

313F L GC Hydraulic Excavator Specifications

Engine

Engine Model	Cat C3.4B	
Gross Power – SAE J1995	55 kW	74 hp
Net Power – SAE J1349	52 kW	70 hp
Engine rpm		
Operation	1,700 rpm	
Travel	1,800 rpm	
Bore	99 mm	3.90 in
Stroke	110 mm	4.33 in
Displacement	3.4 L	207 in ³

Weights

Operating Weight	13 300 kg	29,300 lb
Long Undercarriage, Reach Boom, R3.0 (9'10") Stick, GD 0.53 m³ (0.69 yd³) Bucket and 500 mm (20 in) Shoes.		

Track

Number of Shoes (each side) – Long Undercarriage	46 pieces	
Number of Track Rollers (each side) – Long Undercarriage	7 pieces	
Number of Carrier Rollers (each side)	1 piece	

Swing Mechanism

Swing Speed	11.7 rpm	
Swing Torque	30.9 kN·m	22,791 lbf·ft

Drive

Maximum Travel Speed	5.5 km/h	3.4 mph
Maximum Drawbar Pull	109.9 kN	24,706 lbf

Hydraulic System

Main System – Maximum Flow (total)	240 L/min	63.4 gal/min
Maximum Pressure – Equipment	30.5 MPa	4,424 psi
Maximum Pressure – Travel	30.5 MPa	4,424 psi
Maximum Pressure – Swing	23 MPa	3,336 psi
Pilot System – Maximum Pressure	4120 kPa	598 psi
Boom Cylinder – Bore	110 mm	4 in
Boom Cylinder – Stroke	1015 mm	40 in
Stick Cylinder – Bore	120 mm	5 in
Stick Cylinder – Stroke	1197 mm	47 in
Bucket Cylinder – Bore	100 mm	4 in
Bucket Cylinder – Stroke	939 mm	37 in

Service Refill Capacities

Fuel Tank Capacity	250 L	66.0 gal
Cooling System	17.9 L	4.7 gal
Engine Oil	8 L	2.1 gal
Swing Drive	3 L	0.8 gal
Final Drive	3 L	0.8 gal
Hydraulic System (including tank)	164 L	43.3 gal
Hydraulic Tank	90.6 L	23.9 gal

Sound

ISO 6395 (external)	99 dB(A)
ISO 6396 (inside cab)	72 dB(A)
- When properly installed and maintained, the cab offered by Caterpillar, when tested with doors and windows closed according to ANSI/SAE J1166 OCT98, 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 a noisy environment.	

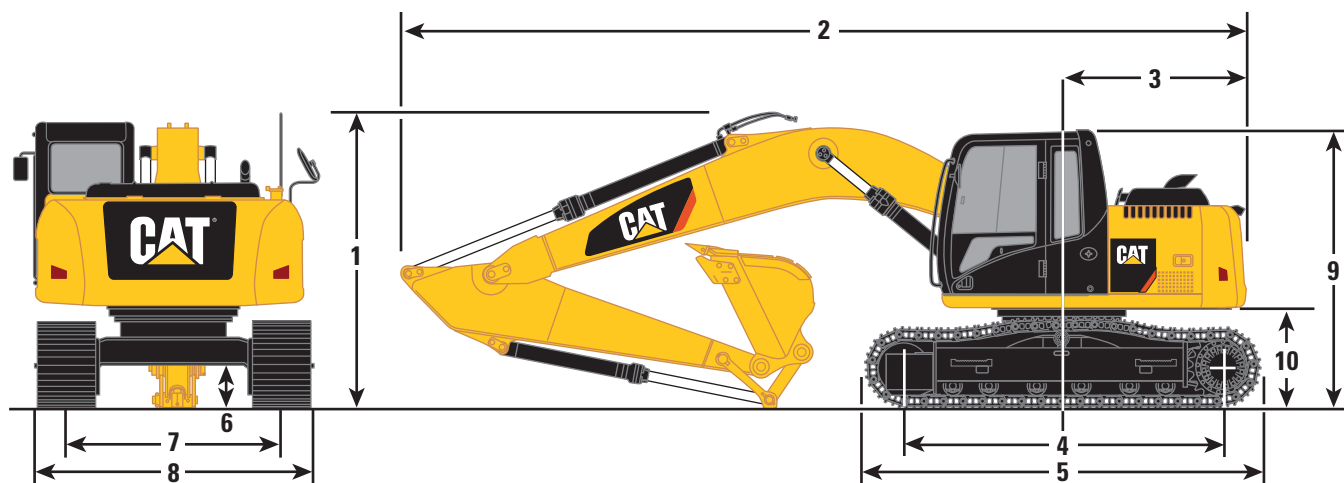
Standards

Brakes	ISO 10265
Cab ROPS	ISO 12117-2:2008
Cab OPG (Operator Protective Guards)	ISO 10262:1998 Level 2 SAE J1356 MAR2013

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Dimensions

All dimensions are approximate.



Boom Options

Reach Boom
4.65 m (15'3")

Stick Options

R3.0 (9'10")

R2.5 (8'2")

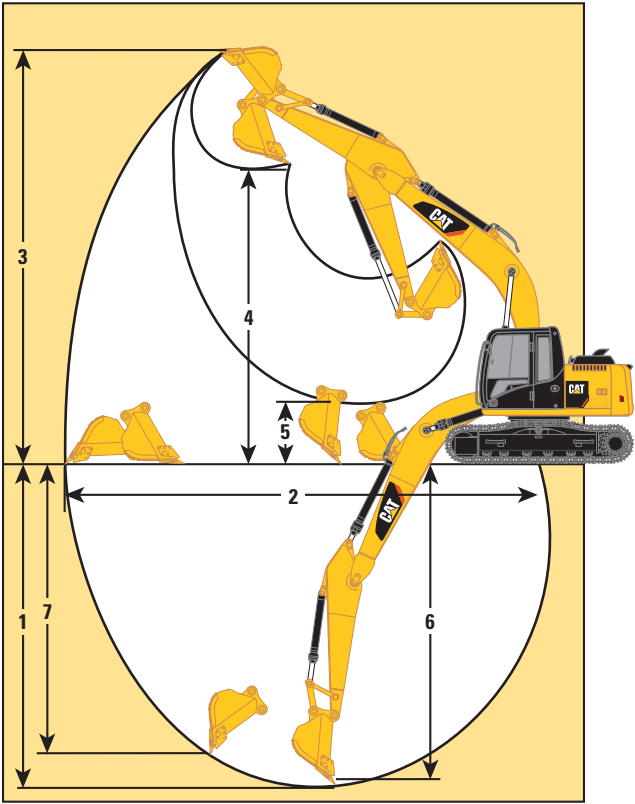
Stick Options	R3.0 (9'10")		R2.5 (8'2")	
1 Shipping Height	2830 mm	9'3"	2830 mm	9'3"
2 Shipping Length – Long Undercarriage	7700 mm	25'3"	7680 mm	25'2"
Shipping Length with Blade – Long Undercarriage	7960 mm	26'1"	7940 mm	26'0"
3 Tail Swing Radius	2180 mm	7'1"	2180 mm	7'1"
4 Length to Center of Rollers – Long Undercarriage	3040 mm	10'0"	3040 mm	10'0"
5 Track Length – Long Undercarriage	3740 mm	12'3"	3740 mm	12'3"
6 Ground Clearance	440 mm	1'5"	440 mm	1'5"
7 Track Gauge – Long Undercarriage (shipping)*	1990 mm	6'6"	1990 mm	6'6"
8 Transport Width – Long Undercarriage				
500 mm (20 in) Shoes	2490 mm	8'2"	2490 mm	8'2"
700 mm (28 in) Shoes	2690 mm	8'10"	2690 mm	8'10"
9 Cab Height	2760 mm	9'1"	2760 mm	9'1"
Cab Height with Top Guard	2900 mm	9'6"	2900 mm	9'6"
10 Counterweight Clearance	900 mm	2'11"	900 mm	2'11"

*With GD 0.53 m³ (0.69 yd³) Bucket.

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Working Ranges

All dimensions are approximate.



Boom Options

Reach Boom
4.65 m (15'3")

Stick Options

R3.0 (9'10")

R2.5 (8'2")

Bucket

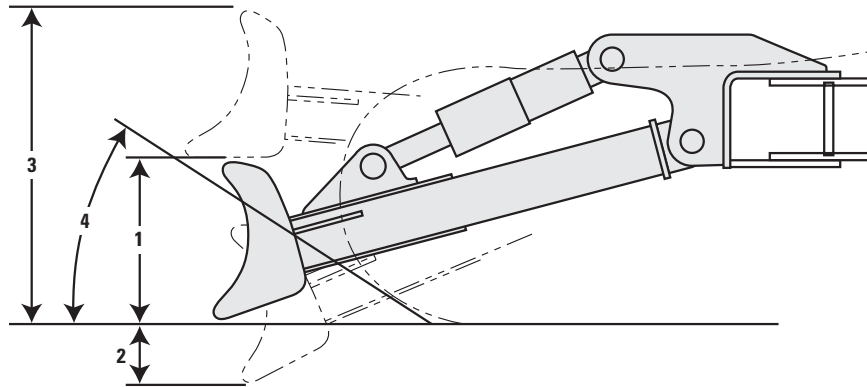
GD 0.53 m³ (0.69 yd³)

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1	Maximum Digging Depth	6040 mm	19'9"	5540 mm	18'2"
2	Maximum Reach at Ground Line	8620 mm	28'3"	8170 mm	26'10"
3	Maximum Cutting Height	8710 mm	28'6"	8490 mm	27'8"
4	Maximum Loading Height	6330 mm	20'9"	6100 mm	20'0"
5	Minimum Loading Height	1530 mm	5'0"	2020 mm	6'8"
6	Maximum Depth Cut for 2240 mm (8 ft) Level Bottom	5860 mm	19'2"	5330 mm	17'6"
7	Maximum Vertical Wall Digging Depth	5200 mm	17'0"	4840 mm	15'1"
Bucket Digging Force (SAE)		86 kN	19,300 lbf	86 kN	19,300 lbf
Stick Digging Force (SAE)		57 kN	12,800 lbf	64 kN	14,400 lbf

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Blade



1 Blade Height	628 mm	2'1"
2 Maximum Lowering Depth from Ground	567 mm	1'10"
3 Maximum Raising Height above Ground	998 mm	3'3"
4 Approach Angle	23.3 degrees	

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Operating Weights and Ground Pressures

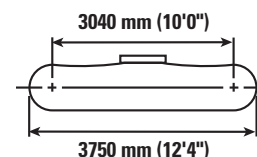
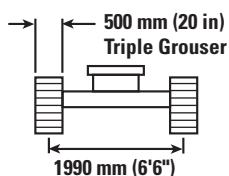
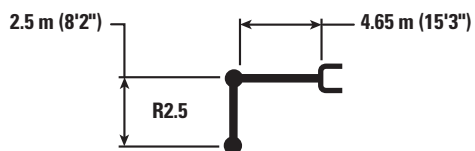
	700 mm (28 in) Shoes				500 mm (20 in) Shoes			
	Weight		Ground Pressure		Weight		Ground Pressure	
	kg	lb	kPa	psi	kg	lb	kPa	psi
0.53 m³ (0.69 yd³) GD Bucket without Blade								
Reach Boom – 4.65 m (15'3")								
R3.0 (9'10") Stick	13 800	30,400	29.4	4.3	13 300	29,300	39.7	5.8
R2.5 (8'2") Stick	13 700	30,200	29.2	4.2	13 200	29,100	39.4	5.7
0.53 m³ (0.69 yd³) GD Bucket with Blade								
Reach Boom – 4.65 m (15'3")								
R3.0 (9'10") Stick	14 600	32,200	31.1	4.5	14 100	31,100	42.0	6.1
R2.5 (8'2") Stick	14 500	32,000	30.9	4.5	14 000	30,900	41.7	6.1

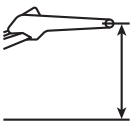
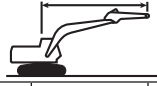
Major Component Weights

	kg	lb
Base Machine (with boom cylinder, without counterweight, front linkage and track)	4420	9,750
Long Undercarriage	2650	5,840
Counterweight	2450	5,400
Reach Boom – 4.65 m (15'3") Boom (includes lines, pins and stick cylinder)	1030	2,270
R3.0 (9'10") Stick (includes lines, pins, bucket cylinder and bucket linkage)	650	1,430
R2.5 (8'2") Stick (includes lines, pins, bucket cylinder and bucket linkage)	570	1,260
500 mm (20 in) Triple Grouser Track Shoes (long/per two track)	1570	3,460
700 mm (28 in) Triple Grouser Track Shoes (long/per two track)	2070	4,560
2500 mm (8'2") Blade	800	1,760
2700 mm (8'10") Blade	820	1,810
GD 0.53 m³ (0.69 yd³) Bucket (with sidecutter and tip)	460	1,010

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Reach Boom Lift Capacities – Counterweight: 2.45 mt (2.7 t) – Without Blade



		1.5 m/5.0 ft		3.0 m/10.0 ft		4.5 m/15.0 ft		6.0 m/20.0 ft				mm in
												
6.0 m 20.0 ft	kg lb					*3350 *7,450	*3350 *7,450			*2450 *5,400	*2450 *5,400	5380 210
4.5 m 15.0 ft	kg lb					*3550 *7,750	*3550 *7,750	*3500 *7,100	2450 5,200	*2250 *4,950	2200 4,850	6370 250
3.0 m 10.0 ft	kg lb			*5850 *12,500	*5850 *12,500	*4350 *9,400	3650 7,850	3650 7,800	2350 5,100	*2250 *4,900	1900 4,150	6900 280
1.5 m 5.0 ft	kg lb			*8450 *18,100	6100 13,150	*5300 *11,500	3400 7,350	3550 7,600	2300 4,900	*2350 *5,100	1800 3,900	7080 280
0 m 0 ft	kg lb			*6900 *15,900	5800 12,500	5300 11,350	3250 6,950	3450 7,400	2200 4,700	*2600 *5,650	1800 3,950	6930 280
-1.5 m -5.0 ft	kg lb	*4850 *10,900	*4850 *10,900	*9200 *19,950	5750 12,400	5200 11,200	3200 6,850	3400 7,350	2150 4,650	*3100 *6,800	2000 4,350	6430 260
-3.0 m -10.0 ft	kg lb	*8750 *19,750	*8750 *19,750	*8050 *17,400	5850 12,600	5250 11,300	3200 6,900			3950 8,750	2500 5,500	5480 220



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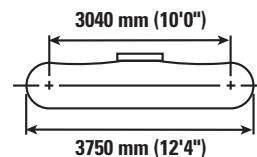
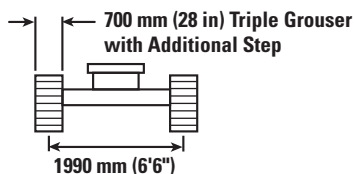
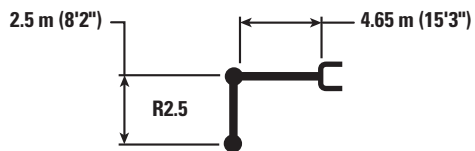
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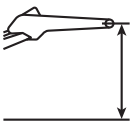
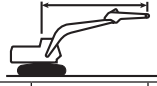
Lift capacity stays with $\pm 5\%$ for all available track shoes.

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Reach Boom Lift Capacities – Counterweight: 2.45 mt (2.7 t) – Without Blade



		1.5 m/5.0 ft		3.0 m/10.0 ft		4.5 m/15.0 ft		6.0 m/20.0 ft				mm in
												
6.0 m 20.0 ft	kg lb					*3350 *7,450	*3350 *7,450			*2450 *5,400	*2450 *5,400	5380 210
4.5 m 15.0 ft	kg lb					*3550 *7,750	*3550 *7,750	*3500 *7,100	2500 5,350	*2250 *4,950	*2250 *4,950	6370 250
3.0 m 10.0 ft	kg lb			*5850 *12,500	*5850 *12,500	*4350 *9,400	3750 8,100	*3750 *8,100	2450 5,250	*2250 *4,900	1950 4,350	6900 280
1.5 m 5.0 ft	kg lb			*8450 *18,100	6350 13,600	*5300 *11,500	3550 7,600	3650 7,850	2350 5,050	*2350 *5,100	1850 4,050	7080 280
0 m 0 ft	kg lb			*6900 *15,900	6050 12,950	5500 11,800	3350 7,250	3600 7,700	2300 4,900	*2600 *5,650	1900 4,100	6930 280
-1.5 m -5.0 ft	kg lb	*4850 *10,900	*4850 *10,900	*9200 *19,950	6000 12,850	5400 11,600	3300 7,100	3550 7,600	2250 4,850	*3100 *6,800	2050 4,550	6430 260
-3.0 m -10.0 ft	kg lb	*8750 *19,750	*8750 *19,750	*8050 *17,400	6100 13,050	5450 11,700	3350 7,150			4100 9,100	2600 5,750	5480 220



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Reach Boom Lift Capacities – Counterweight: 2.45 mt (2.7 t) – Blade Down

3.0 m (9'10") R3.0 4.65 m (15'3") 500 mm (20 in) Triple Grouser 1990 mm (6'6") 3040 mm (10'0") 3750 mm (12'4")														
		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				
													mm in	
7.5 m 25.0 ft	kg lb											*2550 *2550	4370	
6.0 m 20.0 ft	kg lb											*2100 *4,650	5950 240	
4.5 m 15.0 ft	kg lb							*3150 *6,850	2800 6,000			*2000 *4,350	6860 270	
3.0 m 10.0 ft	kg lb					*3850 *8,350	*3850 *8,350	*3450 *7,500	2700 5,800			*2000 *4,350	1950 4,300	7360 290
1.5 m 5.0 ft	kg lb			*7550 *16,250	7250 15,600	*4900 *10,600	3950 8,450	*3900 *8,500	2600 5,600	*2150	1850	*2050 *4,550	1850 4,050	7520 300
0 m 0 ft	kg lb			*7850 *18,150	6800 14,600	*5750 *12,450	3750 8,000	*4300 *9,350	2500 5,350			*2300 *5,000	1850 4,100	7380 290
-1.5 m -5.0 ft	kg lb	*4500 *10,050	*4500 *10,050	*9300 *20,200	6650 14,300	*6100 *13,150	3600 7,800	*4450 *9,650	2450 5,250			*2700 *5,900	2050 4,450	6910 280
-3.0 m -10.0 ft	kg lb	*7500 *16,850	*7500 *16,850	*8550 *18,450	6700 14,400	*5750 *12,400	3600 7,800	*3950	2450			*3550 *7,950	2450 5,400	6040 240
-4.5 m -15.0 ft	kg lb			*6450 *13,650	*6450 *13,650	*4050	3750					*4000 *8,800	3750 8,500	4530 180



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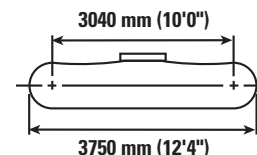
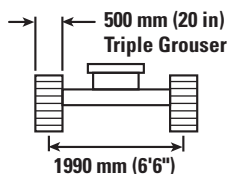
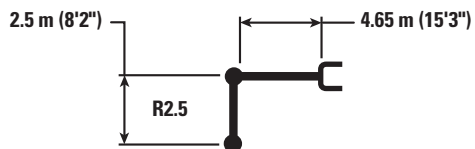
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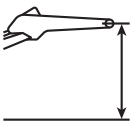
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		1.5 m/5.0 ft		3.0 m/10.0 ft		4.5 m/15.0 ft		6.0 m/20.0 ft				mm in
												
6.0 m 20.0 ft	kg lb					*3350 *7,450	*3350 *7,450			*2450 *5,400	*2450 *5,400	5380 210
4.5 m 15.0 ft	kg lb					*3550 *7,750	*3550 *7,750	*3500 *7,100	2750 5,900	*2250 *4,950	*2250 *4,950	6370 250
3.0 m 10.0 ft	kg lb			*5850 *12,500	*5850 *12,500	*4350 *9,400	4150 8,950	*3750 *8,200	2700 5,800	*2250 *4,900	2150 4,800	6900 280
1.5 m 5.0 ft	kg lb			*8450 *18,100	7150 15,300	*5300 *11,500	3900 8,400	*4150 *9,050	2600 5,600	*2350 *5,100	2050 4,500	7080 280
0 m 0 ft	kg lb			*6900 *15,900	6800 14,600	*6000 *13,000	3750 8,050	*4500 *9,700	2550 5,400	*2600 *5,650	2100 4,550	6930 280
-1.5 m -5.0 ft	kg lb	*4850 *10,900	*4850 *10,900	*9200 *19,950	6750 14,500	*6150 *13,250	3700 7,900	*4450 *9,600	2500 5,350	*3100 *6,800	2300 5,050	6430 260
-3.0 m -10.0 ft	kg lb	*8750 *19,750	*8750 *19,750	*8050 *17,400	6850 14,750	*5500 *11,800	3700 8,000			*4200 *9,200	2850 6,350	5480 220



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Reach Boom Lift Capacities – Counterweight: 2.45 mt (2.7 t) – Blade Down

2.5 m (8'2")

R2.5

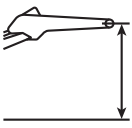
4.65 m (15'3")

700 mm (28 in) Triple Grouser with Additional Step

1990 mm (6'6")

3040 mm (10'0")

3750 mm (12'4")

		1.5 m/5.0 ft		3.0 m/10.0 ft		4.5 m/15.0 ft		6.0 m/20.0 ft				mm in
												
6.0 m 20.0 ft	kg lb					*3350 *7,450	*3350 *7,450			*2450 *5,400	*2450 *5,400	5380 210
4.5 m 15.0 ft	kg lb					*3550 *7,750	*3550 *7,750	*3500 *7,100	2950 6,350	*2250 *4,950	*2250 *4,950	6370 250
3.0 m 10.0 ft	kg lb			*5850 *12,500	*5850 *12,500	*4350 *9,400	*4350 *9,400	*3750 *8,200	2900 6,250	*2250 *4,900	*2250 *4,900	6900 280
1.5 m 5.0 ft	kg lb			*8450 *18,100	7750 16,700	*5300 *11,500	4250 9,100	*4150 *9,050	2800 6,050	*2350 *5,100	2200 4,850	7080 280
0 m 0 ft	kg lb			*6900 *15,900	*6900 *15,900	*6000 *13,000	4050 8,700	*4500 *9,700	2750 5,850	*2600 *5,650	2250 4,950	6930 280
-1.5 m -5.0 ft	kg lb	*4850 *10,900	*4850 *10,900	*9200 *19,950	7400 15,850	*6150 *13,250	4000 8,550	*4450 *9,600	2700 5,800	*3100 *6,800	2450 5,450	6430 260
-3.0 m -10.0 ft	kg lb	*8750 *19,750	*8750 *19,750	*8050 *17,400	7500 16,050	*5500 *11,800	4000 8,650			*4200 *9,200	3100 6,900	5480 220



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