

311F RR Hydraulic Excavator Specifications

Engine

Gross Power – SAE J1995	55 kW	74 hp
Net Power – SAE J1349	52 kW	70 hp
Bore	99 mm	3.90 in
Stroke	110 mm	4.33 in
Displacement	3.4 L	207 in ³

Hydraulic System

Main System – Maximum Flow (Total)	125 × 2 L/min	33 × 2 gal/min
Maximum Pressure – Equipment	30.5 MPa	4,424 psi
Maximum Pressure – Travel	35 MPa	5,076 psi
Maximum Pressure – Swing	23 MPa	3,336 psi
Pilot System – Maximum Flow	21.9 L/min	1,336 in ³ /min
Pilot System – Maximum Pressure	4120 kPa	598 psi
Boom Cylinder – Bore	100 mm	4 in
Boom Cylinder – Stroke	1002 mm	39 in
Stick Cylinder – Bore	110 mm	4 in
Stick Cylinder – Stroke	1194 mm	47 in
Bucket Cylinder – Bore	100 mm	4 in
Bucket Cylinder – Stroke	939 mm	37 in

Drive

Maximum Travel Speed – High	5.4 km/h	3.4 mph
Maximum Travel Speed – Low	3.6 km/h	2.2 mph
Maximum Drawbar Pull	114.3 kN	25,696 lb

Swing

Swing Speed	10 rpm	10 rpm
Swing Torque	30.9 kN·m	22,791 lbf-ft

Service Refill Capacities

Fuel Tank Capacity	210 L	55.48 gal
Cooling System	18 L	4.76 gal
Engine Oil (with filter)	8 L	2.1 gal
Swing Drive (each)	3 L	0.79 gal
Final Drive (each)	3 L	0.79 gal
Hydraulic System (including tank)	160 L	42.3 gal
Hydraulic Tank	95 L	25.1 gal

Track

Number of Shoes (each side)	43 pieces	43 pieces
Number of Track Rollers (each side)	6 pieces	6 pieces
Number of Carrier Rollers (each side)	1 piece	1 piece

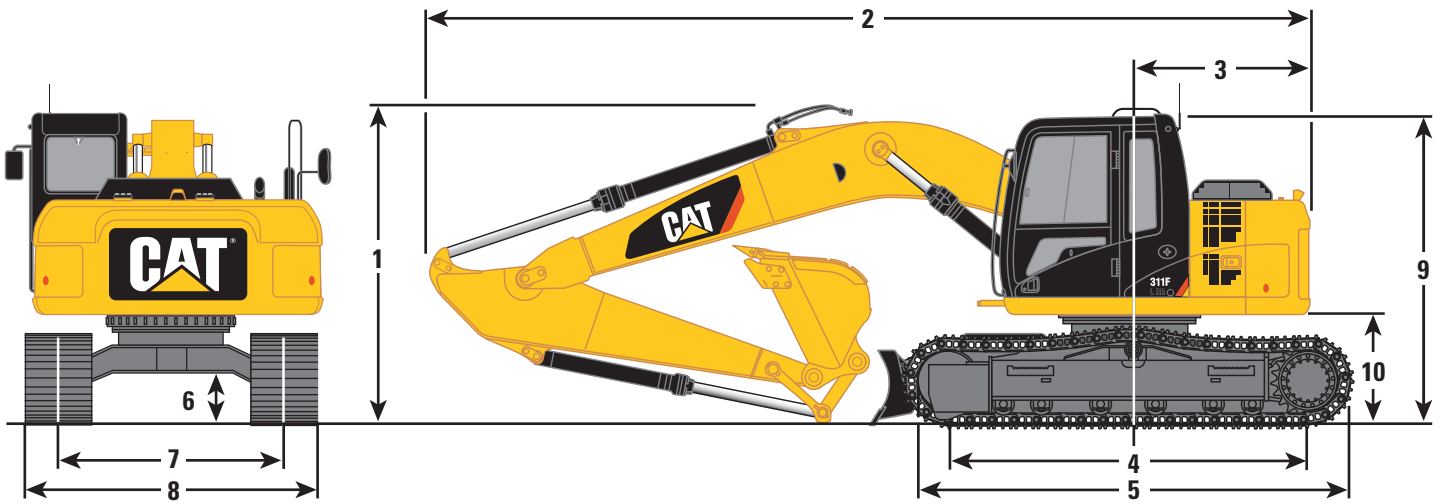
Sound

ISO 6396		
Operator Noise (Closed)	72 dB(A)	72 dB(A)
ISO 6395		
Spectator Noise	99 dB(A)	99 dB(A)

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Dimensions

All dimensions are approximate.



	Reach Boom 4.3 m (14'1")	
	R2.8 m (9'2")	
Stick		
1 Shipping Height*	2820 mm	9'3"
Shipping Height at Boom Top	2760 mm	9'1"
Handrail Height	2820 mm	9'3"
2 Shipping Length		
Long Undercarriage	6910 mm	22'8"
Long Undercarriage with Blade	7530 mm	24'8"
3 Tail Swing Radius	1750 mm	5'9"
4 Length to Center of Rollers	2780 mm	9'1"
5 Track Length	3490 mm	11'5"
6 Ground Clearance	440 mm	1'5"
7 Track Gauge	1990 mm	6'6"
8 Transport Width		
500 mm (20") Shoes	2490 mm	8'2"
600 mm (24") Shoes	2590 mm	8'6"
700 mm (28") Shoes	2690 mm	8'10"
770 mm (30") Shoes	2760 mm	9'1"
9 Cab Height	2760 mm	9'1"
Cab Height with Top Guard	2900 mm	9'6"
10 Counterweight Clearance**	910 mm	3'0"
Bucket	GD	
Ref. Type		
Capacity	0.53 m ³	0.69 yd ³
Tip Radius	1200 mm	3'11"

Notes: All dimensions based on bucket A (see table).

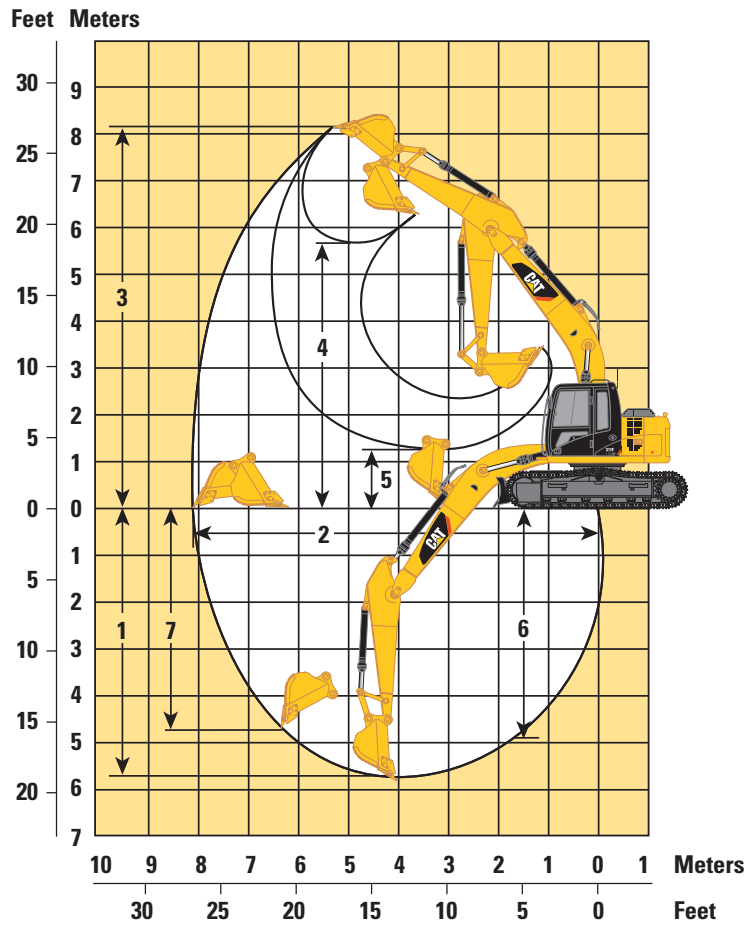
*Including shoe lug height.

**Without shoe lug height.

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Working Ranges

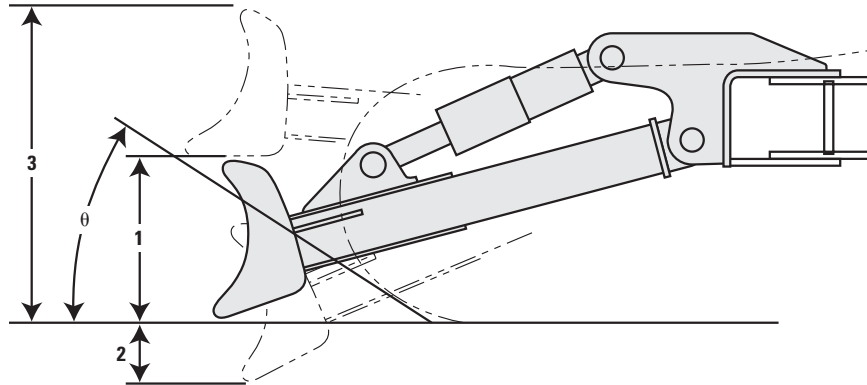
All dimensions are approximate.



		Reach Boom 4.3 m (14'1")	
		R2.8 m (9'2")	
Stick			
1	Maximum Digging Depth	5590 mm	18'4"
2	Maximum Reach at Ground Level	8100 mm	26'7"
3	Maximum Cutting Height	8140 mm	26'8"
4	Maximum Loading Height	5770 mm	18'11"
5	Minimum Loading Height	1330 mm	4'4"
6	Maximum Depth Cut for 2440 mm (8'0") Level Bottom	4990 mm	16'4"
7	Maximum Vertical Wall Digging Depth	4880 mm	16'0"
		GD	
Bucket Ref.	Type		
	Capacity	0.53 m ³	0.69 yd ³
	Tip Radius	1200 mm	3'11"

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Blade



Blade Options	2500 mm (8'2")	2600 mm (8'6")	2700 mm (8'10")
Recommended Track Shoe Width	500 mm (20")	600 mm (24")	700 mm (28")
1 Blade Height		630 mm (2'1")	
2 Maximum Lowering Depth from Ground		570 mm (1'10")	
3 Maximum Raising Height above Ground		1000 mm (3'3")	
Approach Angle		23 degrees	

Major Component Weights

Base Machine (with boom cylinder, without counterweight, front linkage and track)	4050 kg	8,930 lb
Long Undercarriage	2430 kg	5,360 lb
Counterweight (2.45 mt/5,400 lb)	2450 kg	5,400 lb
Boom (includes lines, pins and stick cylinder)		
Reach Boom (4.3 m/14'1")	930 kg	2,050 lb
Stick (includes lines, pins and bucket cylinder)		
R2.8 m (9'2")	610 kg	1,350 lb
Track Shoe (long/per two track)		
500 mm (20") Triple Grouser	1460 kg	3,220 lb
600 mm (24") Triple Grouser	1700 kg	3,750 lb
700 mm (28") Triple Grouser	1960 kg	4,320 lb
770 mm (30") Triple Grouser	2100 kg	4,630 lb
Quick Coupler		
Center Lock with Pin	480 kg	1,060 lb
Blade		
2500 mm (8'2")	810 kg	1,790 lb
2600 mm (8'6")	810 kg	1,790 lb
2700 mm (8'10")	820 kg	1,810 lb

All weights are rounded up to nearest 10 kg and lb. Kg and lb were rounded up separately so some of the kg and lb do not match.

Base machine includes 75 kg (165 lb) operator weight and 90% fuel weight.

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Operating Weights and Ground Pressures

	770 mm (30") Triple Grouser Shoes				700 mm (28") Triple Grouser Shoes				600 mm (24") Triple Grouser Shoes				500 mm (20") Triple Grouser Shoes			
	kg	lb	kPa	psi	kg	lb	kPa	psi	kg	lb	kPa	psi	kg	lb	kPa	psi
Long Undercarriage without Blade																
Reach Boom – 4.65 m (14'1")																
R2.8 m (9'2")	13 100	28,900	27.5	4.0	12 900	28,400	29.8	4.3	12 700	28,000	34.2	5.0	12 500	27,600	40.4	5.9
Long Undercarriage with Blade																
Reach Boom – 4.65 m (14'1")																
R2.8 m (9'2")	13 900	30,600	29.2	4.2	13 800	30,400	31.9	4.6	13 500	29,800	36.4	5.3	13 300	29,300	43.0	6.2

Bucket and Stick Forces

	Reach Boom 4.3 m (14'1")	
	R2.8 m (9'2")	
Pin On		
General Duty		
Bucket Digging Force (SAE)	79 kN	17,900 lb
Stick Digging Force (SAE)	51 kN	11,400 lb
Heavy Duty		
Bucket Digging Force (SAE)	79 kN	17,900 lb
Stick Digging Force (SAE)	51 kN	11,400 lb
Severe Duty		
Bucket Digging Force (SAE)	77 kN	17,300 lb
Stick Digging Force (SAE)	50 kN	11,300 lb