



Cat[®] 301.8

MINI EXCAVATOR

FEATURES:

The Cat[®] 301.8 Mini Excavator delivers power and performance in a compact size to help you work in a wide range of applications.

ALL DAY COMFORT

- Choose either a canopy or a sealed and pressurized cab equipped with air conditioning, adjustable wrist rests, and a suspension seat option to help keep you working comfortably all day long.

EASY TO OPERATE

- Controls are easy to use and the intuitive Next Generation LCD monitor provides 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 COMPACT DESIGN

- Strong lift and dig performance helps you get the job done faster. The retractable undercarriage lets you access and work in the tightest areas. Dig-to-blade and dozer blade float features allow 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. Courtesy work lights and a fluorescent retractable seat belt with optional seat belt reminder system are just a couple 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 through the side doors. The unique tilt up cab lets you reach additional service areas when needed.

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.



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Specifications

Engine

Engine Model	Cat® C1.1	
Net Power		
ISO 9249, 80/1269/EEC	15.7 kW	21 hp
Engine Power		
ISO 14396	16.1 kW	21.6 hp
Bore	77.0 mm	3.0 in
Stroke	81.0 mm	3.2 in
Displacement	1.1 L	69.0 in ³

- Meets U.S. EPA Tier 4 Final and EU Stage V emission standards.
- 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 at the rated speed of 2,400 rpm and when the engine is installed with the factory configured fan, air intake system, exhaust system, and alternator with a minimum alternator load.

Weights

Minimum Operating Weight with Canopy*	1725 kg	3,803 lb
Maximum Operating Weight with Canopy**	1905 kg	4,211 lb
Minimum Operating Weight with Cab*	1848 kg	4,075 lb
Maximum Operating Weight with Cab**	2029 kg	4,473 lb
EU: CE Plate Weight with Canopy***	1880 kg	4,145 lb
EU: CE Plate Weight with Cab***	2000 kg	4,409 lb

*Minimum Weight is based on rubber tracks, operator, fixed undercarriage and full fuel tank.

**Maximum Weight is based on steel tracks, operator, expandable undercarriage and full fuel tank.

***CE Plate Weight is based on the most common EU configuration. Includes 75 kg (165 lb) operator and full fuel tank and excludes bucket.

Weight Increase from Minimum Configuration

Long Stick	8 kg	18 lb
Steel Tracks	50 kg	110 lb
Expandable Undercarriage	123 kg	271 lb

Travel System

Travel Speed – High	4.4 km/h	2.7 mph
Travel Speed – Low	2.9 km/h	1.8 mph
Maximum Traction Force – High Speed	11.9 kN	2,675.2 lbf
Maximum Traction Force – Low Speed	18.4 kN	4,136.5 lbf
Ground Pressure – Minimum Weight	26.8 kPa	3.9 psi
Ground Pressure – Maximum Weight	29.6 kPa	4.3 psi
Gradeability (maximum)	30 degrees	

Service Refill Capacities

Cooling System	3.9 L	1.0 gal
Engine Oil	4.4 L	1.2 gal
Fuel Tank	26.0 L	6.9 gal
Hydraulic Tank	18.0 L	4.8 gal
Hydraulic System	26.0 L	6.9 gal

Hydraulic System

Load Sensing Hydraulics with Variable Displacement Piston Pump		
Pump Flow @ 2,400 rpm	66 L/min	17.4 gal/min
Operating Pressure – Equipment	245 bar	3,553.4 psi
Operating Pressure – Travel	245 bar	3,553.4 psi
Operating Pressure – Swing	147 bar	2,132.1 psi
Auxiliary Circuit – Primary		
Flow	33 L/min	8.7 gal/min
Pressure	245 bar	3,553.4 psi
Auxiliary Circuit – Secondary		
Flow	14 L/min	3.7 gal/min
Pressure	245 bar	3,553.4 psi
Digging Force – Stick (standard)	11.3 kN	2,540.3 lbf
Digging Force – Stick (long)	9.8 kN	2,203.1 lbf
Digging Force – Bucket	19.6 kN	4,406.3 lbf

Swing System

Machine Swing Speed	9.8 rpm
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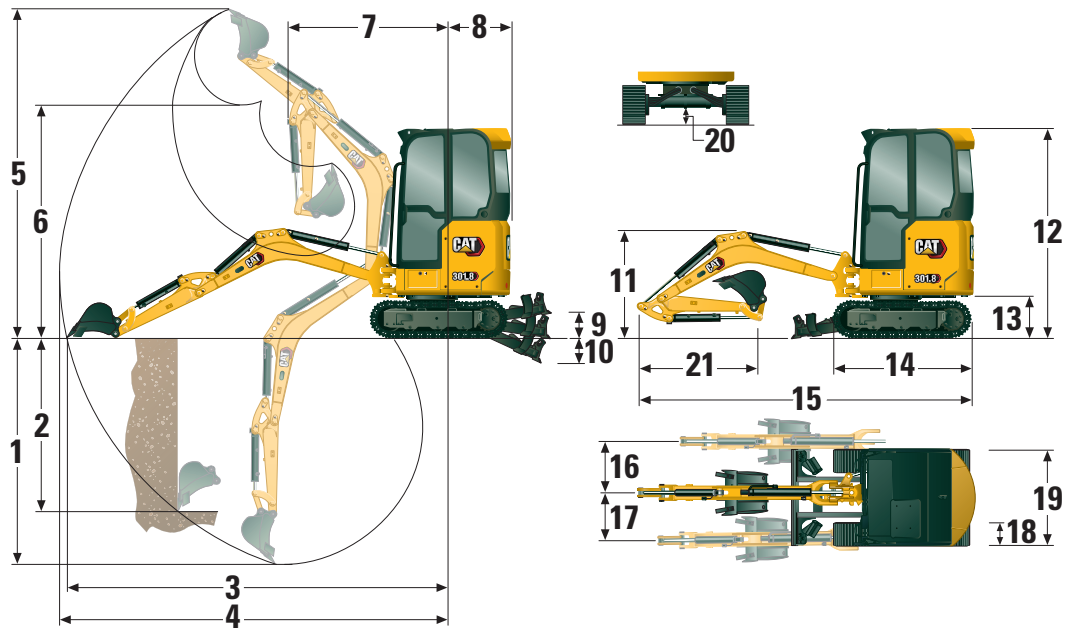
Blade

Width*	990 mm	39.0 in
Height	225 mm	8.9 in

*Expanded – 1300 mm (51 in)

Certification – Cab and Canopy

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



Dimensions

	Standard Stick	Long Stick
1 Dig Depth	2370 mm (93.3 in)	2570 mm (101.2 in)
2 Vertical Wall	1850 mm (72.8 in)	1940 mm (76.4 in)
3 Maximum Reach at Ground Level	3800 mm (149.6 in)	3960 mm (155.9 in)
4 Maximum Reach	3870 mm (152.4 in)	4030 mm (158.7 in)
5 Maximum Dig Height	3550 mm (139.8 in)	3620 mm (142.5 in)
6 Maximum Dump Clearance	2560 mm (100.8 in)	2640 mm (103.9 in)
7 Boom in Reach	1420 mm (55.9 in)	1420 mm (55.9 in)
8 Tail Swing	995 mm (39.2 in)	995 mm (39.2 in)
9 Maximum Blade Height	270 mm (10.6 in)	270 mm (10.6 in)
10 Maximum Blade Depth	265 mm (10.4 in)	265 mm (10.4 in)
11 Boom Height in Shipping Position	1070 mm (42.1 in)	1020 mm (40.2 in)
12 Overall Shipping Height	2300 mm (90.6 in)	2300 mm (90.6 in)
13 Swing Bearing Height	442 mm (17.4 in)	442 mm (17.4 in)
14 Overall Undercarriage Length	1590 mm (62.6 in)	1590 mm (62.6 in)
15 Overall Shipping Length†	3720 mm (146.5 in)	3710 mm (146.1 in)
16 Boom Swing Right	50 degrees	50 degrees
17 Boom Swing Left	65 degrees	65 degrees
18 Track Belt/Shoe Width	230 mm (9.1 in)	230 mm (9.1 in)
19 Track Width		
Retracted	990 mm (39.0 in)	990 mm (39.0 in)
Expanded	1300 mm (51.18 in)	1300 mm (51.18 in)
20 Minimum Ground Clearance Below Undercarriage	150 mm (5.9 in)	150 mm (5.9 in)
21 Stick Length	960 mm (37.8 in)	1160 mm (45.7 in)

†Overall Shipping Length depends on blade position during shipment.

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Lift Capacities – Minimum Configuration*

Lift Point Height			2 m (6.6 ft)			Lift Point Radius (Maximum)			
			Over Front		Over Side	Over Front		Over Side	m (ft)
			Blade Up	Blade Down		Blade Up	Blade Down		
2 m (6.6 ft)	Standard Stick	kg (lb)				320 (712)	377 (833)	230 (512)	3.0 (10.0)
	Long Stick	kg (lb)				291 (647)	302 (667)	208 (463)	3.2 (10.8)
1.5 m (4.9 ft)	Standard Stick	kg (lb)	502 (1,078)	502 (1,078)	417 (900)	284 (628)	370 (816)	203 (450)	3.2 (10.8)
	Long Stick	kg (lb)	379 (820)	379 (820)	379 (820)	261 (577)	300 (660)	186 (411)	3.4 (11.7)
1 m (3.3 ft)	Standard Stick	kg (lb)	568 (1,224)	718 (1,536)	393 (850)	266 (587)	379 (834)	190 (419)	3.3 (11.7)
	Long Stick	kg (lb)	573 (1,234)	627 (1,342)	397 (857)	245 (542)	308 (678)	174 (384)	3.5 (11.7)
0 m (0 ft)	Standard Stick	kg (lb)	533 (1,148)	811 (1,750)	362 (782)	267 (588)	389 (857)	189 (417)	3.3 (10.8)
	Long Stick	kg (lb)	528 (1,138)	818 (1,762)	357 (772)	245 (539)	364 (802)	172 (379)	3.5 (11.7)

*Minimum Weight includes rubber tracks, canopy, operator, full fuel tank, fixed undercarriage, and no bucket.

Lift Capacities – Maximum Configuration**

Lift Point Height			2 m (6.6 ft)			Lift Point Radius (Maximum)			
			Over Front		Over Side	Over Front		Over Side	m (ft)
			Blade Up	Blade Down		Blade Up	Blade Down		
2 m (6.6 ft)	Standard Stick	kg (lb)				377 (833)	377 (833)	377 (833)	3.0 (10.0)
	Long Stick	kg (lb)				302 (667)	302 (667)	302 (667)	3.2 (10.8)
1.5 m (4.9 ft)	Standard Stick	kg (lb)	502 (1,078)	502 (1,078)	502 (1,078)	341 (754)	370 (816)	354 (783)	3.2 (10.8)
	Long Stick	kg (lb)	379 (820)	379 (820)	379 (820)	300 (660)	300 (660)	300 (660)	3.4 (11.7)
1 m (3.3 ft)	Standard Stick	kg (lb)	675 (1,456)	718 (1,536)	696 (1,501)	321 (708)	379 (834)	333 (736)	3.3 (11.7)
	Long Stick	kg (lb)	627 (1,342)	627 (1,342)	627 (1,342)	297 (655)	308 (678)	308 (678)	3.5 (11.7)
0 m (0 ft)	Standard Stick	kg (lb)	640 (1,379)	811 (1,750)	662 (1,426)	323 (711)	389 (857)	335 (739)	3.3 (10.8)
	Long Stick	kg (lb)	636 (1,370)	818 (1,762)	657 (1,416)	297 (655)	364 (802)	309 (682)	3.5 (11.7)

**Maximum Weight includes steel tracks, canopy, operator, full fuel tank, expanded undercarriage, and no bucket.

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 C1.1 Engine (U.S. EPA Tier 4 Final/ EU Stage V)	✓		Vinyl Non-Suspension Seat	✓	
Automatic Engine Idle	✓		Fabric Suspension Seat (Cab only)	✓	
Automatic Engine Shutdown	✓		Vinyl Suspension Seat (Canopy only)		✓
Automatic Two Speed Travel	✓		Hydraulic Lockout – All Controls	✓	
Fuel Water Separator	✓		Retractable High Visibility Seat Belt (75 mm/3 in)	✓	
Power on Demand (not available in all regions)	✓		Seat Belt Reminder System		✓
Variable Displacement Piston Pump	✓		Coat Hook	✓	
Load Sensing/Flow Sharing Hydraulics	✓		Cup Holder	✓	
HYDRAULICS			Storage Pocket	✓	
Smart Tech Electronic Pump	✓		Skylight	✓	
Accumulator	✓		Mounting Bosses for Front	✓	
Automatic Swing Brake	✓		Signaling/Warning Horn	✓	
Auxiliary Hydraulic Lines	✓		Interior Light (Cab only)	✓	
One and Two Way Auxiliary Flow	✓		Boom Light, Halogen	✓	
Continuous Auxiliary Flow	✓		LED Front Lights		✓
Auxiliary Line Quick Disconnects	✓		LED Front and Rear Lights		✓
OPERATOR ENVIRONMENT			LED Boom Light		✓
Tilt-up Canopy or Tilt-Up Cab	✓		Utility Space for Mobile Phone	✓	
Cab with Air Conditioning		✓	Mirrors Left and Right		✓
Cab with Heater		✓	Radio – Bluetooth®, Auxiliary, Microphone, USB (charging only) (Cab only)		✓
Machine 2-Point Lifting	✓		Next Generation Color LCD Monitor (IP66)	✓	
Stick Steer Mode	✓		– Fuel Level and Coolant Temperature Gauges	✓	
Travel Cruise Control	✓		– Maintenance and Machine Monitoring	✓	
Control Pattern Changer (optional in some regions)	✓	✓	– Performance and Machine Adjustments	✓	
Adjustable Wrist Rests	✓		– Numeric Security Code	✓	
Washable Floor Mat	✓		– Multiple Languages	✓	
Travel Pedals and Hand Levers	✓		– Hour Meter with Wake Up Switch	✓	
No Travel Pedals and Hand Levers		✓	UNDERCARRIAGE		
Machine Security	✓		Expandable Undercarriage		✓
Standard Key with Pass Code	✓		Rubber Belt (250 mm/10 in wide)	✓	
Push to Start with Key Fob/Pass Code		✓	Steel Track (250 mm/10 in wide)		✓
			Dozer Blade	✓	
			Dozer Blade Float	✓	
			Hydraulic Track Adjusters	✓	
			Tie Downs on Track Frame	✓	

(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			ELECTRICAL		
One Piece Boom (1850 mm/73 in)	✓		12 Volt Battery	✓	
Standard Stick (960 mm/37.8 in)	✓		Software (machine and monitor)	✓	
Long Stick (1160 mm/45.7 in)		✓	Maintenance Free Battery	✓	
Front Shovel Capable	✓		Lock Out/Tag Out Battery Disconnect	✓	
Pin-On	✓		Signaling/Warning Horn	✓	
Dual Lock Manual Coupler		✓	12 Volt Power Socket	✓	
Thumb Ready (not available in all regions)	✓		Product Link™ PL243 (regulations apply)		✓
Certified Lifting Eye (optional in some regions)	✓		Product Link PLE643 (regulations apply)		✓
Attachments including Couplers, Thumbs, Buckets, Augers and Hammers		✓	Travel Alarm (standard in some regions)		✓
2nd Auxiliary Hydraulic Lines		✓	GUARDING		
Boom Lowering Check Valve		✓	Roll Over Protective Structure (ROPS) ISO 12117-2:2008	✓	
Stick Lowering Check Valve		✓	Tip Over Protective Structure (TOPS) ISO 12117:1997	✓	
Hydraulic Quick Coupler Lines (not available in all regions)		✓	Top Guard ISO 10262:1998 (Level I)	✓	
			Polycarbonate Half Height Front Guard (Canopy only)		✓
			Polycarbonate Front Guard (ISO 10262 1998 Level I and EN356 P5A)		✓
			OTHER		
			Bio Oil Capable		✓
			Eco Drain		✓
			Water Jacket Heater		✓

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® C1.1 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 (hydrotreated 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 (for use of blends higher than 20% biodiesel, consult your Cat dealer).*

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)

Exterior Sound Power Level** 99 dB(A) (ISO 6395:2008)

*The declared dynamic operator sound pressure levels per ISO 6396:2008. The measurements were conducted with the cab doors and windows closed.

- **The labeled sound power level for the CE marked configurations when measured according to the test procedure and conditions specified in 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)

Recycling

- The labeled sound power level for the CE marked configurations when measured according to the test procedure and conditions specified in 2000/14/EC.

Material Type	Weight Percentage
Steel	65.26
Iron	13.07
Rubber	8.59
Other	3.04
Nonferrous Metal	2.93
Plastic	2.67
Fluid	2.35
Uncategorized	0.85
Mixed-Metal and Nonmetal	0.68
Mixed-Metal	0.54
Mixed-Nonmetallic	0.02
Total	100

- 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 – 95%

The data provided above was based on the product configuration as provided by the individual product group.

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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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AEHQ8148-06 (07-2024)
Replaces AEHQ8148-05
Build Number: 05A
(Global excluding
China and Japan)

