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	109.1 kW	146 hp
ISO 9249 (DIN)	148 hp (metric)	
Engine Power		
ISO 14396	110 kW	148 hp
ISO 14396 (DIN)	150 hp (metric)	
Bore	105 mm	4 in
Stroke	127 mm	5 in
Displacement	4.4 L	269 in³
Biodiesel capability	Up to B20[1]	

- The 320 GC meets China Nonroad Stage IV emission standards.
- Recommended for use up to 4500 m (14,764 ft) altitude with engine power derate above 3000 m (9,842.5 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.
- 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.*

Swing Mechanism

Swing Speed	11.3 rpm	
Maximum Swing Torque	74.4 kN·m	54,900 lbf-ft

Weights

Operating Weight	20 500 kg	45,200 lb

- Medium undercarriage, Reach boom, Optimized R2.9 (9'6") stick, GD 1.0 m³ (1.31 yd³) bucket, 600 mm (24") triple grouser shoes and 3700 kg (8,200 lb) counterweight.

Track

Standard Track Shoes Width	600 mm	24 in
Optional Track Shoes	790 mm	31 in
Number of Shoes (each side)	47	
Number of Track Rollers (each side)	7	
Number of Carrier Rollers (each side)	2	

Drive

Gradeability	35°/70%	
Maximum Travel Speed	5.7 km/h	3.5 mph
Maximum Drawbar Pull	206 kN	46,311 lbf

Hydraulic System

Main System – Maximum Flow – Implement	429 L/min (215 × 2 pumps)	113 gal/min (57 × 2 pumps)
Maximum Pressure – Equipment	35 000 kPa	5,075 psi
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	91.1 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

Standards

Brakes	ISO 10265: 2008
Cab/ROPS	ISO 12117-2: 2008
FOGS (optional)	ISO 10262:1998 Level II

Sound Performance

ISO 6395:2008 (external)	100 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 Weight and Ground Pressure

Base Machine Configurations	600 mm (24") Triple Grouser Shoes Weight kg (lb)	600 mm (24") Triple Grouser Shoes Ground Pressure kPa (psi)	790 mm (31") Triple Grouser Shoes Weight kg (lb)	790 mm (31") Triple Grouser Shoes Ground Pressure kPa (psi)
Base Frame with Track Rollers and Carrier Rollers				
3700 kg (8,200 lb) Counterweight + Medium Undercarriage Base Machine				
Reach Boom + Optimized R2.9 (9'6") Stick + 1.0 m³ (1.31 yd³) GD Bucket	20 500 (45,200)	47.2 (6.8)	21 300 (47,000)	49.1 (7.1)

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

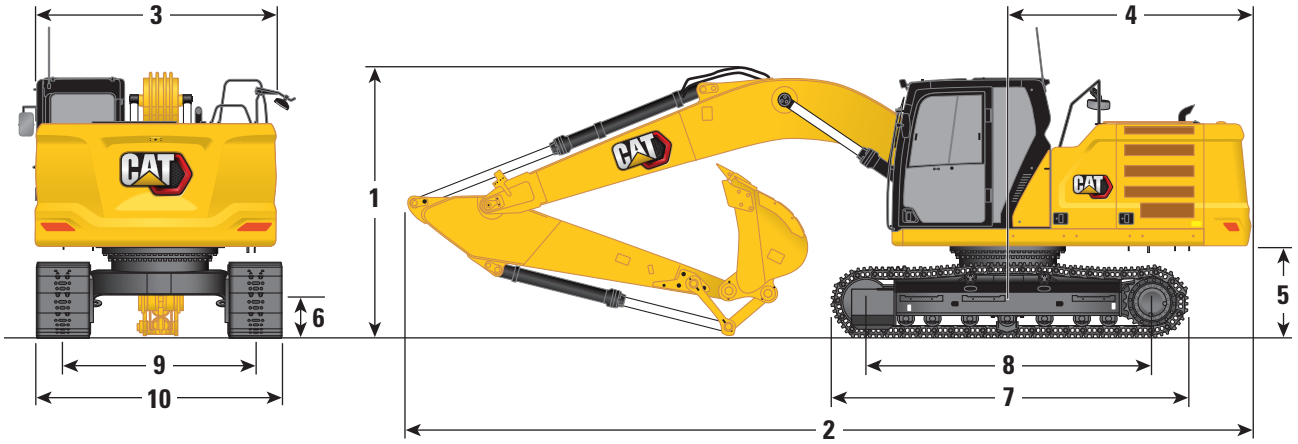
Major Component Weights

	kg	lb
Base Machine (with 3700 kg [8,200 lb] counterweight, standard swing frame, standard base frame with track rollers and standard carrier rollers for medium undercarriage, without boom cylinder – does not include 90% fuel and 75 kg [165 lb] operator)	13 890	30,600
Track Shoes:		
600 mm (24") Width, 8.5 mm (0.33") Thick, Triple Grouser Track Shoes	2500	5,500
790 mm (31") Width, 10 mm (0.39") Thick, Triple Grouser Track Shoes with Step Extension	3220	7,100
Two Boom Cylinders	340	750
Weight of 90% Fuel Tank and 75 kg (165 lb) Operator	310	680
Counterweight:		
3700 kg (8,200 lb) Counterweight	3700	8,200
Swing Frame:		
Standard Swing Frame	1910	4,150
Undercarriage:		
Standard Base Frame with HD Track Rollers and Standard Carrier Rollers	4140	9,100
Boom (including lines, pins, stick cylinder):		
Reach Boom 5.7 m (18'8")	1690	3,700
Stick (including lines, pins, bucket cylinder, bucket linkage):		
Optimized Reach Stick R2.9B1 (9'6")	1080	2,400
Buckets (without linkage):		
1.0 m³ (1.31 yd³) GD	730	1,600
1.0 m³ (1.31 yd³) HD	860	1,870

320 GC Hydraulic Excavator Specifications

Dimensions

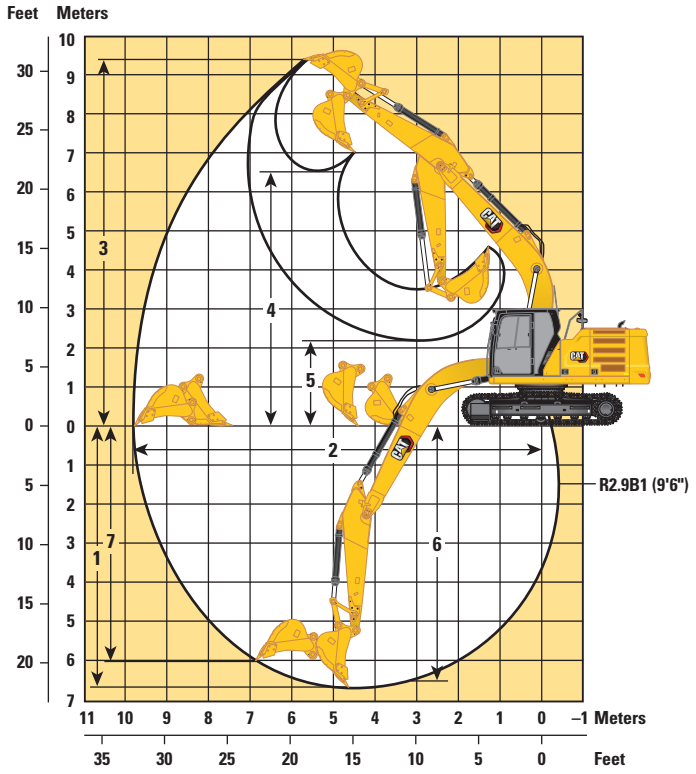
All dimensions are approximate and may vary depending on bucket selection.



Boom Option		Reach Boom 5.7 m (18'8")	
Stick Option		**Reach Stick R2.9B1 (9'6")**	
1 Machine Height:			
Top of Cab Height		2960 mm	9'9"
Top of FOGS Height		3100 mm	10'2"
Handrail Height		2950 mm	9'8"
With Boom/Stick/Bucket Installed		3160 mm	10'4"
With Boom/Stick Installed		2910 mm	9'7"
With Boom Installed		2480 mm	8'2"
2 Machine Length:			
With Boom/Stick/Bucket Installed		9530 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	1'7"
7 Track Length		4250 mm	13'11"
8 Length to Center of Rollers		3450 mm	11'4"
9 Track Gauge		2380 mm	7'10"
10 Undercarriage Width:			
600 mm (24") Shoes		2980 mm	9'9"
790 mm (31") Shoes		3170 mm	10'5"
Bucket Type		GD	
Bucket Capacity		1.00 m^3	1.31 yd^3
Bucket Tip Radius		1560 mm	5'1"

Working Ranges

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



Boom Option	Reach Boom 5.7 m (18'8")	
Stick Option	**Reach Stick R2.9B1 (9'6")**	
1 Maximum Digging Depth	6630 mm	21'9"
2 Maximum Reach at Ground Line	9770 mm	32'0"
3 Maximum Cutting Height	9440 mm	30'11"
4 Maximum Loading Height	6580 mm	21'7"
5 Minimum Loading Height	2260 mm	7'5
6 Maximum Depth Cut for 2440 mm (8'0") Level Bottom	6460 mm	21'2"
7 Maximum Vertical Wall Digging Depth	6010 mm	19'8"
Bucket Digging Force (ISO)	129 kN	29,007 lbf
Stick Digging Force (ISO)	99 kN	22,301 lbf
Bucket Type	GD	
Bucket Capacity	1.0 m^3	1.31 yd^3
Bucket Tip Radius	1560 mm	5'1"

320 GC Hydraulic Excavator Specifications

Bucket Specifications and Compatibility

	Linkage	Width		Capacity		Weight		Fill	Reach Boom
		mm	in	m^3	yd^3	kg	lb	%	R2.9 (9'6")
Pin-On (No Quick Coupler)									
Utility Duty	B	1150	46	0.90	1.18	725	1,599	100	●
	B	1250	50	1.00	1.31	758	1,672	100	●
General Duty Excavation	B	1150	46	0.90	1.18	758	1,671	100	●
	B	1250	50	1.00	1.31	792	1,747	100	◉
	B	1400	56	1.14	1.49	858	1,891	100	⊖
Heavy Duty	B	1050	43	1.00	1.31	884	1,948	100	◉
	B	1200	49	1.19	1.56	955	2,105	100	⊖
	B	1350	54	1.38	1.81	1018	2,244	100	○
Severe Duty	B	1100	43	1.00	1.31	965	2,128	90	●
	B	1250	49	1.19	1.56	1063	2,343	90	⊖
							Maximum load with pin-on (payload + bucket)	kg	2764
								lb	6,094

	Linkage	Width		Capacity		Weight		Fill	Reach Boom
		mm	in	m^3	yd^3	kg	lb	%	R2.9 (9'6")
With Cat Pin Grabber Coupler									
Utility Duty	B	1150	46	0.90	1.18	725	1,599	100	◉
	B	1250	50	1.00	1.31	758	1,672	100	⊖
General Duty Excavation	B	1150	46	0.90	1.18	758	1,671	100	◉
	B	1250	50	1.00	1.31	792	1,747	100	⊖
	B	1400	56	1.14	1.49	858	1,891	100	○
Heavy Duty	B	1050	43	1.00	1.31	884	1,948	100	⊖
	B	1200	49	1.19	1.56	955	2,105	100	○
	B	1350	54	1.38	1.81	1018	2,244	100	◇
Severe Duty	B	1100	43	1.00	1.31	965	2,128	90	⊖
	B	1250	49	1.19	1.56	1063	2,343	90	○
							Maximum load with coupler (payload + bucket)	kg	2343
								lb	5,166

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.

Bucket weight with General Duty tips.

Maximum Material Density:

- ● 2100 kg/m^3 (3,500 lb/yd^3)
- ◉ 1800 kg/m^3 (3,000 lb/yd^3)
- ⊖ 1500 kg/m^3 (2,500 lb/yd^3)
- ○ 1200 kg/m^3 (2,000 lb/yd^3)
- ◇ 900 kg/m^3 (1,500 lb/yd^3)

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

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

✓ Match

PIN-ON ATTACHMENTS

Boom Type		Reach
Stick Length		**R2.9 (9'6")**
Hydraulic Hammers	H115 S	✓
	H120 GC	✓
	H120 GC Side Mount	✓
	H120 GC S	✓
	H120 S	✓
	H130 GC	✓
	H130 GC S	✓
	H130 S	✓
	H140 Side Mount	✓
Compactors (Vibratory Plate)	CVP110	✓

320 GC Standard and Optional Equipment

Standard and Optional Equipment

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

	Standard	Optional
BOOM, STICKS AND LINKAGES		
5.7 m (18'8") Reach boom	✓	
2.9 m (9'6") Optimized Reach stick	✓	
Bucket linkage, B1-family with or without lifting eye	✓	
CAB		
ROPS	✓	
High-resolution 203 mm (8") LCD touchscreen monitor	✓	
Auto bi-level air conditioner	✓	
Keyless push-to-start engine control	✓	
Height-adjustable console, three steps with tool	✓	
Fixed left-side console	✓	
Mechanical-suspension seat	✓	
51 mm (2") seat belt	✓	
Console mounted radio (with Bluetooth® pairing and USB port)	✓	
24V DC outlet	✓	
Document storage	✓	
Coat hook	✓	
Cup and bottle holders	✓	
Openable two-piece front window	✓	
Rear window emergency exit	✓	
Upper radial wiper with washer	✓	
Openable steel hatch	✓	
LED dome light	✓	
Roller front sunscreen	✓	
Roller rear sunscreen		✓
Washable floor mat	✓	
Beacon ready	✓	
Cat Stick Steer		✓
CAT TECHNOLOGY		
Cat Product Link™	✓	
Auto hammer stop	✓	

	Standard	Optional
ELECTRICAL SYSTEM		
1,000 CCA maintenance-free batteries (×2)	✓	
Centralized electrical disconnect switch	✓	
Programmable time-delay LED working lights	✓	
LED chassis light and LH boom light	✓	
RH boom light, cab lights		✓
ENGINE		
Cat® C4.4 single turbo diesel engine	✓	
Two selectable power modes	✓	
Automatic engine speed control	✓	
Auto engine idle shutdown	✓	
Work up to 3000 m (9,842.5 ft) above sea level without engine power de-rating	✓	
52° C (125° F) high-ambient cooling capacity	✓	
Cold starting capability for –32° C (–25° F)	✓	
Double element air filter with integrated pre-cleaner	✓	
Electric fuel priming pump	✓	
Electric cooling fans with auto-reverse function	✓	

(continued on next page)

Standard and Optional Equipment *(continued)*

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

	Standard	Optional
HYDRAULIC SYSTEM		
Boom and stick regeneration circuits	✓	
Electronic main control valve	✓	
Auto warm up	✓	
Auto two-speed travel	✓	
Boom and stick drift reduction valve	✓	
Element type main hydraulic filter	✓	
Three button joysticks	✓	
Tandem type electronic main pump	✓	
Basic Tool Control (one pump, one way high-pressure flow)		✓
SAFETY AND SECURITY		
Rearview camera and side RH mirror	✓	
Right-hand-sideview camera		✓
Neutral lever (lock out) for all controls	✓	
Anti-skid plate and countersunk bolts on service platform	✓	
Swing alarm		✓
Ground-level accessible secondary engine shutoff switch in cab	✓	
RH handrail and handhold (ISO 2867:2011 compliant)	✓	
Inspection lighting		✓

	Standard	Optional
SERVICE AND MAINTENANCE		
Scheduled Oil Sampling (S·O·S℠) ports	✓	
Grouped location for engine oil and fuel filters	✓	
Ground-level second dipstick for engine oil	✓	
Side entry to service platform	✓	
UNDERCARRIAGE AND STRUCTURES		
600 mm (24") triple grouser track shoes	✓	
790 mm (31") triple grouser track shoes		✓
Grease lubricated track links	✓	
Medium undercarriage	✓	
Tie-down points on base frame	✓	
Bottom guards	✓	
Travel motor guards	✓	
Swivel guard		✓
Track guiding guards	✓	
3700 kg (8,200 lb) counterweight	✓	

Dealer Installed Kit and Attachments

Attachments may vary. Consult your Cat dealer for details.

CAB

- Polycarbonate roof hatch

SERVICE AND MAINTENANCE

- Grease gun holder

GUARDS

- FOGS (not compatible with cab light cover, rain protector)
- Mesh guard full front (not compatible with cab light cover, rain protector)
- Mesh guard lower half front
- Full protecting vandalism guard

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 320 GC meets China Nonroad Stage IV 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.*

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 CO_2 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 (external) – 100 dB(A)

ISO 6396 (inside cab) – 70 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.

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
  - Automatic engine idle shutdown system reduces idle hours
  - Cut maintenance costs up to 20% with extended service intervals
  - Programmable high-efficiency cooling fans run only when needed
  - New hydraulic oil filter provides longer life with a 3,000-hour replacement interval

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

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

AEXQ3454-01 (09-2022)
Replaces AEXQ3454
Build Number: 07F
(China)