320D2 GC

CAT®

Hydraulic Excavator 2017



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Engine Model
Engine Power (ISO 14396)
Net Power (SAE J1349/ISO 9249)

Cat[®] C4.4 ACERT™ 93 kW 125 hp

85 kW 114 hp

Weights

Operating Weight

20 200 kg

44,500 lb

320D2 GC Features

Engine and Hydraulics

Powered by a Cat C4.4 ACERT engine that meets U.S. EPA Tier 3/EU Stage IIIA equivalent and China Nonroad Stage III emission standards combined with a highly efficient hydraulic system, the 320D2 GC delivers excellent performance with low fuel consumption and less sensitive to low quality fuel.

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 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, standard service intervals, and advanced filtration help keep downtime to a minimum.

Complete Customer Support

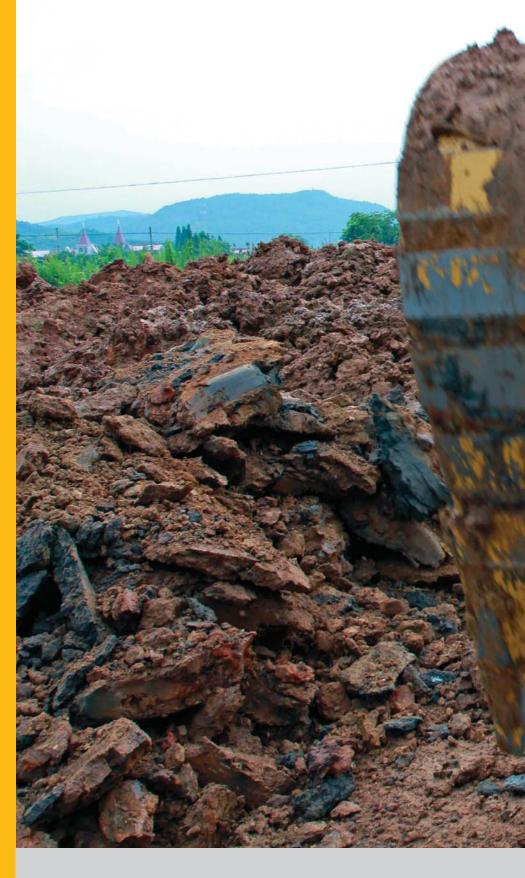
Your Cat dealer offers a wide range of services that can be set up under a customer support agreement when you purchase your equipment.

Cat 320D2 GC Total Solutions

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

Contents

Operator Station	4
Engine	
Hydraulics	7
Undercarriage and Structures	8
Front Linkage	9
Work Tools	9
Cat Connect Technologies	10
Service and Maintenance	12
Complete Customer Support	13
Safety	14
Specifications	15
Standard Equipment	21
Optional Equipment	22
Notas	22





The new Cat 320D2 GC hydraulic excavator is engineered for low owning and operating costs, simple routine maintenance, high productivity and long-term durability. Equipped with a four-cylinder, turbocharged Cat C4.4 ACERT engine, the new model is exceptionally fuel efficient, the fuel saving is up to 17% (depends on the different applications and regional configurations), compared with 320D2. Fuel saving results may vary depending on applications conditions, operator behavior and other external factors.





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. HAVC console is under the left hand armrest.

Monitor

The new monitor consists of the master caution lamp, buzzer, monitor display screen, and keypad. Easy to see the display information ergonomically. 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.

The head rest can be adjusted to meet individual height 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 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 C4.4 ACERT engine with four cylinders has been designed to meet U.S. EPA Tier 3/EU Stage IIIA equivalent and China Nonroad Stage III emission standards. The proven C4.4 ACERT engine incorporates robust components and precision manufacturing you can count on for reliable and efficient operation. Less sensitive to low quality fuel, it boasts improved reliability while delivering reduced fuel consumption.

Automatic Engine Control

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

Electric Priming Pump

Eliminates the need for manual priming of fuel after filter changes. This pump reduces the risk of fuel contamination by preventing unfiltered fuel from being backfilled during filter changes as was possible with a manual hand priming pump.

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.

Filtration System

An efficient filtration system provides robustness against contaminants in low fuel quality. The number of filters has been increased to three. The primary filter is a capable filter integrated water separator and the secondary twin filters with fine micron filtering capability improve filtration efficiency and machine robustness.

Low Sound, Low Vibration

The Cat C4.4 ACERT engine 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 428 L/min (113.1 gal/min) flow from the two hydraulic pumps increases 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 320D2 GC 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.

Boom and Stick Regeneration Circuits

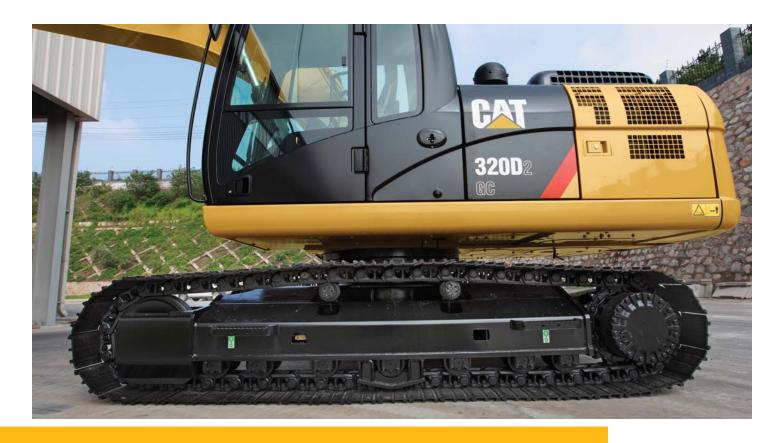
Boom and stick regeneration circuits save energy during boom-down and stick-in operation which increases efficiency, reduces cycle times and pressure loss for higher productivity, lower operating costs, and increased fuel efficiency.

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.

Return Capsule Filter

The return filter is a capsule filter which has a cartridge inside in order to avoid any contamination when accessing the filter and to enable changing cleanly without oil spillage. The capsule filter with little micro meter mesh size is capable of filtering out impurities. A sensor attached to the filter indicates if the filter is clogged and a warning goes off on the operator's monitor in the cab.



Undercarriage and Structures

Strong and durable, all you expect from Cat excavators.

Main Frame

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

Standard Undercarriage

Durable Cat undercarriage absorbs stresses and provides excellent stability. The standard undercarriage is well suited for applications that require frequent repositioning of the machine, restricted work space, or uneven rocky terrain.

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.

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.



Reliable and durable to meet all your application needs.



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

Boom and Sticks

The 320D2 GC is offered with a 5.7 m (18'8") reach boom and 2.9 m (9'6") reach stick configuration to meet your application requirements:

• The 2.9 m (9'6") stick is a very good fit for truck loading and trenching applications.

Work Tools

Efficient for your work.



General Duty Buckets (GD)

Buckets

The right bucket gives you maximum productivity and profit. Cat has the bucket you need.

General Duty Buckets (GD)

These buckets are designed for digging in low-impact, moderately abrasive materials such as dirt, loam, gravel, and clay.

Work Tools

E Series Hammers

E Series hydraulic hammers provide continual, reliable breaking power, are easy to operate and easy to maintain, giving you lasting value.

B Series Hammers

Take on demolition work with low costs per hour, and still enjoy consistent, reliable power, easy maintenance and the backing of the Cat dealer network.



Cat Connect Technologies

Monitor, manage, and enhance job site operations.



Cat Connect makes smart use of technology and services to improve your job site efficiency. Using the data from technology-equipped machines, you'll get more information and insight into your equipment and operations than ever before.

Cat Connect technologies offer improvements in these key areas:



EQUIPMENT

 $\label{eq:continuous} \textbf{Equipment Management} - \text{increase uptime and reduce operating costs}.$



Productivity – monitor production and manage job site efficiency.



Safety – enhance job site awareness to keep your people and equipment safe.

Cat Connect LINK Technologies

LINK technologies wirelessly connect you to your equipment giving you access to essential information you need to know to run your business. Link data can give you valuable insight into how your machine or fleet is performing so you can make timely, fact-based decisions that can boost job site efficiency and productivity.

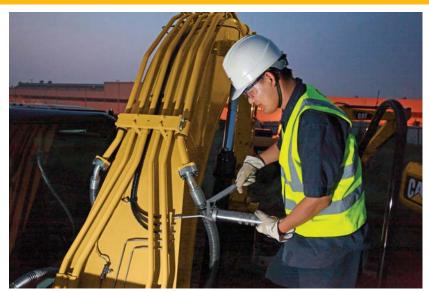
Product Link™/VisionLink®

Product Link is deeply integrated into your machine, helping to take the guesswork out of equipment management. Easy access to timely information like machine location, hours, fuel usage, idle time and event codes via the online VisionLink user interface can help you effectively manage your fleet and lower operating costs.



Service and Maintenance

Simplified service and maintenance features save you time and money.





Ground-Level Service

The design and layout of the 320D2 GC 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.

Diagnostics and Monitoring

The 320D2 GC is equipped with Scheduled Oil Sampling (S·O·S SM) ports for the hydraulic system, engine oil, and coolant. Standard hydraulic test ports enable a service technician to quickly and easily find a problem 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.

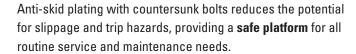
Replacement

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

Safety

Make you safer.





The standard **hydraulic lockout lever** isolates all hydraulic and travel functions in the lowered position. It is specifically designed to not allow the operator to leave the cab without first lowering it.

Three circuit breakers protect critical electrical components to increase machine uptime.

A **battery disconnect switch** helps to deter theft by isolating the battery and enhances safety when servicing the machine.

A full length **firewall** separates the engine from the hydraulic pump and offers protection in the event of an incident.

Ground level **shut-off switch** stops all fuel to the engine when activated and shuts down the machine.

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





C4.4 ACE	RT
93 kW	125 hp
85 kW	114 hp
1,800 rpm	
1,800 rpm	
105 mm	4.13 in
127 mm	5.00 in
4.4 L	269 in ³
	1,800 rpm 1,800 rpm 105 mm 127 mm

- The 320D2 GC meets U.S. EPA Tier 3/EU Stage IIIA equivalent and China Nonroad Stage III emission standards.
- No engine power derating required below 3000 m (9,843 ft) altitude.
- Net power advertised is the power available at the flywheel when the engine is equipped with fan, air cleaner, muffler and alternator.
- Power rating at 2,200 rpm.

High

Low

Maximum Drawbar Pull

Weights		
Operating Weight*	20 200	44,500 lb

*R5.7 (18'8") reach boom, 2.9 m (9'6") Stick, GD 1.0 m³ (1.3 yd³) bucket and 600 mm (24") triple grouser shoes.

Track	
Number of Shoes Each Side	45 pieces
Number of Track Rollers Each Side	7 pieces
Number of Carrier Rollers Each Side	2 pieces
Cooling Machanian	

Swing Mechanism		
Swing Speed	11.9 rpm	
Maximum Swing Torque	68 kN·m	50,154 lbf-ft
Drive		
Maximum Gradeability	35°/70%	
Maximum Travel Speed		

5.8 km/h

3.6 km/h 206 kN 3.6 mph 2.2 mph

46,311 lb

Hydraulic System		
Main System – Maximum Flow (total)	428 L/min	113.1 gal/min
Maximum Pressure	35 MPa	5,076 psi
Maximum Pressure – Swing	25 MPa	3,626 psi
Pilot System – Maximum Flow (total)	23.1 L/min	6.1 gal/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
Bucket Cylinder – Bore	120 mm	4.7 in
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	16 L	4.2 gal
Swing Drive	8 L	2.1 gal
Final Drive	8 L	2.1 gal
Hydraulic System Oil (including tank)	260 L	68.7 gal
Hydraulic Tank Oil	138 L	36.5 gal

Sound Performance		
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ISO 6395 (External Sound Power Level)	101 dB(A)	

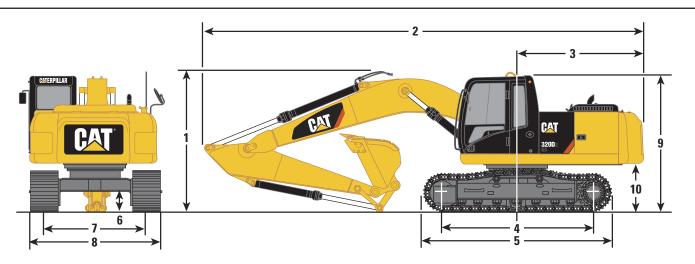
ISO 6396 (Interior Sound Pressure Level) 69 dB(A)

- When properly installed and maintained, the cab offered by Caterpillar, when tested with doors and windows closed according to ANSI/SAE J1166 OCT98, meets 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.

Standards	
Brakes	ISO 10265:2008
Cab/FOGS	SAE J1356 MAR2013 ISO 10262:1998

Dimensions

All dimensions are approximate.



Boom Options	Reach Boom* 5.7 m (18'8")
Stick Options	R2.9 B1 (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	3270 mm (10'9")
5 Track Length	4080 mm (13'5")
6 Ground Clearance***	450 mm (1'6")
7 Track Gauge	
Standard Undercarriage (shipping)	2200 mm (7'3")
8 Transport Width	
Standard Undercarriage	
600 mm (24") Shoes	2800 mm (9'2")
790 mm (31") Shoes	2990 mm (9'10")
9 Cab Height***	2950 mm (9'8")
10 Counterweight Clearance***	1020 mm (3'4")
Bucket Type	GD
Bucket Tip Radius	1560 mm (5'1")

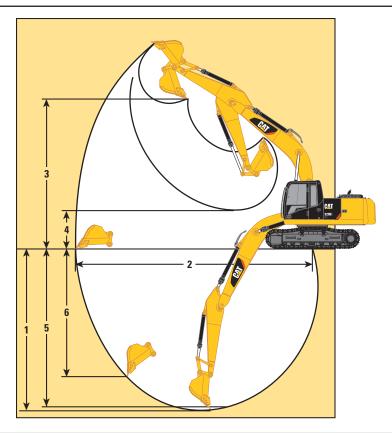
^{*}With GD 1.0 m^3 (1.3 yd^3) bucket.

^{**}Including shoe lug height.

^{***}Without shoe lug height.

Working Ranges

All dimensions are approximate.



Boom Options	Reach Boom 5.7 m (18'8")	
Stick Options	R2.9 B1 (9'6")	
Bucket Type/Capacity	GDX 1.0 m³ (1.3 yd³)	
Bucket Tip Radius	1560 mm (5'1")	
1 Maximum Digging Depth	6730 mm (22'1")	
2 Maximum Reach at Ground Line	9870 mm (32'5")	
3 Maximum Loading Height	6490 mm (21'4")	
4 Minimum Loading Height	2170 mm (7'1")	
Maximum Depth Cut for 2240 mm (8 ft) Level Bottom	6560 mm (21'6")	
6 Maximum Vertical Wall Digging Depth	5750 mm (18'10")	
Bucket Digging Force (SAE)	124 kN (27,900 lbf)	
Bucket Digging Force (ISO)	140 kN (31,500 lbf)	
Stick Digging Force (SAE)	104 kN (23,400 lbf)	
Stick Digging Force (ISO)	107 kN (24,100 lbf)	

Operating Weight and Ground Pressure

	600 mm (24") Triple Grouser Shoes		
	Weight	Ground Pressure	
Reach Boom – 5.7 m (18'8")			
2.9 m (9'6") Stick, GD 1.0 m ³ (1.3 yd ³) Bucket	20 200 kg (44,500 lb)	46.5 kPa (6.7 psi)	

Major Component Weights

6330 kg (13,960 lb)			
4180 kg (9,220 lb)			
3700 kg (8,160 lb)			
1660 kg (3,660 lb)			
980 kg (2,160 lb)			
2460 kg (5,420 lb)			
850 kg (1,870 lb)			

ISO 6016 Operating Weight Criteria: Base Machine with fronts, bucket, full fuel tank (and fluids), 75 kg (165 lb) operator. This standard excludes optional attachments.

Bucket Specifications and Compatibility

		Wid		Width Capacity		Weight		Fill	Reach Boom
									R2.9 (9'6")
	Linkage	mm	in	m³	yd³	kg	lb	%	600 mm (24") TG
Without Pin Grabber Coupler									
General Duty (GD)	В	1050	42	1.00	1.31	729	1,607	100%	•
		Maximum load pin-on (payload + bucket)					kg	2586	
								lb	5,702

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)
- 1800 kg/m³ (3,000 lb/yd³)

Work Tool Offering Guide*

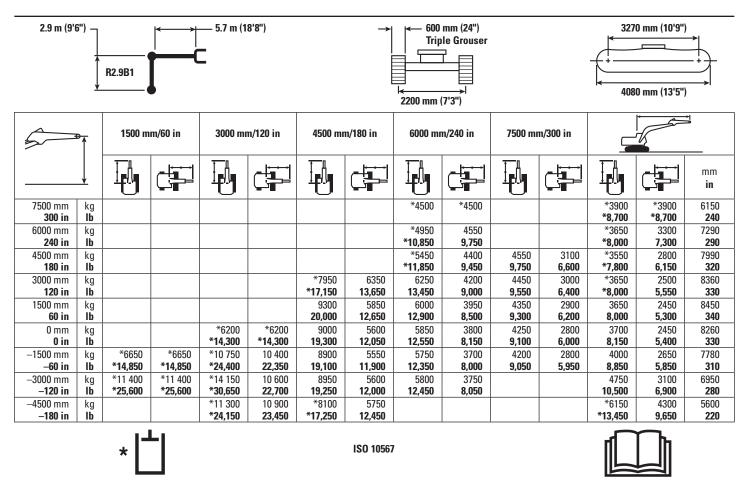
Boom Type	Reach		
Stick Size	R2.9 (9'6")		
Hydraulic Hammer	H115Es		
·	H120Es		
	B20**		
Those work	tools are available for the 220D2 GC		

These work tools are available for the 320D2 GC. Consult your Cat dealer for proper match.

^{*}Offerings not available in all areas. Matches are dependent on excavator configurations. Consult your Cat dealer to determine what is offered in your area and for proper work tool match.

^{**}Match; Pin-on or CW.

Reach Boom Lift Capacities – without Bucket Linkage



^{*}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

- Cat C4.4 ACERT diesel engine
- Biodiesel capable up to B20
- Meets U.S. EPA Tier 3/EU Stage IIIA equivalent and China Nonroad Stage III emission standards
- 3000 m (9,843 ft) 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
- Starting kit, cold weather, <-18° C (-0° F)
- Water separator with water level indicator
- Waved fin radiator with space for cleaning
- Two speed travel
- Electric priming pump

HYDRAULIC SYSTEM

- Regeneration circuit for boom and stick
- Reverse swing dampening valve
- Automatic swing parking brake
- Boom drift reducing valve
- Boom lowering device for back-up
- Stick drift reducing valve
- High performance hydraulic return filters

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)
- Two stereo speakers
- · Beverage holder
- Coat hook
- · Ashtray and lighter
- Storage compartment for lunch box
- · Openable roof hatch
- · Washable floor mat
- · Roll down sunscreen

UNDERCARRIAGE

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

ELECTRICAL

• Batteries $(2 \times 750 \text{ CCA})$

FRONT LINKAGE

- R5.7 m (18'8") reach boom with left side light
- R2.9B1 (9'6") reach stick
- · Bucket linkage

LIGHTS

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

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 (4.1 t) counterweight

TECHNOLOGY

- Product Link
- Cat data link receptacle

320D2 GC Optional Equipment

Optional Equipment

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

ENGINE

• Electric refueling pump with auto shut off

HYDRAULIC SYSTEM

- Hammer circuit, foot pedal operated
- Boom and stick high pressure lines
- Multi viscous oil

UNDERCARRIAGE

• 600 mm (24") triple grouser shoes

SECURITY

• Travel alarm

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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