

# 320 GC Hydraulic Excavator

## **Technical Specifications**

Engine		
Engine Model	Cat® C4.4 A	ACERT <sup>TM</sup>
Net Power (ISO 9249)	90 kW	121 hp
Net Power (SAE J1349)	90 kW	121 hp
Gross Power (ISO 14396/SAE J1995)	91 kW	122 hp
Bore	105 mm	4 in
Stroke	127 mm	5 in
Displacement	4.4 L	269 in <sup>3</sup>

- The 320 GC meets U.S. EPA Tier 4 Final emission standards.
- Recommended for use up to 4500 m (14,764 ft) altitude with engine power derate above 3000 m (9,842.5 ft).
- Net power advertised is the power available at the flywheel when the engine is equipped with fan, air cleaner, muffler and alternator.
- Rating at 2,000 rpm.

Engine rpm		
Operation	1,700 rpm	
Travel	2,000 rpm	
Swing Mechanism		
Swing Speed	11.6 rpm	
Maximum Swing Torque	74 kN·m	54,435 lbf-ft
Weights		
Operating Weight	21 900 kg	48,281 lb
• Standard undercarriage, Reach	boom, R2.9 (9'6") s	tick. HD 1.0 m <sup>3</sup>

(1.31 yd³) bucket and 790 mm (31 in) triple grouser shoes.

790 mm	31 in
45	
8	
2	
35°/70%	
5.9 km/h	3.6 mph
205 kN	46,131 lbf
442 L/min (221 × 2 pumps)	116 gal/min (58 × 2 pumps)
No swing pu	mp
35 000 kPa	5,075 psi
38 000 kPa	5,510 psi
34 300 kPa	4,974 psi
26 800 kPa	3,886 psi
120 mm	5 in
1260 mm	50 in
135 mm	5 in
1504 mm	59 in
	5 in
	45  8  2  35°/70%  5.9 km/h  205 kN  442 L/min (221 × 2 pumps)  No swing pu 35 000 kPa  38 000 kPa  34 300 kPa  26 800 kPa  120 mm  1260 mm  135 mm

Bucket Cylinder – Stroke



1104 mm

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)	5 L	1.3 gal
Final Drive (each)	5 L	1.3 gal
Hydraulic System (including tank)	234 L	61.8 gal
Hydraulic Tank	115 L	30.4 gal
DEF Tank	39 L	10.3 gal

Standards	
Brakes	ISO 10265:2008
Cab/FOGS	ISO 10262:1998
Cab/ROPS	ISO 12117-2:2008

<b>Sound Performance</b>	
ISO 6395 (external)	101 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.

#### **Operating Weight and Ground Pressure**

		790 mm (31 in) Triple Grouser Shoes			
	We	Ground F	Ground Pressure		
4.2 mt (9,300 lb) Counterweight Base Machine					
Reach Boom + R2.9 (9'6") Stick + 1.0 m <sup>3</sup> (1.31 yd <sup>3</sup> ) HD Bucket	21 900 kg	48,300 lb	38.3 kPa	5.6 psi	

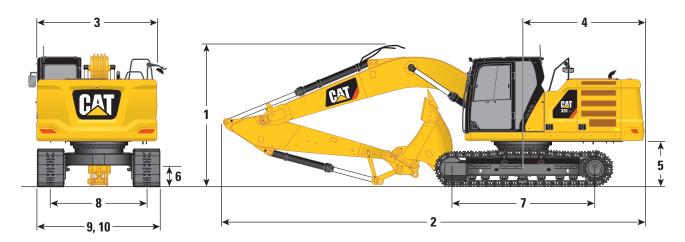
All operating weights include a 90% fuel tank with 75 kg (165 lb) operator.

### **Major Component Weights**

	kg	lb
Base Machine (with 4.2 mt [9,300 lb] counterweight, semi-HD swing frame, standard base frame with HD track rollers and standard carrier rollers for standard undercarriage, with boom cylinder – does not include 90% fuel and 75 kg [165 lb] operator)	14 600	32,200
Track Shoes:		
790 mm (31 in) Width, 10 mm (0.39 in) Thick Triple Grouser Track Shoes for Standard Undercarriage with Step Extension for ISO 2867	3080	6,800
Two Boom Cylinders	340	750
Weight of 90% Fuel Tank and 75 kg (165 lb) Operator	310	680
Counterweight:		
4.2 mt (9,300 lb) Counterweight	4200	9,300
Swing Frame:		
Semi-HD Swing Frame, for C4.4 ACERT	1910	4,210
Standard Undercarriage without Track Shoes:		
Standard Base Frame with HD Track Rollers and Standard Carrier Rollers for Standard Undercarriage	4110	9,100
Booms (including lines, pins, stick cylinder):		
Reach Boom (5.7 m/18'8")	1690	3,700
Sticks (including lines, pins, bucket cylinder, bucket linkage):		
Reach Stick (R2.9B1/9'6")	980	2,200
Buckets (without linkage):		
1.0 m³ (1.31 yd³) HD	850	1,870
Quick Couplers:		
Pin Grabber QC	390	850

#### **Dimensions**

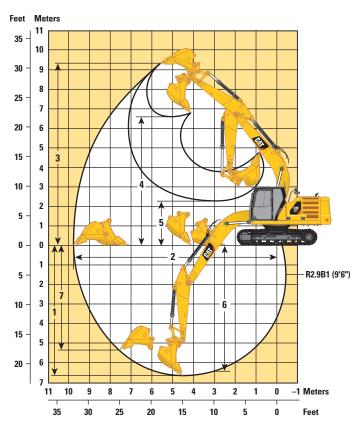
All dimensions are approximate and may vary depending on bucket selection.



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"	2960 mm	9'9"			
Top of FOGS Height	3100 mm	10'2"	3100 mm	10'2"			
Handrails Height	2950 mm	9'8"	2950 mm	9'8"			
With Boom/Stick/Bucket Installed	3160 mm	10'5"	3050 mm	10'0"			
With Boom/Stick Installed	2910 mm	9'7"	2910 mm	9'7"			
With Boom Installed	2480 mm	8'2"	2480 mm	8'2"			
2 Machine Length:							
With Boom/Stick/Bucket Installed	9530 mm	31'3"	9520 mm	31'3"			
With Boom/Stick Installed	9500 mm	31'2"	9500 mm	31'2"			
With Boom Installed	8450 mm	27'9"	8450 mm	27'9"			
<b>3</b> Upperframe Width without Walkways	2780 mm	9'1"	2780 mm	9'1"			
4 Tail Swing Radius	2830 mm	9'3"	2830 mm	9'3"			
<b>5</b> Counterweight Clearance	1050 mm	3'5"	1050 mm	3'5"			
6 Ground Clearance	470 mm	1'7"	470 mm	1'7"			
7 Track Length – Length to Center of Rollers	3270 mm	10'9"	3270 mm	10'9"			
8 Track Gauge – Extended	2200 mm	7'3"	2200 mm	7'3"			
9 Track Width:							
790 mm (31 in) Shoes	3170 mm	10'5"	3170 mm	10'5"			
<b>10</b> Undercarriage Width (with steps/without steps):							
790 mm (31 in) Shoes	3170 mm	10'5"	3170 mm	10'5"			
Bucket Type	Н	HD		D			
Bucket Capacity	1.14 m³	1.50 yd³	0.9 m³	1.18 yd³			
Bucket Tip Radius	1470 mm	4'10"	1470 mm	4'10"			

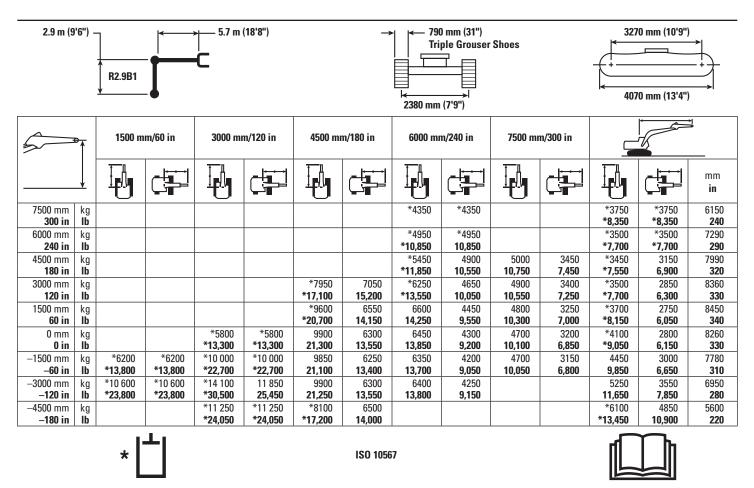
#### **Working Ranges**

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



Boom Option	Reach Boom 5.7 m (18'8")						
Stick Option		h Stick 1 (9'6")	Reach Stick R2.9B1 (9'6")				
1 Maximum Digging Depth	6620 mm	21'9"	6620 mm	21'9"			
2 Maximum Reach at Ground Line	9760 mm	32'0"	9760 mm	32'0"			
3 Maximum Cutting Height	9330 mm	30'7"	9430 mm	30'11"			
4 Maximum Loading Height	6590 mm	21'7"	6590 mm	21'7"			
5 Minimum Loading Height	2270 mm	7'5"	2270 mm	7'5"			
<b>6</b> Maximum Depth Cut for 2440 mm (8'0") Level Bottom	6440 mm	21'2"	6450 mm	21'2"			
7 Maximum Vertical Wall Digging Depth	5360 mm	17'7"	5960 mm	19'7"			
Bucket Digging Force (SAE)	132 kN	29,603 lbf	122 kN	27,510 lbf			
Bucket Digging Force (ISO)	150 kN	33,715 lbf	136 kN	30,534 lbf			
Stick Digging Force (SAE)	98 kN	22,009 lbf	98 kN	21,977 lbf			
Stick Digging Force (ISO)	101 kN	22,769 lbf	100 kN	22,582 lbf			
Bucket Type	H	HD		ID			
Bucket Capacity	1.14 m³	1.50 yd³	0.9 m³	1.18 yd³			
Bucket Tip Radius	1470 mm	4'10"	1470 mm	4'10"			

#### Reach Boom Lift Capacities – Counterweight: 4.2 mt (9,300 lb) – without Bucket



<sup>\*</sup>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.

#### **Bucket Specifications and Compatibility**

									4.2 mt (9,300 lb) Counterweight
		Wi	dth	Сар	acity	We	ight	Fill	Reach Boom
	Linkage	mm	in	m³	yd³	kg	lb	%	R2.9 (9'6")
Pin-On (No Quick Coupler)	-1								
General Duty – Capacity (GDC)	В	600	24	0.55	0.72	619	1,363	100	•
	В	750	30	0.75	0.98	710	1,566	100	•
	В	900	36	0.95	1.24	787	1,735	100	•
	В	1050	42	1.16	1.52	848	1,870	100	$\Theta$
	В	1200	48	1.38	1.80	926	2,041	100	0
	В	1350	54	1.59	2.08	1004	2,213	100	Х
General Duty – Capacity (GDC) – Wide Tip	В	600	24	0.55	0.72	633	1,394	100	•
	В	750	30	0.75	0.98	731	1,612	100	•
	В	900	36	0.95	1.24	813	1,793	100	•
	В	1050	42	1.16	1.52	895	1,973	100	$\Theta$
	В	1200	48	1.38	1.80	979	2,158	100	0
	В	1350	54	1.59	2.08	1063	2,343	100	Χ
Heavy Duty (HD)	В	600	24	0.46	0.61	649	1,431	100	•
	В	750	30	0.64	0.84	748	1,649	100	•
	В	900	36	0.81	1.06	826	1,821	100	•
	В	1050	42	1.00	1.31	880	1,940	100	•
	В	1200	48	1.19	1.56	972	2,141	100	0
	В	1350	54	1.38	1.81	1054	2,322	100	Х
Heavy Duty – Power (HDP)	В	900	36	0.79	1.03	842	1,856	100	•
	В	1050	42	0.96	1.26	907	1,999	100	•
	В	1200	48	1.14	1.49	993	2,188	100	Χ
Severe Duty (SD)	В	600	24	0.46	0.61	694	1,530	90	•
	В	750	30	0.64	0.84	802	1,768	90	•
	В	900	36	0.81	1.06	889	1,959	90	•
	В	1050	42	1.00	1.31	964	2,125	90	•
	В	1200	48	1.19	1.56	1053	2,320	90	$\Theta$
Severe Duty – Power (SDP)	В	900	36	0.79	1.03	908	2,001	90	•
Mud/Cleanup (M/CU)	В	1700	72	1.60	2.09	979	2,158	100	$\Diamond$
Ditch Cleaning (DC)	В	1500	60	1.01	1.32	652	1,437	100	•
	В	1800	72	1.24	1.62	740	1,631	100	$\Theta$
Ditch Cleaning – Tilt (DCT)	В	1500	60	0.90	1.18	948	2,090	100	•
	В	1800	72	1.11	1.45	1063	2,344	100	0
	В	1800	72	1.40	1.83	1148	2,531	100	$\Diamond$
	В	2000	79	1.23	1.61	1132	2,496	100	0
General Duty (GD)	312	900	36	0.53	0.69	403	888	100	
Ditch Cleaning (DC) Long Reach	312	1200	48	0.57	0.74	386	851	100	
			N	laximum lo	ad with pin-	on (payload	l + bucket)	kg	2735
								lb	6,030

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:**

- 2100 kg/m³ (3,500 lb/yd³)
- 1800 kg/m³ (3,000 lb/yd³)
- $\ominus$  1500 kg/m³ (2,500 lb/yd³)
- O 1200 kg/m³ (2,000 lb/yd³)
- $\diamondsuit$  900 kg/m³ (1,500 lb/yd³)
- X Not Recommended

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.

#### **Bucket Specifications and Compatibility**

									4.2 mt (9,300 lb) Counterweight
		Wi	dth	Capa	acity	We	ight	Fill	Reach Boom
	Linkage	mm	in	m³	yd³	kg	lb	%	R2.9 (9'6")
With Cat Pin Grabber Coupler									
General Duty – Capacity (GDC)	В	600	24	0.55	0.72	619	1,363	100	•
	В	750	30	0.75	0.98	710	1,566	100	•
	В	900	36	0.95	1.24	787	1,735	100	$\Theta$
	В	1050	42	1.16	1.52	848	1,870	100	0
	В	1200	48	1.38	1.80	926	2,041	100	$\Diamond$
	В	1350	54	1.59	2.08	1004	2,213	100	Χ
General Duty – Capacity (GDC) – Wide Tip	В	600	24	0.55	0.72	633	1,394	100	•
	В	750	30	0.75	0.98	731	1,612	100	•
	В	900	36	0.95	1.24	813	1,793	100	$\Theta$
	В	1050	42	1.16	1.52	895	1,973	100	$\Diamond$
	В	1200	48	1.38	1.80	979	2,158	100	$\Diamond$
	В	1350	54	1.59	2.08	1063	2,343	100	Χ
Heavy Duty (HD)	В	600	24	0.46	0.61	649	1,431	100	•
	В	750	30	0.64	0.84	748	1,649	100	•
	В	900	36	0.81	1.06	826	1,821	100	$\Theta$
	В	1050	42	1.00	1.31	880	1,940	100	0
	В	1200	48	1.19	1.56	972	2,141	100	$\Diamond$
	В	1350	54	1.38	1.81	1054	2,322	100	Х
Heavy Duty – Power (HDP)	В	900	36	0.79	1.03	842	1,856	100	•
	В	1050	42	0.96	1.26	907	1,999	100	0
	В	1200	48	1.14	1.49	993	2,188	100	$\Diamond$
Heavy Duty – Pin Grabber Performance	В	600	24	0.44	0.57	676	1,491	100	•
(HD – PGP)	В	750	30	0.60	0.79	778	1,715	100	•
	В	900	36	0.76	1.00	864	1,904	100	•
	В	1050	42	0.93	1.22	928	2,045	100	0
	В	1200	48	1.11	1.45	1016	2,239	100	$\Diamond$
	В	1350	54	1.28	1.67	1104	2,432	100	Х
Severe Duty (SD)	В	600	24	0.46	0.61	694	1,530	90	•
	В	750	30	0.64	0.84	802	1,768	90	•
	В	900	36	0.81	1.06	889	1,959	90	•
	В	1050	42	1.00	1.31	964	2,125	90	0
	В	1200	48	1.19	1.56	1053	2,320	90	$\Diamond$
Severe Duty – Power (SDP)	В	900	36	0.79	1.03	908	2,001	90	•
Mud/Cleanup (M/CU)	В	1700	72	1.60	2.09	979	2,158	100	X
Ditch Cleaning (DC)	В	1500	60	1.01	1.32	652	1,437	100	$\ominus$
· ·	В	1800	72	1.24	1.62	740	1,631	100	0
Ditch Cleaning – Tilt (DCT)	В	1500	60	0.90	1.18	948	2,090	100	0
3	В	1800	72	1.11	1.45	1063	2,344	100	<u> </u>
	В	1800	72	1.40	1.83	1148	2,531	100	X
	В	2000	79	1.23	1.61	1132	2,496	100	×
				aximum load			,	kg	2313
					ooup	(paylout		lb lb	5,100
									3,100

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 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)
- $\diamondsuit$  900 kg/m³ (1,500 lb/yd³)
- X Not Recommended

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.

#### **Work Tool Offering Guide\***

Boom Type		Reach Boom	
Stick Size		R2.9 (9'6")	
Hydraulic Hammer	B20	50% C	
	H115Es		
	H120Es	50% C	
	H130Es	50% P	
Multi-Processor	MP318 CC Jaw	۸	
	MP318 D Jaw	۸	
	MP318 P Jaw	**	
	MP318 U Jaw	**	
	MP318 S Jaw	۸	
Pulverizer	P215		
Demolition and Sorting Grapple	G315B-D/R	۸	
	G315B-WH	۸	
Scrap and Demolition Shear	S320B	**	
	S325B	#	
	S2050	#	
Compactor (Vibratory Plate)	CVP110		
Orange Peel Grapple			
Trash Grapple			
Thumbs		<ul><li>These work tools are available for the 320 GC.</li><li>Consult your Cat dealer for proper match.</li></ul>	
Rakes		— Consult your Cat dealer for proper materi.	
Pin Grabber Coupler	Cat PG		

<sup>\*</sup>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

\*\* Match; Pin-On only

# Match; Boom Mount

^ Work over the front only with Cat PG (match; Pin-On and Cat PG)

50% P Allowed usage with Pin-On and Coupler on machine less than 50%

50% C Allowed usage with Coupler on machine less than 50%

Demolition and Sorting Grapple: D – Demolition shells, R – Recycling shells, WH – Waste Handling shells

## **320 GC Standard and Optional Equipment**

#### **Standard and Optional Equipment**

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

	Standard	Optional
ENGINE		
Cat C4.4 ACERT single turbo Tier 4 Final diesel engine	✓	
Two selectable power modes	✓	
One-touch low idle with automatic engine speed control	✓	
Automatic 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 precleaner	✓	
Electric fuel priming pump	✓	
Reversible electric cooling fans	✓	
Biodiesel capability up to B20	✓	
HYDRAULIC SYSTEM		
Boom and stick regeneration circuits	✓	
Boom/stick lowering check valves (BLCV/SLCV)		✓
Electronic main control valve	✓	
Auto hydraulic oil warm up	✓	
Automatic two-speed travel	✓	
Boom and stick drift reduction valve	✓	
Element type main hydraulic filter	✓	
Three button joysticks	✓	
Slider joysticks		✓
Tandem type electronic main pump	✓	
Fine swing control	✓	
Simplified combined circuit (two way)		✓
Quick coupler circuit for Cat Pin Grabber		✓

	04	0-4
	Standard	Optional
UNDERCARRIAGE AND STRUCTURES		
Tie-down points on base frame (ISO 15818 compliant)	<b>√</b>	
Standard bottom guards	✓	
Standard travel motor guards	✓	
Grease lubricated track links	✓	
4.2 mt (9,300 lb) counterweight	✓	
Standard swing frame, for C4.4 ACERT	✓	
Standard swing bearing	✓	
Base frame with standard track rollers and standard carrier rollers	✓	
Final drive with standard travel motor	✓	
BOOM, STICKS AND LINKAGES		
790 mm (31 in) triple grouser track shoes	s <b>√</b>	
5.7 m (18'8") Reach boom	✓	
2.9 m (9'6") Reach stick	✓	
Bucket linkage, B1-family with lifting ey	e ✓	
ELECTRICAL SYSTEM		
Machine electronic control module (×2)	✓	
1,000 CCA maintenance-free batteries (×2)	✓	
Centralized electrical disconnect switch	✓	
Programmable time-delay LED working lights	✓	
LED chassis light, LH and RH boom lights for Reach, cab lights – 850 lumens	✓	
CAT CONNECT TECHNOLOGY		
Cat Product Link™	✓	
	(continued on	next page)

## 320 GC Standard and Optional Equipment

#### Standard and Optional Equipment (continued)

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

	Standard	Optional
SERVICE AND MAINTENANCE		
Sampling ports for Scheduled Oil Sampling (S·O·S <sup>SM</sup> )	✓	
Grouped location for engine oil and fuel filters	✓	
Ground level second dipstick for engine oil	✓	
Side entry to service platform	✓	

	Standard	Optional
SAFETY AND SECURITY		
Rearview camera and side RH mirror	✓	
Neutral lever (lock out) for all controls	✓	
Anti-skid plate and countersunk bolts on service platform	✓	
Ground-level accessible secondary engine shutoff switch in cab	✓	
Radiator screen		✓
RH handrail and hand hold (ISO 2867 compliant)	✓	
Travel alarm	✓	

#### **320 GC Attachments**

#### **Dealer Installed Kit and Attachments**

Attachments may vary. Consult your Cat dealer for details.

#### CAB

- Radial lower wiper for 70/30 with washer
- LH/RH electrical pedal for tool control
- Dual exit rear window kit
- Rain protector plus cab light cover
- Polycarbonate roof hatch

#### **SAFETY AND SECURITY**

- Bluetooth® receiver kit for GC
- Bluetooth key fob

#### **ELECTRICAL**

Jump start wiring

#### **GUARDS**

- Standard swivel guard
- Side rubber bumper
- 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 Cab Options**

#### **Cab Options**

	Comfort
ROPS, standard sound suppression	•
High-resolution 203 mm (8 in) LCD touch screen monitor	•
Automatic bi-level air conditioner	•
Jog dial and shortcut keys for monitor control	•
Keyless push-to-start engine control	•
Height-adjustable console, three steps with tool	•
Mechanically adjustable seat suspension	•
51 mm (2 in) seat belt	•
Fixed left-side console	•
Bluetooth integrated radio with USB ports	•
2×12V DC outlets	•
Document storage	•
Cup and bottle holders	•
Two-piece front window, openable	•
Upper radial wiper with 70/30 with washer	•
Openable steel hatch	•
LED dome and lower interior lights	•
Roller front sunscreen	•
Roller rear sunscreen	0
Beacon ready	•
Washable floor mat	•
Storage tray in pump compartment	•
Straight travel pedal	•

Standard

O Optional

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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