



# 320D3

## Hydraulic Excavator

# Technical Specifications

### Engine

Engine Model	ALUW06DTI	
Net Power – ISO 9249	85 kW	114 hp
Net Power – SAE J1349	85 kW	114 hp
Gross Power – ISO 14396/SAE J1995	100 kW	134 hp
Bore	104 mm	4 in
Stroke	113 mm	4 in
Displacement	5.76 L	351 in <sup>3</sup>

- Non-certified emission engine.
- 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	20 800 kg	45,860 lb
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- Standard undercarriage, 5.7 m (18'8") reach boom, 2.5 m (8'2") HD reach stick, 1.00 m<sup>3</sup> (1.31 yd<sup>3</sup>) GD bucket, 600 mm (24") shoes.

### Track

Standard Track Shoes Width	600 mm	24 in
Number of Shoes (each side)	45	
Number of Track Rollers (each side)	7	
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



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## 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, 10 mm (0.4") Thick Triple Grouser Shoes				600 mm (24") Wide, 8.5 mm (0.3") Thick Triple Grouser Shoes			
	Weight		Ground Pressure		Weight		Ground Pressure	
<b>3.7 mt (8,160 lb) Counterweight + Base Machine</b>								
5.7 m (18'8") reach boom, 2.5 m (8'2") HD reach stick, 1.00 m <sup>3</sup> (1.31 yd <sup>3</sup> ) GD bucket	20 800 kg	45,860 lb	43.2 kPa	6.3 psi	20 670 kg	45,570 lb	43.0 kPa	6.2 psi

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

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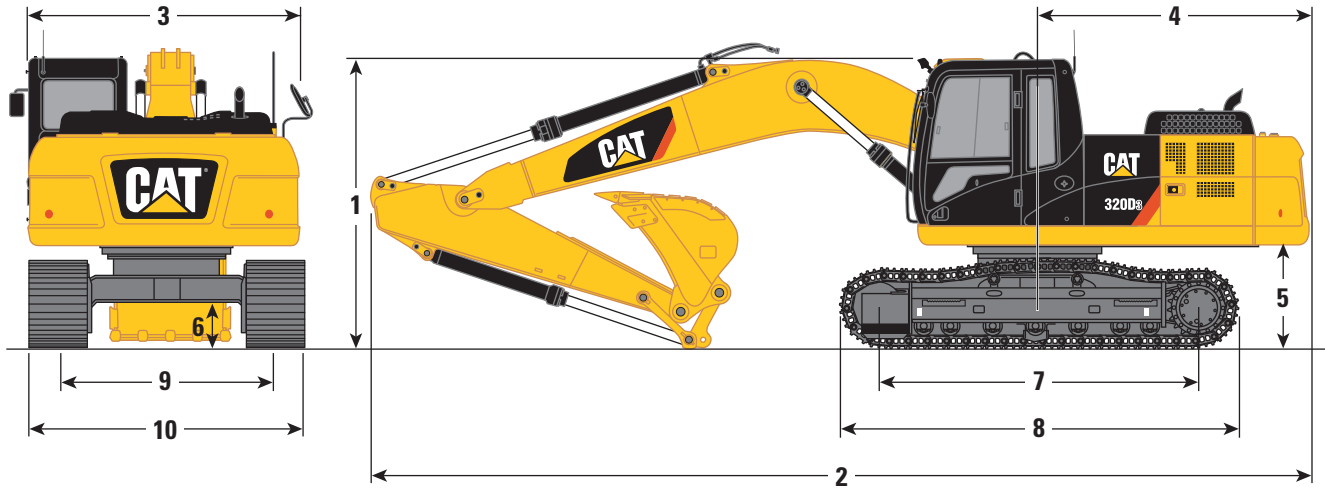
## Major Component Weights

	kg	lb
Base machine with 3.7 mt (8,160 lb) counterweight, swing frame, base frame with track rollers and carrier rollers, two boom cylinders, pins, fluids and 75 kg (165 lb) operator	14 520	32,010
Track Shoes:		
600 mm (24") Width, 10 mm (0.4") Thick, Triple Grouser Track Shoes	2480	5,470
600 mm (24") Width, 8.5 mm (0.3") Thick, Triple Grouser Track Shoes	2400	5,290
Two Boom Cylinders	360	790
Weight of 90% Fuel Tank and 75 kg (165 lb) Operator	430	940
Counterweight:		
3.7 mt (8,160 lb) Counterweight	3700	8,160
Swing Frame:		
Standard Swing Frame	1770	3,900
Undercarriage:		
Base Frame with Standard Track Rollers and Carrier Rollers	4180	9,220
Boom (including lines, pins, stick cylinder):		
Standard Reach Boom 5.7 m (18'8")	1910	4,200
Stick (including lines, pins, bucket cylinder, bucket linkage):		
HD Reach Stick 2.5 m (8'2")	1080	2,380
Buckets (without linkage):		
1.0 m <sup>3</sup> (1.31 yd <sup>3</sup> ) GD, with Sidecutter and Tip	760	1,680
1.0 m <sup>3</sup> (1.31 yd <sup>3</sup> ) HD, with Sidecutter and Tip	970	2,140

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## Dimensions

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



### Boom Option

Reach Boom  
5.7 m (18'8")

### Stick Option

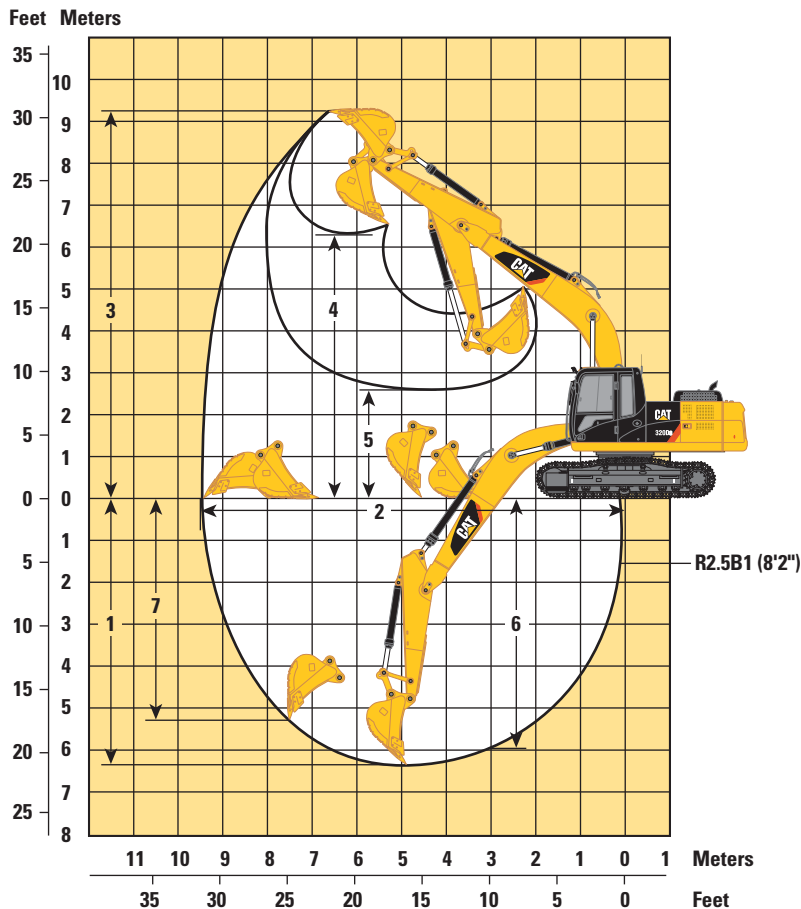
HD Reach Stick  
2.5 m (8'2")

<b>1</b> 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"
<b>2</b> Machine Length with Boom/Stick/Bucket Installed	9460 mm	31'0"
<b>3</b> Upperframe Width without Walkways	2470 mm	8'1"
<b>4</b> Tail Swing Radius	2750 mm	9'0"
<b>5</b> Counterweight Clearance (without shoe lug height)	1020 mm	3'4"
<b>6</b> Ground Clearance (without shoe lug height)	450 mm	1'6"
<b>7</b> Track Length to Center of Rollers	3270 mm	10'9"
<b>8</b> Track Length	4080 mm	13'5"
<b>9</b> Track Gauge – Standard Undercarriage	2200 mm	7'3"
<b>10</b> Transport Width – 600 mm (24") Shoes	2800 mm	9'2"
Bucket Type		GD
Bucket Capacity	1.00 m <sup>3</sup>	1.31 yd <sup>3</sup>
Bucket Tip Radius	1488 mm	4'11"

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## Working Ranges and Forces

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



### Boom Option

Reach Boom  
5.7 m (18'8")

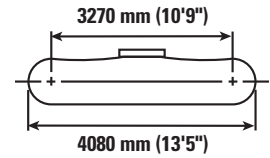
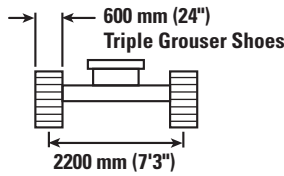
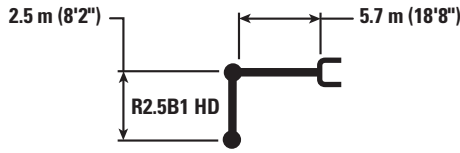
### Stick Option

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	5350 mm	17'7"
Bucket Digging Force (SAE)	124 kN	27,880 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		GD
Bucket Capacity	1.00 m <sup>3</sup>	1.31 yd <sup>3</sup>
Bucket Tip Radius	1488 mm	4'11"

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## Reach Boom Lift Capacities – without Bucket Linkage



		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									*4700 *10,450	*4700 *10,450	5600 220
6.0 m 20.0 ft	kg lb					*5200 *11,450	4550 9,700			*4300 *9,500	3600 8,050	6830 270
4.5 m 15.0 ft	kg lb			*6600 *14,200	*6600 *14,200	*5650 *12,250	4400 9,400	4550 3050		*4200 *9,250	3000 6,600	7570 300
3.0 m 10.0 ft	kg lb			*8250 *17,750	6250 13,450	6250 13,450	4150 8,900	4450 9,500	2950 6,300	4050 8,900	2650 5,850	7960 320
1.5 m 5.0 ft	kg lb			9250 19,850	5750 12,400	6000 12,850	3900 8,350	4300 9,250	2850 6,050	3900 8,550	2550 5,600	8050 320
0.0 m 0.0 ft	kg lb			8950 19,250	5500 11,850	5800 12,500	3700 8,000	4250 9,100	2750 5,900	3950 8,700	2600 5,700	7860 310
-1.5 m -5.0 ft	kg lb	*11 300 *25,700	10 450 22,300	8900 19,150	5450 11,750	5750 12,350	3650 7,900			4350 9,600	2850 6,200	7350 290
-3.0 m -10.0 ft	kg lb	*12 800 *27,700	10 650 22,800	9050 19,400	5550 12,000	5850 12,550	3750 8,100			5300 11,700	3400 7,600	6470 260
-4.5 m -15.0 ft	kg lb			*6900 *14,400	5850 12,650					*5950 *13,050	5100 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.

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## Bucket Specifications and Compatibility

	Linkage	Width		Capacity		Weight		Fill	Reach Boom
		mm	in	m <sup>3</sup>	yd <sup>3</sup>	kg	lb		HD Reach Stick 2.5 m (8'2")
									600 mm (24") Shoes
<b>Pin-On (No Quick Coupler)</b>									
General Duty (GD)	B	1250	50	1.00	1.31	758	1,671	100	⊙
Heavy Duty (HD)	B	1050	42	1.00	1.31	840	1,852	100	⊙
Maximum load with pin-on (payload + bucket)								kg	2640
								lb	5,820

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.

### Maximum Material Density:

⊙ 1800 kg/m<sup>3</sup> (3,000 lb/yd<sup>3</sup>)

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.

## Attachments Offering Guide

### PIN-ON ATTACHMENTS

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

# 320D3 Standard and Optional Equipment

## Standard and Optional Equipment

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

	Standard	Optional		Standard	Optional
<b>ENGINE</b>			<b>UNDERCARRIAGE AND STRUCTURES</b>		
Diesel engine, ALUW06DTI/8 – mechanical governor – emits equivalent to U.S. EPA Tier 2, not-certified	✓		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)	✓		3700 kg (8,160 lb) counterweight	✓	
52° C (125° F) high ambient cooling capability with derate from 48° C (118° F)	✓		600 mm (24") triple grouser track shoes (10 mm/0.4" thick)	✓	
-32° C (-25° F) cold start capability		✓	600 mm (24") triple grouser track shoes (8.5 mm/0.3" thick)		✓
100 amp alternator	✓		<b>BOOM AND STICK</b>		
Radial seal air filter with double filter element	✓		5.7 m (18'8") reach boom	✓	
Air precleaner		✓	2.5 m (8'2") HD reach stick	✓	
Mechanical fuel priming pump	✓		<b>ELECTRICAL SYSTEM</b>		
Capability of using biodiesel fuel (B20)	✓		2 × 1,000 CCA maintenance free batteries	✓	
<b>HYDRAULIC SYSTEM</b>			Centralized electrical disconnect switch	✓	
Hydraulic boom and stick regeneration circuit	✓		90 second programmable time delay working lights (halogen); storage box mounted (one), cab mounted (two), boom mounted LH (one)	✓	
Automatic two speed travel	✓				
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		✓			
Medium-pressure auxiliary circuit		✓			

(continued on next page)



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## Standard and Optional Equipment *(continued)*

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

	Standard	Optional		Standard	Optional
<b>SERVICE AND MAINTENANCE</b>			<b>OPERATOR ENVIRONMENT</b>		
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 <sup>SM</sup> )	✓		Openable skylight	✓	
Radiator screen for radiator/oil cooler to prevent plugging by debris	✓		Openable tempered front upper windshield with assist device	✓	
<b>SAFETY AND SECURITY</b>			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 ×1 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		✓
			<b>CAT CONNECT TECHNOLOGY</b>		
			Cat Product Link™	✓	

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AEXJ0071-01 (09-2018)  
Replaces AEXJ0071  
(India)

