320D GC Series 2

CAT®

Hydraulic Excavator



Engine			Weights		
Engine Model	Cat® C7.1		Minimum Operating Weight	20 610 kg	45,440 lb
Engine Power (ISO 14396)	112.5 kW	151 hp	Maximum Operating Weight	21 185 kg	46,700 lb
Net Power (SAE J1349)	106 kW	142 hp			

320D GC Series 2 Differentiating Features

Engine and Hydraulics

A powerful Cat C7.1 engine meets U.S. EPA Tier 2, EU Stage II regulations, and China 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

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.









The Cat C7.1 engine has been designed to meet U.S. EPA Tier 2, EU Stage II regulations, and China 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 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

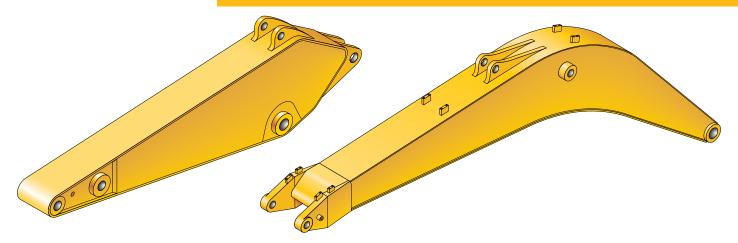
Sealed and lubricated track rollers, carrier rollers, and idlers provide excellent service life to keep your machine in the field and working longer.

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.

Utility Buckets (UD)

These buckets are for digging in low-impact, low-abrasive material such as dirt, loam, and clay.

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	112.5 kW	151 hp
Net Power – SAE J1349	106 kW	142 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 U.S. EPA Tier 2, EU Stage II regulations, and China 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*	20 610 kg	45,440 lb
Maximum Operating Weight**	21 185 kg	46,700 lb

- *5.7 m (18'8") Reach Boom, R2.9B1 m (9'6") Stick, 0.9 m³ (1.18 yd³) UD 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, 0.9 m³ (1.18 yd³) UD Bucket, 790 mm (31") Triple Grouser Track Shoes. Includes 75 kg (165 lb) operator weight and 100% fuel tank within the configuration.

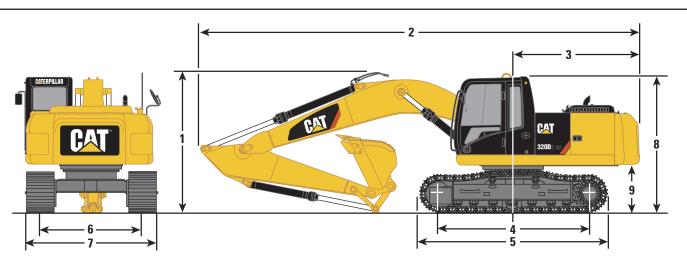
Swing Mechanism		
Swing Speed	10.6 rpm	10.6 rpm
Swing Torque	61.8 kN·m	45,581 lbf-ft

Drive		
Maximum Travel Speed	5.2 km/h	3.2 mph
Maximum Drawbar Pull	205 kN	46,086 lbf

Hydraulic System		
Main System – Maximum Flow (Total)	392	103.6
	L/min	gal/min
Swing System – Maximum Flow	196	51.8
	L/min	gal/min
Maximum Pressure – Equipment	35 000 kPa	5,076 psi
Maximum Pressure – Equipment (Lift mode ON)	36 000 kPa	5,221 psi
Maximum Pressure – Travel	35 000 kPa	5,076 psi
Maximum Pressure – Swing	25 000 kPa	3,626 psi
Pilot System – Maximum Flow	32.4 L/min	1,977 in ³ /min
Pilot System – Maximum Pressure	3900 kPa	566 psi
Boom Cylinder – Bore	120 mm	4.7 in
Boom Cylinder – Stroke	1260 mm	49.6 in
Stick Cylinder – Bore	140 mm	5.5 in
Stick Cylinder – Stroke	1504 mm	59.2 in
B1 Bucket Cylinder – Bore	120 mm	4.7 in
B1 Bucket Cylinder – Stroke	1104 mm	43.5 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	UD
Capacity	0.9 m ³ (1.18 yd ³)
Tip Radius	1488 mm (4'9")

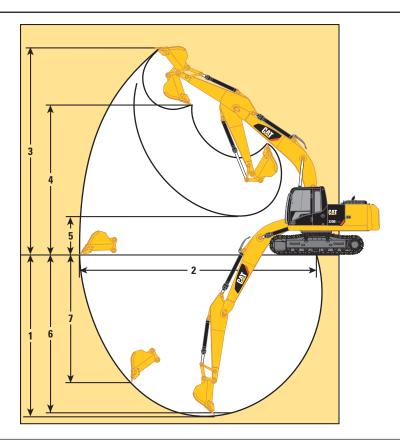
All dimensions based on Utility bucket 0.9 m³ (1.18 yd³).

^{*}Including shoe lug height.

^{**}Without shoe lug height.

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 0.9 m³ (1.18 yd³) bucket that is full with 1800 kg (3,968 lb) per m³ (yd³) material.	600 mm (24") Triple Grouser Shoes		790 mm (31") Triple Grouser Shoes	
Reach Boom – 5.7 m (18'8")				
R2.9B1 (9'6")	20 610 kg	47.5 kPa	21 190 kg	37.1 kPa
	(45,440 lb)	(6.9 psi)	(46,720 lb)	(5.4 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)
790 mm (31") Triple Grouser Shoe	3060 kg (6,750 lb)

Bucket and Stick Forces

Boom Option	Reach Boom 5.7 m (18'8")
Stick Option	R2.9B1 (9'6")
B1 – Family Bucket	
Utility Bucket	
Bucket Digging Force (ISO)	148 kN (33,245 lbf)
Stick Digging Force (ISO)	108 kN (24,286 lbf)
Bucket Digging Force (SAE)	130 kN (29,313 lbf)
Stick Digging Force (SAE)	105 kN (23,497 lbf)

Bucket Specifications and Compatibility – Standard Undercarriage

									Reach	Boom
		Width		Capacity		Weight		Fill	R5.7	
									R2.9B1	
	Linkage	mm	in	m³	yd³	kg	lb	%	600 mm (24")	790 mm (31")
Without Quick Coupler										
Utility Bucket (UD)	В	1150	46	0.90	1.18	820	1,808	100%		

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.

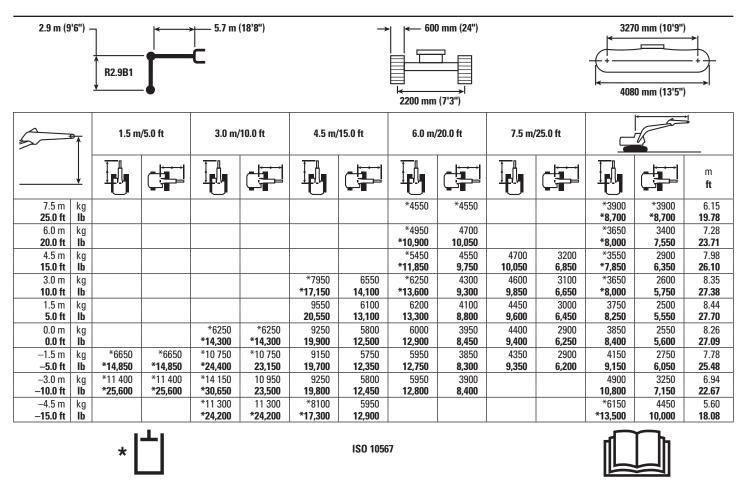
Capacity based on ISO 7451.

Bucket weight with Long tips

Maximum Material Density:

2100 kg/m³ (3,500 lb/yd³)

Reach Boom Lift Capacities – Standard Undercarriage

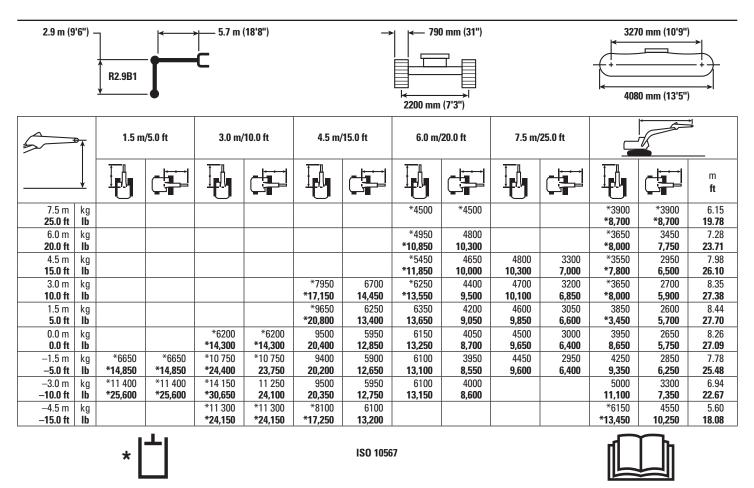


^{*}Indicates that the load is limited by hydraulic lifting capacity rather than tipping load. The above loads are in compliance with hydraulic excavator lift capacity standard ISO 10567:2007. They do not exceed 87% of hydraulic lifting capacity or 75% of tipping load. Weight of all lifting accessories 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.

Reach Boom Lift Capacities – Standard Undercarriage



^{*}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.

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

320D GC Series 2 Standard Equipment

Standard Equipment

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

ENGINE

- C7.1 Mechanical engine
- · Meets China 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
- High ambient cooling package 48° C (118° F)
- 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
- $12V 2 \times \text{ maximum } 10A \text{ power supply}$
- 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 $(2 \times 750 \text{ CCA})$
- 115 amp alternator
- 8 kW starter motor

LIGHTS

- Left boom working light
- · Right working light, storage box mounted
- Interior lighting

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

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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