



323D3

Hydraulic Excavator

Technical Specifications

Engine

Engine Model	Cat® C7.1	
Net Power – ISO 9249	106 kW	142 hp
Net Power – SAE J1349	106 kW	142 hp
Gross Power – ISO 14396/SAE J1995	113 kW	152 hp
Bore	105 mm	4 in
Stroke	135 mm	5 in
Displacement	7.01 L	428 in ³

- The 323D3 meets UN R96 Stage II emission standards, equivalent to U.S. EPA Tier 2 and EU Stage II.
- Recommended for use up to 4000 m (13,120 ft) altitude with engine power derate above 3000 m (9,840 ft).
- Net power advertised is the power available at the flywheel when the engine is equipped with fan, air cleaner, muffler, and alternator.
- Rating at 1,800 rpm.

Engine rpm

Operation	1,700 rpm
Travel	1,800 rpm

Swing Mechanism

Swing Speed	11.00 rpm
Swing Torque	62 kN·m 45,581 lbf·ft

Weights

Operating Weight	22 800 kg	50,300 lb
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- Long undercarriage, 5.7 m (18'8") HD reach boom, 2.5 m (8'2") HD reach stick, 1.20 m³ (1.57 yd³) SD bucket, 600 mm (24") shoes.

Track

Standard Track Shoes Width	600 mm	24 in
Number of Shoes (each side)	49	
Number of Track Rollers (each side)	8	
Number of Carrier Rollers (each side)	2	

Drive

Maximum Gradeability	35°/70%	
Maximum Travel Speed	5.5 km/h	3.4 mph
Maximum Drawbar Pull	210 kN	47,210 lbf

Hydraulic System

Main System – Maximum Flow – Implement	400 L/min (200 L/min × 2 pumps)	106 gal/min (53 gal/min × 2 pumps)
Maximum Pressure – Equipment – Implement	35 000 kPa	5,075 psi
Maximum Pressure – Travel	35 000 kPa	5,075 psi
Maximum Pressure – Swing	25 000 kPa	3,625 psi
Pilot System – Maximum Flow	17 L/min	4 gal/min
Pilot System – Maximum Pressure	3900 kPa	566 psi
Boom Cylinder – Bore	120 mm	5 in
Boom Cylinder – Stroke	1260 mm	50 in
Stick Cylinder – Bore	140 mm	6 in
Stick Cylinder – Stroke	1504 mm	59 in
Bucket Cylinder – Bore	120 mm	5 in
Bucket Cylinder – Stroke	1104 mm	43 in

323D3 Hydraulic Excavator Specifications

Service Refill Capacities

Fuel Tank Capacity	410 L	108.3 gal
Cooling System	28 L	7.4 gal
Engine Oil (with filter)	18 L	4.8 gal
Swing Drive	6 L	1.6 gal
Final Drive (each)	5 L	1.3 gal
Hydraulic System (including tank)	260 L	68.7 gal
Hydraulic Tank	138 L	36.5 gal

Standards

Brakes	SAE J1026 APR90
Cab/FOGS	SAE J1356 FEB88

Sound Performance

ISO 6395:2008 (external)	102 dB(A)
ISO 6396:2008 (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.

Operating Weights and Ground Pressures

	600 mm (24") Wide, 12 mm (0.5") Thick Triple Grouser Shoes		600 mm (24") Wide, 10 mm (0.4") Thick Triple Grouser Shoes	
	Weight	Ground Pressure	Weight	Ground Pressure
4.25 mt (9,370 lb) Counterweight + Base Machine				
5.7 m (18'8") HD reach boom, 2.5 m (8'2") HD reach stick, 1.20 m ³ (1.57 yd ³) SD bucket	22 800 kg	50,300 lb	47.4 kPa	6.9 psi
			22 500 kg	46,000 lb
				46.8 kPa
				6.8 psi

All operating weights include a 90% fuel tank with 75 kg (165 lb) operator.

323D3 Hydraulic Excavator Specifications

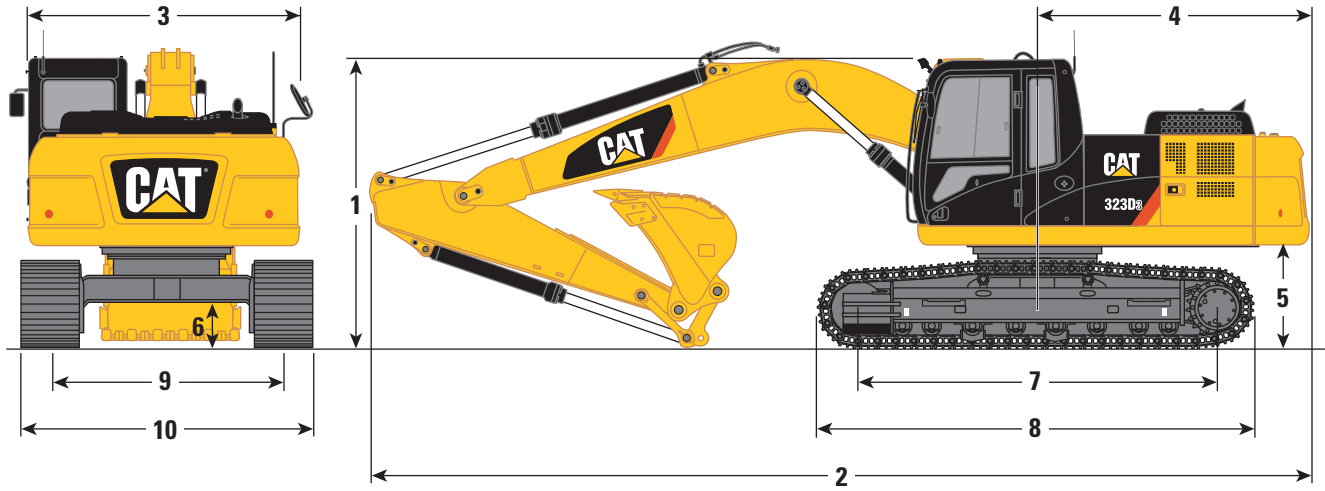
Major Component Weights

	kg	lb
Base machine with 4.25 mt (9,370 lb) counterweight, swing frame, base frame with track rollers and carrier rollers, two boom cylinders, pins, fluids and 75 kg (165 lb) operator	15 580	34,350
Track Shoes:		
600 mm (24") Width, 12 mm (0.5") Thick, Triple Grouser Track Shoes	3130	6,900
600 mm (24") Width, 10 mm (0.4") Thick, Triple Grouser Track Shoes	2820	6,220
Two Boom Cylinders	360	790
Weight of 90% Fuel Tank and 75 kg (165 lb) Operator	430	940
Counterweight:		
4.25 mt (9,370 lb) Counterweight	4250	9,370
Swing Frame:		
Standard Swing Frame	1820	4,010
Undercarriage:		
Base Frame with Standard Track Rollers and Carrier Rollers for Long Undercarriage	4690	10,340
Boom (including lines, pins, stick cylinder):		
HD Reach Boom 5.7 m (18'8")	2020	4,450
Stick (including lines, pins, bucket cylinder, bucket linkage):		
HD Reach Stick 2.5 m (8'2")	1080	2,380
Buckets (without linkage):		
1.14 m ³ (1.49 yd ³) GD, with Sidecutter and Tip	880	1,940
1.20 m ³ (1.57 yd ³) SD, with Sidecutter and Tip	1030	2,280

323D3 Hydraulic Excavator Specifications

Dimensions

All dimensions are approximate and may vary depending on bucket selection.



Boom Option

HD Reach Boom
5.7 m (18'8")

Stick Option

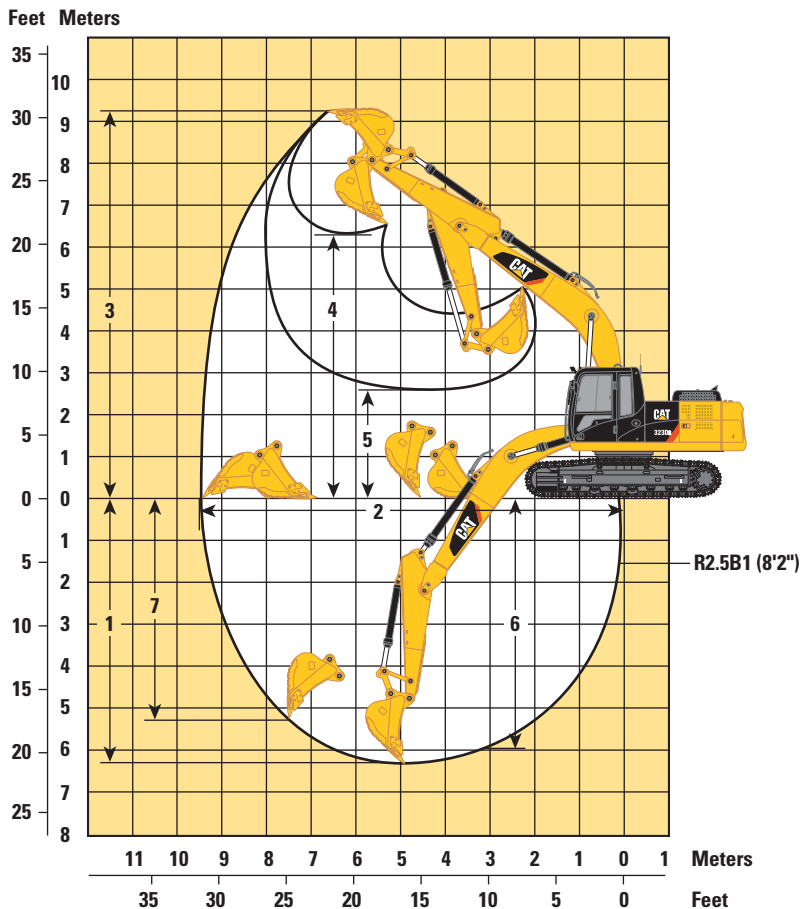
HD Reach Stick
2.5 m (8'2")

1 Machine Height:		
Cab Height (without shoe lug height)	2950 mm	9'8"
Shipping Height (including shoe lug height)	3050 mm	10'0"
Handrails Height	2915 mm	9'7"
2 Machine Length with Boom/Stick/Bucket Installed	9460 mm	31'0"
3 Upperframe Width without Walkways	2470 mm	8'1"
4 Tail Swing Radius	2750 mm	9'0"
5 Counterweight Clearance (without shoe lug height)	1020 mm	3'4"
6 Ground Clearance (without shoe lug height)	450 mm	1'6"
7 Track Length to Center of Rollers	3650 mm	12'0"
8 Track Length	4460 mm	14'8"
9 Track Gauge – Standard Undercarriage	2380 mm	7'10"
10 Transport Width – 600 mm (24") Shoes	2980 mm	9'9"
Bucket Type		SD
Bucket Capacity	1.20 m ³	1.57 yd ³
Bucket Tip Radius	1502 mm	4'11"

323D3 Hydraulic Excavator Specifications

Working Ranges and Forces

All dimensions are approximate and may vary depending on bucket selection.



Boom Option

HD Reach Boom
5.7 m (18'8")

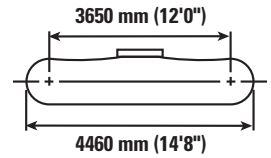
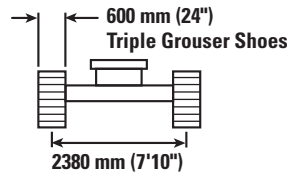
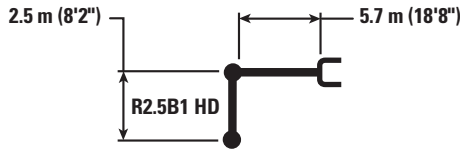
Stick Option

HD Reach Stick
2.5 m (8'2")

1 Maximum Digging Depth	6300 mm	20'8"
2 Maximum Reach at Ground Line	9470 mm	31'1"
3 Maximum Cutting Height	9250 mm	30'4"
4 Maximum Loading Height	6290 mm	20'8"
5 Minimum Loading Height	2590 mm	8'6"
6 Maximum Depth Cut for 2240 mm (8 ft) Level Bottom	5960 mm	19'7"
7 Maximum Vertical Wall Digging Depth	5290 mm	17'4"
Bucket Digging Force (SAE)	125 kN	28,100 lbf
Bucket Digging Force (ISO)	140 kN	31,470 lbf
Stick Digging Force (SAE)	114 kN	25,630 lbf
Stick Digging Force (ISO)	118 kN	26,530 lbf
Bucket Type	SD	
Bucket Capacity	1.20 m ³	1.57 yd ³
Bucket Tip Radius	1502 mm	4'11"

323D3 Hydraulic Excavator Specifications

Reach Boom Lift Capacities – without Bucket Linkage



		3000 mm/120 in		4500 mm/180 in		6000 mm/240 in		7500 mm/300 in				mm in
7500 mm 300 in	kg lb									*4750 *10,500	*4750 *10,500	5600 220
6000 mm 240 in	kg lb					*5350 *11,800	4450 9,600			*4350 *9,550	3600 8,000	6830 270
4500 mm 180 in	kg lb			*6750 *14,550	6700 14,450	*5800 *12,600	4350 9,300	4500	3050	*4250 *9,350	3000 6,600	7570 300
3000 mm 120 in	kg lb			*8500 *18,300	6200 13,400	6200 13,300	4100 8,850	4400 9,500	2950 6,350	4050 8,900	2700 5,950	7960 320
1500 mm 60 in	kg lb			9200 19,750	5800 12,450	5950 12,850	3900 8,450	4300 9,300	2850 6,150	3900 8,550	2600 5,700	8050 320
0 mm 0 in	kg lb			8950 19,250	5600 12,000	5800 12,500	3800 8,150	4250 9,150	2800 6,050	4000 8,750	2650 5,800	7860 310
-1500 mm -60 in	kg lb	*11 300 *25,750	10 500 22,550	8950 19,150	5550 11,950	5750 12,400	3750 8,050			4350 9,600	2900 6,350	7350 290
-3000 mm -120 in	kg lb	*13 250 *28,750	10 700 22,950	9050 19,350	5650 12,100	5850 12,550	3800 8,200			5300 11,700	3450 7,700	6470 260
-4500 mm -180 in	kg lb			*7200 *15,050	5900 12,700					*6200 *13,600	5150 11,600	4980 200



ISO 10567



*Indicates that the load is limited by hydraulic lifting capacity rather than tipping load. The above loads are in compliance with hydraulic excavator lift capacity standard ISO 10567:2007. They do not exceed 87% of hydraulic lifting capacity or 75% of tipping load. Weight of all lifting accessories must be deducted from the above lifting capacities. Lifting capacities are based on the machine standing on a firm, uniform supporting surface. The use of a work tool attachment point to handle/lift objects, could affect the machine lift performance.

Lift capacity stays with ±5% for all available track shoes.

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

323D3 Hydraulic Excavator Specifications

Bucket Specifications and Compatibility

	Linkage	Width		Capacity		Weight		Fill	HD Reach Boom	
		mm	in	m ³	yd ³	kg	lb		%	HD Reach Stick 2.5 m (8'2")
										600 mm (24") Shoes
Pin-On (No Quick Coupler)										
General Duty	B	1400	56	1.14	1.49	817	1,801	100	⊙	
Severe Duty	B	1450	57	1.20	1.57	961	2,119	90	⊙	
Maximum load with pin-on (payload + bucket)								kg	2977	
								lb	6,563	

The above loads are in compliance with hydraulic excavator standard EN474-5:2006 + A3:2013, they do not exceed 87% of hydraulic lifting capacity or 75% of tipping capacity with front linkage fully extended at ground line with bucket curled.

Capacity based on ISO 7451:2007.

Bucket weight with General Duty tips.

Caterpillar recommends using appropriate work tools to maximize the value customers receive from our products. Use of work tools, including buckets, which are outside of Caterpillar's recommendations or specifications for weight, dimensions, flows, pressures, etc. may result in less-than-optimal performance, including but not limited to reductions in production, stability, reliability, and component durability. Improper use of a work tool resulting in sweeping, prying, twisting and/or catching of heavy loads will reduce the life of the boom and stick.

Maximum Material Density:

⊙ 1800 kg/m³ (3,000 lb/yd³)

Attachments Offering Guide

PIN-ON ATTACHMENTS

Boom Type	HD Reach Boom	
	HD Reach Stick 2.5 m (8'2")	
Stick Size		
Hydraulic Hammers	B20 Top-mount	✓
	B20 Side-mount	✓
	H120Es	✓
	H130Es	✓

323D3 Standard and Optional Equipment

Standard and Optional Equipment

Standard and optional equipment may vary. Consult your Cat dealer for details.

	Standard	Optional		Standard	Optional
ENGINE			UNDERCARRIAGE AND STRUCTURES		
Diesel engine, C7.1 1106C – mechanical governor – meets UN R96 Stage II, equivalent to Tier 2 and Stage II	✓		Grease lubricated track link	✓	
Two selectable power modes: STD and ECO	✓		Tie down points on base frame	✓	
One touch low idle with auto engine speed control (AEC)	✓		Center track guiding guard	✓	
Two stage fuel filtration system with water separator and indicator	✓		Segmented track guiding guard		✓
4000 m (13,120 ft) altitude capability with derate from 3000 m (9,840 ft)	✓		Heavy duty track rollers		✓
52° C (125° F) high ambient cooling capability with derate from 48° C (118° F)	✓		4250 kg (9,370 lb) counterweight	✓	
-32° C (-25° F) cold start capability		✓	600 mm (24") triple grouser track shoes (12 mm/0.5" thick)	✓	
75 amp alternator	✓		600 mm (24") triple grouser track shoes (10 mm/0.4" thick)		✓
Radial seal air filter with double filter element	✓		BOOM AND STICK		
Air precleaner		✓	5.7 m (18'8") HD reach boom	✓	
Electric fuel priming pump	✓		2.5 m (8'2") HD reach stick	✓	
Capability of using biodiesel fuel (B20)	✓		ELECTRICAL SYSTEM		
HYDRAULIC SYSTEM			2 × 1,000 CCA maintenance free batteries	✓	
Hydraulic boom and stick regeneration circuit	✓		Centralized electrical disconnect switch	✓	
Automatic two speed travel	✓		90 second programmable time delay working lights (halogen); storage box mounted (one), cab mounted (two), boom mounted LH (one)	✓	
Boom and stick drift reduction valve	✓				
Reverse swing damping valve	✓				
High performance hydraulic return filter (capsule filter type)	✓				
Fine swing control		✓			
Hammer return filter circuit		✓			
High-pressure auxiliary circuit		✓			
Quick coupler circuit for Cat Pin Grabber		✓			

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323D3 Hydraulic Excavator Specifications

Standard and Optional Equipment *(continued)*

Standard and optional equipment may vary. Consult your Cat dealer for details.

	Standard	Optional		Standard	Optional
SERVICE AND MAINTENANCE			OPERATOR ENVIRONMENT		
Engine oil, fuel, and hydraulic oil filters grouped for ease of maintenance	✓		Sound suppressed cab with viscous mounts	✓	
Sampling ports for Scheduled Oil Sampling (S·O·S SM)	✓		Openable skylight	✓	
Radiator screen for radiator/oil cooler to prevent plugging by debris	✓		Openable tempered front upper windshield with assist device	✓	
SAFETY AND SECURITY			Rear window as emergency exit	✓	
Rearview mirrors; handrail mounted (one), cab handhold mounted (one)	✓		Removable tempered lower windshield with in cab storage bracket	✓	
Bolt free service platform with anti-skid plate	✓		Fully adjustable mechanical suspension seat, console and armrest	✓	
Neutral lever (lock out) for all controls	✓		51 mm (2 in) width seat belt	✓	
Ground level accessible secondary engine shutoff switch in cab	✓		Full color 178 mm (7 in) LCD monitor	✓	
Signaling/warning horn	✓		Automatic bi-level air conditioner with pressurized function	✓	
RH handrail and handhold	✓		12V ×2 power supply with sockets (maximum 10 amp)	✓	
			Roll down sun screen		✓
			Washable floormat	✓	
			Interior utilities (interior lighting, cigar lighter type socket, coat hook, beverage holder, literature holder, document holding space, rear storage compartment)	✓	
			Control pattern changer		✓
			CAT CONNECT TECHNOLOGY		
			Cat Product Link™	✓	