



Cat[®]

309 CR VAB

(LONG UNDERCARRIAGE)

MINI HYDRAULIC EXCAVATOR

FEATURES:

The Cat[®] 309 CR Variable Angle Boom (VAB) Mini Excavator delivers maximum power and performance in a mini size to help you work in a wide range of applications. The Variable Angle Boom provides the maximum in linkage flexibility in tight 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, dig-to-blade allows easy clean up and long undercarriage provides improved stability.

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.

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	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*	9125 kg	20,121 lb
Maximum Operating Weight**	9740 kg	21,477 lb

*Minimum Weight is based on rubber 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, standard stick, blade and no bucket.

Weight Increase from Minimum Configuration

Counterweight	250 kg	552 lb
Standard Stick	35 kg	77 lb
Steel Tracks with Pads	330 kg	728 lb

†The 309 CR VAB specifications are based on a machine configured with a Long (L) Undercarriage. For specifications representing a 309 CR VAB with a Standard Undercarriage, please refer to the 308 CR information.



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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	35.4 kPa	5.1 psi
Ground Pressure – Maximum Weight	37.8 kPa	5.5 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
Auxiliary Circuit – High Flow		
Flow at Pump*	140 L/min	37 gal/min
Pressure at Pump*	285 bar	4,134 psi
Auxiliary Circuit – Primary		
Flow at Pump*	131 L/min	35 gal/min
Pressure at Pump*	285 bar	4,134 psi
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 – 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)	2470 mm	97.2 in
Width (Wide)	2640 mm	103.9 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 II)

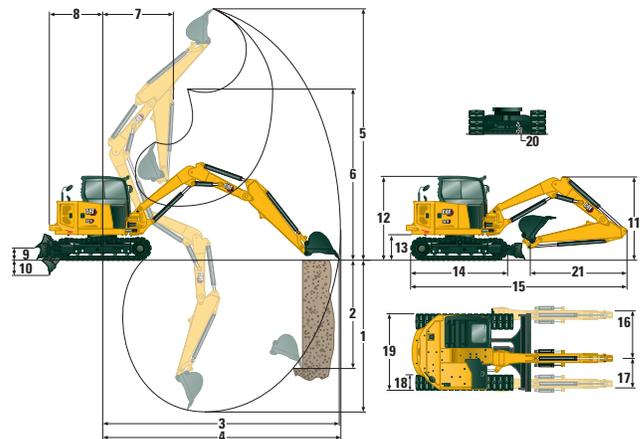
Sound

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”

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.



Dimensions

	Standard Stick	
	VAB In	VAB Out
1 Dig Depth	3815 mm (150.2 in)	3460 mm (136.2 in)
2 Vertical Wall	2520 mm (99.2 in)	3725 mm (146.7 in)
3 Maximum Reach at Ground Level	6300 mm (248.0 in)	7715 mm (303.7 in)
4 Maximum Reach	6515 mm (256.5 in)	7885 mm (310.4 in)
5 Maximum Dig Height	5220 mm (205.5 in)	8180 mm (322.0 in)
6 Maximum Dump Clearance	3450 mm (135.8 in)	6285 mm (247.4 in)
7 Boom in Reach	3120 mm (122.8 in)	2710 mm (106.7 in)
8 Tail Swing with Counterweight	1585 mm (62.4 in)	1585 mm (62.4 in)
Tail Swing 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	484 mm (19.1 in)	484 mm (19.1 in)
11 Transport Height	2475 mm (97.4 in)	2475 mm (97.4 in)
12 Cab Height	2541 mm (100.0 in)	2541 mm (100.0 in)
13 Swing Bearing Height	756 mm (29.8 in)	756 mm (29.8 in)
14 Overall Undercarriage Length	3200 mm (126.0 in)	3200 mm (126.0 in)
15 Overall Shipping Length	6495 mm (255.7 in)	6495 mm (255.7 in)
16 Boom Swing Right	935 mm (37.0 in)	935 mm (37.0 in)
17 Boom Swing Left	605 mm (24.0 in)	605 mm (24.0 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 (71.7 in)	1820 mm (71.7 in)

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Standard Stick

Lift Capacities – Minimum Configuration			Lift Point Radius – 3 m (9.8 ft)			Lift Point Radius – 4.5 m (14.8 ft)			Lift Point Radius (Maximum)				
			Over Front			Over Front			Over Front			Over Side	m (ft)
			Blade Down	Blade Up	Over Side	Blade Down	Blade Up	Over Side	Blade Down	Blade Up	Over Side		
Lift Point Height		kg (lb)											
4.5 m (14.8 ft)	VAB out	kg (lb)	*2330 (*5,138)	*2330 (*5,138)	*2330 (*5,138)	*2630 (*5,799)	*2630 (5,799)	1883 (4,152)	*2034 (*4,485)	1408 (3,105)	1118 (2,465)	6.03 (19.8)	
	VAB in	kg (lb)											
3 m (9.8 ft)	VAB out	kg (lb)				*2910 (*6,417)	2233 (4,924)	1757 (3,874)	*1809 (*3,989)	1167 (2,573)	921 (2,031)	6.67 (21.9)	
	VAB in	kg (lb)				*2011 (*4,434)	*2011 (*4,434)	*2011 (*4,434)	*1915 (*4,223)	*1915 (*4,223)	1496 (3,299)	5.24 (17.2)	
1.5 m (4.9 ft)	VAB out	kg (lb)				*3087 (*6,807)	2059 (4,540)	1596 (3,519)	*1584 (*3,493)	1091 (2,406)	856 (1,887)	6.87 (22.5)	
	VAB in	kg (lb)	*4640 (*10,231)	*4640 (*10,231)	3335 (7,354)	*2622 (*5,782)	*2622 (*5,782)	1801 (3,971)	*2177 (*4,800)	1642 (3,621)	1305 (2,878)	5.50 (18.0)	
0 m (0 ft)	VAB out	kg (lb)				*2727 (*6,013)	1970 (4,344)	1513 (3,336)	*1305 (*2,878)	*1305 (*2,878)	893 (1,947)	6.67 (21.9)	
	VAB in	kg (lb)	*5762 (*12,705)	4080 (8,996)	3007 (6,630)	*3098 (*6,831)	2128 (4,692)	1660 (3,660)	*2548 (*5,618)	1690 (3,726)	1329 (2,930)	5.24 (17.2)	

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

Lift Capacities – Maximum Configuration			Lift Point Radius – 3 m (9.8 ft)			Lift Point Radius – 4.5 m (14.8 ft)			Lift Point Radius (Maximum)				
			Over Front			Over Front			Over Front			Over Side	m (ft)
			Blade Down	Blade Up	Over Side	Blade Down	Blade Up	Over Side	Blade Down	Blade Up	Over Side		
Lift Point Height		kg (lb)											
4.5 m (14.8 ft)	VAB out	kg (lb)	*2330 (*5,138)	*2330 (*5,138)	*2330 (*5,138)	*2630 (*5,799)	2630 (5,799)	2090 (4,608)	*2034 (*4,485)	1580 (3,484)	1261 (2,781)	6.03 (19.8)	
	VAB in	kg (lb)											
3 m (9.8 ft)	VAB out	kg (lb)				*2910 (*6,417)	2487 (5,484)	1964 (4,331)	*1809 (*3,989)	1319 (2,908)	1048 (2,311)	6.67 (21.9)	
	VAB in	kg (lb)				*2011 (*4,434)	*2011 (*4,434)	*2011 (*4,434)	*1915 (*4,223)	*1915 (*4,223)	*1915 (*4,223)	5.24 (17.2)	
1.5 m (4.9 ft)	VAB out	kg (lb)				*3087 (*6,807)	2314 (5,102)	1803 (3,976)	*1584 (*3,493)	1237 (2,728)	979 (2,159)	6.87 (22.5)	
	VAB in	kg (lb)	*4640 (*10,231)	*4640 (*10,231)	3703 (8,165)	*2622 (*5,782)	*2622 (*5,782)	2008 (4,428)	*2177 (*4,800)	1836 (4,048)	1466 (3,233)	5.50 (18.0)	
0 m (0 ft)	VAB out	kg (lb)				*2727 (*6,013)	2225 (4,906)	1720 (3,793)	*1305 (*2,878)	*1305 (*2,878)	1009 (2,225)	6.67 (21.9)	
	VAB in	kg (lb)	*5762 (*12,705)	4560 (10,055)	3375 (7,442)	*3098 (*6,831)	2383 (5,255)	1867 (4,117)	*2548 (*5,618)	1897 (4,183)	1500 (3,308)	5.24 (17.2)	

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

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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 (–35° F)	✓		Hydraulic Track Adjusters	✓	
Ecology Drain	✓		Tie Down Eyes on Track Frame	✓	
HYDRAULICS			Dozer Blade	✓	
Smart Tech Electronic Pump	✓		Wide Dozer Blade		✓
Electronic Variable Displacement Piston Pump	✓		Dozer Float	✓	
Load Sensing/Flow Sharing Hydraulics	✓		Bolt-on, Reversible Wear Edge	✓	
Dedicated Auxiliary Hydraulic Pump	✓		Steel Tracks (450 mm/17.7 in wide)		✓
Power On Demand	✓		Wide Steel Tracks (600 mm/23.6 in)		✓
Hydraulic Temperature Monitoring	✓		Steel Track with Rubber Pads		✓
Certified Accumulator	✓		Track Guides		✓
HYDO Advanced Hydraulic Oil	✓		BOOM, STICK AND LINKAGES		
OPERATOR ENVIRONMENT			Variable Angle Boom	✓	
Top Guard ISO 10262 1998 Level I	✓		Standard Stick (1820 mm/71.7 in)	✓	
ROPS ISO 12117-2:2008	✓		Front Shovel Capable – Pin-on/Manual Coupler/Hydraulic Coupler (not available in all regions)	✓	
Sealed and Pressurized Cab	✓		Thumb Ready (not available in all regions)	✓	
Stick Steer Mode	✓		Attachments including Buckets, Augers and Hammers		✓
Travel Cruise Control	✓		2nd Auxiliary Hydraulic Lines		✓
Control Pattern Changer	✓		Boom Lowering Check Valve		✓
Adjustable Wrist Rests	✓		Stick Lowering Check Valve		✓
Molded Footrests	✓		Certified Lifting Eye		✓
Removable, Washable Floor Mat	✓		ELECTRICAL		
Travel Pedals and Hand Levers	✓		12 Volt Electrical System	✓	
Cat Key with Passcode Option	✓		90 Ampere Alternator	✓	
Push to Start with Bluetooth® Key		✓	Circuit Breaker	✓	
HVAC with Automatic Temperature Control	✓		850 CCA Maintenance Free Battery	✓	
Hydraulic Lockout Controls	✓		Battery Disconnect	✓	
Integrated Lower Front Window	✓		Ignition Key Stop Switch	✓	
Assisted Front Window Overhead Storage	✓		Product Link Elite (regulations apply)		✓
Rear Window Emergency Exit	✓		Travel Alarm		✓
Fabric, High Back, Suspension Seat	✓		Rearview Camera		✓
Air Suspension Heated Seat		✓	Rotating Beacon		✓
Retractable Seat Belt (75 mm/3 in)	✓		GUARDING		
Coat Hook	✓		Mesh Front Guard ISO 10262 1998 Level I		✓
Cup Holder	✓		Heavy Duty Front Guard ISO 10262 1998 Level II		✓
LED Interior Light	✓		Overhead Cab Guard ISO 10262 1998 Level II		✓
Literature Holder	✓		Polycarbonate Front Window EN356 P5A		✓
Mounting Bosses for Top and Front Guards	✓		Track Guards		✓
12V Power Socket	✓		OTHER		
Radio – Bluetooth, Auxiliary, Microphone, USB (charging only)	✓		Additional Counterweight		✓
Skylight	✓		Locks on External Enclosure Doors	✓	
Signaling/Warning Horn	✓		Lockable Fuel Cap	✓	
Cab and (left side) Boom Work Lights	✓		Beacon Socket	✓	
Utility Space for Mobile Phone	✓		Rear Reflectors	✓	
Rain Visor		✓	Water Jacket Heater		✓
Next Generation Color LCD Monitor (IP66)	✓		Refueling Pump		✓
– Jog Dial Interface	✓				
– Fuel Level and Coolant Temperature Gauges	✓				
– Maintenance and Machine Monitoring	✓				
– Performance and Machine Adjustments	✓				
– Numeric Security Code	✓				
– Multiple Languages	✓				
– Camera Ready (IP68 & IP69K)	✓				
– Hour Meter with Wake Up Switch	✓				

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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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AEHQ8173-02 (03-2022)
Replaces AEHQ8173-01
Build Number: 07A
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