



Cat[®]

309 CR

(LONG 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.

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.

Specifications†

Engine

Engine Model	Cat C3.3B	
Rated Net Power @ 2,200 rpm		
U.S. EPA Tier 4 Final/EU Stage V	51.8 kW	69.5 hp
ISO 9249/EEC 80/1269		
Gross Power		
SAE J1995	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

Weights

Minimum Operating Weight with Cab*	8950 kg	19,735 lb
Maximum Operating Weight with Cab**	9565 kg	21,091 lb

*Minimum Weight is based on steel tracks, 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	330 kg	728 lb

†The 309 CR specifications are based on a machine configured with a Long (L) Undercarriage.



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Travel System

Travel Speed – High	4.9 km/h	3.1 mph
Travel Speed – Low	2.6 km/h	1.6 mph
Maximum Traction Force – High Speed	28.9 kN	6,497 lbf
Maximum Traction Force – Low Speed	84.8 kN	19,064 lbf
Ground Pressure – Minimum Weight	34.7 kPa	5.0 psi
Ground Pressure – Maximum Weight	37.1 kPa	5.4 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	233 L/min	62 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 – Primary (High Flow)		
Flow at Pump*	140 L/min	37 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	9,500 lbf
Digging Force – Stick (Long)	35.7 kN	8,023 lbf
Digging Force – Bucket	62.0 kN	13,943 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)	2470 mm	97 in
Width (Wide)	2640 mm	104 in
Height	431 mm	17 in

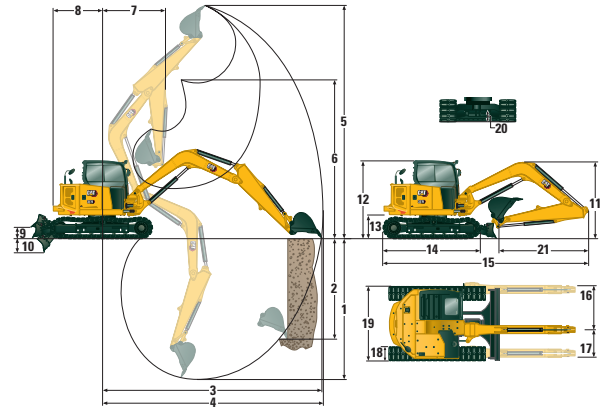
Certification – Cab

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

Sound

Operator Sound Pressure (ISO 6396:2008)	72 dB(A)
Average Exterior Sound Pressure (ISO 6395:2008)	99 dB(A)

• European Union Directive “2000/14/EC”



Dimensions

	Standard Stick	Long Stick
1 Dig Depth	4108 mm (161.7 in)	4643 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	408 mm (16.1 in)	408 mm (16.1 in)
10 Maximum Blade Depth	671 mm (26 in)	671 mm (26 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	3200 mm (126.0 in)	3200 mm (126.0 in)
15 Overall Shipping Length		
with Counterweight	6774 mm (266.7 in)	7052 mm (277.6 in)***
without Counterweight	6774 mm (266.7 in)	7052 mm (277.6 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	2470 mm (97.2 in)	2470 mm (97.2 in)
20 Ground Clearance	356 mm (14.0 in)	356 mm (14.0 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.

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.

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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*)	2445* (5,391*)	1950 (4,300)	2185* (4,818*)	2185* (4,818*)	1540 (3,396)	5.17 (17.0)
	Long Stick	kg (lb)							1620* (3,572*)	1620* (3,572*)	1285 (2,833)	5.78 (19.0)
3 m (9.8 ft)	Standard Stick	kg (lb)				2790* (6,152*)	2355 (5,193)	1880 (4,145)	2130* (4,697*)	1515 (3,341)	1220 (2,690)	5.92 (19.4)
	Long Stick	kg (lb)				2425* (5,347*)	2425* (5,347*)	1900 (4,190)	1585* (3,495*)	1310 (2,889)	1055 (2,326)	6.43 (21.1)
1.5 m (4.9 ft)	Standard Stick	kg (lb)				3365* (7,420*)	2230 (4,917)	1765 (3,892)	2320* (5,116*)	1400 (3,087)	1120 (2,470)	6.13 (20.1)
	Long Stick	kg (lb)				3105* (6,847*)	2230 (4,917)	1760 (3,881)	1700* (3,749*)	1220 (2,690)	975 (2,150)	6.63 (21.8)
0 m (0 ft)	Standard Stick	kg (lb)	3860* (8,511*)	3860* (8,511*)	3070 (6,769)	3525* (7,773*)	2145 (4,730)	1685 (3,715)	2365* (5,215*)	1460 (3,219)	1165 (2,569)	5.88 (19.3)
	Long Stick	kg (lb)	3895* (8,588*)	3895* (8,588*)	3010 (6,637)	3485* (7,684*)	2115 (4,664)	1655 (3,649)	2010* (4,432*)	1260 (2,778)	1000 (2,205)	6.40 (21.0)

¹ Minimum Weight includes steel tracks, 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*)	2445* (5,391*)	2185* (4,818*)	2185* (4,818*)	1715 (3,782)	5.17 (17.0)
	Long Stick	kg (lb)							1620* (3,572*)	1620* (3,572*)	1620* (3,572*)	5.78 (19.0)
3 m (9.8 ft)	Standard Stick	kg (lb)				2790* (6,152*)	2790* (6,152*)	2090 (4,608)	2130* (4,697*)	1690 (3,726)	1365 (3,010)	5.92 (19.4)
	Long Stick	kg (lb)				2425* (5,347*)	2425* (5,347*)	2425* (5,347*)	1585* (3,495*)	1585* (3,495*)	1185 (2,613)	6.43 (21.1)
1.5 m (4.9 ft)	Standard Stick	kg (lb)				3365* (7,420*)	2485 (5,479)	1970 (4,344)	2320* (5,116*)	1570 (3,462)	1260 (2,778)	6.13 (20.1)
	Long Stick	kg (lb)				3105* (6,847*)	2485 (5,479)	1970 (4,344)	1700* (3,749*)	1375 (3,032)	1100 (2,426)	6.63 (21.8)
0 m (0 ft)	Standard Stick	kg (lb)	3860* (8,511*)	3860* (8,511*)	3860* (8,511*)	3525* (7,773*)	2400 (5,292)	1890 (4,167)	2365* (5,215*)	1640 (3,616)	1315 (2,900)	5.88 (19.3)
	Long Stick	kg (lb)	3895* (8,588*)	3895* (8,588*)	3895* (8,588*)	3485* (7,684*)	2370 (5,226)	1860 (4,101)	2010* (4,432*)	1420 (3,131)	1135 (2,503)	6.40 (21.0)

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 Long (L) 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.

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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)	✓		Next Generation Advanced Monitor <i>(below are all included with Next Generation Advanced Monitor option)</i>		✓
Automatic Engine Idle	✓		– Touch Screen		
Automatic Engine Shutdown	✓		– Site Reference System		
Automatic Swing Brake	✓		– High Definition Camera Capable (IP68 & IP69K)		
Automatic Two Speed Travel	✓		– Numeric Security Code		
Fuel Water Separator with Indicator	✓		UNDERCARRIAGE		
Radial Seal – Double Element Air Filter	✓		Greased and Lubricated Track	✓	
Extended Life Coolant, –37° C (–37° F)	✓		Tie Down Eyes on Track Frame	✓	
HYDRAULICS			Dozer Blade	✓	
Electronic Variable Displacement Piston Pump	✓		Wide Dozer Blade		✓
Load Sensing/Flow Sharing Hydraulics	✓		Dozer Float	✓	
Power On Demand	✓		Bolt-on, Reversible Wear Edge	✓	
Hydraulic Temperature Monitoring	✓		Steel Tracks (450 mm/17.7 in wide)		✓
Certified Accumulator	✓		Wide Steel Tracks (600 mm/23.6 in)		✓
HYDO Advanced Hydraulic Oil	✓		Steel Track with Rubber Pads		✓
Ecology Drain	✓		Track Guides		✓
OPERATOR ENVIRONMENT			BOOM, STICK AND LINKAGES		
Top Guard ISO 10262 1998 Level I	✓		One Piece Boom (3400 mm/133.9 in)	✓	
ROPS ISO 12117-2:2008	✓		Standard Stick (1820 mm/71.7 in)	✓	
Stick Steer Mode	✓		Long Stick (2360 mm/92.9 in)		✓
Travel Cruise Control	✓		Front Shovel Capable – Pin-on/Manual Coupler/ Hydraulic Coupler (not available in all regions)	✓	
Control Pattern Changer	✓		Thumb Ready (not available in all regions)	✓	
Adjustable Wrist Rests	✓		Attachments including Buckets, Augers and Hammers		✓
Molded Footrests	✓		2nd Auxiliary Hydraulic Lines with Case Drain		✓
Removable, Washable Floor Mat	✓		Boom Lowering Check Valve		✓
Travel Pedals and Hand Levers	✓		Stick Lowering Check Valve		✓
Cat Key with Passcode Option	✓		Certified Lifting Eye		✓
Push to Start with Bluetooth® Key		✓	ELECTRICAL		
HVAC with Automatic Temperature Control	✓		12 Volt Electrical System	✓	
Hydraulic Lockout Controls	✓		60 Ampere Alternator	✓	
Integrated Lower Front Window	✓		Circuit Breaker	✓	
Assisted Front Window Overhead Storage	✓		900 CCA Maintenance Free Battery	✓	
Rear Window Emergency Exit	✓		Battery Disconnect	✓	
Fabric, High Back, Suspension Seat	✓		Ignition Key Stop Switch	✓	
Air Suspension Heated Seat		✓	Product Link™ Elite (regulations apply)		✓
Retractable Seat Belt (75 mm/3 in)	✓		Travel Alarm	✓	
Coat Hook	✓		Rearview Camera		✓
Cup Holder	✓		Rotating Beacon		✓
LED Interior Light	✓		GUARDING		
Literature Holder	✓		Mesh Front Guard ISO 10262 1998 Level I		✓
Mounting Bosses for Top and Front Guards	✓		Heavy Duty Front Guard ISO 10262 1998 Level II		✓
12V Power Socket	✓		Top Guard ISO 10262 1998 Level II		✓
Radio – Bluetooth, Auxiliary, Microphone, USB (charging only)	✓		Polycarbonate Front Window EN356 P5A (Cab Only)		✓
Skylight	✓		Track Guards		✓
Signaling/Warning Horn	✓		OTHER		
Cab and (left side) Boom Work Lights	✓		Additional Counterweight		✓
Utility Space for Mobile Phone	✓		Locks on External Enclosure Doors	✓	
Rain Visor		✓	Lockable Fuel Cap	✓	
Next Generation Color LCD Monitor (IP66)	✓		Beacon Socket	✓	
– Jog Dial Interface	✓		Rear Reflectors	✓	
– Fuel Level and Coolant Temperature Gauges	✓		Water Jacket Heater		✓
– Maintenance and Machine Monitoring	✓		Refueling Pump		✓
– Performance and Machine Adjustments	✓		Variable Angle Boom (refer to 309 CR VAB brochure for VAB specs and additional information)		✓
– Numeric Security Code	✓				
– Multiple Languages	✓				
– Camera Ready (IP68 & IP69K)	✓				
– Hour Meter with Wake Up Switch	✓				

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AEHQ8166-02 (12-2020)
Replaces AEHQ8166-01
Build Number: 07A
(North America, Europe, ANZP)

