



Cat[®]

309 CR

(STANDARD UNDERCARRIAGE)

MINI HYDRAULIC EXCAVATOR

FEATURES:

The Cat[®] 309 CR Mini Excavator delivers maximum power and performance in a mini size to help you work in a wide range of applications.

ALL DAY COMFORT

- A sealed and pressurized cab is equipped with an improved air conditioning system, adjustable wrist rests and a suspension seat to help keep you working comfortably all day long.

EASY TO OPERATE

- Controls are easy to use and the intuitive Next Generation Monitor provides customizable machine operator preferences and easy to read machine information.

STICK STEER TRAVEL MODE

- Moving around the job site is even easier with the Cat Stick Steer option. Easily switch from traditional travel controls with levers and pedals to joystick controls with a push of a button. The benefit of less effort and improved control is in your hands!

BIG PERFORMANCE IN A MINI DESIGN

- Increased lifting, swinging, travel and multi-functioning performance helps you get the job done more efficiently, and blade float allows for easy clean up.

HIGH FLOW

- Dedicated auxiliary hydraulic pump is ideal for running power-hungry attachments while allowing the machine to simultaneously travel and multifunction. This feature allows consistent pressure to the auxiliary lines with no loss of hydraulic power keeping your attachment running at full power maintaining optimal productivity.

SAFETY ON THE JOB SITE

- Your safety is our top priority. The Cat mini excavator is designed to help keep you safe on the job. A back-up camera, courtesy work lights and a fluorescent retractable seat belt are just a few of the safety features we've built into the machine.

SIMPLE SERVICE FOR LESS DOWNTIME

- Maintenance is quick and easy on the Cat mini excavator. Routine check points are easy to access at ground level with grouped service points and robust service panels.

LOWER OPERATING COSTS

- Equipped with features such as auto idle, auto engine shutdown, and efficient hydraulics with a variable displacement pump, the Cat mini excavator was designed with reducing your operating costs in mind.

UNMATCHED DEALER SUPPORT

- Your Cat dealer is here to help you reach your business goals. From providing equipment solutions to operator training to service needs and beyond, your Cat dealer is ready to help.



309 CR Mini Hydraulic Excavator

Specifications†

Engine

Engine Model	Cat® C3.3B	
U.S. EPA Tier 4 Final/EU Stage V		
Net Power @ 2,200 rpm		
ISO 9249:2007, 80/1269/EEC	51.8 kW	69.5 hp
Gross Power		
SAE J1995:2014	55.4 kW	74.3 hp
Bore	94 mm	3.7 in
Stroke	120 mm	4.7 in
Displacement	3.33 L	203 in ³

- Net power advertised is the power available at the flywheel when the engine is equipped with air cleaner, exhaust system and fan.

Weights

Minimum Operating Weight with Cab*	8500 kg	18,743 lb
Maximum Operating Weight with Cab**	9150 kg	20,176 lb

*Minimum Weight is based on rubber belt, no counterweight, operator, full fuel tank, standard stick, blade and no bucket.

**Maximum Weight is based on steel tracks with rubber pads, counterweight, operator, full fuel tank, long stick, blade and no bucket.

Weight Increase from Minimum Configuration

Counterweight	250 kg	552 lb
Long Stick	66 kg	146 lb
Steel Tracks with Pads	341 kg	752 lb

Travel System

Travel Speed – High	5.1 km/h	3.2 mph
Travel Speed – Low	3.1 km/h	1.9 mph
Maximum Traction Force – High Speed	27.8 kN	6,250 lbf
Maximum Traction Force – Low Speed	67.5 kN	15,175 lb
Ground Pressure – Minimum Weight	37.2 kPa	5.4 psi
Ground Pressure – Maximum Weight	40.0 kPa	5.8 psi
Gradeability (maximum)	30 degrees	

Service Refill Capacities

Cooling System	10.0 L	2.6 gal
Engine Oil	11.2 L	3.0 gal
Fuel Tank	147 L	39 gal
Hydraulic Tank	53 L	14 gal
Hydraulic System	110 L	29 gal

Hydraulic System

Load Sensing Hydraulics with Variable Displacement Piston Pump		
Pump Flow @ 2,400 rpm	167 L/min	44 gal/min
Operating Pressure – Equipment	285 bar	4,134 psi
Operating Pressure – Travel	285 bar	4,134 psi
Operating Pressure – Swing	250 bar	3,626 psi
Maximum Auxiliary Circuit – High Flow		
Flow at Pump*	140 L/min	37 gal/min
Pressure at Pump*	285 bar	4,134 psi
Maximum Auxiliary Circuit – Primary		
Flow at Pump*	131 L/min	35 gal/min
Pressure at Pump*	285 bar	4,134 psi
Maximum Auxiliary Circuit – Secondary		
Flow at Pump*	33 L/min	9 gal/min
Pressure at Pump*	285 bar	4,134 psi
Digging Force – Stick (Standard)	42.3 kN	9,509 lbf
Digging Force – Stick (Long)	35.7 kN	8,032 lbf
Digging Force – Bucket	62.0 kN	13,946 lbf

*Flow and pressure are not combinable. Under load, as flow rises pressure goes down.

Swing System

Machine Swing Speed	10.6 rpm
Boom Swing – Left	60 degrees
Boom Swing – Right	50 degrees

Blade

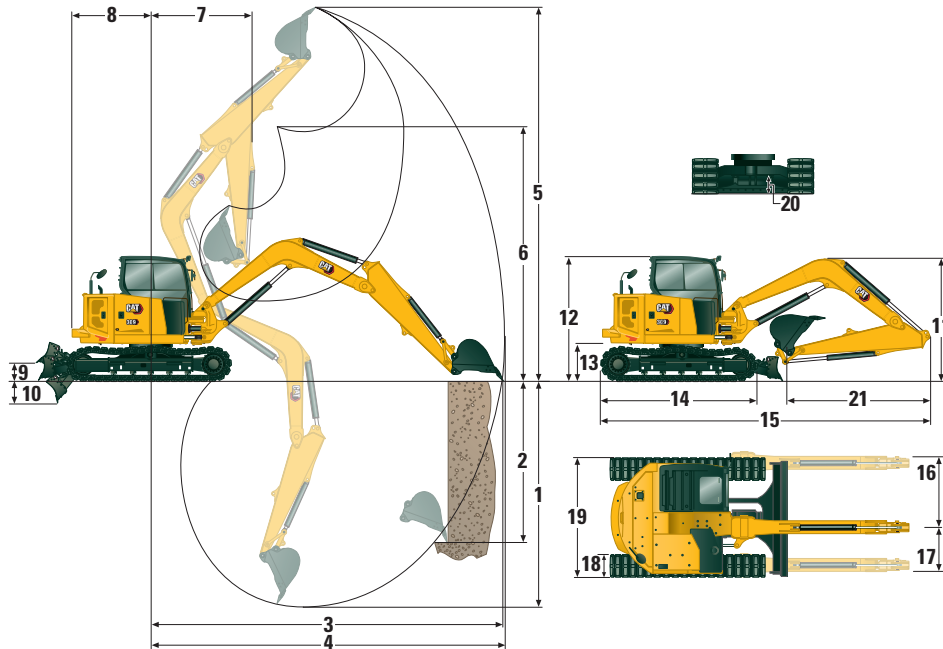
Width (Standard)	2300 mm	90.6 in
Width (Wide)	2450 mm	96.5 in
Height	431 mm	17 in

Certification – Cab

Roll Over Protective Structure (ROPS)	ISO 12117-2:2008
Tip Over Protective Structure (TOPS)	ISO 12117:1997
Top Guard	ISO 10262:1998 (Level I)

†The 309 CR specifications are based on a machine configured with a Standard Undercarriage.

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Dimensions

	Standard Stick	Long Stick
1 Dig Depth	4108 mm (161.7 in)	4642 mm (182.8 in)
2 Vertical Wall	2991 mm (117.8 in)	3404 mm (134.0 in)
3 Maximum Reach at Ground Level	6949 mm (273.6 in)	7460 mm (293.7 in)
4 Maximum Reach	7141 mm (281.1 in)	7637 mm (300.7 in)
5 Maximum Dig Height	6736 mm (265.2 in)	7039 mm (277.1 in)
6 Maximum Dump Clearance	4760 mm (187.4 in)	5072 mm (199.7 in)
7 Boom in Reach	3059 mm (120.4 in)	3215 mm (126.6 in)
8 Tail Swing		
with Counterweight	1585 mm (62.4 in)	1585 mm (62.4 in)
without Counterweight	1450 mm (57.1 in)	1450 mm (57.1 in)
9 Maximum Blade Height	370 mm (14.6 in)	370 mm (14.6 in)
10 Maximum Blade Depth	407 mm (16.0 in)	407 mm (16.0 in)
11 Height		
Boom Transport – No Tools*	2430 mm (95.7 in)	2260 mm (89.0 in)
Boom Working – With Tools**	2660 mm (104.7 in)	3050 mm (120.1 in)
12 Cab Height	2541 mm (100.0 in)	2541 mm (100.0 in)
13 Swing Bearing Height	756 mm (29.7 in)	756 mm (29.7 in)
14 Overall Undercarriage Length	2880 mm (113.4 in)	2880 mm (113.4 in)
15 Overall Shipping Length		
with Counterweight	6706 mm (264.0 in)	6872 mm (270.6 in)***
without Counterweight	6574 mm (258.8 in)	6872 mm (270.6 in)***
16 Boom Swing Right	935 mm (36.8 in)	935 mm (36.8 in)
17 Boom Swing Left	604 mm (23.8 in)	604 mm (23.8 in)
18 Track Belt/Shoe Width	450 mm (17.7 in)	450 mm (17.7 in)
19 Overall Track Width	2300 mm (90.6 in)	2300 mm (90.6 in)
20 Ground Clearance	350 mm (13.8 in)	350 mm (13.8 in)
21 Stick Length	1820 mm (71.8 in)	2358 mm (92.8 in)

*Boom Height when stick is pinned in transport position with no attachments.

**Boom Height when stick is pinned in working position with attachments Standard Stick offers only one pin position.

***With blade positioned at the rear of the machine.

309 CR Mini Hydraulic Excavator

Lift Capacities – Minimum Configuration^{1†}

Lift Point Height			3 m (9.8 ft)			4.5 m (14.8 ft)			Lift Point Radius (Maximum)			
			Over Front		Over Side	Over Front		Over Side	Over Front		Over Side	m (ft)
			Blade Down	Blade Up		Blade Down	Blade Up		Blade Down	Blade Up		
4.5 m (14.8 ft)	Standard Stick	kg (lb)				2445* (5,391*)	1895 (4,178)	1650 (3,638)	2195* (4,840*)	1510 (3,330)	1315 (2,900)	5.13 (16.8)
	Long Stick	kg (lb)							1625* (3,583*)	1250 (2,756)	1085 (2,392)	5.74 (18.8)
3 m (9.8 ft)	Standard Stick	kg (lb)				2770* (6,108*)	1830 (4,035)	1585 (3,495)	2130* (4,697*)	1175 (2,591)	1020 (2,249)	5.90 (19.4)
	Long Stick	kg (lb)				2400* (5,292*)	1845 (4,068)	1600 (3,528)	1585* (3,495*)	1010 (2,227)	875 (1,929)	6.42 (21.1)
1.5 m (4.9 ft)	Standard Stick	kg (lb)				3345* (7,376*)	1710 (3,771)	1470 (3,241)	2305* (5,083*)	1070 (2,359)	930 (2,051)	6.13 (20.1)
	Long Stick	kg (lb)				3080* (6,791*)	1705 (3,760)	1465 (3,230)	1690* (3,726*)	930 (2,051)	800 (1,764)	6.63 (21.8)
0 m (0 ft)	Standard Stick	kg (lb)	3750* (8,269*)	3010 (6,637)	2490 (5,490)	3535* (7,795*)	1625 (3,583)	1390 (3,065)	2365* (5,215*)	1110 (2,448)	960 (2,117)	5.89 (19.3)
	Long Stick	kg (lb)	3845* (8,478*)	2960 (6,527)	2440 (5,380)	3480* (7,673*)	1595 (3,517)	1360 (2,999)	1990* (4,388*)	950 (2,095)	815 (1,797)	6.42 (21.1)

¹ Minimum Weight includes rubber belt, cab, operator, full fuel tank, no counterweight, and no bucket.

Lift Capacities – Maximum Configuration^{2†}

Lift Point Height			3 m (9.8 ft)			4.5 m (14.8 ft)			Lift Point Radius (Maximum)			
			Over Front		Over Side	Over Front		Over Side	Over Front		Over Side	m (ft)
			Blade Down	Blade Up		Blade Down	Blade Up		Blade Down	Blade Up		
4.5 m (14.8 ft)	Standard Stick	kg (lb)				2445* (5,391*)	2445* (5,391*)	1840 (4,057)	2195* (4,840*)	1690 (3,726)	1480 (3,263)	5.13 (16.8)
	Long Stick	kg (lb)							1625* (3,583*)	1625* (3,583*)	1230 (2,712)	5.74 (18.8)
3 m (9.8 ft)	Standard Stick	kg (lb)				2765* (6,097*)	2045 (4,509)	1775 (3,914)	2130* (4,697*)	1330 (2,933)	1160 (2,558)	5.90 (19.4)
	Long Stick	kg (lb)				2400* (5,292*)	2065 (4,553)	1795 (3,958)	1585* (3,495*)	1150 (2,536)	1000 (2,205)	6.42 (21.1)
1.5 m (4.9 ft)	Standard Stick	kg (lb)				3345* (7,376*)	1925 (4,245)	1660 (3,660)	2305* (5,083*)	1220 (2,690)	1060 (2,337)	6.13 (20.1)
	Long Stick	kg (lb)				3080* (6,791*)	1925 (4,245)	1660 (3,660)	1690* (3,726*)	1060 (2,337)	920 (2,029)	6.63 (21.8)
0 m (0 ft)	Standard Stick	kg (lb)	3750* (8,269*)	3750* (8,269*)	2830 (6,240)	3535* (7,795*)	1845 (4,068)	1585 (3,495)	2365* (5,215*)	1265 (2,789)	1095 (2,414)	5.89 (19.3)
	Long Stick	kg (lb)	3845* (8,478*)	3845* (8,478*)	2775 (6,119)	3480* (7,673*)	1810 (3,991)	1550 (3,418)	1990* (4,388*)	1085 (2,392)	940 (2,073)	6.42 (21.1)

² Maximum Weight includes steel tracks with pads, cab, operator, full fuel tank, counterweight, and no bucket.

† The 309 CR lift capacity specifications are based on a machine configured with a Standard Undercarriage.

* The above loads are in compliance with hydraulic excavator lift capacity rating standard ISO 10567: 2007 and they do not exceed 87% of hydraulic lifting capacity or 75% of tipping capacity. The excavator bucket weight is not included on this chart. Lifting capacities are for standard stick.

Standard and Optional Equipment

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

	Standard	Optional		Standard	Optional
ENGINE			OPERATOR ENVIRONMENT (continued)		
Cat® C3.3 Diesel Engine (U.S. EPA Tier 4 Final/ EU Stage V) – Electronic Engine, Turbo, Diesel Particulate Filter (DPF)	✓		Cup Holder	✓	
Automatic Engine Idle	✓		LED Interior Light	✓	
Automatic Engine Shutdown	✓		Literature Holder	✓	
Automatic Swing Brake	✓		Mounting Bosses for Top and Front Guards	✓	
Automatic Two Speed Travel	✓		12V Power Socket	✓	
Fuel Water Separator with Indicator	✓		Radio – Bluetooth, Auxiliary, Microphone, USB (charging only)	✓	
Radial Seal – Double Element Air Filter	✓		Skylight	✓	
Extended Life Coolant, –37° C (–37° F)	✓		Signaling/Warning Horn	✓	
HYDRAULICS			Cab and (left side) Boom Work Lights	✓	
Electronic Variable Displacement Piston Pump	✓		Utility Space for Mobile Phone	✓	
Load Sensing/Flow Sharing Hydraulics	✓		Rain Visor		✓
Dedicated Auxiliary Hydraulic Pump	✓		Next Generation Color LCD Monitor (IP66)	✓	
Power On Demand	✓		– Jog Dial Interface	✓	
Hydraulic Temperature Monitoring	✓		– Fuel Level and Coolant Temperature Gauges	✓	
Certified Accumulator	✓		– Maintenance and Machine Monitoring	✓	
HYDO Advanced Hydraulic Oil	✓		– Performance and Machine Adjustments	✓	
Ecology Drain	✓		– Numeric Security Code	✓	
OPERATOR ENVIRONMENT			– Multiple Languages	✓	
Top Guard ISO 10262 1998 Level I	✓		– Camera Ready (IP68 & IP69K)	✓	
ROPS ISO 12117-2:2008	✓		– Hour Meter with Wake Up Switch	✓	
Stick Steer Mode	✓		Next Generation Advanced Monitor (below are all included with Next Generation Advanced Monitor option)		✓
Travel Cruise Control	✓		– Touch Screen		
Control Pattern Changer	✓		– Site Reference System		
Adjustable Wrist Rests	✓		– High Definition Camera Capable (IP68 & IP69K)		
Molded Footrests	✓		– Numeric Security Code		
Removable, Washable Floor Mat	✓		UNDERCARRIAGE		
Travel Pedals and Hand Levers	✓		Greased and Lubricated Track	✓	
Cat Key with Passcode Option	✓		Tie Down Eyes on Track Frame	✓	
Push to Start with Bluetooth® Key		✓	Dozer Blade	✓	
HVAC with Automatic Temperature Control	✓		Wide Dozer Blade		✓
Hydraulic Lockout Controls	✓		Dozer Float	✓	
Integrated Lower Front Window	✓		Bolt-on, Reversible Wear Edge	✓	
Assisted Front Window Overhead Storage	✓		Steel Tracks (450 mm/17.7 in wide)		✓
Rear Window Emergency Exit	✓		Wide Steel Tracks (600 mm/23.6 in)		✓
Fabric, High Back, Suspension Seat	✓		Steel Track with Rubber Pads		✓
Air Suspension Heated Seat		✓	Track Guides		✓
Retractable Seat Belt (75 mm/3 in)	✓				
Coat Hook	✓				

(continued on next page)

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Standard and Optional Equipment *(continued)*

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

	Standard	Optional		Standard	Optional
BOOM, STICK AND LINKAGES			GUARDING		
One Piece Boom (3400 mm/133.9 in)	✓		Mesh Front Guard ISO 10262 1998 Level I		✓
Standard Stick (1820 mm/71.7 in)	✓		Heavy Duty Front Guard ISO 10262 1998 Level II		✓
Long Stick (2360 mm/92.9 in)		✓	Top Guard ISO 10262 1998 Level II		✓
Front Shovel Capable – Pin-on/Manual Coupler/Hydraulic Coupler (not available in all regions)	✓		Polycarbonate Front Window EN356 P5A (Cab Only)		✓
Thumb Ready (not available in all regions)	✓		OTHER		
Attachments including Buckets, Augers and Hammers		✓	Additional Counterweight		✓
2nd Auxiliary Hydraulic Lines with Case Drain		✓	Locks on External Enclosure Doors	✓	
Boom Lowering Check Valve		✓	Lockable Fuel Cap	✓	
Stick Lowering Check Valve		✓	Beacon Socket	✓	
Certified Lifting Eye		✓	Rear Reflectors	✓	
ELECTRICAL			Water Jacket Heater		✓
12 Volt Electrical System	✓		Refueling Pump		✓
60 Ampere Alternator	✓		Variable Angle Boom (refer to 309 CR VAB brochure for VAB specs and additional information)		✓
Circuit Breaker	✓				
900 CCA Maintenance Free Battery	✓				
Battery Disconnect	✓				
Ignition Key Stop Switch	✓				
Product Link™ Elite (regulations apply)		✓			
Travel Alarm	✓				
Rearview Camera		✓			
Rotating Beacon		✓			

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® C3.3B engine meets U.S. EPA Tier 4 Final and EU Stage V 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 1.0 kg of refrigerant which has a CO₂ equivalent of 1.430 metric tonnes.

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

- Operator Sound Pressure 72 dB(A) (ISO 6396:2008)
- Average Exterior Sound Pressure 99 dB(A) (ISO 6395:2008)
- European Union Directive “2000/14/EC”

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
 - Power On Demand provides full time efficiency and power when you need it, and is transparent to the operator
 - Auto idle and auto engine shutdown
 - Extended maintenance intervals reduce fluid and filter consumption
 - Remote Flash and Remote Troubleshoot (if equipped)
 - Mini Hydraulic Excavator Ease of Use features improve operator efficiency minimizing fuel consumption (if equipped)
 - Cat Grade with Advanced 2D and 3D improves operator efficiency minimizing fuel consumption (if equipped)

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.

Material Type	Weight Percentage
Steel	65.52%
Iron	21.19%
Rubber	3.50%
Mixed Metal	2.20%
Other	1.89%
Nonferrous Metal	1.81%
Plastic	1.55%
Fluid	1.47%
Mixed-Metal and Nonmetal	0.85%
Mixed Nonmetallic	0.01%
Uncategorized	0.00%
Total	100.00%

- 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 (Earth-moving 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 values in the table may vary.

Recyclability – 96%

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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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AEHQ8342-02 (08-2022)
Replaces AEHQ8342-01
Build Number: 07A
(Europe, ANZP)

