines, pins and stick cylinder)		
Reach boom 5.7 m (18'5")	1660 kg	3,660 lb
Stick (includes lines, pins, bucket cylinder and linkage)		
R2.9B1 (9'7")	970 kg	2,138 lb
R2.5B1 (8'3")	940 kg	2,072 lb
Undercarriage		
[includes carbody, swing bearing, trackframe, rollers, idlers, steps, guards, final drive]		
L undercarriage with 800 mm shoes	7850 kg	17,306 lb

All weights are approximate.

321D LCR Hydraulic Excavator

321D LCR Bucket Options

	Adapter	Capacity*		Width		Tip Radius		Weight (without tips)		Teeth					
		m³	yd³	mm	in	mm	in	kg	lb		Qty	R2.9B1		R2.5B1	
												R2.9B1	w/QC	R2.5B1	w/QC
B Family															
General Purpose (GP)	K80	0.55	0.72	610	24	1565	61.6	629	1,387	3	●	●	●	●	
	K80	0.75	0.98	762	30	1565	61.6	718	1,583	4	●	●	●	●	
	K80	0.95	1.24	914	36	1565	61.6	790	1,742	5	●	●	●	●	
	K80	1.17	1.53	1067	42	1565	61.6	852	1,878	5	◐	◐	●	◐	
	K80	1.39	1.82	1219	48	1565	61.6	926	2,041	6	○	○	◐	○	
	K80	1.57	2.05	1372	54	1565	61.6	1000	2,205	6	◐	◐	○	◐	
Heavy Duty (HD)	K90	0.47	0.61	610	24	1578	62.1	650	1,433	3	●	●	●	●	
	K90	0.64	0.84	762	30	1578	62.1	743	1,638	4	●	●	●	●	
	K90	0.82	1.07	914	36	1578	62.1	813	1,792	5	●	●	●	●	
	K90	1.00	1.31	1067	42	1578	62.1	866	1,909	5	●	●	●	●	
	K90	1.19	1.56	1219	48	1578	62.1	956	2,108	6	◐	○	●	◐	
	K90	1.38	1.80	1372	54	1578	62.1	1030	2,271	6	○	◐	◐	○	
Heavy Duty Rock (HDR)	K90	0.54	0.70	610	24	1578	62.1	696	1,534	3	●	●	●	●	
	K90	0.77	1.00	762	30	1578	62.1	781	1,722	4	●	●	●	●	
	K90	0.84	1.10	914	36	1578	62.1	863	1,903	5	●	●	●	●	
	K90	1.07	1.40	1067	42	1578	62.1	933	2,057	5	●	◐	●	●	
Heavy Duty Power (HDP)	K90	0.79	1.03	914	36	1458	57.4	811	1,788	5	●	●	●	●	
	K90	0.96	1.26	1067	42	1458	57.4	875	1,929	5	●	●	●	●	
	K90	1.14	1.49	1219	48	1458	57.4	954	2,103	6	◐	◐	●	◐	
Ditch Cleaning (DC)	n/a	1.02	1.33	1524	60	1139	44.8	726	1,601	0	●	●	●	●	
	n/a	1.24	1.62	1830	72	1139	44.8	823	1,814	0	◐	◐	●	◐	

Assumptions for maximum material density rating:

1. Front Linkage fully extended at ground line
2. Machine positioned 90 degrees over the side
3. Bucket curled
4. 100% Bucket Fill Factor

Please consult with your Caterpillar dealer personnel for optimum selection of buckets and work tools that best match your application.

* 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 (3,500 lb/yd³) max material density
- ◐ 1800 kg/m³ (3,000 lb/yd³) max material density
- 1500 kg/m³ (2,500 lb/yd³) max material density
- ◑ 1200 kg/m³ (2,000 lb/yd³) max material density

321D LCR Hydraulic Excavator

321D LCR Work Tool Matching Guide

Boom Options		Reach Boom 5.7 m (18'5")
Stick Options	R2.9B1 (9'7")	R2.5B1 (8'2")
Hydraulic Hammer	H115s/ H120Cs/ H130s	H115s/ H120Cs/ H130s
Vibratory Plate Compactor	CVP110	CVP110
Multi-Processor	MP15	MP15
360 Scrap Shear	S320	S320
Trash Grapple	2.7 m³ (3.5 yd³)	2.7 m³ (3.5 yd³)
Contractor's Grapple	yes	yes
Hydraulic Thumb	yes	yes
Dedicated Quick Coupler	yes	yes
Pin-Grabber Quick Coupler	yes	yes

321D LCR Hydraulic Excavator

Reach Boom Lift Capacities



Load Point
Height



Load Radius
Over Front



Load Radius
Over Side



Load at
Maximum Reach

STICK – 2.9 m (9'7")

BUCKET – 0.82 m³ (1.07 yd³)

UNDERCARRIAGE – Long

SHOES – 800 mm (32") triple grouser

BOOM – 5.7 m (18'9")

HEAVY LIFT – On

	1.5 m (5.0 ft)		3.0 m (10.0 ft)		4.5 m (15.0 ft)		6.0 m (20.0 ft)		7.5 m (25.0 ft)				m ft	
														
9.0 m 30.0 ft	kg lb											*2250 *5,050	*2250 *5,050	6.43 20.44
7.5 m 25.0 ft	kg lb						*4350 *8,900	*4350 *8,900				*2000 *4,400	*2000 *4,400	7.94 25.74
6.0 m 20.0 ft	kg lb				*5150 *11,150	*5150 *11,150	*5000 *10,950	4800 10,300	*3750 *7,300	3150 6,750		*1900 *4,150	*1900 *4,150	8.86 28.91
4.5 m 15.0 ft	kg lb		*7750	*7750	*6550 *14,100	*6550 *14,100	*5700 *12,300	4650 9,950	*5200 *11,000	3100 6,600		*1900 *4,150	*1900 *4,150	9.39 30.74
3.0 m 10.0 ft	kg lb		*13 650 *29,100	*13 650 *29,100	*8600 *18,450	7050 15,150	*6650 *14,350	4400 9,450	5200 11,100	3000 6,400		*2000 *4,350	1900 4,100	9.61 31.52
1.5 m 5.0 ft	kg lb		*5350 *12,750	*5350 *12,750	*10 450 *22,500	6500 13,950	7300 15,650	4150 8,900	5050 10,850	2850 6,150		*2150 *4,700	1850 4,050	9.55 31.34
Ground Line	kg lb		*6950 *15,900	*6950 *15,900	*11 400 24,550	6150 13,200	7100 15,200	3950 8,500	4950 10,600	2800 5,950		*2450 *5,300	1950 4,300	9.21 30.20
-1.5 m -5.0 ft	kg lb	*6400 *14,300	*6400 *14,300	*10 700 *24,250	*10 700 *24,250	11 350 24,250	6050 12,950	7000 14,950	3850 8,300	4900 10,550		2750 5,850	*2900 *6,350	8.54 27.97
-3.0 m -10.0 ft	kg lb	*10 550 *23,700	*10 550 *23,700	*15 150 *32,750	12 200 26,100	*10 550 *22,800	6100 13,050	7000 15,050	3900 8,350			*3750 *8,300	2850 6,350	7.45 24.31
-4.5 m -15.0 ft	kg lb			*11 850 *25,350	*11 850 *25,350	*8400 *17,850	6300 13,550					*3600 *8,750	*3600 *8,750	5.70 18.47

* 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.



Load Point
Height



Load Radius
Over Front



Load Radius
Over Side



Load at Maximum
Reach – Coupler Curled

STICK – 2.9 m (9'7")

BUCKET – No Bucket, Bare Quick Coupler

UNDERCARRIAGE – Long

SHOES – 800 mm (32") triple grouser

BOOM – 5.7 m (18'9")

HEAVY LIFT – On

	1.5 m (5.0 ft)		3.0 m (10.0 ft)		4.5 m (15.0 ft)		6.0 m (20.0 ft)		7.5 m (25.0 ft)					
													m ft	
9.0 m 30.0 ft	kg lb				*5050 *10,150	*5050 *10,150						*3750 *8,400	*3750 *8,400	6.43 20.44
7.5 m 25.0 ft	kg lb						*4900 *10,150	*4900 *10,150				*3200 *7,050	*3200 *7,050	7.94 25.74
6.0 m 20.0 ft	kg lb				*5500 *11,950	*5500 *11,950	*5400 *11,850	5150 11,000	*3900 *7,150	3500 *7,150		*3000 *6,550	*3000 *6,550	8.86 28.91
4.5 m 15.0 ft	kg lb		*7850	*7850	*6900 *14,900	*6900 *14,900	*6050 *13,200	4950 10,650	*5600 *11,700	3450 7,350		*2950 *6,500	*2950 *6,500	9.39 30.74
3.0 m 10.0 ft	kg lb		*14 050 *29,900	*14 050 *29,900	*8950 *19,250	7350 15,750	*7050 *15,200	4700 10,150	5500 11,850	3350 7,150		*3050 *6,650	1900 4,100	9.61 31.52
1.5 m 5.0 ft	kg lb		*5850 *13,850	*5850 *13,850	*10 850 *23,350	6800 14,650	7600 16,350	4500 9,600	5400 11,550	3200 6,900		*3250 *7,150	1850 4,050	9.55 31.34
Ground Line	kg lb		*7400 *16,900	*7400 *16,900	11 800 25,300	6500 13,950	7400 15,900	4300 9,250	5300 11,350	3100 6,700		*3650 *8,000	1950 4,300	9.21 30.20
-1.5 m -5.0 ft	kg lb	*6800 *15,150	*6800 *15,150	*11 150 *25,300	*11 150 *25,300	11 650 25,000	6400 13,750	7300 15,700	4200 9,050	5250 11,250		*4300 *9,500	2250 4,900	8.54 27.97
-3.0 m -10.0 ft	kg lb	*11 000 *24,650	*11 000 *24,650	*15 600 *33,800	12 600 26,950	*11 000 *23,700	6450 13,800	7300 15,750	4250 9,100			*5600 *12,450	2850 6,350	7.45 24.31
-4.5 m -15.0 ft	kg lb			*12 300 *26,250	*12 300 *26,250	*8800 *18,750	6600 14,250					*6200 *13,650	*6200 *13,650	5.70 18.47

* 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.

321D LCR Hydraulic Excavator

Reach Boom Lift Capacities



Load Point
Height



Load Radius
Over Front



Load Radius
Over Side



Load at
Maximum Reach

STICK – 2.5 m (8'3")

BUCKET – 0.82 m³ (1.07 yd³)

UNDERCARRIAGE – Long

SHOES – 800 mm (32") triple grouser

BOOM – 5.7 m (18'9")

HEAVY LIFT – On

	1.5 m (5.0 ft)		3.0 m (10.0 ft)		4.5 m (15.0 ft)		6.0 m (20.0 ft)		7.5 m (25.0 ft)				m ft	
														
9.0 m 30.0 ft	kg lb											*2700 *6,100	*2700 *6,100	5.75 18.13
7.5 m 25.0 ft	kg lb					*5100 *10,700	*5100 *10,700	*3800 *7,650	*3800 *7,650			*2350 *5,250	*2350 *5,250	7.44 24.08
6.0 m 20.0 ft	kg lb					*5800 *12,550	*5800 *12,550	*5450 *11,950	4750 10,100			*2250 *4,950	*2250 *4,950	8.42 27.48
4.5 m 15.0 ft	kg lb			*9750 *20,650	*9750 *20,650	*7200 *15,500	*7200 *15,500	*6100 *13,200	4600 9,850	5250 *10,550	3050 6,500	*2250 *4,950	2200 4,850	8.98 29.42
3.0 m 10.0 ft	kg lb					*9200 *19,750	6900 14,850	*7000 *15,100	4350 9,350	5150 11,050	2950 6,300	*2350 *5,200	2050 4,450	9.22 30.23
1.5 m 5.0 ft	kg lb					*10 850 *23,350	6350 13,700	7250 15,550	4100 8,800	5050 10,800	2850 6,100	*2550 *5,600	2000 4,400	9.16 30.05
Ground Line	kg lb			*6450 *14,800	*6450 *14,800	11 400 24,400	6100 13,100	7050 15,150	3950 8,450	4950 10,600	2800 5,950	*2900 *6,350	2150 4,650	8.79 28.85
-1.5 m -5.0 ft	kg lb	*7050 *15,750	*7050 *15,750	*11 400 *25,850	*11 400 25,650	*11 300 24,250	6050 12,950	7000 15,000	3900 8,350	4950	2750	*3450 *7,600	2450 5,450	8.09 26.48
-3.0 m -10.0 ft	kg lb	*12 100 *27,100	*12 100 *27,100	*14 150 *30,600	12 300 26,300	*10 100 *21,800	6150 13,200	7050 15,150	3950 8,500			*4500 *9,850	3300 7,300	6.91 22.53
-4.5 m -15.0 ft	kg lb			*10 400 *22,100	*10 400 *22,100	*7400 *15,550	6450 13,850					*5900 *12,900	5100 11,600	5.24 16.88

* 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.



Load Point
Height



Load Radius
Over Front



Load Radius
Over Side



Load at Maximum
Reach – Coupler Curled

STICK – 2.5 m (8'3")

BUCKET – No Bucket, Bare Quick Coupler

UNDERCARRIAGE – Long

SHOES – 800 mm (32") triple grouser

BOOM – 5.7 m (18'9")

HEAVY LIFT – On

	1.5 m (5.0 ft)		3.0 m (10.0 ft)		4.5 m (15.0 ft)		6.0 m (20.0 ft)		7.5 m (25.0 ft)					
													m ft	
9.0 m 30.0 ft	kg lb											*4600 *10,400	*4600 *10,400	4.37 13.51
7.5 m 25.0 ft	kg lb					*5650 *12,500	*5650 *12,500	*4650	*4650			*3800 *8,450	*3800 *8,450	6.19 19.95
6.0 m 20.0 ft	kg lb					*6150 *13,350	*6150 *13,350	*5850 *12,850	5050 10,850			*3550 *7,800	*3550 *7,800	7.28 23.70
4.5 m 15.0 ft	kg lb			*10 050 *21,350	*10 050 *21,350	*7550 *16,300	*7550 *16,300	*6450 *14,050	4900 10,550	5600 *11,250	3400 7,250	*3500 *7,700	3050 6,800	7.94 25.97
3.0 m 10.0 ft	kg lb					*9550 *20,550	7200 15,500	*7400 *15,950	4650 10,050	5500 11,750	3300 7,050	*3650 *7,950	2800 6,150	8.28 27.13
1.5 m 5.0 ft	kg lb					*11 250 *24,250	6700 14,450	7550 16,250	4450 9,550	5350 11,500	3200 6,850	*3900 *8,550	2700 5,950	8.33 27.34
Ground Line	kg lb			*6850 *15,700	*6850 *15,700	11 750 25,150	6450 13,900	7400 15,850	4300 9,200	5300 11,350	3100 6,700	*4400 *9,650	2800 6,100	8.11 26.61
-1.5 m -5.0 ft	kg lb	*7350 *16,450	*7350 *16,450	*11 850 *26,850	*11 850 26,650	11 650 25,000	6400 13,750	7300 15,700	4200 9,050	5250	3100	5200 11,400	3050 6,700	7.59 24.86
-3.0 m -10.0 ft	kg lb	*12 500 *28,000	*12 500 *28,000	*14 600 *31,600	12 700 27,150	*10 550 *22,700	6500 13,900	7350 15,850	4250 9,200			6300 13,950	3700 8,200	6.70 21.85
-4.5 m -15.0 ft	kg lb			*10 800 *23,000	*10 800 *23,000	*7800 *16,400	6750 14,500					*6300 *13,750	5400 12,250	5.24 16.89

* 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.