320D GC Series 2 Hydraulic Excavator



45,660 lb

46,940 lb



Engine			Weights	
Engine Model	Cat [®] C7.1		Minimum Operating Weight	20 710 kg
Engine Power (ISO 14396)	90 kW	121 hp	Maximum Operating Weight	21 290 kg
Net Power (SAE J1349/ISO 9249)	84 kW	113 hp		

320D GC Series 2 Differentiating Features

Engine and Hydraulics

A powerful Cat C7.1 engine meets Tier 2 emission regulations combined with the highly efficient hydraulic system delivers excellent performance with low fuel consumption.

Structures

Caterpillar design and manufacturing techniques assure you get outstanding durability and service life in the right applications.

Operator Station

The spacious cab features excellent visibility and easy-to-access switches. The monitor features a full-color graphical display that is user intuitive and highly visual. Overall, the new cab provides you with a comfortable working environment for maximum production and efficiency.

Reduced Service and Maintenance Cost

Routine service and maintenance can be completed quickly and easily to help you reduce ownership costs. Convenient access points, extended service intervals, and advanced filtration help keep downtime to a minimum.

Complete Customer Support

Your Cat dealer offers a wide range of services that can be set up under a customer support agreement when you purchase your equipment.

Cat 320D GC Series 2 Total Solutions

Caterpillar and its extensive dealer network offer a wide variety of solutions designed to meet the unique needs of your business.



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The 320D GC Series 2 incorporates innovations to improve your job site efficiency through low owning and operating costs and excellent performance.

Operator Station

Enhance your comfort, operation, and visibility. The 320D GC Series 2 allows you to focus on your job.



Operator Station

The ergonomically designed operator station is spacious, quiet, and comfortable, assuring high productivity during a long work day. All switches are located on the right-hand console for convenient access.

Monitor

The monitor is a full-color Liquid Crystal Display (LCD). It has the capability of displaying information in 42 languages.

Joystick Control

Low-effort pilot-operated joystick controls are designed to match your natural wrist and arm position for maximum comfort and minimum fatigue.

Seat

The suspension seat provides a variety of adjustments to accommodate a wide range of operators. All seats include a reclining back, upper and lower seat slide adjustments, and height and tilt adjustments, to meet operator needs for comfort and productivity.

Console

The hand rest can be adjusted to meet individual preferences, improving operator comfort and productivity during the course of a day.

Climate Control

Positive filtered ventilation with a pressurized cab is standard. Fresh air or re-circulated air can be selected with a switch on the left console.

Cab Exterior

The cab shell features thick steel tubing along the bottom perimeter of the cab, improving resistance to fatigue and vibration.

Cab Structure and Mounts

The cab shell is attached to the frame with viscous rubber cab mounts, which dampen vibrations and sound levels while enhancing operator comfort. Thick steel tubing along the bottom perimeter of the cab, improves resistance to fatigue and vibration.

Windows

To maximize visibility, all glass is affixed directly to the cab, eliminating window frames. The upper front windshield opens, closes, and stores on the roof above the operator with a one-touch action release system.

Wipers

Pillar-mounted wipers increase your operator's viewing area and offer continuous and intermittent modes.





Engine

A powerful engine with excellent reliability and low fuel consumption delivering more while boosting your bottom line.

The Cat C7.1 engine has been designed to meet Tier 2 emission regulations. The engine is powerful, strong, and durable to meet all of your application needs. The C7.1 engines incorporate proven, robust components and precision manufacturing you can count on for reliable and efficient operation. This is a proven engine that boasts improved reliability, as it's less sensitive to low quality fuel and also delivers better fuel consumption.

Automatic Engine Speed Control

Automatic engine speed control is activated during no-load or light-load conditions which reduces engine speed to minimize fuel consumption.

Air Cleaner

The radial seal air filter features a double-layered filter core for more efficient filtration and is located in a compartment behind the cab. A warning is displayed on the monitor when dust accumulates above a preset level.

Filtration System

The C7.1 engine features an improved filtration system to ensure good reliability to fuel injection system components. Intervals have been extended and the number of filters reduced to maximize your profit potential.

Low Sound, Low Vibration

The Cat C7.1 improves operator comfort by reducing sound and vibration.



Hydraulics

Efficient hydraulic system with low effort joysticks provides precise control regardless of your application.



Hydraulic System

Hydraulic system pressure is 35 000 kPa (5,076 psi) with 392 L/min (103.6 gal/min) flow from each of the two hydraulic pumps for increased digging performance and productivity.

Pilot System

An independent pilot pump enables smooth precise control for the front linkage, swing, and travel operations.

Component Layout

The 320D GC Series 2 hydraulic system and component locations have been designed to provide a high level of system efficiency. The main pumps, control valves, and hydraulic tank are located close together to allow for shorter tubes and lines between components, which reduce friction loss and pressure drops.

Hydraulic Cross-Sensing System

The hydraulic cross-sensing system utilizes each of two hydraulic pumps to 100 percent of engine power under all operating conditions. This improves productivity with faster implement speeds and quicker, stronger pivot turns.



Boom and Stick Regeneration Circuits

Boom and stick regeneration circuits save energy during boom-down and stick-in operation which increases efficiency, reduces cycle times and pressure loss for higher productivity, lower operating costs, and increased fuel efficiency.

Hydraulic Cylinder Snubbers

Snubbers are located at the rod-end of the boom cylinders and both ends of the stick cylinders to cushion shocks while reducing sound levels and extending component life.

Hydraulic Activation Control Lever

With the hydraulic activation lever in the neutral position all front linkage, swing, and travel functions are isolated.

Undercarriage and Structures

Strong and durable, all you expect from Cat excavators.



Carbody Design and Track Roller Frames

The X-shaped, box-section carbody provides excellent resistance to torsional bending. Robot-welded track roller frames are press-formed, pentagonal units to deliver exceptional strength and service life.

Main Frame

The rugged main frame is extremely durable and designed for the toughest applications.

Undercarriage

Durable Cat undercarriage absorbs stresses and provides excellent stability.

Rollers and Idlers

Sealed and lubricated track rollers, carrier rollers, and idlers provide excellent service life to keep your machine in the field and working longer.

Standard Undercarriage

The standard undercarriage is well suited for applications that require frequent repositioning of the machine, restricted work space, or uneven rocky terrain.

Front Linkage

Reliable and durable to meet all your application needs.



Cat front linkages are designed for maximum versatility, productivity, and high efficiency whatever the application.

Boom and Stick

The 320D GC Series 2 is offered with a reach boom 5.7 m (18'8") and one standard stick 2.9 m (9'6") configuration which covers all the utility applications.

The 2.9 m (9'6") stick is the most versatile option and a very good fit for truck loading and trenching applications where you need additional working range.

Bucket Efficient for your work.



Buckets

Cat buckets and Cat Ground Engaging Tools (GET) are designed and matched to the machine to ensure optimal performance and fuel efficiency.

Heavy Buckets (HD)

HD buckets are a good starting point when application conditions vary – especially when conditions include mixed dirt, clay, sand, and gravel.

Service and Maintenance

Simplified service and maintenance features save you time and money.

Ground-Level Service

The design and layout of the 320D GC Series 2 was made with the service technician in mind. Most service locations are easily accessible at ground level to allow service and maintenance to get completed quickly and efficiently.

Air Filter Compartment

The air filter features a double-element construction for superior cleaning efficiency. When the air filter plugs, a warning is displayed on the cab monitor. Maintenance free batteries are standard along with a battery disconnect switch.

Pump Compartment

A service door on the right side of the upper structure allows ground-level access to the hydraulic pumps, hydraulic filters, engine oil filter, and fuel filters.

Radiator Compartment

The left rear service door allows easy access to the engine radiator, hydraulic oil cooler, air-to-air aftercooler, and AC condenser. A reserve tank and drain cock are attached to the radiator for ground level maintenance.

Greasing Points

A concentrated remote greasing block on the boom allows the greasing of hard-to-reach locations on the boom and stick.



Fan Guard

The engine radiator fan is enclosed by a steel guard that provides protection when carrying out routine service and maintenance.

Anti-Skid Plate

Anti-skid plating covers the entire upper structure and storage box to prevent slipping during maintenance. Safety is further enhanced with the addition of countersunk bolts to reduce trip hazards.

Diagnostics and Monitoring

The 320D GC Series 2 is equipped with Scheduled Oil Sampling $(S \cdot O \cdot S^{SM})$ ports for the hydraulic system, engine oil, and coolant. Standard hydraulic test ports enable a service technician to quickly and easily fault find in the event of service issue.



Product Support

Cat dealers utilize a worldwide computer network to find in-stock parts to minimize machine downtime. You can also save money with our line of remanufactured components.

Machine Selection

Your Cat dealers can provide specific recommendations with detailed comparisons of the Cat machines you are considering before you buy. This ensures you get the right size machine and appropriate work tools to meet all of your application needs.

Maintenance Services

Repair option programs guarantee the cost of repairs up front. Condition monitoring services and diagnostic programs such as scheduled oil sampling, coolant sampling, and technical analysis help you avoid unscheduled repairs.

Customer Support Agreements

Cat dealers offer a variety of product support agreements which can be tailored to meet your specific needs. These plans can cover the entire machine – including attachments – to help protect your investment.

Replacement

Repair, rebuild, or replace? Your Cat dealers can help you evaluate the costs involved so you can make the right choice.

Engine		
Engine Model	Cat C7.1	
Engine Power – ISO 14396	90 kW	121 hp
Net Power – SAE J1349/ISO 9249	84 kW	113 hp
Bore	105 mm	4.1 in
Stroke	135 mm	5.3 in
Displacement	7.01 L	428 in ³

• The Cat C7.1 meets Tier 2 emission regulations.

• Net power advertised is the power available at the flywheel when the engine is equipped with fan, air cleaner, muffler and alternator.

• The field-proven C7.1 engine can work efficiently at altitudes up to 4000 m (13,120 ft).

Weights

-		
Minimum Operating Weight*	20 710 kg	45,660 lb
Maximum Operating Weight**	21 290 kg	46,940 lb

*5.7 m (18'8") Reach Boom, R2.9B1 m (9'6") Stick, 1.0 m³ (1.31 yd³) HD Bucket, 600 mm (24") Triple Grouser Track Shoes. Includes 75 kg (165 lb) operator weight and 100% fuel tank within the configuration.

**5.7 m (18'8") Reach Boom, R2.9B1 m (9'6") Stick, 1.0 m³ (1.31 yd³) HD Bucket, 790 mm (31") Triple Grouser Track Shoes. Includes 75 kg (165 lb) operator weight and 100% fuel tank within the configuration.

Swing Mechanism		
Swing Speed	10.6 rpm	10.6 rpm
Swing Torque	61.8 kN∙m	45,581 lbf-ft
Drive		
Maximum Travel Speed	5.2 km/h	3.2 mph
Maximum Drawbar Pull	205 kN	46,086 lbf

Hydraulic System

103.6 gal/min 51.8
<u> </u>
51.8
51.0
gal/min
5,076 psi
5,221 psi
5,076 psi
3,626 psi
1,977 in³/min
566 psi
4.7 in
49.6 in
5.5 in
59.2 in
4.7 in

Service Refill Capacities

Fuel Tank Capacity	410 L	108.3 gal
Cooling System	25 L	6.6 gal
Engine Oil	22 L	5.8 gal
Swing Drive (each)	8 L	2.1 gal
Final Drive (each)	8 L	2.1 gal
Hydraulic System (including tank)	260 L	68.7 gal
Hydraulic Oil	138 L	36.5 gal

Dimensions

All dimensions are approximate.



Boom Option	Reach Boom 5.7 m (18'8")
Stick Option	R2.9B1 (9'6")
1 Shipping Height*	3030 mm (9'11")
2 Shipping Length	9460 mm (31'0")
3 Tail Swing Radius	2750 mm (9'0")
4 Length to Center of Rollers	
Standard Undercarriage	3270 mm (10'9")
5 Track Length	
Standard Undercarriage	4080 mm (13'5")
6 Track Gauge	
Standard Undercarriage	2200 mm (7'3")
7 Transport Width	
Standard Undercarriage	
600 mm (24") Shoes	2800 mm (9'2")
790 mm (31") Shoes	2990 mm (9'10")
8 Cab Height	2950 mm (9'8")
Cab Height with Top Guard	3090 mm (10'2")
9 Counterweight Clearance**	1020 mm (3'4")
Bucket Type	HD
Capacity	1.0 m ³ (1.31 yd ³)
Tip Radius	1600 mm (5'3")

All dimensions based on Heavy Duty Bucket 1.0 m³ (1.31 yd³).

*Including shoe lug height.

**Without shoe lug height.

320D GC Series 2 Specifications

Working Ranges

All dimensions are approximate.



Boom Option	Reach Boom 5.7 m (18'8")
Stick Option	R2.9B1 (9'6")
1 Maximum Digging Depth	6720 mm (22'1")
2 Maximum Reach at Ground Level	9890 mm (32'5")
3 Maximum Cutting Height	9490 mm (31'2")
4 Maximum Loading Height	6490 mm (21'4")
5 Minimum Loading Height	2170 mm (7'1")
6 Maximum Depth Cut for 2440 mm (8'0") Level Bottom	6380 mm (20'11")
7 Maximum Vertical Wall Digging Depth	5690 mm (18'8")

Ground Pressure

The standard and optional equipment availability vary by region. Please contact your local Cat dealer for more information about the work tools available in your region.

The ground pressure configuration includes having a 1.0 m³ (1.31 yd³) bucket that is full with 1800 kg (3,968 lb) per m³ (yd³) material.	600 mm Triple Grou	
Reach Boom – 5.7 m (18'8")		
R2.9B1 (9'6")	20 710 kg (45,700 lb)	47.6 kPa (6.9 psi)

Major Component Weights

Base Machine (includes boom cylinders, pins and fluids)	6300 kg (13,890 lb)
Full Fuel Tank	340 kg (750 lb)
Counterweight	3700 kg (8,160 lb)
Boom (includes lines, pins and stick cylinder)	
Reach Boom – 5.7 m (18'8")	1810 kg (3,990 lb)
Stick (includes lines, stick pins, bucket pins and bucket cylinder)	
R2.9B1 (9'6")	870 kg (1,920 lb)
Undercarriage	
Standard Undercarriage	4180 kg (9,220 lb)
Track Shoe	
600 mm (24") Triple Grouser Shoe	2480 kg (5,470 lb)

320D GC Series 2 Specifications

Bucket and Stick Forces

Reach Boom 5.7 m (18'8'')	
R2.9B1 (9'6")	
140 kN (31,500 lbf)	
107 kN (23,960 lb)	
125 kN (28,050 lbf)	
104 kN (23,300 lbf)	

Bucket Specifications and Compatibility – Standard Undercarriage

		Width Capacity Weight				Fill	5.7 (18'8") Reach Boom R2.9B1 (9'6") Stick		
	Linkage mm		mm in		m³ yd³		kg Ib		790 mm (31") Track Shoes
Without Quick Coupler						•			
Heavy Duty (HD)	В	1050	42	1.00	1.31	845	1,863	100%	۲
	В	1050	42	1.00	1.31	880	1,940	100%	۲
	kg	2690							
									5,929

With Pin Grabber Coupler									
Heavy Duty (HD)	В	1050	42	1.00	1.31	845	1,863	100%	θ
	В	1050	42	1.00	1.31	880	1,940	100%	0
	kg	2280							
								lb	5,025

The above loads are in compliance with hydraulic excavator standard EN474, 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.

Bucket weight with General Duty tips

Maximum Material Density:

- 1800 kg/m³ (3,000 lb/yd³)
- ⊖ 1500 kg/m³ (2,500 lb/yd³)
- O 1200 kg/m³ (2,000 lb/yd³)

2.9 m (9	'6'') -			• 5.7 m	(18'8")		→	600	3270 mm (10'9")					
5	1.5 m/5.0 ft 3.0 m/10.0 ft				′10.0 ft	4.5 m/15.0 ft 6.0 m/20.0 ft			7.5 m/	25.0 ft				
	•													m ft
7.5 m 25.0 ft	kg Ib							*4550	*4550			*3900 * 8.700	*3900 * 8,700	6.15 19.78
6.0 m	kg							*4950	4700			*3650	3400	7.28
20.0 ft	lb							*10,900	10,050			*8,000	7,550	23.71
4.5 m	kg							*5450	4550	4700	3200	*3550	2900	7.98
15.0 ft	lb							*11,850	9,750	10,050	6,850	*7,850	6,350	26.10
3.0 m	kg					*7950	6550	*6250	4300	4600	3100	*3650	2600	8.35
10.0 ft	lb					*17,150	14,100	*13,600	9,300	9,850	6,650	*8,000	5,750	27.38
1.5 m 5.0 ft	kg Ib					9550 20,550	6100 13,100	6200 13,300	4100 8,800	4450 9,600	3000 6,450	3750 8,250	2500 5,550	8.44 27.70
0.0 m	kg			*6250	*6250	9250	5800	6000	3950	4400	2900	3850	2550	8.26
0.0 ft	lb			*14,300	*14,300	19,900	12,500	12,900	8,450	9,400	6,250	8,400	5,600	27.09
-1.5 m	kg	*6650	*6650	*10 750	*10 750	9150	5750	5950	3850	4350	2900	4150	2750	7.78
-5.0 ft	lb	*14,850	*14,850	*24,400	23,150	19,700	12,350	12,750	8,300	9,350	6,200	9,150	6,050	25.48
-3.0 m	kg	*11 400	*11 400	*14 150	10 950	9250	5800	5950	3900			4900	3250	6.94
-10.0 ft	lb	*25,600	*25,600	*30,650	23,500	19,800	12,450	12,800	8,400			10,800	7,150	22.67
-4.5 m	kg			*11 300	11 300	*8100	5950					*6150	4450	5.60
-15.0 ft	lb			*24,200	*24,200	*17,300	12,900					*13,500	10,000	18.08
		*	4				ISO 1056	7				ſ		

*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 $\pm 5\%$ for all available track shoes.

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

320D GC Series 2 Specifications

Reach Boom Lift Capacities – Standard Undercarriage

2.9 m (9'6	6") –			5.7 m	(18'8")		→	2200 mm	3270 mm (10'9") + + 4080 mm (13'5")					
5	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				
	<u>+</u>							I.						m ft
	kg Ib							*4500	*4500			*3900 * 8,700	*3900 * 8,700	6.15 19.78
	kg							*4950	4800			*3650	3450	7.28
	lb							* 10,850 *5450	10,300 4650	4800	3300	* 8,000 *3550	7,750 2950	23.71 7.98
	kg Ib							*11,850	4050 10,000	4800 10,300	7,000	* 7,800	6,500	7.98 26.10
	kg					*7950	6700	*6250	4400	4700	3200	*3650	2700	8.35
	lb					*17,150	14,450	*13,550	9,500	10,100	6,850	*8,000	5,900	27.38
1.5 m	kg					*9650	6250	6350	4200	4600	3050	3850	2600	8.44
	lb			*0000	*0000	*20,800	13,400	13,650	9,050	9,850	6,600	*3,450	5,700	27.70
	kg Ib			*6200 *14,300	*6200 * 14,300	9500 20,400	5950 12,850	6150 13,250	4050 8,700	4500 9,650	3000 6,400	3950 8,650	2650 5,750	8.26 27.09
	kg	*6650	*6650	*10 750	*10 750	9400	5900	6100	3950	4450	2950	4250	2850	7.78
1 1	lb	*14,850	*14,850	*24,400	23,750	20,200	12,650	13,100	8,550	9,600	6,400	9,350	6,250	25.48
	kg	*11 400	*11 400	*14 150	11 250	9500	5950	6100	4000			5000	3300	6.94
	lb	*25,600	*25,600	*30,650	24,100	20,350	12,750	13,150	8,600			11,100	7,350	22.67
	kg			*11 300	*11 300	*8100	6100					*6150	4550	5.60
-15.0 ft	lb			*24,150	*24,150	*17,250	13,200					*13,450	10,250	18.08
		*	4				ISO 1056	57				ſ	\prod_{k}	

*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 $\pm 5\%$ for all available track shoes.

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

Standard Equipment

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

ENGINE

- C7.1 Mechanical engine
- Meets Tier 2 emission regulations
- 4000 m altitude capability
- Radial seal air filters (primary and secondary filter)
- Glow plugs (for cold weather start)
- Automatic engine speed control with one touch low idle
- Water separator with water level indicator sensor
- Waved fin radiator with space for cleaning
- Two speed travel
- Electric priming pump
- Fuel pressure differential gauge

HYDRAULIC SYSTEM

- Regeneration circuits for boom and stick
- Reverse swing damping valve
- Automatic swing parking brake
- Boom drift reducing valve
- Stick drift reducing valve
- Straight travel hydraulic circuit

CAB

- Pressurized cab
- Fully adjustable mechanical suspension seat
 Adjustable armrest
- Seat belt, retractable (51 mm [2 in] width)
- 70/30 split front windshield
- Laminated upper front windshield and tempered other windows
- Sliding upper door window
- Openable front windshield with assist device
- Pillar mounted upper windshield wiper and washer
- Bi-level air conditioner (automatic) with defroster (pressurized function)
- Color LCD display with warning, filter/ fluid change, and working hour information
- Control lever joysticks
- Neutral lever (lock out) for all controls
- Travel control pedals with removable hand levers
- Radio mounting (DIN size)
- Radio ready
- 12V 2× maximum 10A power supply
- Two stereo speakers
- Beverage holder
- Coat hook
- Openable roof hatch
- Washable floor mat

UNDERCARRIAGE

- Idler and center section track guiding guard
- Towing eye on base frame
- Grease lubricated track

ELECTRICAL

- Batteries (2 × 750 CCA)
- 115 amp alternator
- 8 kW starter motor

LIGHTS

- Left boom working light
- Right working light, storage box mounted
- Interior lighting
- Halogen cab-mounted working lights
- Halogen boom lights

SAFETY & SECURITY

- Cat one key security system
- Door and compartment locks
- Signaling/warning horn
- Rearview mirrors
- Fire wall between engine and pump compartment
- Emergency engine shutoff switch
- Rear window, emergency exit
- Battery disconnect switch
- Back up alarm

COUNTERWEIGHT

• 3.7 mt counterweight

320D GC Series 2 Optional Equipment

Optional Equipment

Optional equipment may vary. Consult your Cat dealer for details.

TECHNOLOGY

• Product LinkTM

For more complete information on Cat products, dealer services, and industry solutions, visit us on the web at **www.cat.com**

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Materials and specifications are subject to change without notice. Featured machines in photos may include additional equipment. See your Cat dealer for available options.

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