

320 GC Hydraulic Excavator

Technical Specifications

Configurations and features may vary by region. Please consult your Cat® dealer for availability in your area.

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320 GC Hydraulic Excavator Specifications

Engine		
Engine Model	Cat [®] C4.4	
Net Power		
ISO 9249	109 kW	146 hp
ISO 9249 (DIN)	148 hp (met	tric)
Engine Power		
ISO 14396	110 kW	148 hp
ISO 14396 (DIN)	150 hp (met	tric)
Bore	105 mm	4 in
Stroke	127 mm	5 in
Displacement	4.4 L	269 in ³
Biodiesel capability	Up to B20 ⁽¹⁾)

- Meets U.S. EPA Tier 4 Final, EU Stage V, and Japan 2014 emission standards.
- Recommended for use up to 4500 m (14,760 ft) altitude with engine power derate above 3000 m (9,840 ft).
- Advertised power is tested per the specified standard in effect at the time of manufacture.
- Net power advertised is the power available at the flywheel when the engine is equipped with fan, air intake system, exhaust system and alternator.
- Rated engine speed at 2,000 rpm.
- ⁽¹⁾Cat diesel engines are required to use ULSD (ultra-low sulfur diesel fuel with 15 ppm of sulfur or less) or ULSD blended with the following lower-carbon intensity fuels** up to:
 - ✓ 20% biodiesel FAME (fatty acid methyl ester)*
 - ✓ 100% renewable diesel, HVO (hydrogenated vegetable oil) and GTL (gas-to-liquid) fuels

Refer to guidelines for successful application. Please consult your Cat dealer or "Caterpillar Machine Fluids Recommendations" (SEBU6250) for details.

- *Engines with no aftertreatment devices can use higher blends, up to 100% biodiesel (for use of blends higher than 20% biodiesel, consult your Cat dealer).
- **Tailpipe greenhouse gas emissions from lower-carbon intensity fuels are essentially the same as traditional fuels.

Swing Mechanism

Swing Speed	11.6 rpm	
Maximum Swing Torque	74.4 kN∙m	54,900 lbf-ft

Weights

20 700 kg 45,600 lb

• Standard undercarriage, Reach boom, R2.9 (9'6") stick, General Duty (GD) 0.8 m³ (1.05 yd³) bucket, 600 mm (24") triple grouser shoes, and 3.7 mt (8,200 lb) counterweight.

Track		
Optional Track Shoes Width	600 mm	24 in
Optional Track Shoes Width	700 mm	28 in
Optional Track Shoes Width	790 mm	31 in
Number of Shoes (each side)	45	
Number of Track Rollers (each side)	7	
Number of Carrier Rollers (each side)	2	

Number of Carrier Rollers (each side) 2

Drive

Gradeability	35°/70%	
Maximum Travel Speed	5.9 km/h	3.6 mph
Maximum Drawbar Pull – Standard Undercarriage	205 kN	46,131 lbf

Hydraulic System

Main System – Maximum Flow –	442 L/min (221 ×	116 gal/min (58 ×
Implement	C	
	2 pumps)	2 pumps)
Maximum Pressure – Equipment –	35 000 kPa	5,075 psi
Normal		
Maximum Pressure – Travel	34 300 kPa	4,974 psi
Maximum Pressure – Swing	25 000 kPa	3,625 psi
Boom Cylinder – Bore	120 mm	5 in
Boom Cylinder – Stroke	1260 mm	50 in
Stick Cylinder – Bore	135 mm	5 in
Stick Cylinder – Stroke	1504 mm	59 in
Bucket Cylinder – Bore	115 mm	5 in
Bucket Cylinder – Stroke	1104 mm	43 in

Service Refill Capacities

Fuel Tank Capacity	345 L	86.6 gal
Cooling System	25 L	6.6 gal
Engine Oil	15 L	4.0 gal
Swing Drive (each)	12 L	3.2 gal
Final Drive (each)	4 L	1.1 gal
Hydraulic System (including tank)	234 L	61.8 gal
Hydraulic Tank	115 L	30.4 gal
Diesel Exhaust Fluid (DEF) Tank	39 L	10.3 gal

Standards

Brakes	ISO 10265:2008
Cab/Rollover Protective Structure (ROPS)	ISO 12117-2:2008
Cab/Falling Object Guard System (FOGS) (Optional)	ISO 10262:1998 Level II

Sound Performance

ISO 6395:2008 (external)	101 dB(A)	
ISO 6396:2008 (inside cab)	70 dB(A)	

• 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") Triple Grouser Shoes		700 mm (28 in) Triple Grouser Shoes		790 mm (31") Triple Grouser Shoes	
	Weight	Ground Pressure	Weight	Ground Pressure	Weight	Ground Pressure
Base Machine Configurations	kg (lb)	kPa (psi)	kg (lb)	kPa (psi)	kg (lb)	kPa (psi)
Base Frame with Track Rollers and Carrier Rollers						
3.7 mt (8,200 lb) Counterweight + Standard Underca	rriage Base Mac	hine				
Reach Boom + R2.9 (9'6") Stick + 0.8 m ³ (1.05 yd ³) GD Bucket	20 700 (45,600)	47.7 (6.9)	20 900 (46,100)	41.3 (6.0)	21 200 (46,700)	37.1 (5.4)

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

Major Component Weights

	kg	lb
Base Machine Weight (with 3.7 mt [8,200 lb] counterweight, upper frame, standard undercarriage with track rollers – does not include boom, stick, bucket, two boom cylinders, stick cylinder, bucket cylinder, tracks, 90% fuel tank and 75 kg [165 lb] operator).	14 000	30,900
Track Shoes:		
600 mm (24 in) Width, 8.5 mm (0.33 in) Thick Triple Grouser Track Shoes	2580	5,700
700 mm (28 in) Width, 10 mm (0.39") Thick Triple Grouser Track Shoes	2790	6,100
790 mm (31 in) Width, 10 mm (0.39 in) Thick Triple Grouser Track Shoes with Step Extension	3080	6,800
Two Boom Cylinders	340	700
Weight of 90% Fuel Tank and 75 kg (165 lb) Operator	310	700
Counterweight:		
3.7 mt (8,200 lb) Counterweight	3700	8,200
Swing Frame:		
Standard Swing Frame	1880	4,150
Undercarriage:		
Standard Base Frame with Standard Track Rollers and Standard Carrier Rollers	4030	8,900
Boom (including lines, pins, stick cylinder):		
Reach Boom 5.7 m (18'8")	1690	3,700
Stick (including lines, pins, bucket cylinder, bucket linkage):		
Reach Stick R2.9B1 (9'6")	1080	2,400
Buckets (without linkage):		
1.0 m ³ (1.31 yd ³) GD	740	1,600
1.0 m ³ (1.31 yd ³) Heavy Duty (HD)	880	1,900
0.8 m ³ (1.05 yd ³) GD	660	1,500
Quick Coupler (QC):		
Pin Grabber QC	390	850
Shovel Crane:		
Hook, Valves and Sensors	60	130
Auxiliary Lines:		
High Pressure (HP) Lines for Reach Boom	80	180
HP Lines Reach Stick	50	110
Auxiliary Valves for HP	160	350

Dimensions

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



Boom Option	Reach 5.7 m (*	
Stick Option	Reach R2.9B1	
1 Machine Height:		
Top of Cab Height	2960 mm	9'8"
Top of FOGS Height	3100 mm	10'2"
Handrail Height	2950 mm	9'8"
With Boom/Stick/Bucket Installed	3050 mm	10'0"
With Boom/Stick Installed	2910 mm	9'7"
With Boom Installed	2480 mm	8'1"
2 Machine Length:		
With Boom/Stick/Bucket Installed	9520 mm	31'3"
With Boom/Stick Installed	9500 mm	31'2"
With Boom Installed	8450 mm	27'9"
3 Upperframe Width	2780 mm	9'1"
4 Tail Swing Radius	2830 mm	9'3"
5 Counterweight Clearance	1050 mm	3'5"
6 Ground Clearance	470 mm	1'6"
7 Track Length	4070 mm	13'4"
8 Length to Center of Rollers	3270 mm	10'9"
9 Track Gauge	2200 mm	7'3"
10 Undercarriage Width:		
600 mm (24 in) Shoes	2800 mm	9'2"
700 mm (28 in) Shoes	2900 mm	9'6"
790 mm (31 in) Shoes	2990 mm	9'10"
Bucket Type	GI)
Bucket Capacity	0.80 m ³	1.05 yd ³
Bucket Tip Radius	1490 mm	4'10"

Working Ranges

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



Boom Option	Reach 5.7 m (
Stick Option	Reach R2.9B1	
1 Maximum Digging Depth	6640 mm	21'9"
2 Maximum Reach at Ground Line	9780 mm	32'1"
3 Maximum Cutting Height	9440 mm	31'0"
4 Maximum Loading Height	6570 mm	21'7"
5 Minimum Loading Height	2250 mm	7'5"
6 Maximum Depth Cut for 2440 mm (8 ft) Level Bottom	6470 mm	21'3"
7 Maximum Vertical Wall Digging Depth	5990 mm	19'8"
Bucket Digging Force (ISO)	135 kN	30,448 lbf
Stick Digging Force (ISO)	100 kN	22,562 lbf
Bucket Type	GI	D
Bucket Capacity	0.80 m³	1.05 yd ³
Bucket Tip Radius	1490 mm	4'10"

Bucket Specifications and Compatibility

		Width		Capacity		Weight		Fill	Reach Boom
	Linkage	mm	in	m ³	yd ³	kg	lb	%	R2.9 (9'6")
Pin-On (No Quick Coupler)	·								
General Duty Excavation	В	950	37	0.80	1.05	686	1,511	100	
	В	1050	41	0.90	1.18	719	1,584	100	
	В	1150	45	1.00	1.31	751	1,655	100	۲
Heavy Duty Excavation	В	950	37	0.80	1.05	796	1,755	100	
	В	1050	41	0.90	1.17	835	1,841	100	۲
	В	1050	41	0.90	1.18	855	1,885	100	۲
Tamping	В	2200	86	0.72	0.94	868	1,913	100	
	В	2200	86	0.90	1.18	891	1,965	100	۲
	·	Max	imum loa	ad with p	in-on (pa	iyload +	bucket)	kg	2565
								lb	5,655
With Cat Pin Grabber Coupler									
General Duty Excavation	В	950	37	0.80	1.05	686	1,511	100	۲
	В	1050	41	0.90	1.18	719	1,584	100	θ
	В	1150	45	1.00	1.31	751	1,655	100	0
Heavy Duty Excavation	В	950	37	0.80	1.05	796	1,755	100	θ
	В	1050	41	0.90	1.17	835	1,841	100	θ
	В	1050	41	0.90	1.18	855	1,885	100	θ
Tamping	В	2200	86	0.72	0.94	868	1,913	100	۲
	В	2200	86	0.90	1.18	891	1,965	100	0
		Maxir	num load	d with co	upler (pa	yload +	bucket)	kg	2145
								lb	4,730

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:

- 2100 kg/m³ (3,500 lb/yd³)
- 1800 kg/m³ (3,000 lb/yd³)
- ⊖ 1500 kg/m³ (2,500 lb/yd³)
- O 1200 kg/m³ (2,000 lb/yd³)

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.

320 GC Hydraulic Excavator Specifications

Attachments Offering Guide

Not all Attachments are available in all regions. Consult your Cat dealer for configurations available in your region.

🗸 Match

* Working range front only

† Allowed usage on machine less than 50%

Boom Type		Reach
Stick Length		R2.9 (9'6")
Hydraulic Hammers	H115 S	\checkmark
	H120 GC Side mount	\checkmark
	H120 S	\checkmark
	H130 S	à

Boom Type		Reach
Stick Length		R2.9 (9'6")
Hydraulic Hammers	H115 S	à
	H120 GC Side mount	à
	H120 S	à
	H130 S	à*

*Working range front only

†Allowed usage on machine less than 50%.

Standard and Optional Equipment

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

	Standard	Optional		Standard	Optional
САВ			HYDRAULIC SYSTEM		
ROPS	\checkmark		Boom and stick regeneration circuits	\checkmark	
High-resolution 203 mm (8") LCD touch	\checkmark		Electronic main control valve	\checkmark	
screen monitor			Auto warm up	√	
Auto bi-level air conditioner	✓		Auto two-speed travel	√	
Jog dial and shortcut keys for monitor control	\checkmark		Boom and stick drift reduction valve	\checkmark	
Keyless push-to-start engine control	✓		Element type main hydraulic filter	\checkmark	
Height-adjustable console, three steps	• ✓		Three button joysticks	✓	
with tool	v		Slider joysticks		\checkmark
Fixed left-side console	√		Tandem type electronic main pump	\checkmark	
Mechanical-suspension seat	√		Bucket cylinder for B1 linkage for GC	√	
51 mm (2") orange seat belt	✓		Hammer return filter circuit		\checkmark
Console mounted Bluetooth [®] radio with Aux/USB ports	\checkmark		Combined flow/high pressure auxiliary circuit		✓
12V DC outlets	√		Quick coupler circuit for Cat pin grabber		\checkmark
Document storage	✓		UNDERCARRIAGE AND STRUCTURES		
Cup and bottle holders	✓		600 mm (24") triple grouser track shoes	\checkmark	
Openable two-piece front window	✓		700 mm (28 in) triple grouser track shoes		\checkmark
Rear window emergency exit	✓		790 mm (31") triple grouser track shoes		\checkmark
Radial wiper with washer	√		Tie-down points on base frame	\checkmark	
Openable steel hatch	\checkmark		(ISO 15818:2017 compliant)		
LED dome light	\checkmark		Botttom guards	\checkmark	
Roller front sunscreen	✓		Swivel guard		\checkmark
Roller rear sunscreen		\checkmark	Travel motor guards	✓	
Washable floor mat	\checkmark		Grease lubricated track links	✓	
Beacon ready	\checkmark		3.7 mt (8,200 lb) counterweight	\checkmark	
ENGINE			Shovel crane package		\checkmark
Cat [®] C4.4 single turbo engine	✓		()	continued on	next page
Two selectable power modes	√				
Auto engine speed control	✓				
Auto engine idle shutdown	✓				
4600 m (15,092 ft) altitude capability with derate from 3000 m (9,840 ft)	\checkmark				
52° C (125° F) high-ambient cooling capacity	\checkmark				
Cold starting capability for –32° C (–25° F)	\checkmark				
Double element air filter with integrated pre-cleaner	\checkmark				
Electric fuel priming pump	\checkmark				
Reversible electric cooling fans	\checkmark				

Standard and Optional Equipment (continued)

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

	Standard	Optional		Standard	Optional
BOOM, STICKS AND LINKAGES			SERVICE AND MAINTENANCE		-
5.7 m (18'8") Reach boom	\checkmark		Scheduled Oil Sampling (S·O·S SM)ports	\checkmark	
2.9 m (9'6") stick	\checkmark		QuickEvac [™] maintenance ready		\checkmark
Bucket linkage, B1-family without lifting eye	\checkmark		Grouped location for engine oil and fuel filters	\checkmark	
Bucket linkage, B1-family with		\checkmark	Ground-level second dipstick for engine oil	√	
lifting hook for shovel crane			Side entry to service platform	\checkmark	
ELECTRICAL SYSTEM			Radiator screen		\checkmark
1,000 CCA maintenance-free batteries (×2)	\checkmark		Integrated vehicle health management system	\checkmark	
Centralized electrical disconnect switch	\checkmark		SAFETY AND SECURITY		
Programmable time-delay LED working lights	\checkmark		Auto hammer stop	√	
LED chassis light, Left Hand (LH) boom light for Reach	\checkmark		Rearview and right-hand- sideview cameras	\checkmark	
LED chassis light, LH and Right Hand (RH)		✓	Neutral lever (lock out) for all controls	\checkmark	
boom lights for Reach, cab lights		•	Anti-skid plate and countersunk bolts on service platform	\checkmark	
CAT TECHNOLOGY			Ground-level accessible secondary engine	✓	
VisionLink®	√*		shutoff switch in cab	•	
VisionLink Productivity		\checkmark	Lockable disconnect switch	√	
Remote Flash	\checkmark		Swing alarm		√
*Connect subscription only. Additional subscription Contact your Cat dealer for availability.	ns are availabl	е.	RH handrail and handhold (ISO 2867:2011 compliant)	\checkmark	

320 GC Attachments

√

✓

Dealer Installed Kit and Attachments

Attachments may vary. Consult your Cat dealer for details.

CAB

- · Lower radial wiper
- Rain protector plus cab light cover
- Polycarbonate roof hatch
- Sun visor, slider
- Laminated P5A glass front windshield
- LH/RH electrical pedal for tool control
- Armrest kit
- Dual exit rear window kit
- 75 mm (3") retractable seat belt
- Lunch box net
- Rear storage
- Tool box

GUARDS

- Swivel guard
- Side rubber bumper guard
- Falling object guard system
- Mesh guard full front
- Mesh guard half front
- Full protecting vandalism guard

MAINTENANCE

Signaling/warning horn

Inspection lighting

Storage tray in pump compartment

• Duct ready kit

SAFETY AND SECURITY

• Bluetooth[®] receiver

320 GC Environmental Declaration

The following information applies to the machine at the time of final manufacture as configured for sale in the regions covered in this document. The content of this declaration is valid as of the date issued; however, content related to machine features and specifications are subject to change without notice. For additional information, please see the machine's Operation and Maintenance Manual.

For more information on sustainability in action and our progress, please visit https://www.caterpillar.com/en/company/sustainability.

Engine

- The Cat[®] C4.4 engine meets U.S. EPA Tier 4 Final, EU Stage V, and Japan 2014 emission standards.
- Cat diesel engines are required to use ULSD (ultra-low sulfur diesel fuel with 15 ppm of sulfur or less) or ULSD blended with the following lower-carbon intensity fuels** up to:
 - ✓ 20% biodiesel FAME (fatty acid methyl ester)*
 - ✓ 100% renewable diesel, HVO (hydrogenated vegetable oil) and GTL (gas-to-liquid) fuels

Refer to guidelines for successful application. Please consult your Cat dealer or "Caterpillar Machine Fluids Recommendations" (SEBU6250) for details.

*Engines with no aftertreatment devices can use higher blends, up to 100% biodiesel (for use of blends higher than 20% biodiesel, consult your Cat dealer).

**Tailpipe greenhouse gas emissions from lower-carbon intensity fuels are essentially the same as traditional fuels.

Air Conditioning System

• The air conditioning system on this machine contains the fluorinated greenhouse gas refrigerant R134a (Global Warming Potential = 1430). The system contains 0.85 kg (1.9 lb) of refrigerant which has a CO₂ equivalent of 1.216 metric tonnes (1.340 tons).

Paint

- Based on best available knowledge, the maximum allowable concentration, measured in parts per million (PPM), of the following heavy metals in paint are:
- Barium < 0.01%
- Cadmium < 0.01%
- Chromium < 0.01%
- Lead < 0.01%

Sound Performance

ISO 6395:2008 (external) – 101 dB(A)

ISO 6396:2008 (inside cab) - 70 dB(A)

• 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.

Oils and Fluids

- Caterpillar factory fills with ethylene glycol coolants. Cat Diesel Engine Antifreeze/Coolant (DEAC) and Cat Extended Life Coolant (ELC) can be recycled. Consult your Cat dealer for more information.
- Cat Bio HYDO[™] Advanced is an EU Ecolabel approved biodegradable hydraulic oil.
- Additional fluids are likely to be present, please consult the Operations and Maintenance Manual or the Application and Installation guide for complete fluid recommendations and maintenance intervals.

Features and Technology

- The following features and technology may contribute to fuel savings and/or carbon reduction. Features may vary. Consult your Cat dealer for details.
- Advanced hydraulic systems balance power and efficiency
- Smart mode matches machine power to digging requirements automatically
- Eco mode minimizes fuel consumption for light applications
- Cut maintenance costs up to 25% with extended service intervals
- Programmable high-efficiency cooling fans run only when needed
- The latest hydraulic oil filter provides longer life with a 3,000-hour replacement interval

Recycling

• The materials included in machines are categorized as below with approximate weight percentage. Because of variations of product configurations, the following values in the table may vary.

Weight Percentage
82.67%
5.61%
2.68%
1.28%
1.07%
1.35%
0.08%
0.23%
3.33%
1.70%
0.00%
100%

• A machine with higher recyclability rate will ensure more efficient usage of valuable natural resources and enhance End-of-Life value of the product. According to ISO 16714 (Earthmoving machinery – Recyclability and recoverability – Terminology and calculation method), recyclability rate is defined as percentage by mass (mass fraction in percent) of the new machine potentially able to be recycled, reused or both.

All parts in the bill of material are first evaluated by component type based on a list of components defined by the ISO 16714 and Japan CEMA (Construction Equipment Manufacturers Association) standards. Remaining parts are further evaluated for recyclability based on material type.

Because of variations of product configurations, the following value in the table may vary.

Recyclability - 97%

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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Based on the Labor, Safety and Health Laws in Japan, employer of small construction equipment are required to provide specific training for all operators on machines with ship weight less than 3 metric ton. For machines greater than 3 metric ton, operator needs to obtain operator license certification from a Government approved registered training school.

AEXQ2159-07 (08-2023) Replaces AEXQ2159-06 Build Number: 07G (Japan)

